

No. 764,705.

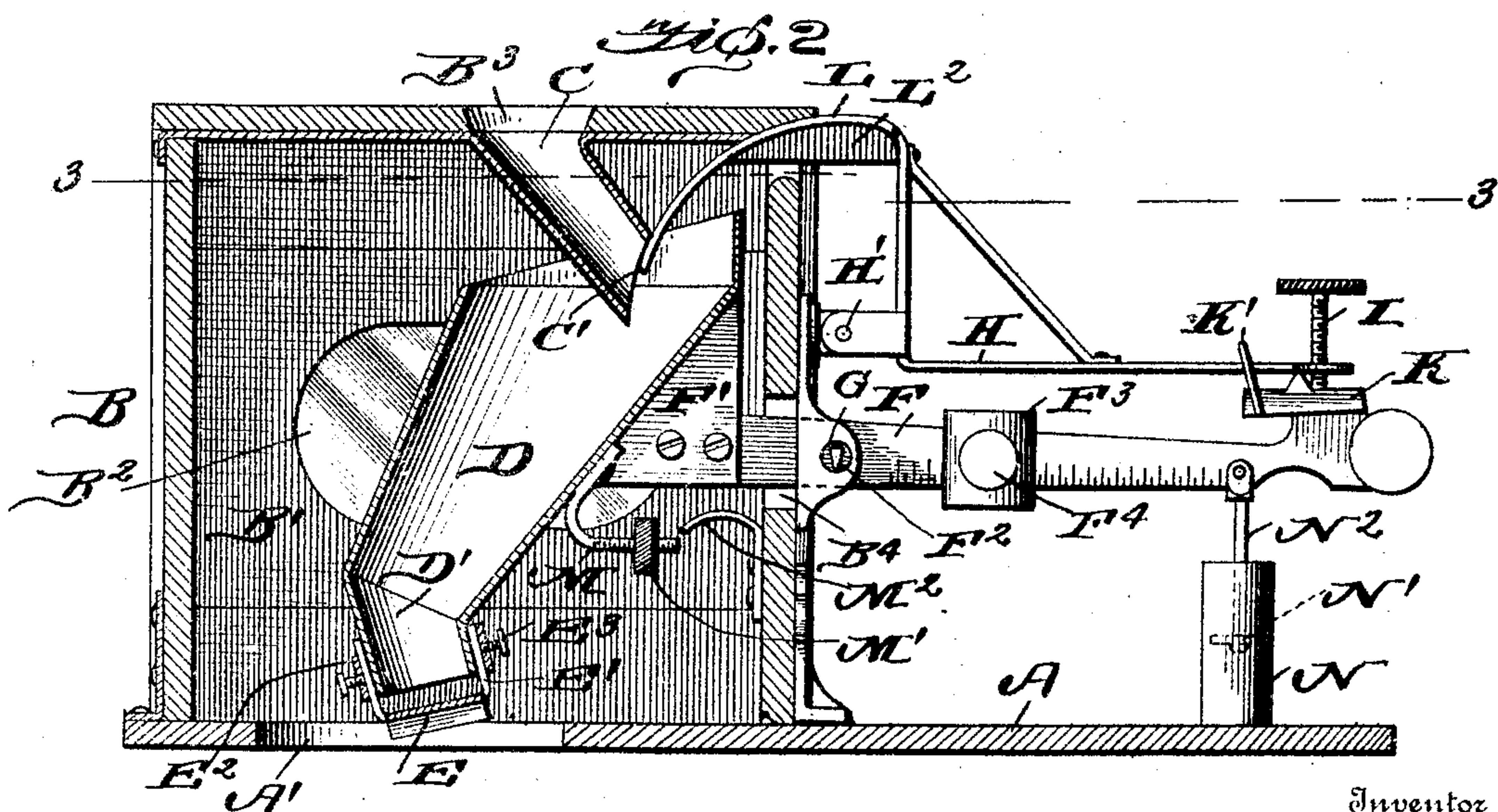
