

(No Model.)

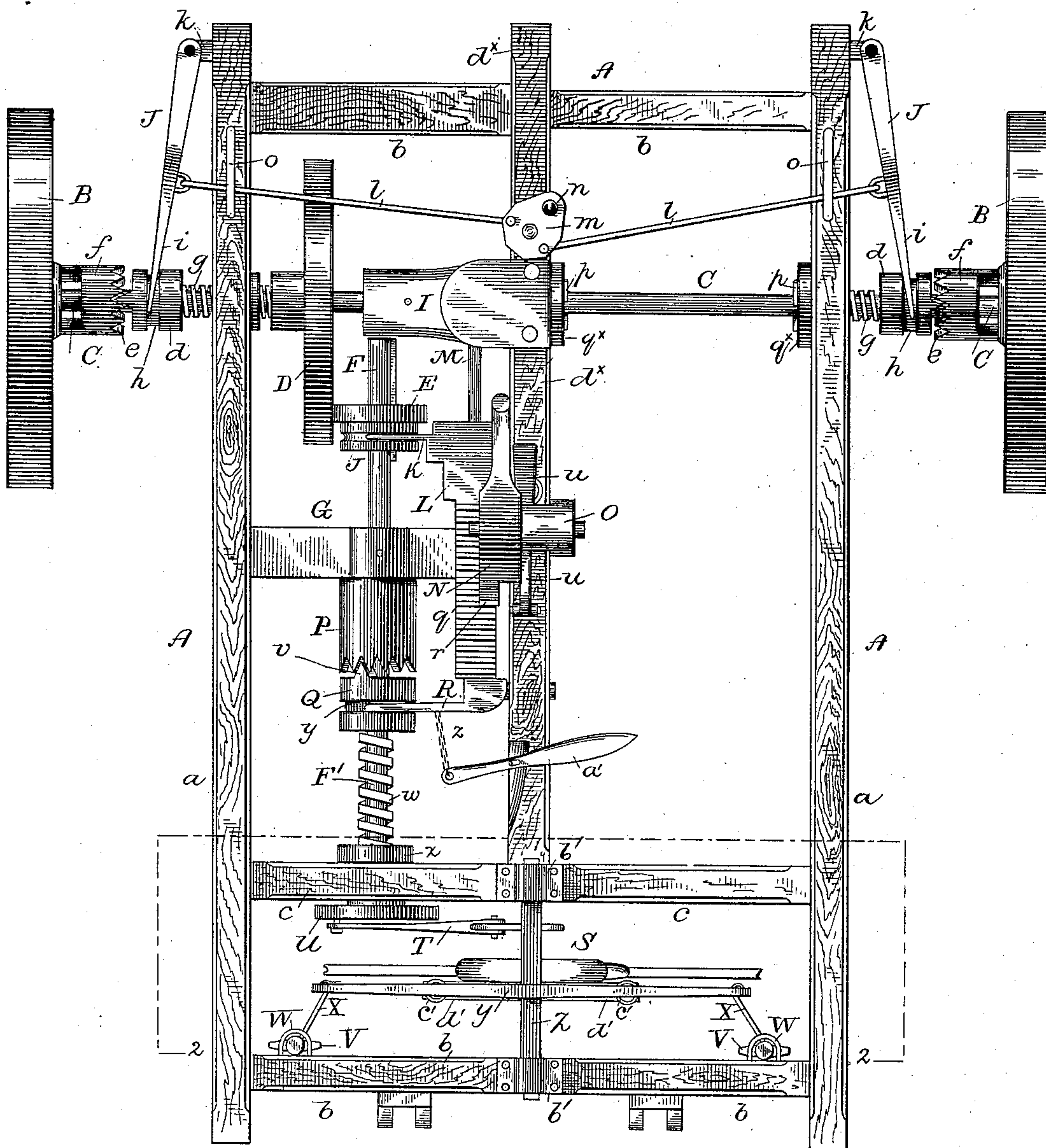
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J. FRIDAY.
SEED PLANTER.

No. 322,593.

Patented July 21, 1885.

