

No. 659,367.

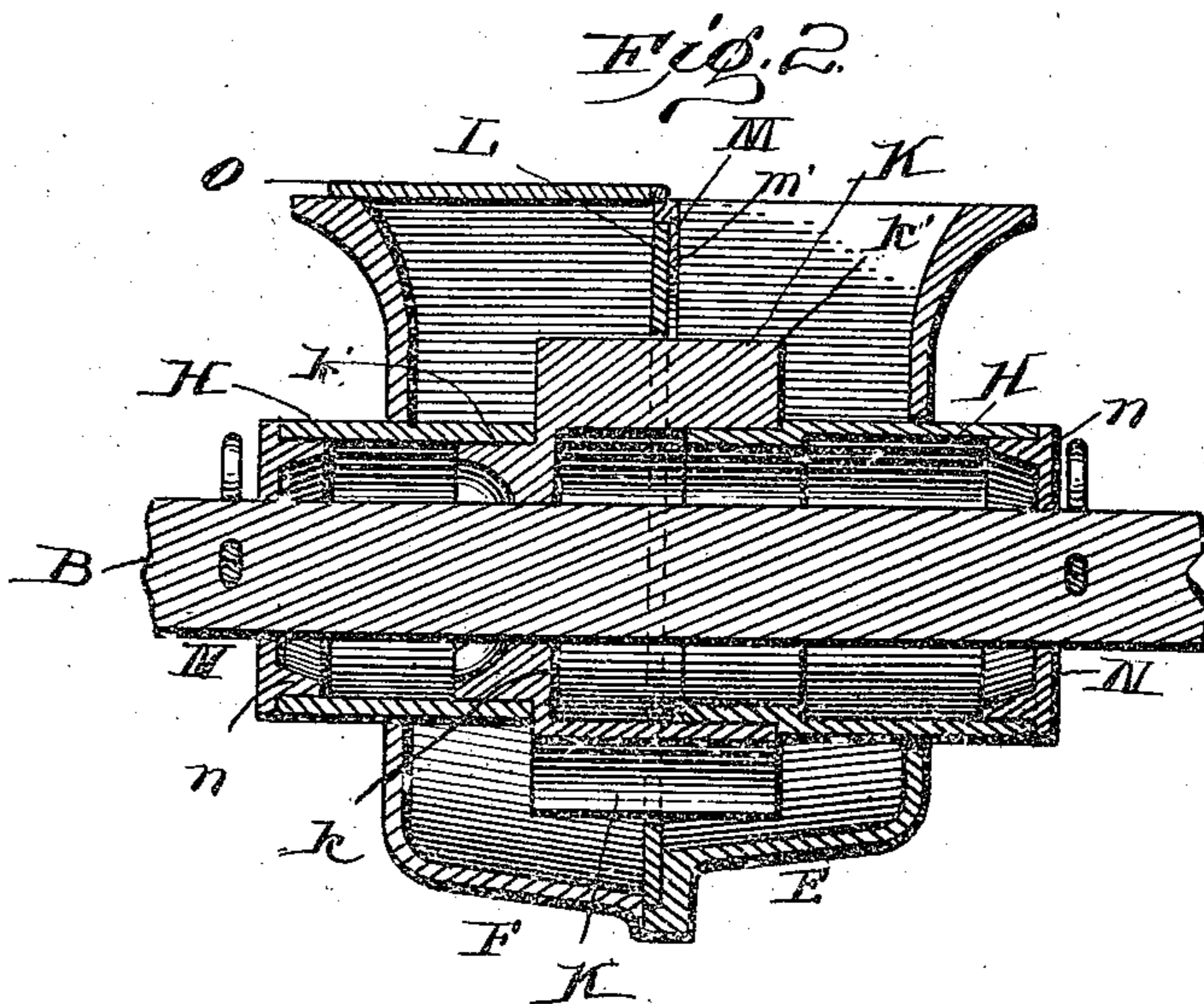