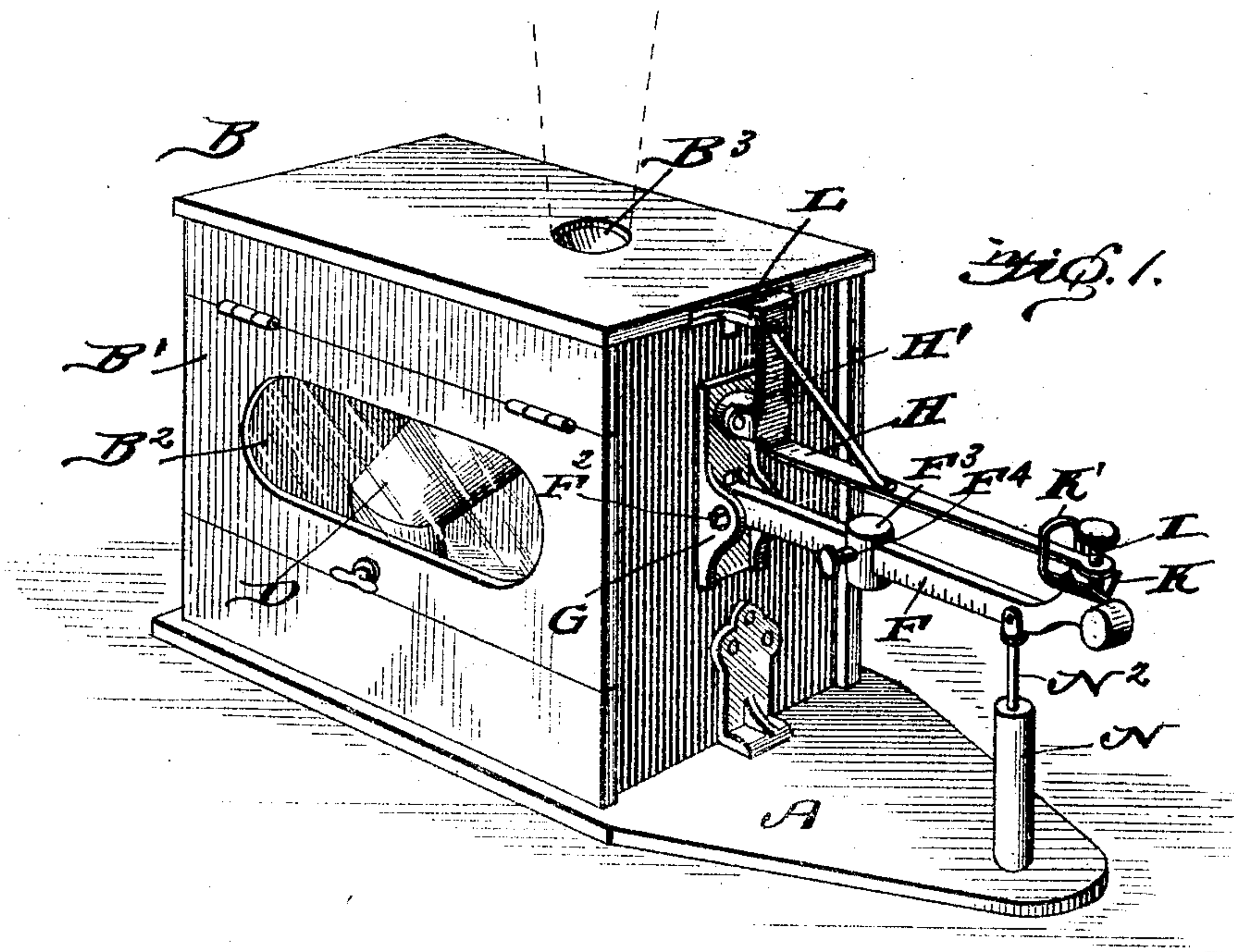
PATENTED JULY 12, 1904.