Fig. 1.



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Inventor:

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By Chas J Gooch
his attorney

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Fig. 2.

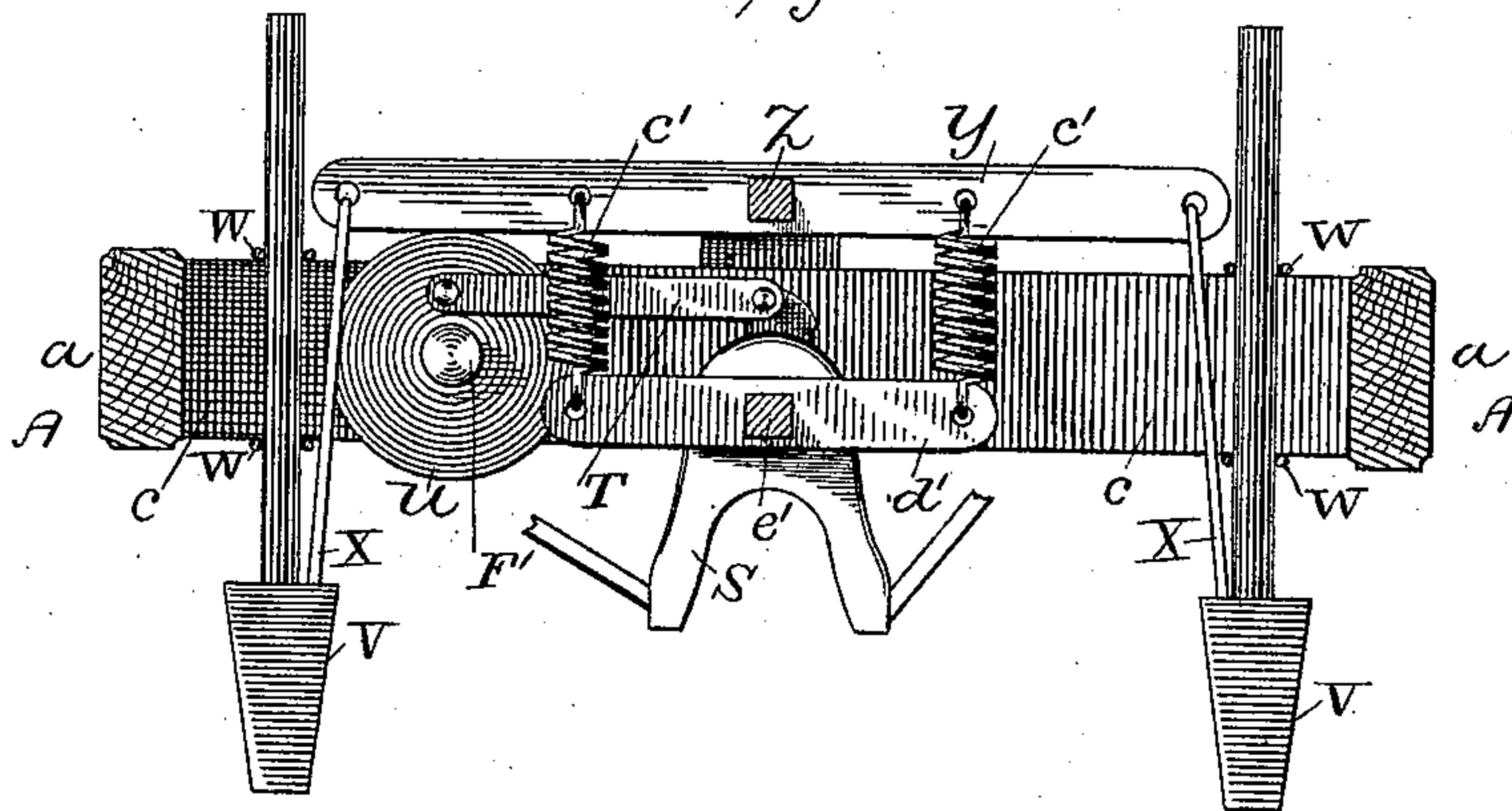


Fig. 3.

