

(No Model.)

3 Sheets—Sheet 1.

A. MEKENNEY.
FERTILIZER DISTRIBUTER.

No. 292,672.

Patented Jan. 29, 1884.

Fig. 1.

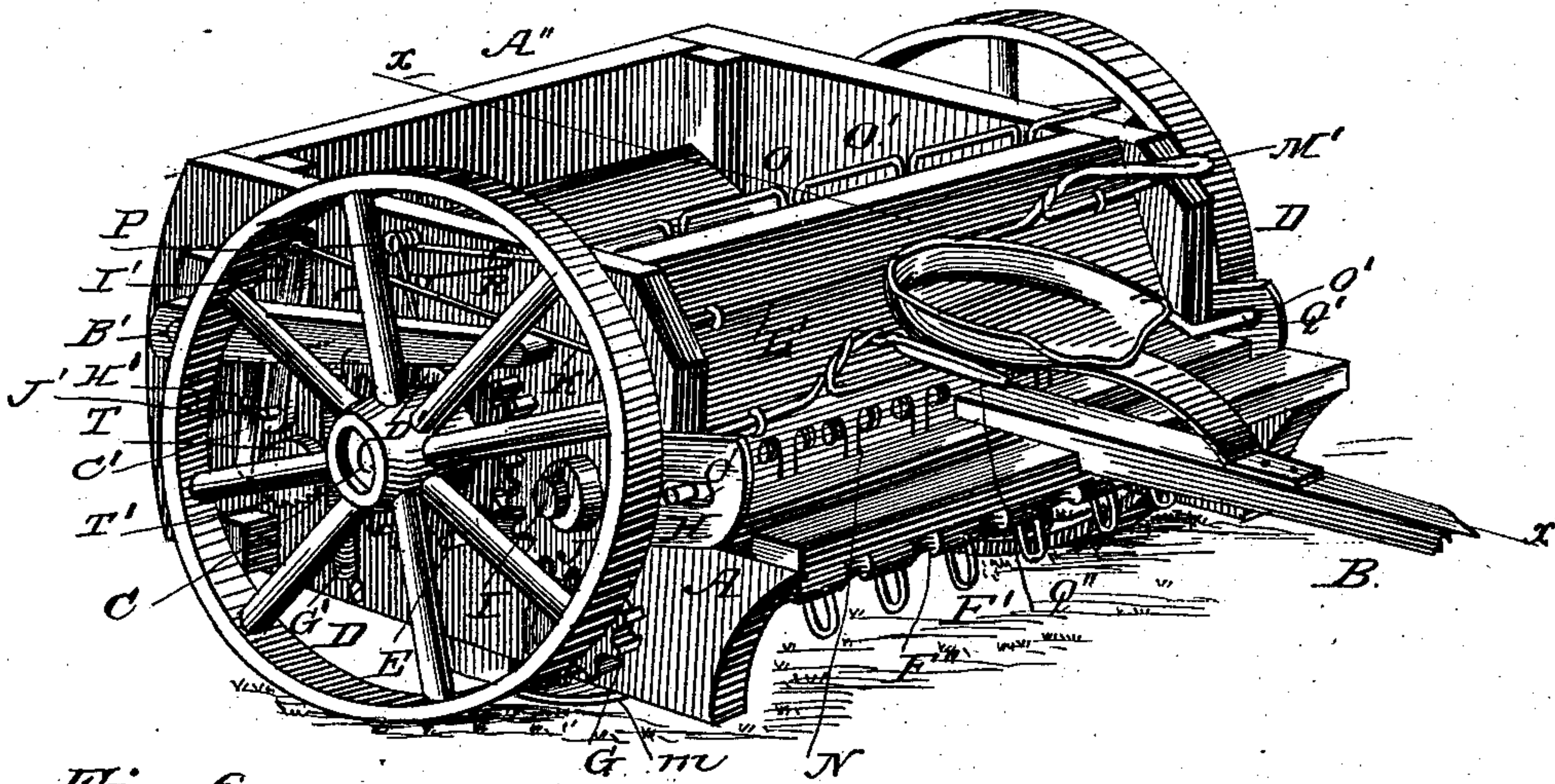
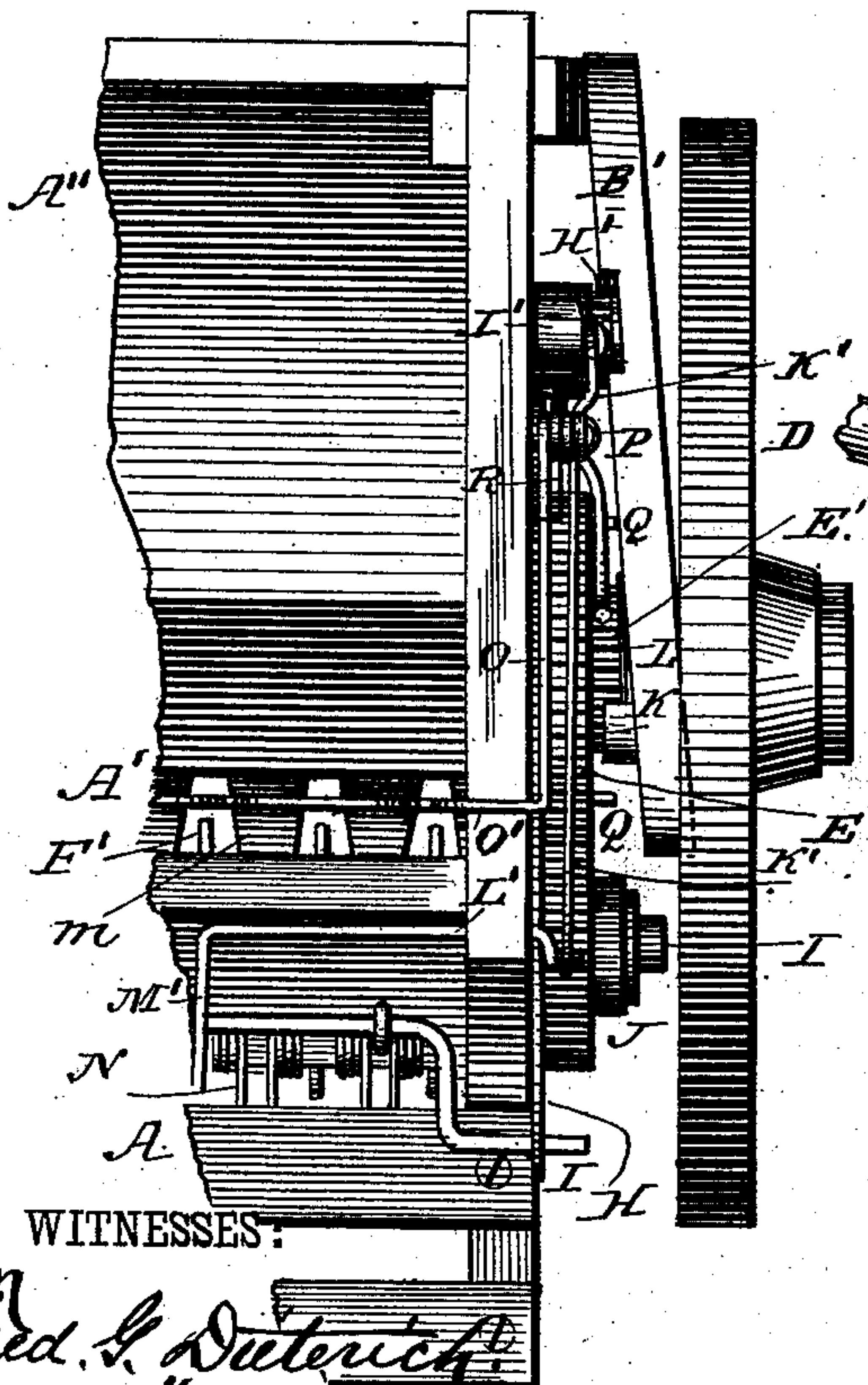