J. E. BOUSSER.
GOVERNOR FOR GRAIN FEED.

APPLICATION FILED FEB. 25, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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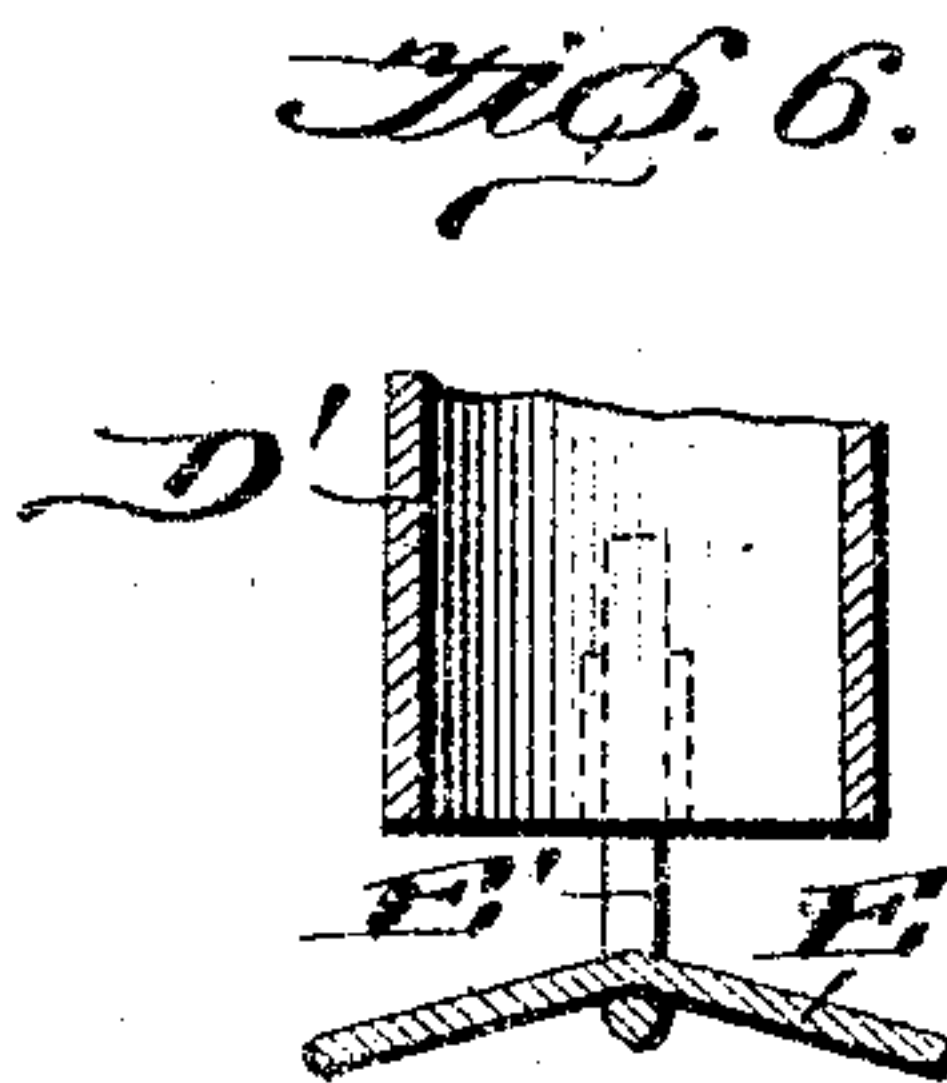
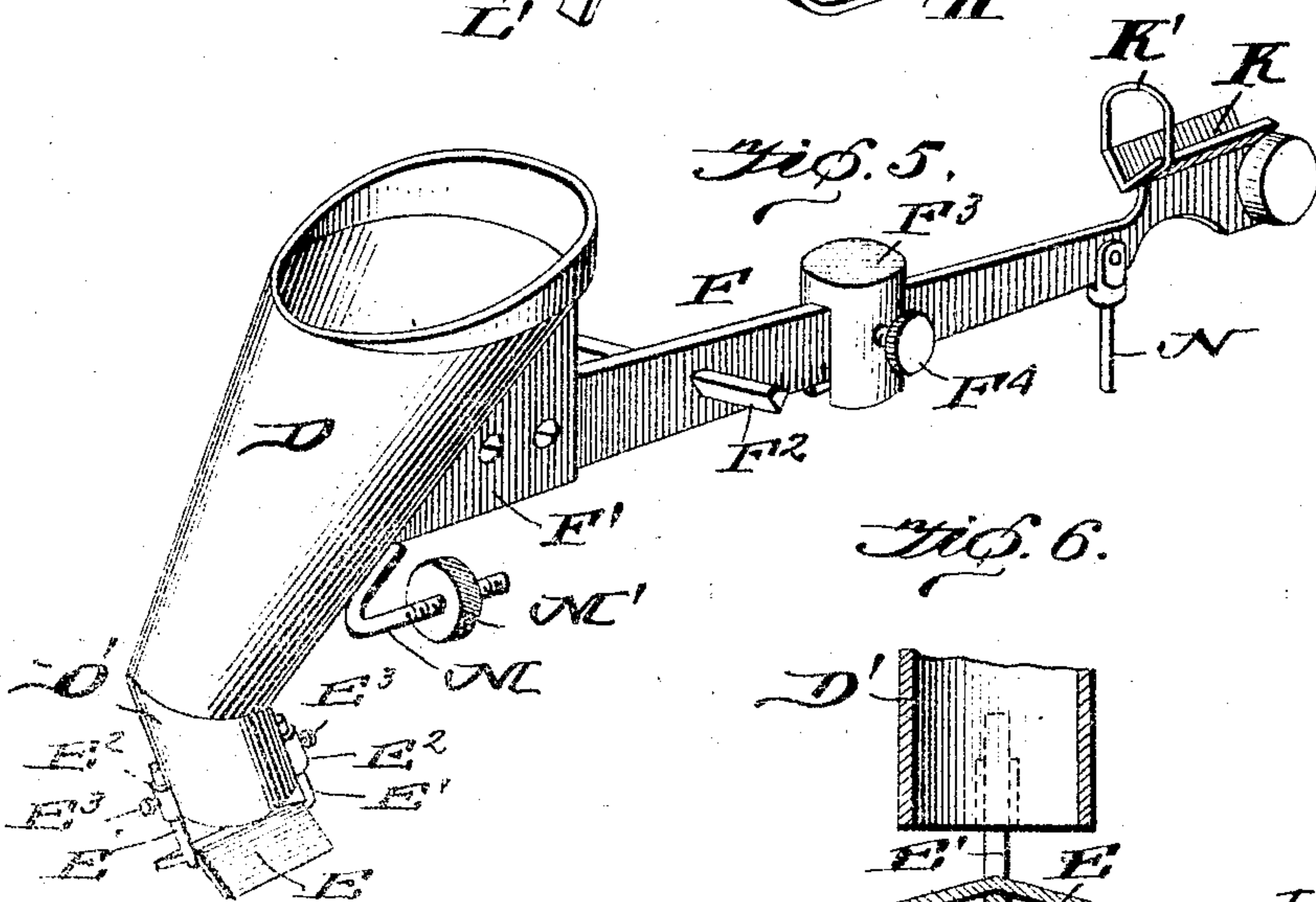
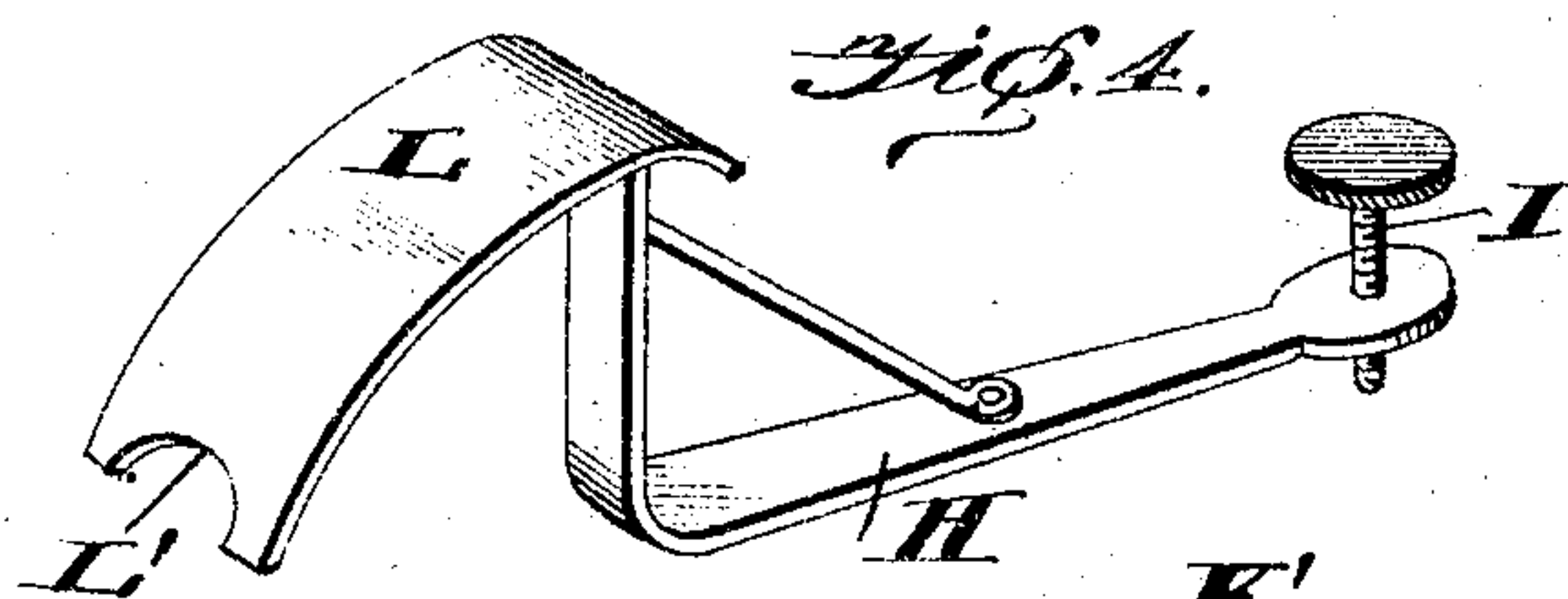
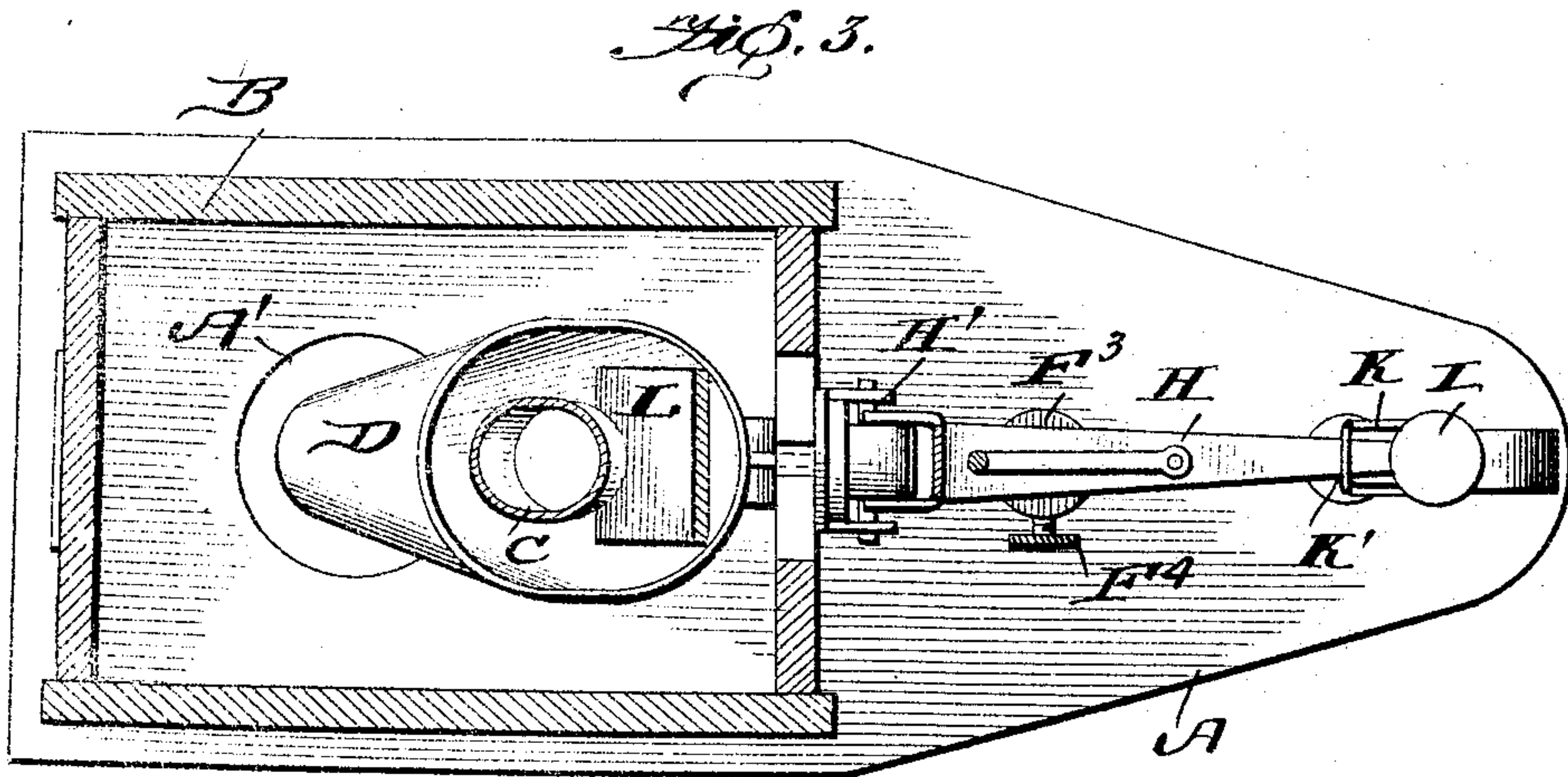
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2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN E. BOUSSER, OF HALSTEAD, KANSAS.

