

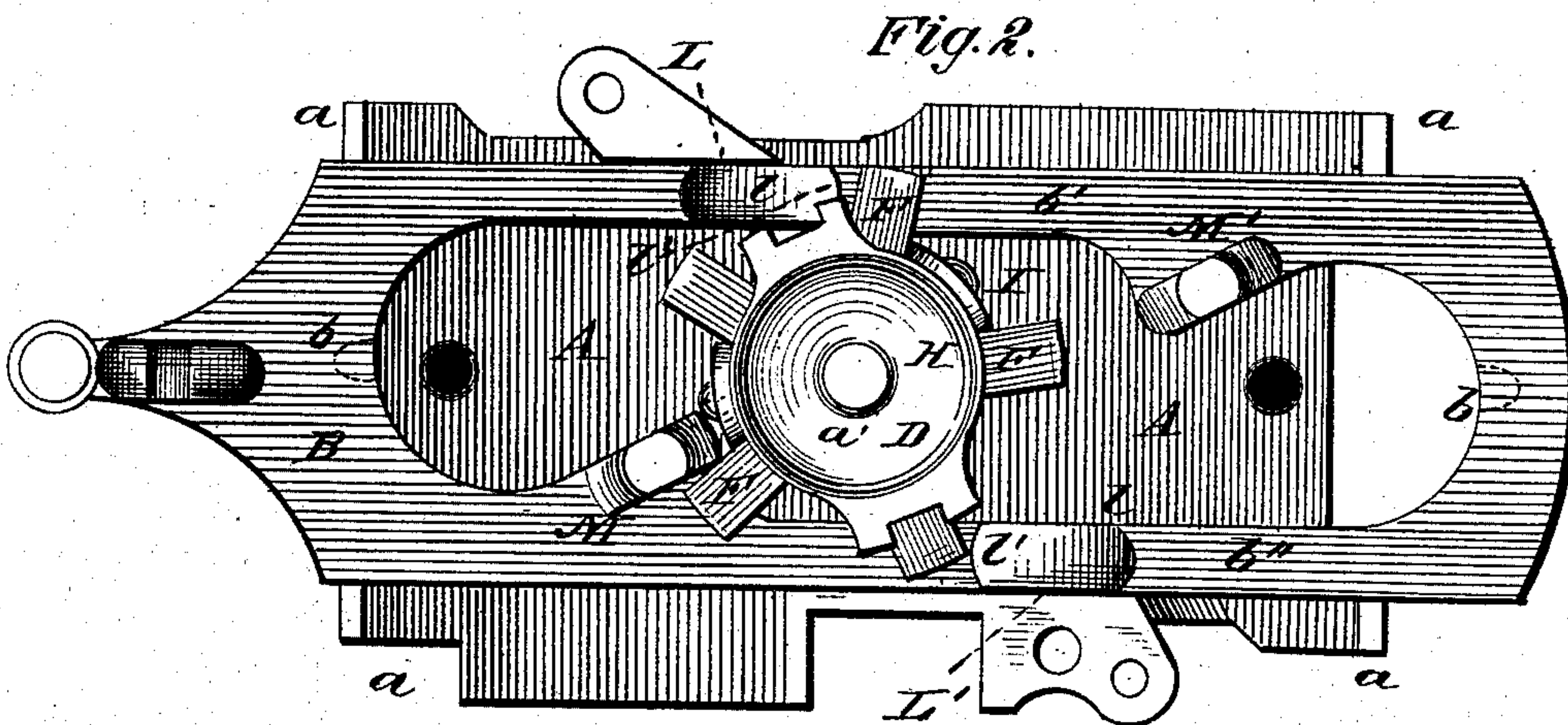