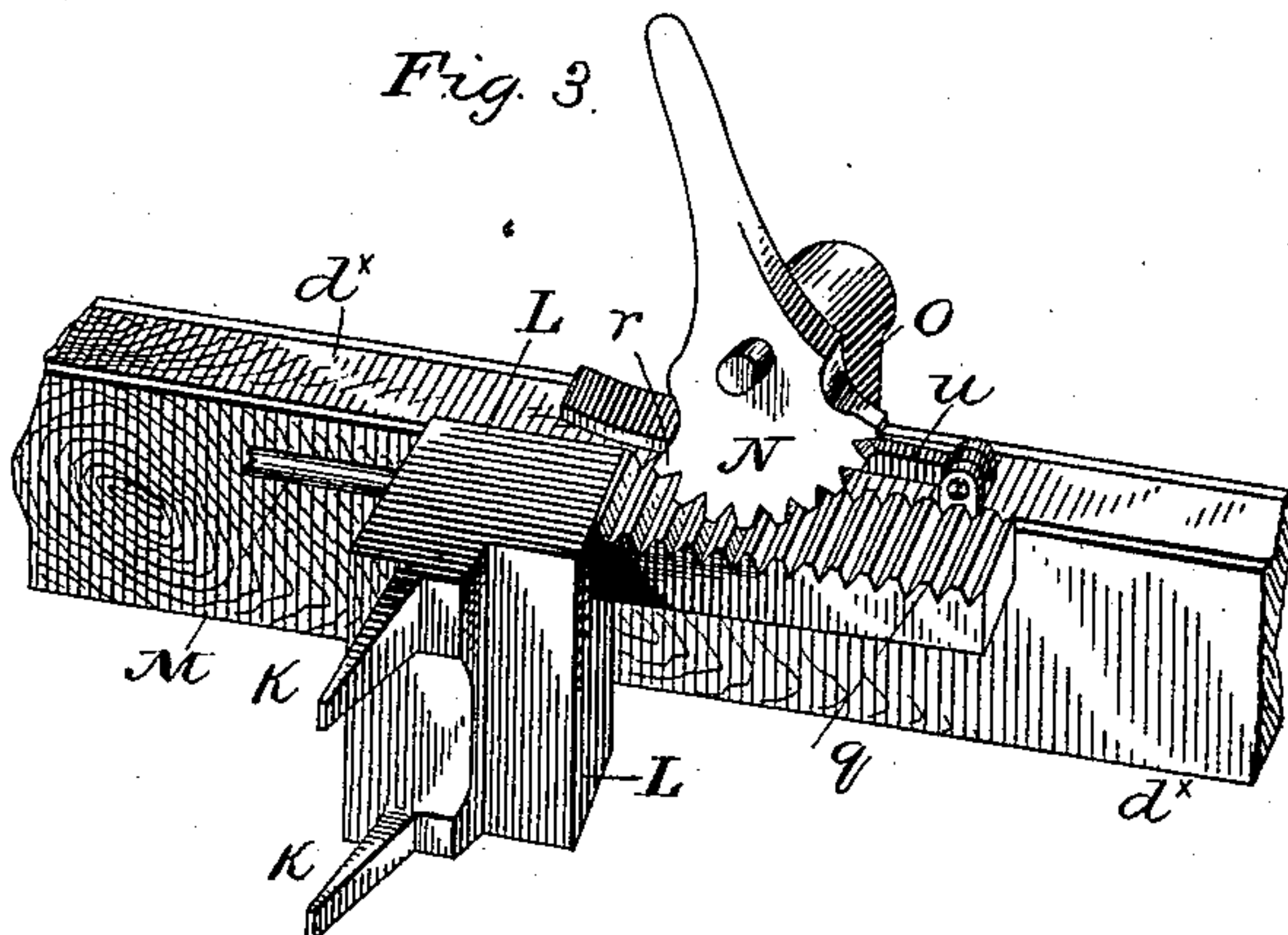