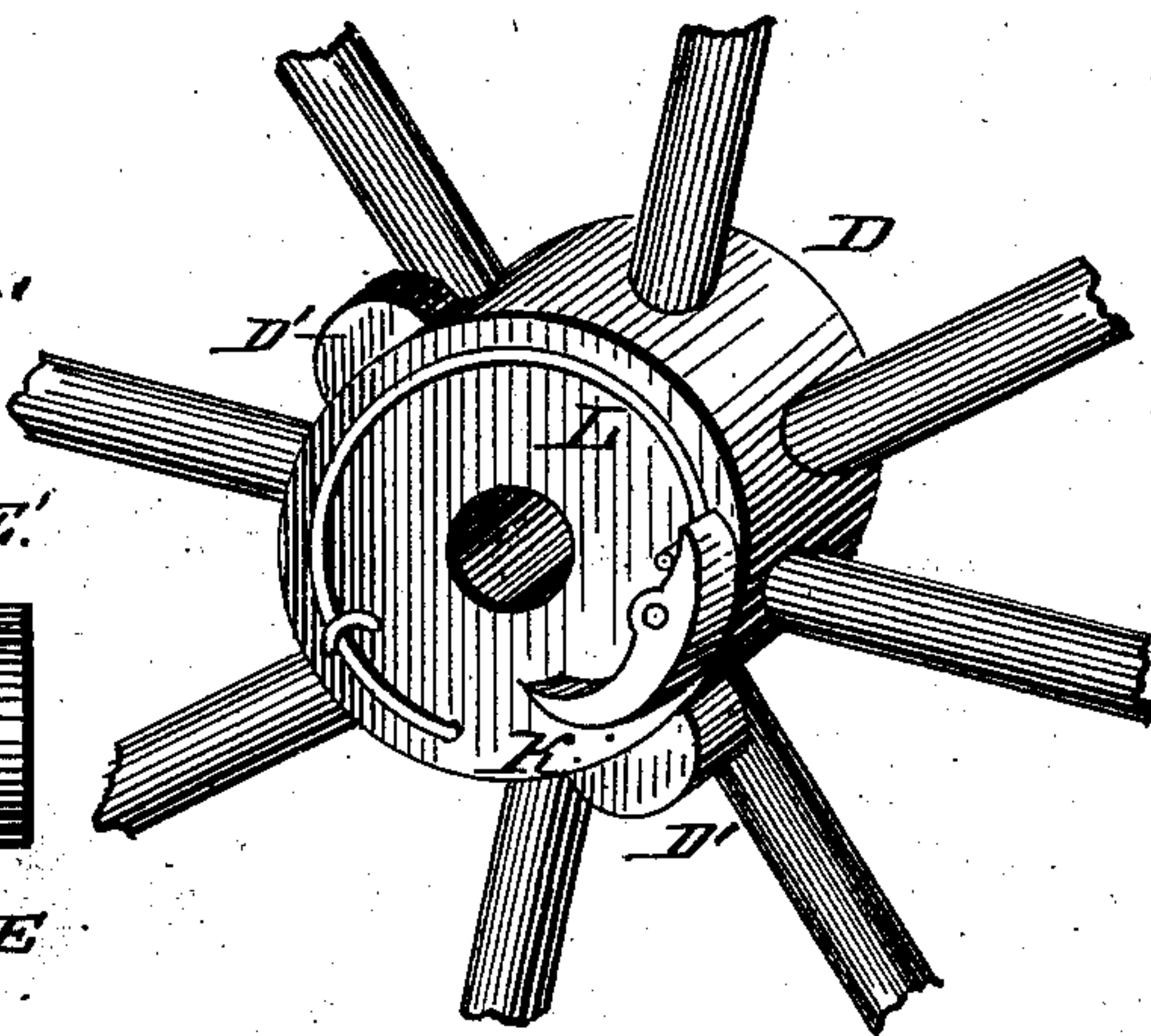
Fig. 6



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Fig. 7.