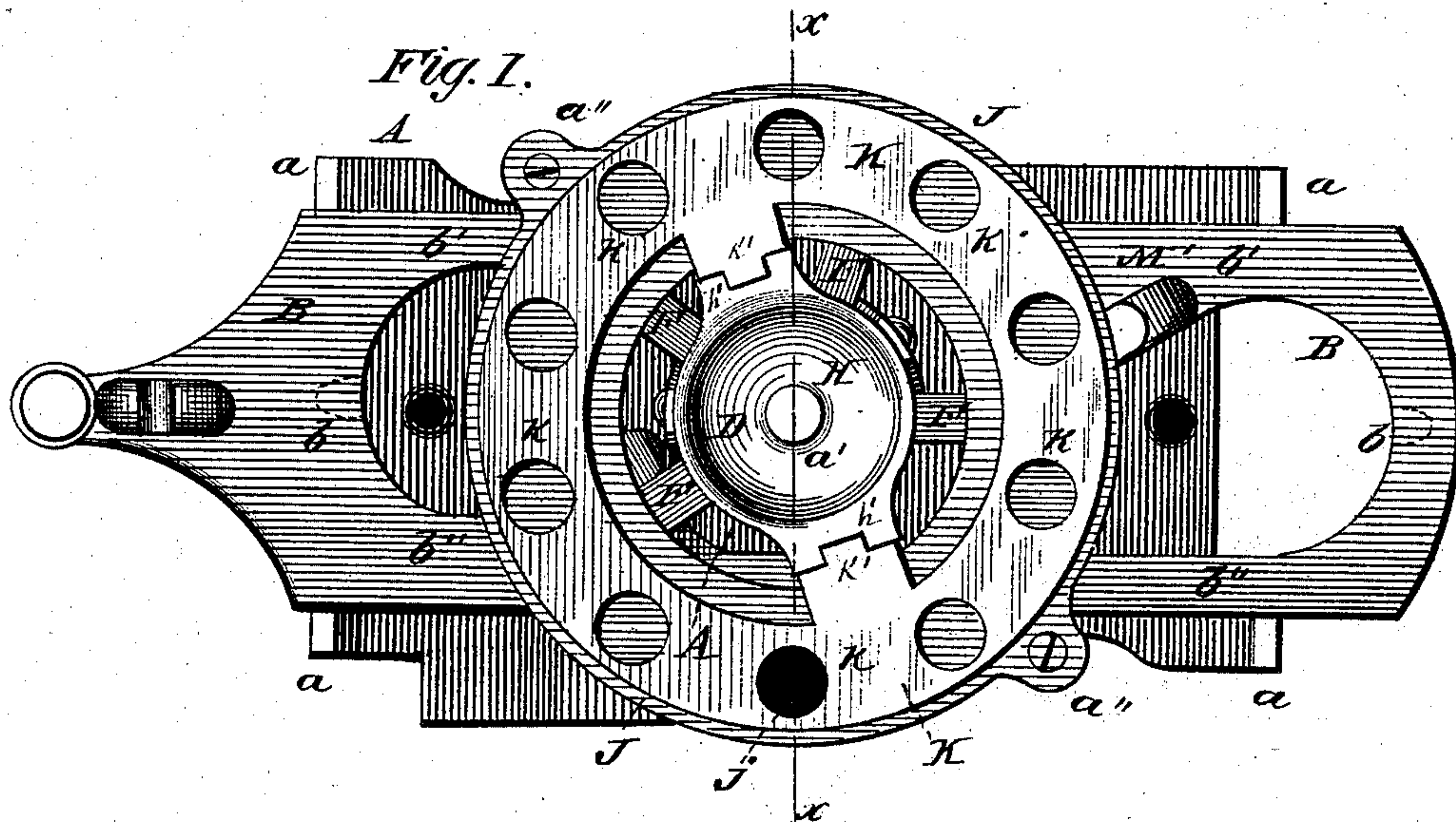
(Model.)