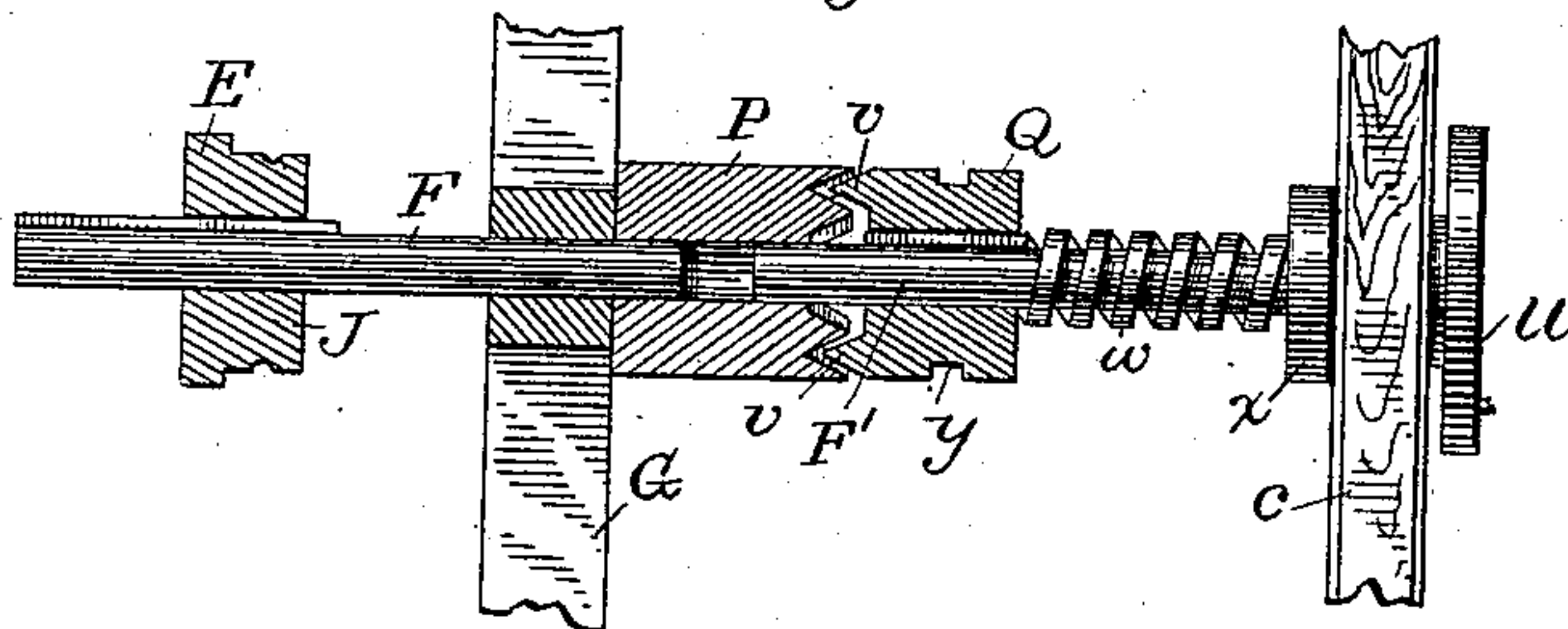