GOVERNOR FOR GRAIN-FEED.

SPECIFICATION forming part of Letters Patent No. 764,705, dated July 12, 1904.

Application filed February 25, 1903. Serial No. 145,028. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. BOUSSER, a citizen of the United States, residing at Halstead, in the county of Harvey and State of Kansas, have invented a new and useful Governor for Grain-Feed, of which the following is a specification.

This invention is a governor or feed-regulator for roller-mills, the object being to provide a simple and accurate appliance which can be used in connection with any construction of roller-mill for the purpose of supplying a definite quantity of grain to the rollers, said quantity being regulated by weight, as it is well-known that some grain will weigh heavier than others, and it is both desirable and advisable to regulate the feed of the roller-mill by the weight of the grain fed thereto, so that the rollers will receive a predetermined weight of grain in a given interval of time.

Another object of the invention is to provide a device which can be quickly and easily regulated as desired; and with these objects in view the invention consists in providing a case with a receiving-spout into which the grain is fed and a discharge to the feeding device of the roller-mill, said spout being connected to one end of a scale-beam, which beam actuates a cut-off slide for regulating the passage of the grain through the receiving or inlet chute, said discharge-chute having an adjustable deflector-plate connected to the lower end thereof, against which the grain impinges.

The invention consists also in providing certain adjusting means for the scale-beam and cut-off slide, whereby the said parts can be made to operate as desired, it being understood by this that a greater or less quantity of grain can be fed to the roller-mill as needed.

The invention consists also in certain details of construction and novelties of combination, all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a perspective view of a governor constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a horizontal section on the line 3 3 of Fig. 2. Fig.

4 is a detail perspective view of the cut-off slide and the elbow-lever carrying the same. Fig. 5 is a detail perspective view of the discharge-spout and the scale-beam to which it is connected. Fig. 6 is a detail sectional view of the lower end of the discharge-spout and the adjustable deflector-plate arranged beneath the same.

In carrying out my invention I employ a base-board A, having an opening A' therein, and upon said base-board and covering said opening is a case B, said case being provided with a door B' at each side, each door having a glass panel B², so that the operation of the device can be readily seen. The top of the case has an opening B³, through which the grain is fed in any suitable manner into the receiving or inlet chute C, said chute being inclined, as shown, and its lower end is curved, as indicated at C'. A discharge-spout D is arranged within the case, said discharge-spout being substantially funnel-shaped and is considerably wider than the inlet-chute C, the lower end of the inlet-chute resting within the upper end of the discharge-spout. This discharge-spout is formed with an elbow D' adjacent to the lower end, and connected to the lower end of the discharge-spout is a deflector-plate E, having arms E', which slide in guides E², arranged upon the exterior of the lower end of the discharge-spout, said arms, and consequently the deflector-plate, being secured by means of the binding-screws E³. The deflector-plate is ridged centrally, as shown, and the grain passing from the lower end of the discharge-spout will contact with the said deflector-plate and be deflected evenly in opposite directions; and it is intended that the entire mass passing through the discharge-spout shall bear on this deflector-plate E. It will be noted that the lower end of the discharge-chute is directly over the opening A', so that the grain will pass freely to the roller-mill. The discharge-spout is arranged at an inclination directly opposite the inclination of the inlet-chute, and this discharge-spout is rigidly connected at its forward side to the inner end of a scale-beam F by means of a plate F', said scale-