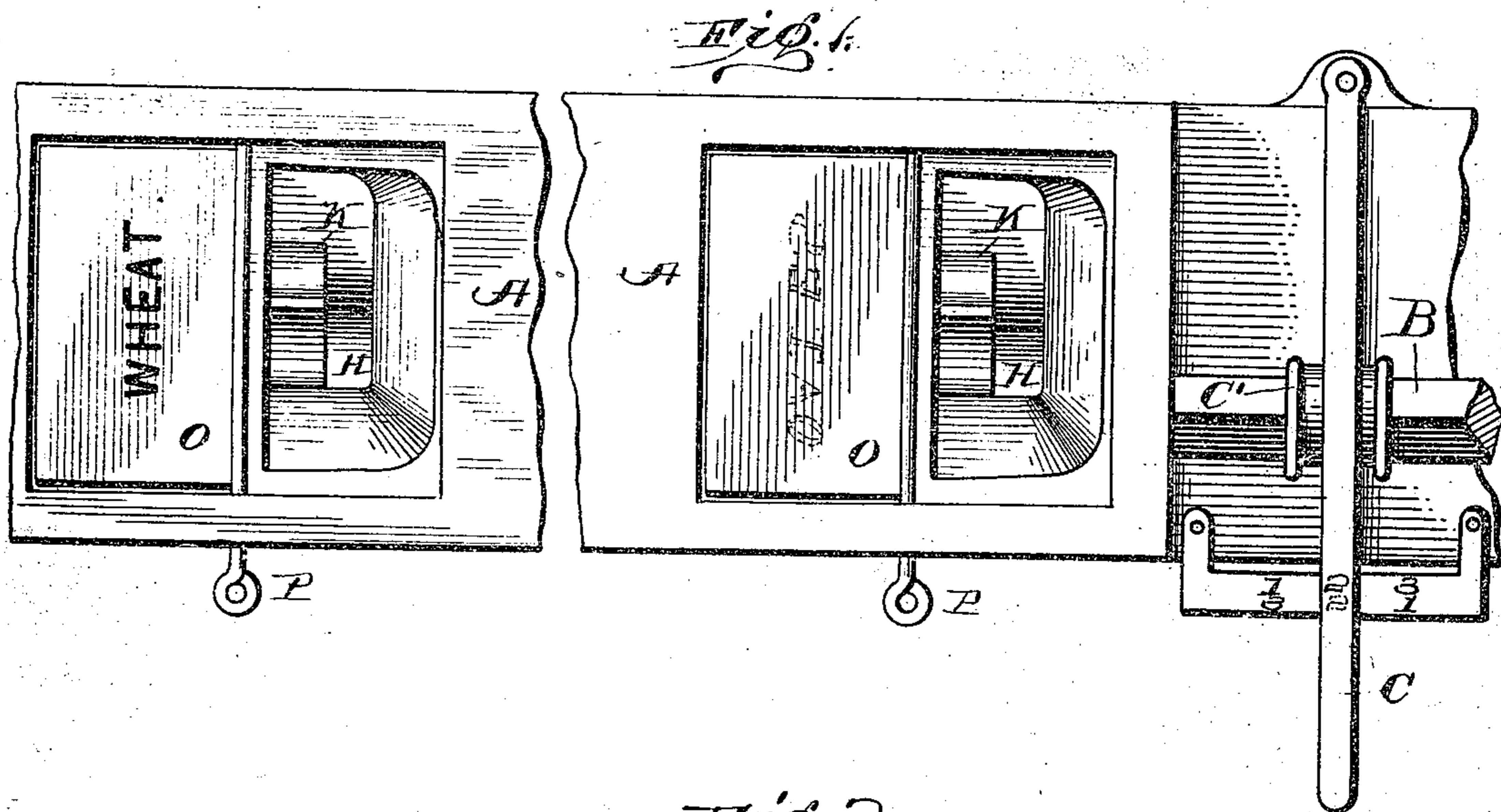
Patented Oct. 9, 1900.