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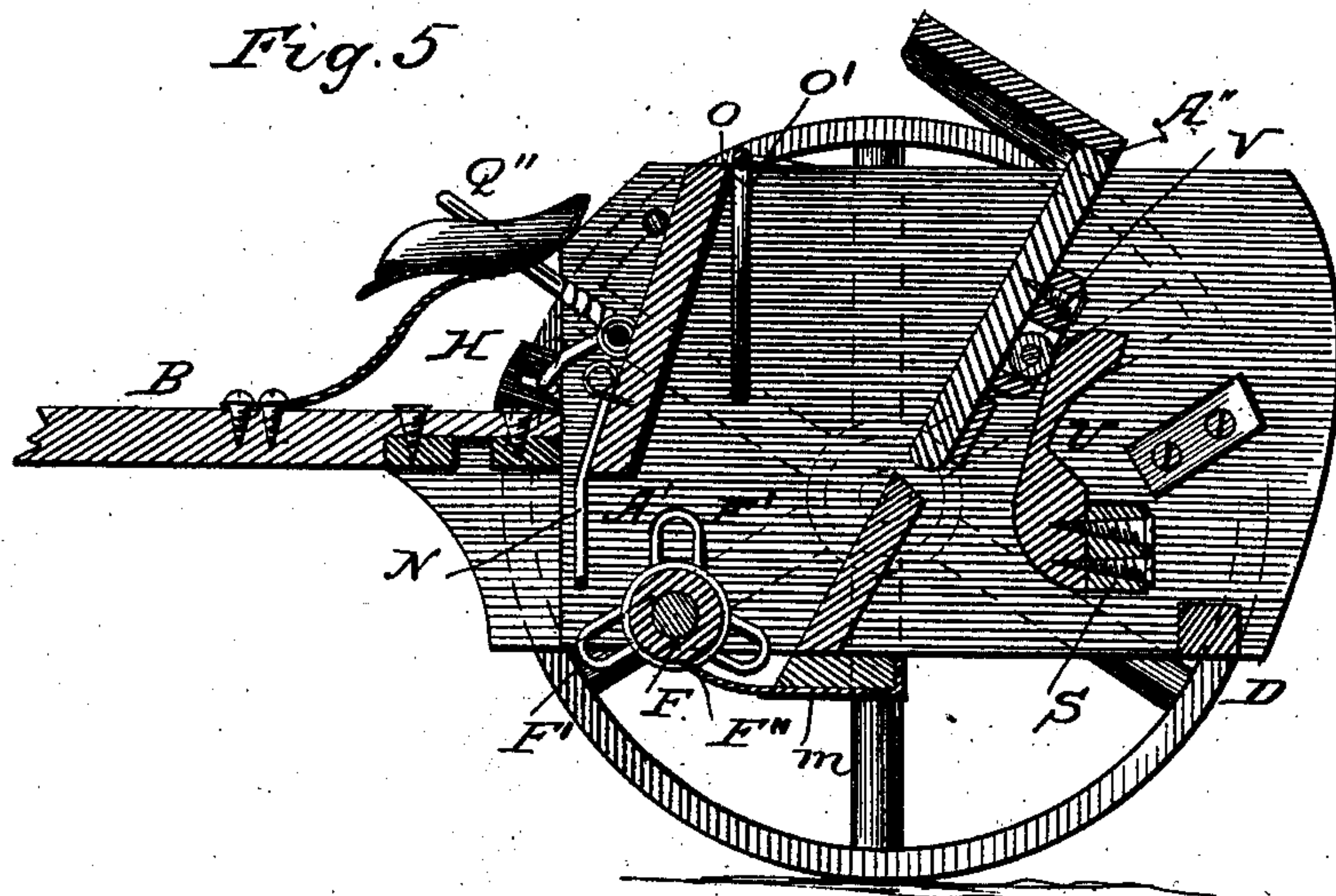