Fig. 4.



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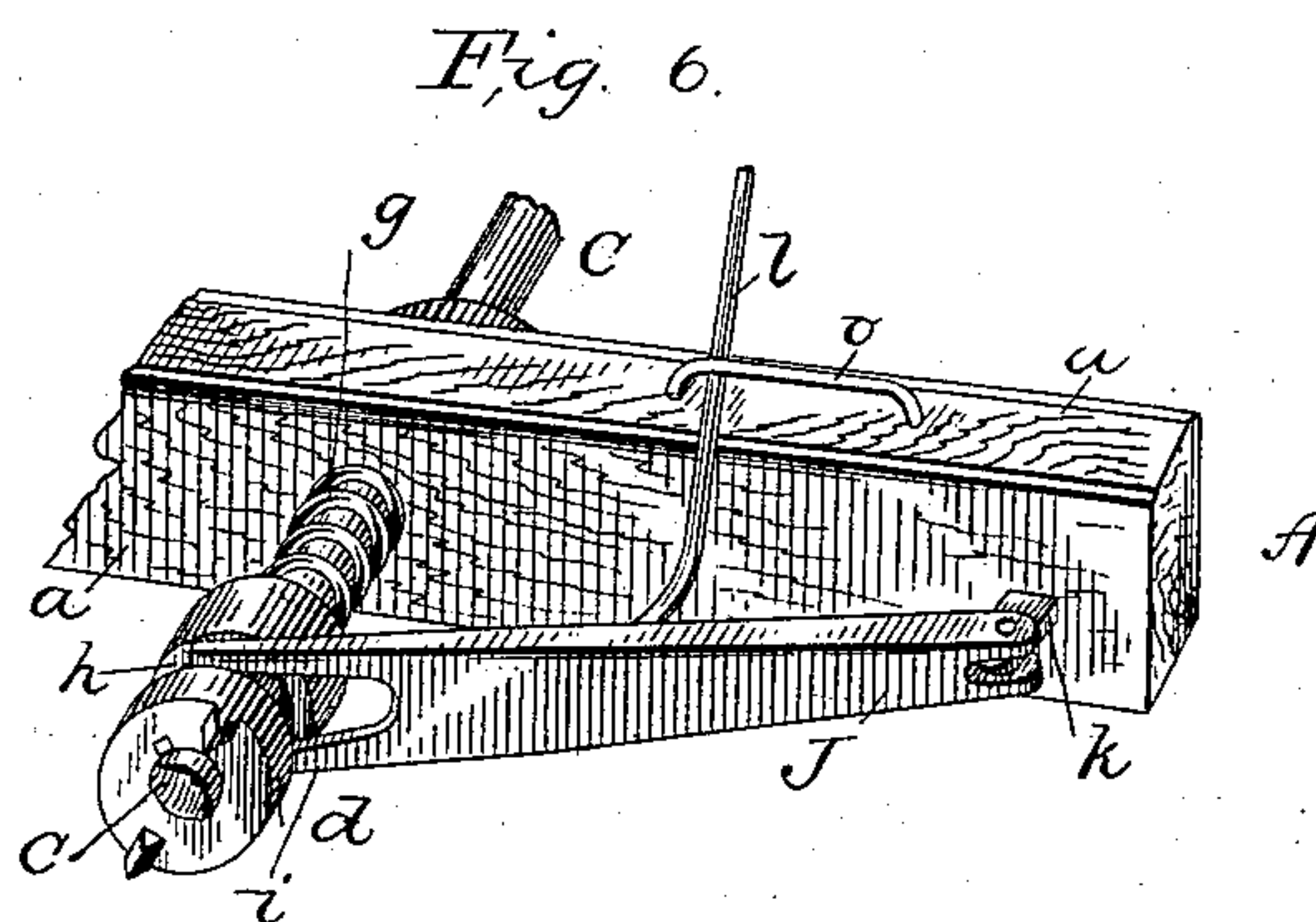