R. GALLOWAY.
FEEDING MECHANISM FOR GRAIN DRILLS.

(Application filed Aug. 8, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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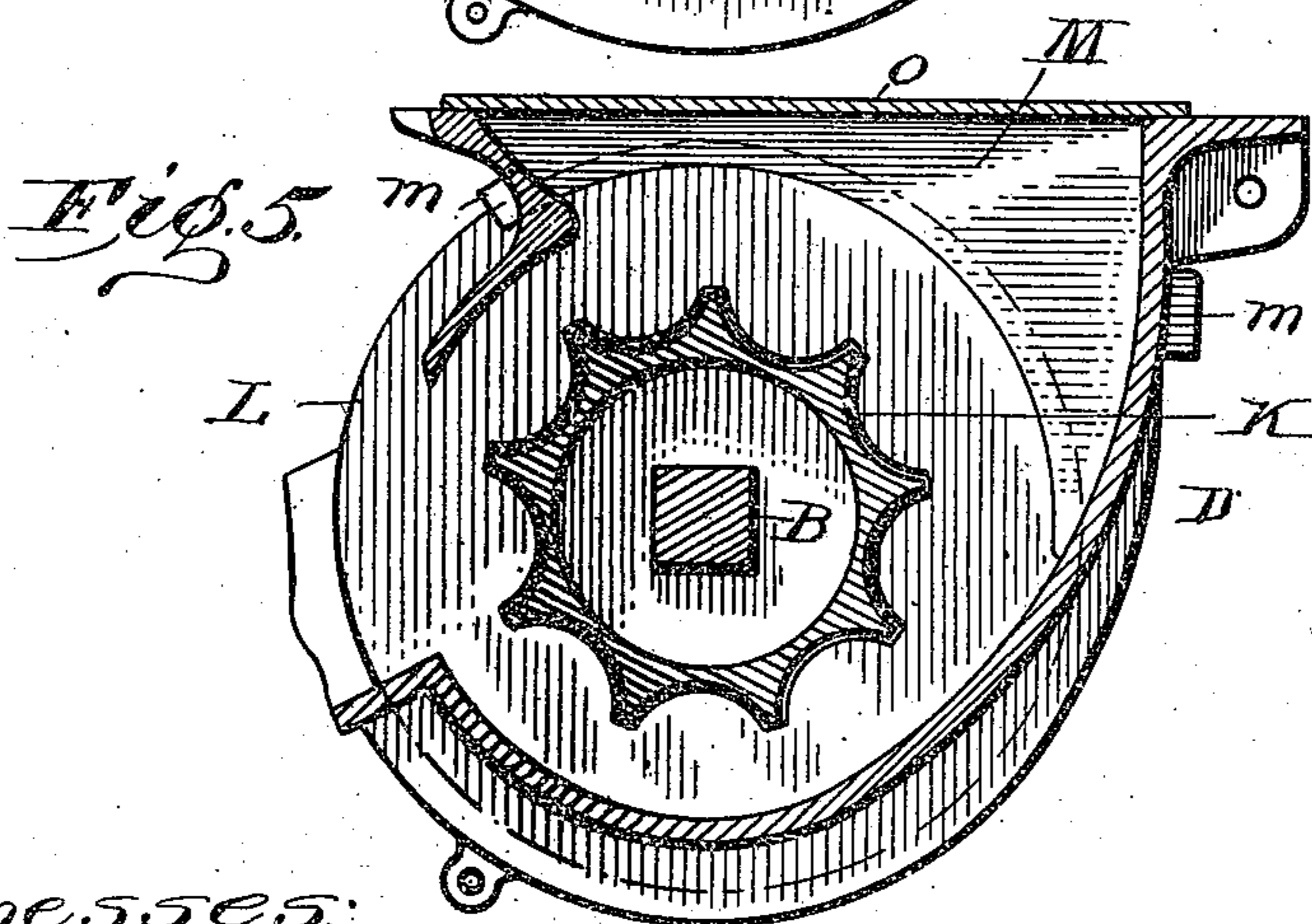
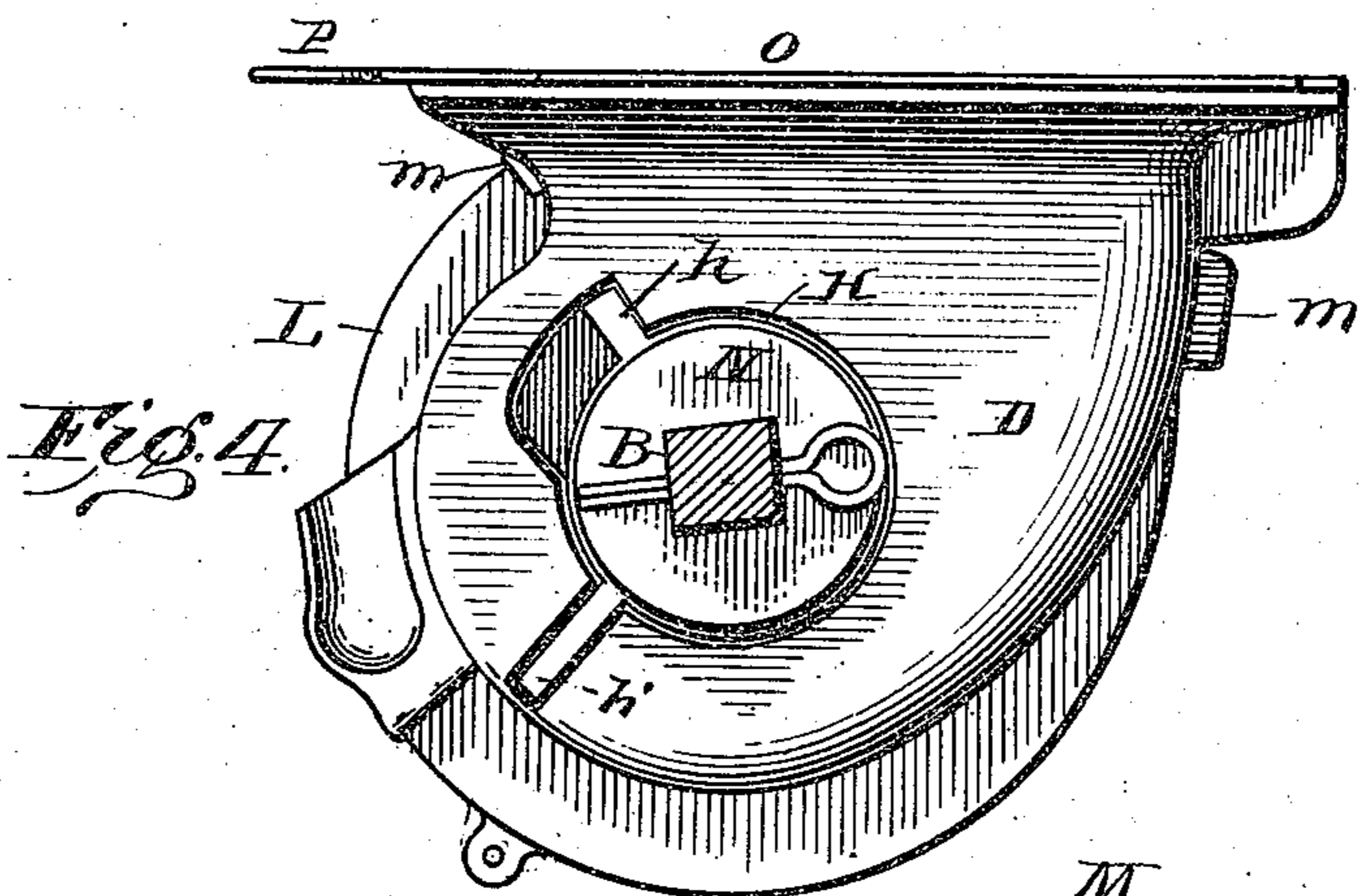