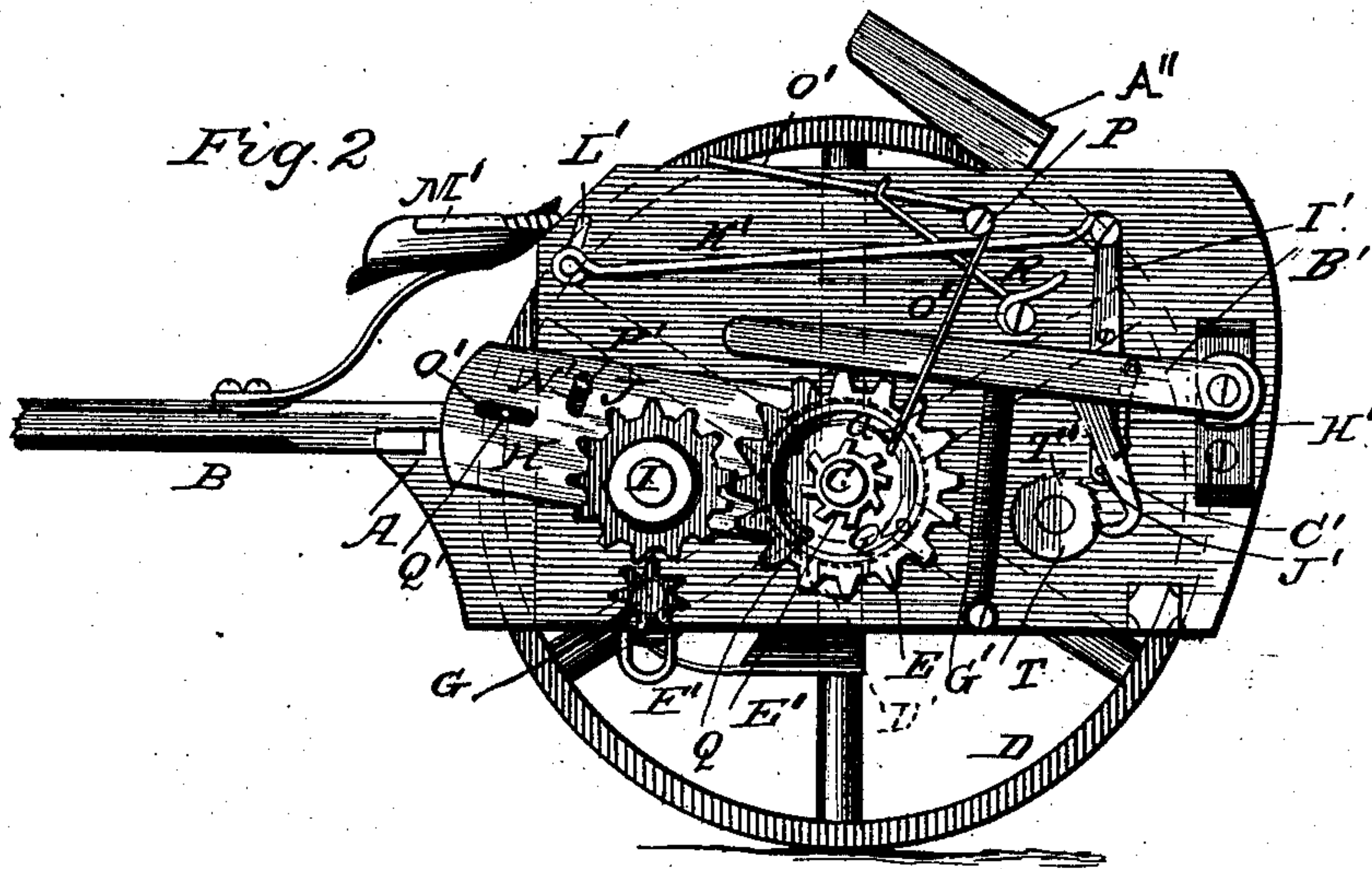
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