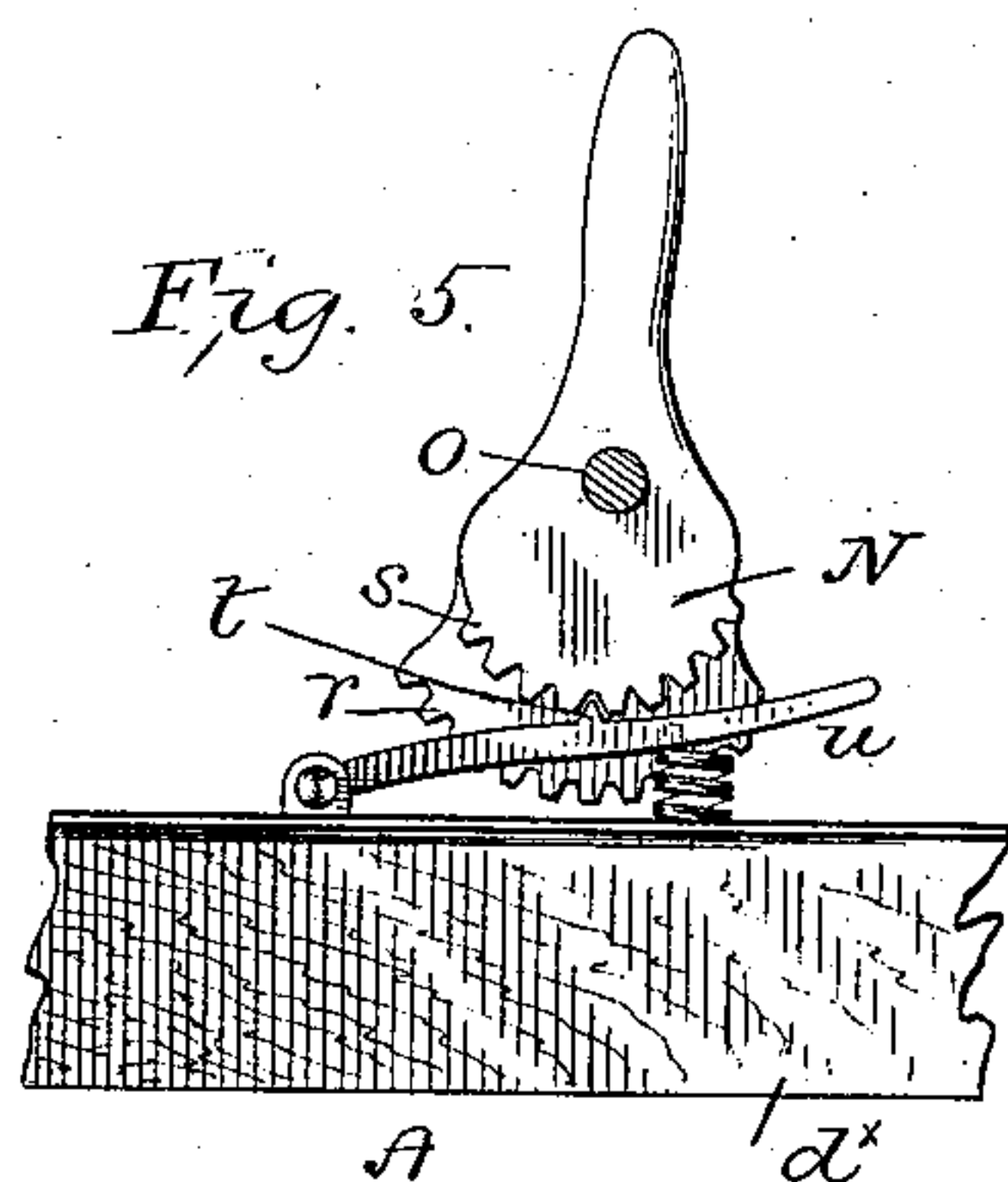
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UNITED STATES PATENT OFFICE.