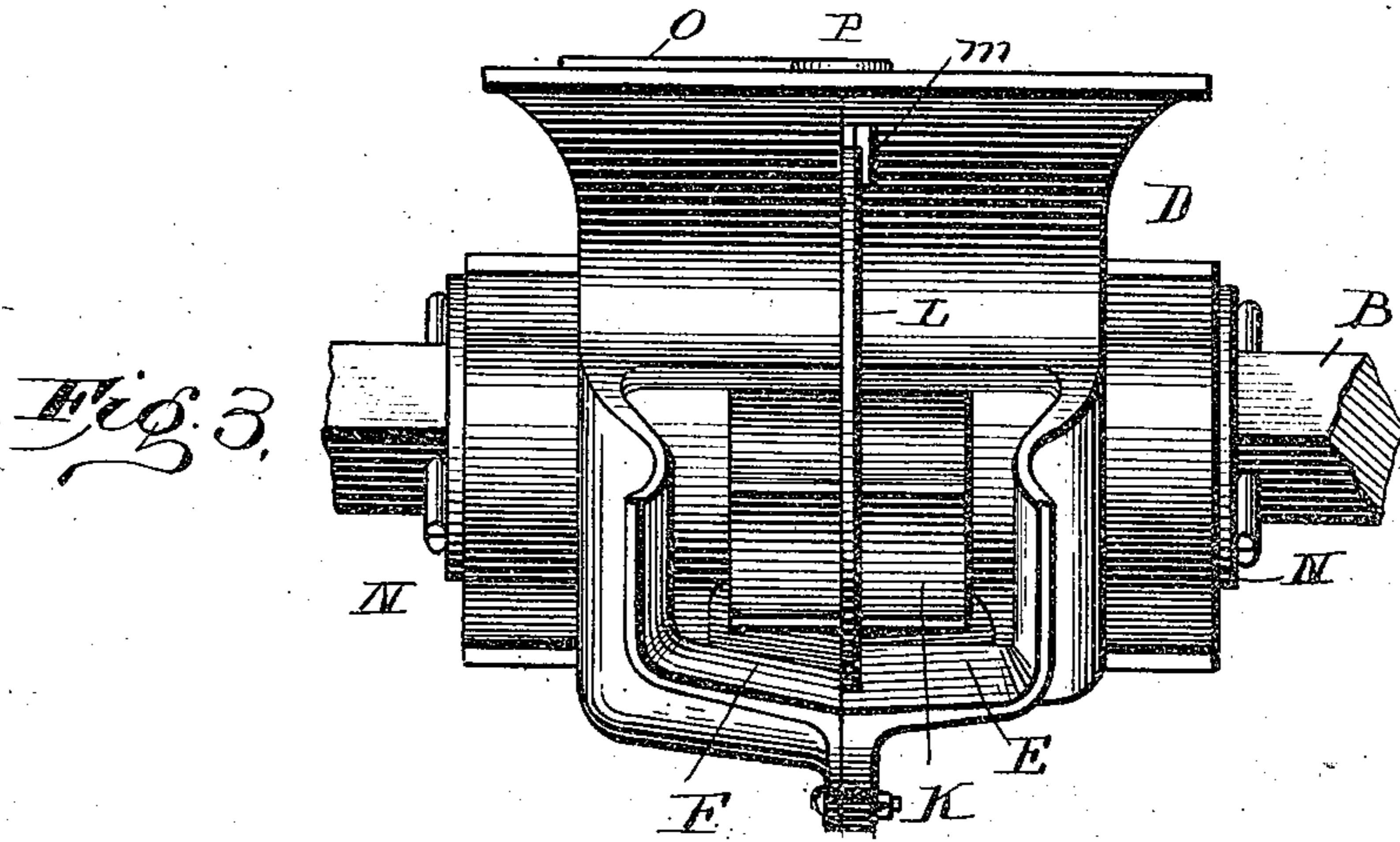
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UNITED STATES PATENT OFFICE.