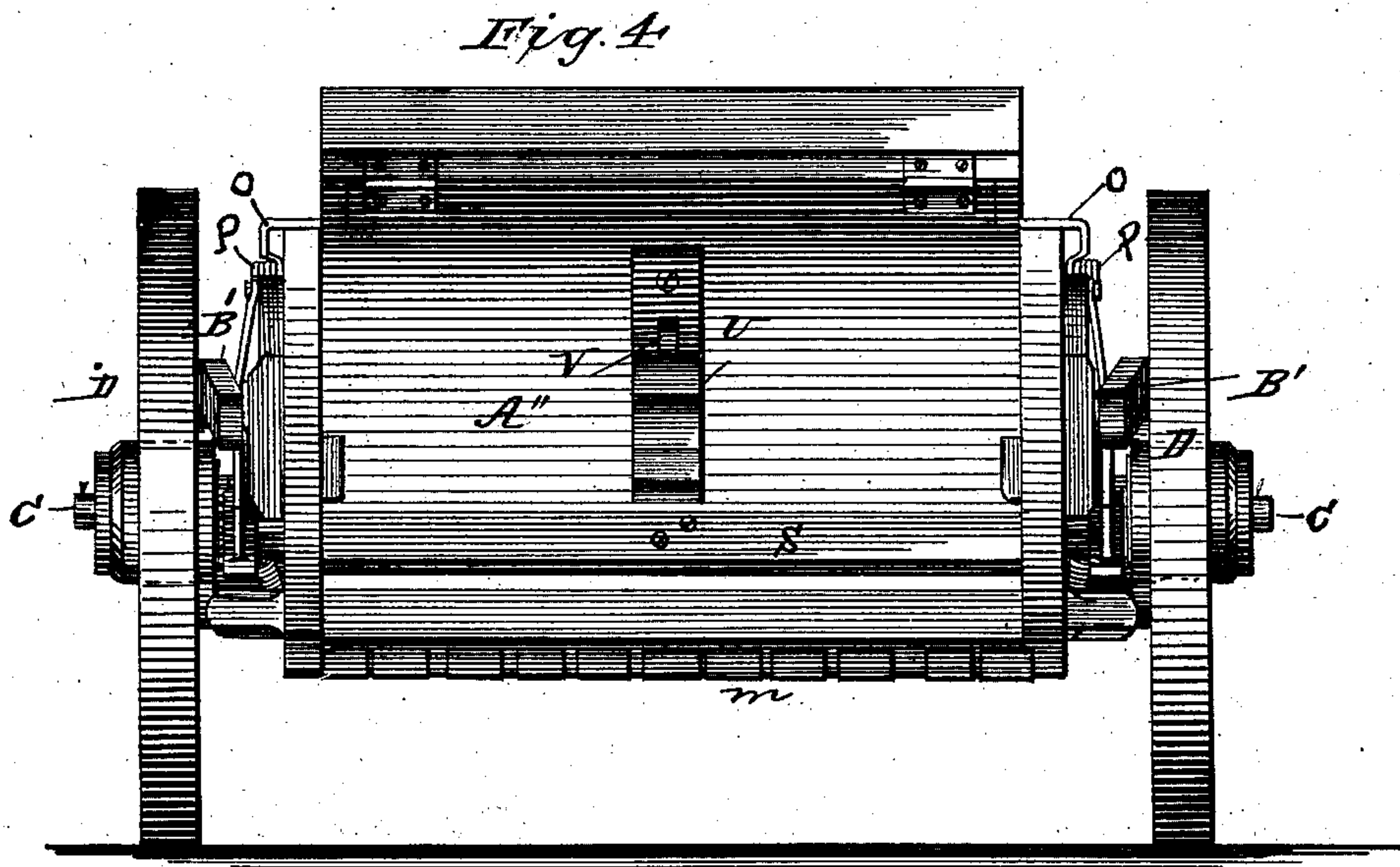
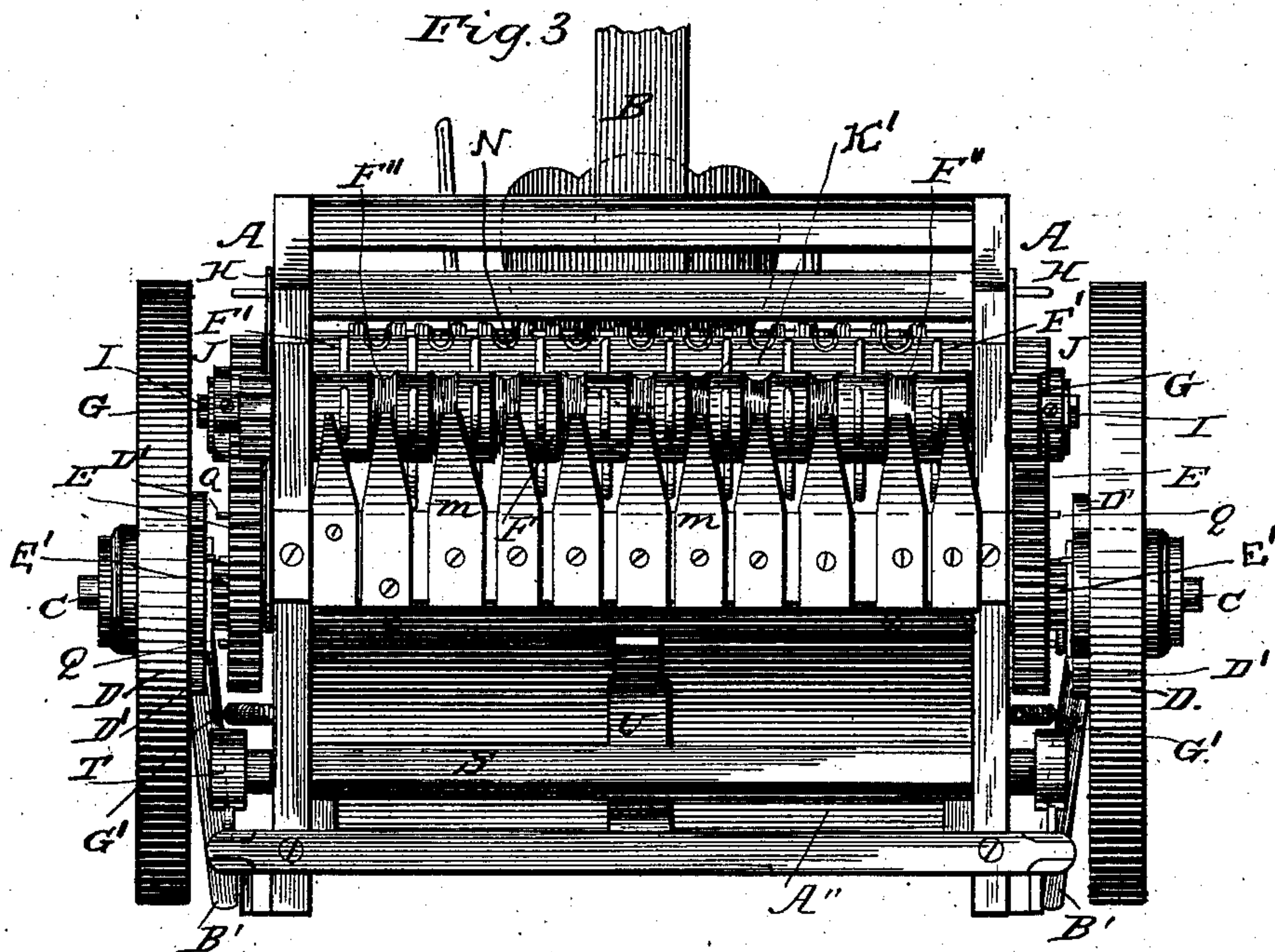
(No Model.)