2 Sheets—Sheet 1.

A. RUNSTETLER.
Corn Planter.

No. 238,161.

Patented Feb. 22, 1881.



Witnesses
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Inventor.
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(Model.)

2 Sheets—Sheet 2.

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Fig. 3.

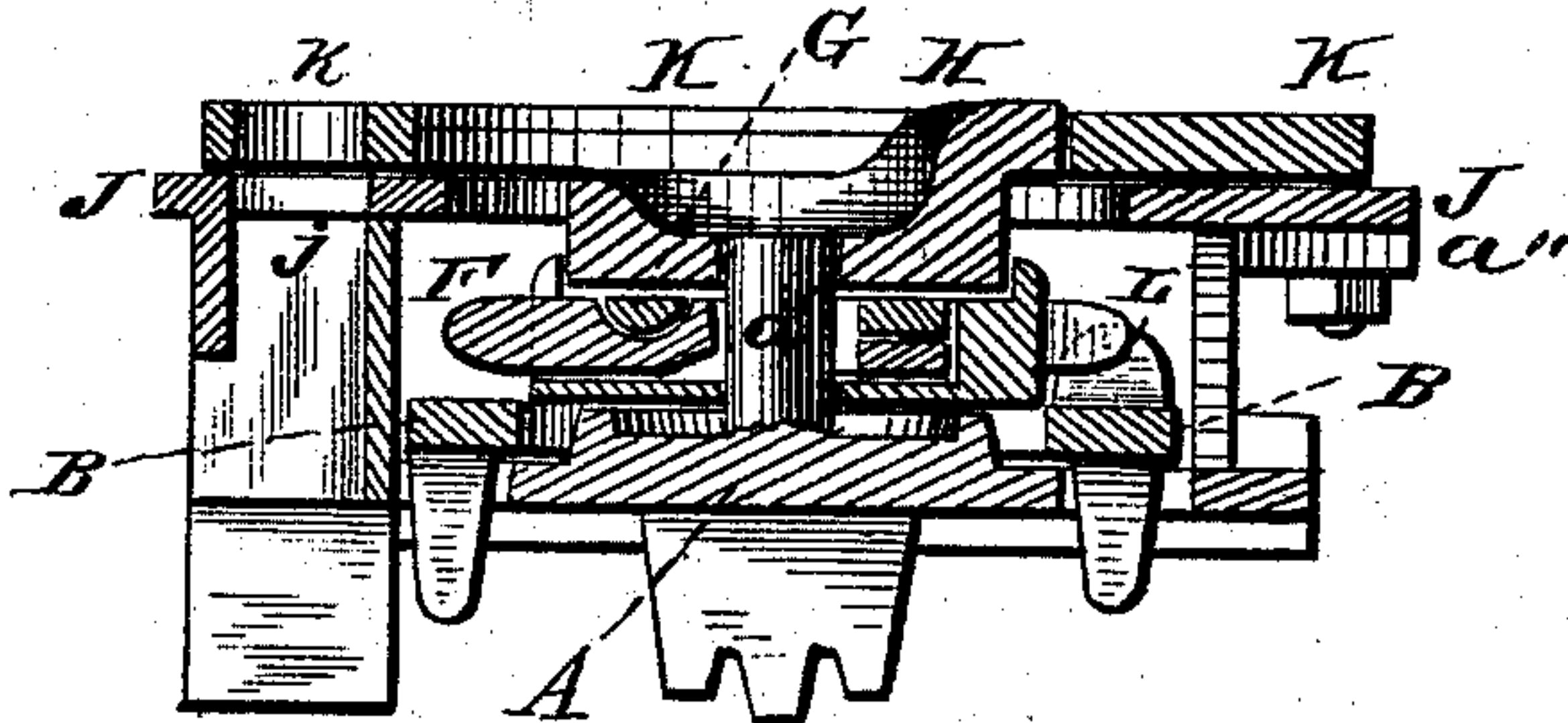


Fig. 5.