ROBERT GALLOWAY, OF BUFFALO, NEW YORK.

FEEDING MECHANISM FOR GRAIN-DRILLS.

SPECIFICATION forming part of Letters Patent No. 659,367, dated October 9, 1900.

Application filed August 8, 1900. Serial No. 26,299. (No model.)

To all whom it may concern:

Be it known that I, ROBERT GALLOWAY, of Buffalo, in the county of Erie, State of New York, have invented certain new and useful
5 Improvements in Feeding Mechanism for Grain-Drills; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of
10 this specification, and to the letters of reference marked thereon.

This invention relates to seeding machinery generally, but is more especially applicable to seed-drills, the objects of the invention being
15 to provide a simple and practical grain-feeding mechanism capable of handling and distributing evenly grain of different sizes and kinds and by adjustment to regulate the exact quantity of any size to be fed for a given
20 distance.

To the above ends the invention consists generally in an improved feeding mechanism embodying double runs for the grain, with a single feed-wheel adapted to be adjusted for
25 feeding the grain in either run at will and in quantities in proportion to the desired rate of feed.

The invention further consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described, and pointed out particularly
30 in the appended claims.

Referring to the accompanying drawings, Figure 1 is a top plan view of the bottom of a
35 section of a grain-drill hopper, showing a couple of double-run distributors and a controlling mechanism for the feed-shaft. Fig. 2 is a vertical section through the cup and feeding mechanism, taken longitudinally of the feed-
40 shaft. Fig. 3 is an elevation looking at the discharge-openings. Fig. 4 is an end elevation. Fig. 5 is a vertical section at right angles to the feed-shaft.

Like letters of reference in the several figures indicate the same parts.

For the purpose of illustrating the present invention I deem it necessary only to show that portion of a grain-drill to which the invention directly relates, and it will be understood that the other portions of the drill or
50 seeding-machine may be of any usual or preferred type, the invention itself being capable of general application.

In the drawings the part lettered A is a section of the bottom of the hopper of a drill, 55 and B is a feed-shaft adapted to be rotated by any suitable power mechanism (not shown) and to be moved longitudinally for varying the rate of feed, as is common in some classes of single-run distributors, the shaft being
60 moved longitudinally by a shifting lever C, pivoted at any suitable point on the frame and cooperating with a spool C', fastened on the shaft.

In proper position for cooperating with the 65 shoes or spouts for conducting the grain to the ground there are secured beneath the hopper-bottom suitable seed-runs, which in the present instance are in the form of double runs, each occupying one-half of a casing D, 70 preferably secured to the bottom of the hopper, one run in each casing being adapted for a larger-sized grain than the other run, for which purpose it may be made slightly deeper, so as to more readily accommodate the grain. 75 In the front elevation these runs are indicated by letters E and F, and each in general conformation is similar to the runs heretofore employed in single-run distributors of this same character. The feed-shaft hereto- 80 fore mentioned passes through all of the runs and is journaled so as to rotate in the cut-offs H, mounted in opposite sides of the casing and adapted to move longitudinally into and out of the casings, so as to close more or 85 less the runs through the casing. For the purpose of so closing the runs and of preventing the seed from passing through the casings in the wrong direction the cut-offs H are provided with wings *h h'*, as shown, and 90 between them there is mounted, so as to rotate in unison with the shaft, a fluted feed-wheel K, adapted to project more or less into either run in accordance with the longitudinal adjustment of the shaft. In the preferred 95 construction this fluted feed-wheel is adapted to slide longitudinally through a central disk or rosette L, journaled in the casing and constituting the major portion of the dividing-wall between the two runs, the upper 100

portion of said wall being formed by a bridge M, held in position in the casing by projecting lugs *m* and having a downwardly-extending flange *m'* on one side, against which the disk takes a bearing for preventing fine seed from working over from one run to the other. In this preferred construction also the rotary disk is of such size and the channel for it so formed that said disk may extend down to the bottom of the larger or deeper run for the purpose of effecting a more perfect and complete feeding of the grain in the larger run and also for preventing the passage of the grain from one run to the other, as aforesaid.

As a convenient construction in the practical manufacture of the double-run seeding mechanism, as before described, the feed-shaft is square and the fluted feed-wheel K is provided with a central diaphragm *k* for imparting rotation to the feed-wheel. The cut-off devices and feed-wheel are provided with cylindrical projections and bearings *k'*, adapted to cooperate for centering said cut-off devices and feed-wheel at their meeting-points, while the outer ends of the cut-off devices are supported by inwardly-extending cylindrical projections *n*, formed on disks or hubs N, fitting on the squared shaft and held in position by cotters or other suitable devices at opposite ends, whereby when the parts are assembled the feed-wheel will be held centrally between the cut-off devices and the entire mechanism will be accurately centered and positioned on the feed-shaft without the necessity of separately fitting and attaching each part thereto.