3 Sheets—Sheet 3.

A. MEKENNEY.
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No. 292,672.

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UNITED STATES PATENT OFFICE.

ALENDO MEKENNEY, OF MIDDLEBOROUGH, MASSACHUSETTS.

FERTILIZER-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 292,672, dated January 29, 1884.

Application filed September 15, 1883. (No model.)

To all whom it may concern:

Be it known that I, ALENDO MEKENNEY, a citizen of the United States, and a resident of Middleborough, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Fertilizer-Distributers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved fertilizer-distributer. Fig. 2 is a side view of the same, with one of the wheels removed. Fig. 3 is a bottom view. Fig. 4 is a rear elevation. Fig. 5 is a sectional view on line *x x*, Fig. 1. Fig. 6 is a perspective top view of one end of the fertilizer-distributer, and Fig. 7 is a perspective detail view of the inner side of one of the drive-wheels.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to fertilizer-distributers which are more particularly adapted for the pulverization and distribution of manure; and it consists in the improved construction and combination of parts of the same, as will be hereinafter more fully described and claimed.

In the accompanying drawings, A represents the frame of my improved fertilizer-distributer, to the front cross-pieces of which the tongue B is secured.

C C indicate stub-axles, which are secured to either side of the frame A, and upon which the drive-wheels D D revolve.

E E represent gear-wheels, which are placed upon the stub-axles C C between the sides of the frame A and the drive-wheels D D, each of the gear-wheels having cast upon its outer face a pinion, E', for the purpose hereinafter specified.

F represents the rotary feeder, which is provided with a series of teeth, F', and annular grooves F'', and has upon each of its outwardly-projecting ends a pinion, G.

H H indicate metal plates, which are pivotally secured at one end upon the stub-axles C C between the sides of the frame A and the

gear-wheels E E, one on either side of the machine. Each of these plates is provided with an outwardly-projecting stub-axle, I, upon which revolves a cog-wheel, J, which serves as an idler between the pinions G and the gear-wheels E, and by its interposition causes the rotary feeder F to rotate in the same direction as the drive-wheels D D.

Upon the inner face of the hub of each drive-wheel (as shown in detail in Fig. 7) is pivoted a pawl, K, held in operative position by a spring, L, the said pawls engaging with the teeth of the pinions E' E', which are cast upon the outer face of each of the gear-wheels E E, the drive-wheels D D, by means of the intervening mechanism previously described, revolving the rotary feeder F in the same direction as that in which they themselves turn. The rotary feeder F revolves in a transverse opening, A', in the lower part of the frame A, through which the manure passes out from the lower well or receptacle of the frame. A series of teeth or plates, *m*, are secured to the lower cross-piece of the frame, and extend partially across the opening A', their upwardly-curved reduced ends fitting within the annular grooves F'' of the feeder F. By this arrangement I prevent the rotary feeder from becoming clogged or choked up with straw or coarse manure.

N N indicate a series of downwardly-projecting spring-teeth, the lower ends of which extend down between the teeth F' of the rotary feeder F, for the purpose of pulverizing the manure and of separating from it any stones or other hard substances which may have become mixed with it.

O indicates an attachment, which acts as an agitator to stir up the manure and feed it down to the rotary feeder F, the said attachment consisting of a wire, O', which is bent into the shape shown in the drawings; the ends of the wire being passed in several coils around bolts P P, upon the outside of the frame A, and then down along the outer face of each of the gear-wheels E E, the gear-wheels E being provided with a number of outwardly-projecting pins or studs, Q Q, upon their outer faces, which lift the free ends of the wire O', and thereby vibrate the attachment. The springs R R draw the attachment O down into

its normal position after it has been raised or elevated by any one of the pins Q.