beam projecting through an opening B¹ in the front side of the case and is balanced upon the knife-edge F², which rests in a bearing-bracket G, secured to the case. An adjustable weight F³ is arranged upon the scale-beam, a set-screw F⁴ being employed to lock the said weight in any desired adjustment. An elbow-lever H is pivoted at H' to a part of the bearing-bracket, the horizontal arm of said elbow-lever extending substantially parallel with the scale-beam and is provided at its outer end with an adjustable screw I, which is adapted to bear against a grooved plate K, mounted upon the upper forward end of the scale-beam, said plate having a bail K' connected thereto which extends over the forward end of the elbow-lever, as most clearly shown in Figs. 1 and 2. A curved cut-off slide L is connected to the upper end of the vertical arm of the elbow-lever, said cut-off slide being adapted to enter the case through an opening produced at the upper end of the frontside, and this slide L is curved to correspond with the curved end of the inlet-chute and contacts with said curved end, the inner end of the cut-off slide being cut away in the form of a semicircle, as shown at L', Fig. 4. A vertical guide-flange L² keeps the cut-off slide in its proper position during all of its movements. A threaded rod M is connected to the discharge-spout below the scale-beam and has an adjustable weight M' thereon, and a stop M² is secured to the inner side of the forward end of the case with which the threaded rod contacts to limit the movement of the discharge-spout.

A dash-pot N is arranged upon the base and is partially filled with glycerin or any other suitable material, and the piston N', carried by the depending rod N², pivoted to the scale-beam adjacent to the forward end, prevents any sudden movement of the scale-beam and parts connected thereto and also prevents the vibration of the roller-mill interfering with the proper adjustment of the governor.

In operation the scale-beam and parts connected therewith are properly balanced, and by adjusting the screw I the position of the cut-off slide can be regulated. After the cut-off slide has been regulated the beam is again balanced and the governor is ready for operation, and any increase or decrease in the weight of the grain fed to the roller-mill will be instantly compensated for by opening or closing the cut-off slide, thereby instantly equalizing the weight of grain fed to the roller-mill.

As before stated, the governor can be adjusted so as to feed a greater or less quantity of grain according to the weight, and this is accomplished by regulating the cut-off slide and then balancing the scale-beam and parts connected thereto. Owing to the peculiar construction and arrangement of the parts feeding the grain to the deflector-plate, the

entire mass bears on said plate, and thereby furnishes an accurate adjustment to the slightest increase or decrease in the weight of the volume of grain flowing through the discharge-spout.

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

1. A governor for grain-feed comprising a scale-beam having a weight adjustable thereon, a discharge-spout connected to the inner end of said scale-beam, an adjustable deflector-plate connected to the lower end of the discharge-spout, a feed-chute emptying into the discharge-spout, a cut-off slide working across the lower end of the feed-chute, an elbow-lever carrying the cut-off slide, the forward end of said lever being loosely connected with the forward end of the scale-beam, and the adjusting-screw working through the forward end of the lever and contacting with the forward end of the scale-beam, as set forth.

2. A governor for grain-feed comprising a case having a feed and discharge chute arranged therein, a scale-beam extending into the case and connected to the discharge-spout, the adjustable deflector-plate connected to the lower end of the discharge-spout, the cut-off slide working past the lower end of the inlet-chute, the elbow-lever to which the cut-off slide is connected, the plate carried by the forward end of the scale-beam, a bail connected to said plate and extending over the forward end of the elbow-lever and the adjusting-screw passing through the forward end of the elbow-lever and bearing upon the plate, substantially as described.

3. A governor for grain-feed comprising a case having a feed and discharge chute arranged therein, a scale-beam extending into the case and connected to the discharge-spout, the adjustable deflector-plate connected to the lower end of the discharge-spout, the cut-off slide working past the lower end of the inlet-chute, the elbow-lever to which the cut-off slide is connected, the plate carried by the forward end of the scale-beam, a bail connected to said plate and extending over the forward end of the elbow-lever and the adjusting-screw passing through the forward end of the elbow-lever and bearing upon the plate, the dash-pot and piston working therein, and the rod connecting the said piston and scale-beam, the threaded rod connected to the discharge-spout and having a weight adjustable thereon, and the stop-plate carried by the case, substantially as described.

4. A device of the kind described comprising a scale-beam an inclined discharge-spout carried at one end of said beam the said spout being formed with an elbow adjacent its lower end, an adjustable deflector-plate secured to the chute and arranged below and transverse to the lower end of the chute, and means for

feeding grain into said chute at substantially a right angle to the inclination of the chute.

5. In a governor for regulating the feed of grain, the combination of a delivery-spout, a
5 coöperating regulating-slide, a counterbalanced measuring-spout having an offset portion for deflecting the grain from a straight

course; and a deflector connected with the delivery end of the measuring-spout, substantially as set forth.

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