JACOB FRIDAY, OF BOUND BROOK, NEW JERSEY.

SEED-PLANTER.

SPECIFICATION forming part of Letters Patent No. 322,593, dated July 21, 1885.

Application filed May 9, 1885. (No model.)

To all whom it may concern:

Be it known that I, JACOB FRIDAY, a citizen of the United States of America, residing at Bound Brook, in the county of Somerset and State of New Jersey, have invented certain new and useful Improvements in Seed-Planters; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention consists in certain improvements in corn-planters, as hereinafter described.

In the accompanying drawings, Figure 1 represents a top plan view of my improved planter. Fig. 2 represents a transverse section on the line 2 2 of Fig. 1. Figs. 3, 4, 5, and 6 represent detail views of some of the parts.

A represents the framing of the machine, said framing consisting of the side bars, *a a*, end bars, *b b*, transverse bar *c*, and longitudinal bar *d*^x.

B represents the drive or traction wheels, which are mounted upon the ends of a shaft or axle, C, extending transversely through the side bars, *a*, and across the framing. Loosely mounted upon each end of the shaft or axle C, projecting outwardly beyond the side bars, are clutches *d*, which are forced outwardly and held in engagement with the teeth *e* on the inner face of clutches *f*, attached to that portion of the hub of the wheel projecting inwardly, or to a short sleeve projecting inwardly from the inner face of the hub. The clutches *d* are held in engagement with the clutches *f* on the wheels by spiral springs *g*, impinging at one end against the outer face of the side bars and at their other end against the rear face of the clutches *d*. Said clutches *d* are each formed with a circumferential groove, *h*, with which engages the forked end *i* of a lever or arm, *j*, pivotally connected at its rear end to a lug, offset, or projecting piece, *k*, extending outwardly from the side bars, *a*.

l represents rods connected at one end to

the lever J and at the other end to an eccentric or other shaped disk, *m*, pivotally mounted upon the longitudinal bar *d*^x, and having a handle, *n*, projecting upwardly from its upper face, by means of which the attendant can turn said disk.

o represents staples upon the top of the side bars, *a*, which serve as guides and guards for the rods *l*. Whenever it is desired to permit of the wheels B rotating and the machine traveling without operating the planting mechanism, the attendant turns the disk *m* partly around, which act draws inward the rods *l* and the forked ends of the levers J, thereby drawing back the clutches *d* on the axle from engagement with the clutches *f* on the wheels. Any suitable and known means may be employed for retaining the clutches *d* in their retracted position.

p represents keys passing through holes in the axle for the purpose of retaining it in position within the frame, and *q*^x represents washers serving as cushions for said keys and bearings for the axles.

D represents a friction-disk keyed upon the axle C, and within the frame A.

E represents a smaller friction wheel or disk, keyed upon a two-part shaft, F F', having bearing in cross-bars G and *c*, connected to the frame. The end F of this shaft, projecting outwardly from the small friction-wheel E, rests or impinges against a block or sleeve, I, mounted upon the longitudinal bar *d*^x and shaft or axle C, so as to permit of its having free rotary motion, but prevent any longitudinal movement thereof.

Attached to or formed integrally with the front face of the friction-wheel E is a grooved collar, J, with which engages forked arms K, projecting outwardly from a sliding block, L, mounted upon a shaft or rod, M, having bearing at its ends in the cross-bar G and block I, respectively. In the upper face of this block L are formed teeth or serrations *q*, with which engage the teeth *r* in the curved lower end of a lever or arm, N, pivotally mounted in a standard or arm, O, bolted to and extending upwardly from the longitudinal bar *d*^x.

As the toothed lever or arm N is rocked back and forth it will, by reason of its teeth

meshing with the teeth on the sliding block L, reciprocate said block upon its shaft and cause the forked arms K, engaging with the groove in the collar J, to reciprocate the small friction disk or wheel E upon its shaft F, and thus slide said wheel across the face of the wheel D and bring the same into frictional contact therewith in different positions of its circumferential area, whereby the speed of the shaft F, upon which the small friction-wheel is keyed and to which the dropping mechanism is connected, as hereinafter described, shall be increased or diminished as it may be required to increase or diminish the rate of speed at which the seed shall be dropped.

For the purpose of affording a means whereby the toothed lever or arm N and the parts connected therewith—viz., sliding block L and the small friction-disk E—shall be locked in position, I provide said lever N on its lower end, but to one side and above the series of teeth *r*, before referred to, with additional teeth *s*, with which engages a tooth, *t*, on the upper face of a spring pawl or arm pivotally mounted in the upper face of the longitudinal bar d^x . In its normal position the spring-pawl engages with the teeth *s*, and holds the lever or arm N, block L, and friction-wheel E from longitudinal or reciprocatory movement. When it is desired to adjust these parts, the free end of the pawl or arm *u* is pressed down, which act releases the tooth *t* from engagement with the teeth *s*, and then the lever N can be oscillated, so as to cause the adjustment of the position of the small friction-disk relatively to the larger disk.

The forward end of the rear section, F, of the mechanism-operating shaft extends through the cross-bar G to and into a sleeve, P, connected to the front face of said cross-bar and having a notched or toothed front end.