The upper rear part, A'', of the body of the frame A is hinged or pivoted at its lower edge to adapt it to be raised or elevated, for the purpose of emptying into the lower well of the frame in which the rotary feeder revolves the manure which is contained in the upper part of the hopper or receptacle, and this object is attained by the following described mechanism: In the lower rear part of the frame A is journaled an axle or shaft, S, having upon each of its outwardly-projecting ends a pinion, T, and provided at its center with a cam, U, which bears against a roller, V, secured in suitable bearings on the lower side of the movable bottom A'', so that by turning the shaft S the movable bottom A'' will be raised into its elevated position. Upon either side of the frame A, near its rear end, is pivoted by one of its ends a lever, B', having pivotally secured upon it a pawl, C', the curved end of which is adapted to engage with the teeth of the pinion T. These pinions T have one half of their periphery made solid, while the other half is provided with teeth T', which are made straight upon their lower side, and cut away or beveled upon their upper side or edge, so that the pawl C' will pass over the said teeth as the lever B' is depressed, but will engage with the teeth when the lever is raised. The forward or free end of each lever rests upon the hub of its drive-wheel, each of the drive-wheels having upon its hub two or more projections, D', which serve to raise the free end of each lever as the drive-wheel revolves, thereby gradually elevating the movable bottom A'' by means of the intervening mechanism previously described. A spring, G', serves to draw the lever down after it has passed over the projections D', while another spring, H', holds the pawl C' in its operative position.

In order to throw the pawls C' out of engagement with the pinions T T when the movable bottom A'' has been elevated to its highest point and it is desired to lower it again, the levers I' are pivoted at about their center to the sides of the frame A, each lever having upon its lower end an outwardly-projecting pin, J', which bears against the front edge of the pawl C', while to the upper end of the lever I' is pivoted the end of a rod, K', the forward end of each of the rods K' being pivoted to one end of a double crank, L', which is provided with a handle, M', by which the crank is operated. The forward end of each of the pivoted plates H H is provided with two slots, N' N' O' O', a bolt, P', on either side of the frame, passing through the vertical slots N' N', while in the longitudinal slots O' O' slide the ends of a double crank, Q', which is provided with a handle, Q'', by which it may be operated. By throwing up the handle Q'', the metal plates H H are swung up upon their pivots, thereby disengaging the teeth of the cog-wheels J J from the teeth of the pinions G G on the ends of the rotary

feeder F, while to throw the rotary feeder F into gear the handle Q'' of the double crank Q' is depressed.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of my improved fertilizer-distributor will readily be understood without requiring further explanation.

It will be seen that my improved fertilizer-distributor will distribute the manure close to the ground, thereby preventing the manure from being blown away before it reaches the spot where it is desired to deposit it.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a fertilizer-distributor of substantially the described construction, the combination of the frame A, having the transverse opening A', downwardly-projecting spring-teeth N N, rotary feeder F, having teeth F' and annular grooves F'', teeth or plates m, having upwardly-curved reduced ends fitting within the annular grooves F'', means or mechanism by which the rotary feeder F may be rotated in the same direction as the drive-wheels D D, attachment O, adapted to serve as an agitator, and means by which the same may be vibrated, as and for the purpose shown and set forth.

2. In a fertilizer-distributor of substantially the described construction, the combination of the frame A, having the transverse opening A', downwardly-projecting spring-teeth N N, rotary feeder F, having teeth F' and annular grooves F'', teeth or plates m, having upwardly-curved reduced ends fitting within the annular grooves F'', means or mechanism by which the rotary feeder F may be rotated in the same direction as the drive-wheels D D, attachment O, adapted to serve as an agitator, and means by which the same may be vibrated, movable bottom A'', shaft S, having a central cam, U, and means or mechanism by which the shaft S may be rotated, all constructed and arranged to operate substantially in the manner and for the purpose shown and described.

3. In a fertilizer-distributor of substantially the described construction, the combination of the movable bottom A'', shaft S, having a central cam, U, and end pinions, T, constructed as described, levers B', adapted to be operated by cams D' on the hubs of the drive-wheels D, and provided with pawls C', and suitable mechanism for throwing the pawls C' out of engagement with the pinions T, all constructed and arranged to operate substantially in the manner and for the purpose shown and described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

Witnesses: ALEND0 MEKENNEY.

JOHN SHAW,

CHARLES H. CARPENTER.