The controlling-lever for the feed-shaft is adapted to register with two scales marked on a suitable quadrant and reading in opposite directions, for in operation it is obvious that when one run is in use a scale must be provided for indicating the projection of the feed-wheel into that run, and thereby indicating to the operator the quantity of grain which will be fed by that run; but when the opposite run is in use the adjustment of the feed-wheel is in the opposite direction, and a second scale must be provided for giving the desired indications of the projection of the feed-wheel in the latter run.

In order to control which run shall be operative, a gate or cut-off is provided in the hopper-bottom for closing one or the other of the runs at will. As shown, this gate or cut-off is in the form of a flap-valve O, mounted on a center immediately above the partition between the runs, and is adapted to be turned in one direction or the other, so as to close one or the other of the runs, by means of a handle P, and, if desired, suitable indicating-marks may be placed on the valve for showing which run is adapted to handle certain kinds of grain. For instance, one side of said valve may be marked "Wheat" and the opposite side "Oats."

In operation now the farmer or attendant after having set the flap-valve in accordance with the kind of grain to be handled may then adjust the feed-wheel into or out of the run, so as to feed any desired quantity of grain, this being easily determined by reading the scale for that run in connection with the controlling-lever.

It will be observed that with the present invention but a single feed-wheel is necessary and that with that single feed-wheel the capacity of the machine for feeding accurately and without injury different-sized grains and different quantities of the different-sized grains is attained. Thus not only is the mechanism perfected and greatly simplified, but the parts may be indefinitely duplicated and mounted in very small compass, so that the drills may be run close together, and that without complicating the feed-adjusting mechanism or the feeding mechanism itself.

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

1. In a grain-distributor, the combination with the casing having two seed-runs and the dividing-wall between said runs, of a single feed-wheel adjustably mounted to project into and operate said runs.

2. In a grain-distributor, the combination with the casing having two seed-runs of different sizes, and the partition dividing said runs, of a single feed-wheel longitudinally movable from one run to the other; substantially as described.

3. The combination with a casing for a seeding mechanism having two runs of different capacities, and a partition dividing said runs, of a feeding-wheel adjustable through said partition more or less into either run and means for controlling the longitudinal adjustment of said wheel; substantially as described.

4. In a seeding mechanism the combination with a casing having two runs therethrough of different capacity and a rotary disk constituting a partition between said runs, of a feeding-wheel adjustable longitudinally through said partition so as to be projected more or less into either of said runs at will and a controlling mechanism for said feed-wheels substantially as described.

5. In a double-run seeding mechanism the combination with a casing having runs therethrough one of greater capacity than the other, a feeding-wheel adjustable longitudinally in said casing so as to operate in either run and a disk constituting the partition between said runs and through which the feed-wheel is adjusted, said disk extending to the bottom of the larger run; substantially as described.

6. In a double-run seeding mechanism the combination with the casing having the two runs therethrough, the central rotary disk constituting the partition between said runs

and the feed-wheel adjustable longitudinally through said disk, of the cut-offs located on opposite sides of the feed-wheel and having cut-off wings working through the sides of the casing; substantially as described.

7. In a double-run seeding mechanism, the combination with the casing, the centrally-arranged rotary disk constituting the partition between the runs, the feed-wheel adjustable through said disk, of the cut-offs located on opposite sides of the feed-wheel with co-operating bearings and cylindrical projections for maintaining the alinement of said cut-offs and feed-wheel and disks mounted outside of said cut-offs for holding the outer

ends of the cut-offs in alinement; substantially as described.

8. In a double-run seeding mechanism the combination with the casing having two seed-runs of different sizes, the dividing-disk between said runs and the bridge, of a single feed-wheel adjustable through said disk, the feed-shaft, the cut-offs on either side of the feed-wheel and the disks or hubs mounted on the feed-shaft and supporting the cut-offs, substantially as described.

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Witnesses:-

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