The rear end of the front section, F', of the longitudinal shaft, to which the dropper-mechanism is connected, has bearing within the sleeve P, and has loosely mounted thereon a collar or ring, Q, having on its rear edge teeth or notches V, which engage with the teeth on the front end of the sleeve P, said collar or ring Q being mounted upon the shaft F' with capability of sliding thereon and being held in engagement with the teeth of the sleeve P by means of a spiral spring, *w*, encircling the shaft F' and bearing at its respective ends against the front end of said collar and against a washer, *x*, on said shaft. This collar or ring Q has an exterior circumferential groove, *y*, with which engages a forked bar or arm, R, having pivotal bearing in the longitudinal bar d^x . To this forked bar is attached, by a chain or rod, *z*, a lever, *a'*, pivoted to the longitudinal bar d^x . By pulling upon this lever *a'* the forked bar or arm R is drawn forward, and thus draws the collar or ring Q out of engagement with the sleeve P, so as to permit of the driver adjust-

ing the dropper even on each end when desired.

S represents a forked arm connected by rods to the customary slides in the seed-boxes, which latter are not shown, as it is designed to use any ordinary construction of seed-box having slides in the bottom thereof. This arm S is connected by an arm, T, with an eccentric, U, mounted upon the front end, F', of the shaft; hence when the collar or ring Q is drawn out of engagement with the sleeve P the front section, F', of the shaft can be turned independently of the rear section, F, to the appropriate position to bring the dropper-actuator S straight, and when that is accomplished the collar is again placed in engagement with the notched sleeve P, mounted on the front end of the rear section, F, of the shaft.

V represents the markers, which are passed through staples W in the front end bar, *b*, and are connected by rods X with the respective ends of a walking-beam, Y, rocking upon a square axle or rod, Z, having rounded ends which have bearing in boxes *b'* on the cross-bars, said walking-beam being connected by springs *c'* with the ends of a beam, *d'*, connected with the shaft *e'*, upon which the dropper-actuator S is mounted. By this means should the markers strike any obstacles they will spring up out of the way of injury therefrom.

Having thus described my invention, what I claim, is—

1. In a seed-planter, the combination, with the frame A, axle C, and drive-wheels B, of toothed clutches *f*, attached to the inner face of the wheels, spring-held toothed clutches *d*, loosely mounted upon the axle C and having circumferential grooves *h*, forked levers *j*, pivoted to the frame and engaging said grooves *h*, disk *m*, mounted on the framing, and rods *l*, connecting said disk *m*, forked levers *j*, friction-disk D, mounted upon axle C, longitudinal shaft connecting at one end with the dropping mechanism, and friction-disk E, adjustably mounted upon the other end of said shaft to permit of said disk E engaging the disk D at different parts of the face thereof, substantially as and for the purpose set forth.

2. The combination, with the wheels B and axles C, of a friction-disk, D, mounted upon said axle, two-part shaft F F', friction-disk E, having a circumferential groove and loosely mounted upon said shaft with capability of sliding thereon and across the face of the disk D, to engage frictionally with the same in different positions, cross-bars G and *c*, toothed sliding block L, having forked arms K, adapted to engage the friction-wheel E, pivotal lever N having in its lower end or under-side teeth, *r* and *s*, and spring-pawl *u*, substantially as and for the purpose set forth.

3. The combination, with the frame A, wheels B, and axle C, of the friction-disks D E, two-part shaft F F', notched block or sleeve P, grooved notched collar Q, loosely

mounted upon the front end, F', of said shaft
and held in engagement with the sleeve P by
spring *w*, eccentric disk U, keyed upon said
shaft F', dropper-arm S, shaft *e'*, and arm Y,
5 connecting said disk U and shaft *e'*, forked
bar R, pivotally connected to the longitud-
inal bar *d*^x and engaging the collar Q, and the
pivoted lever *a'*, for operating said collar Q,
substantially as and for the purpose set forth.

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

JACOB FRIDAY.

Witnesses:

ISAAC N. BROKAW,
RICHARD H. BROKAW.