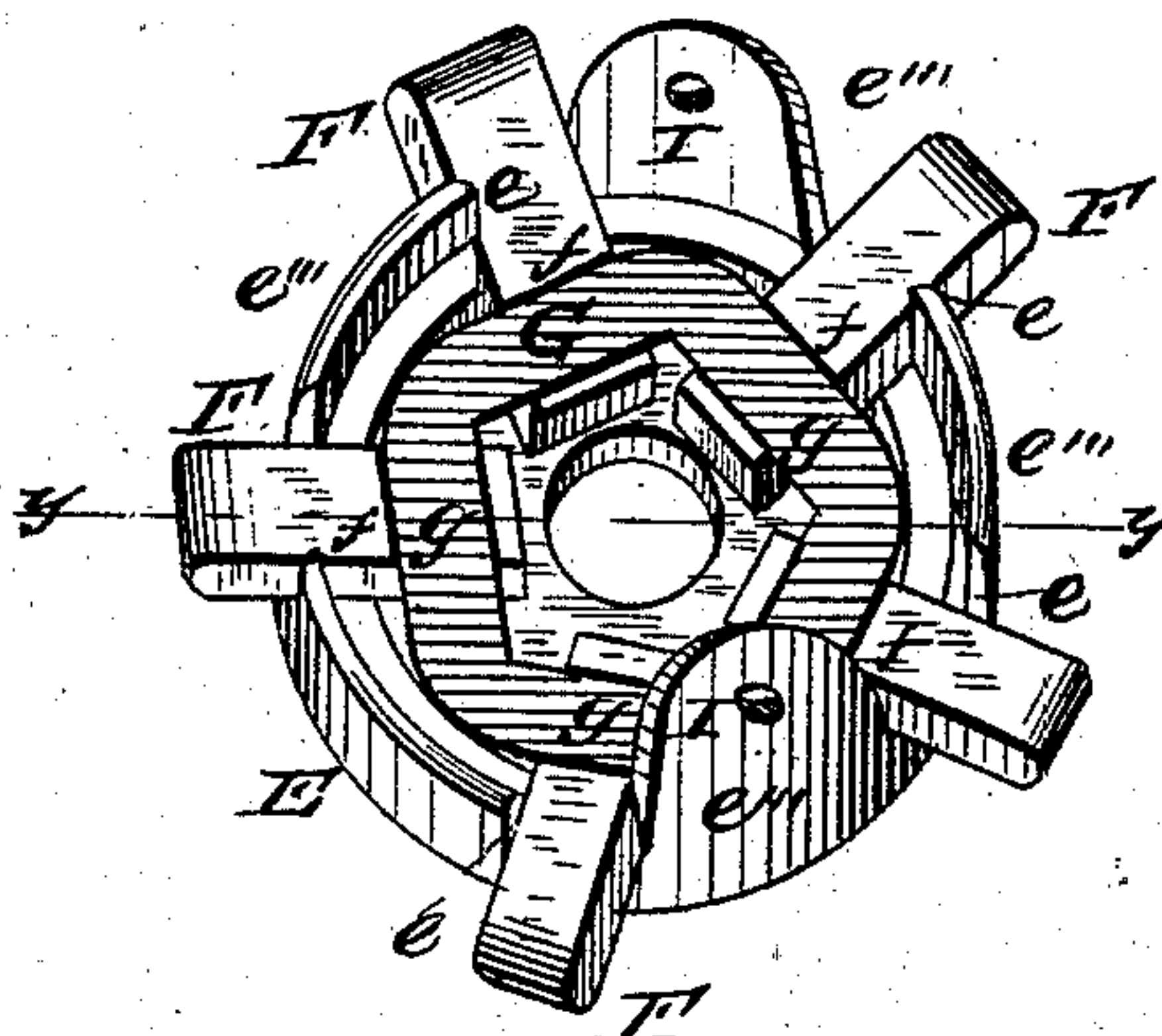


Fig. 4

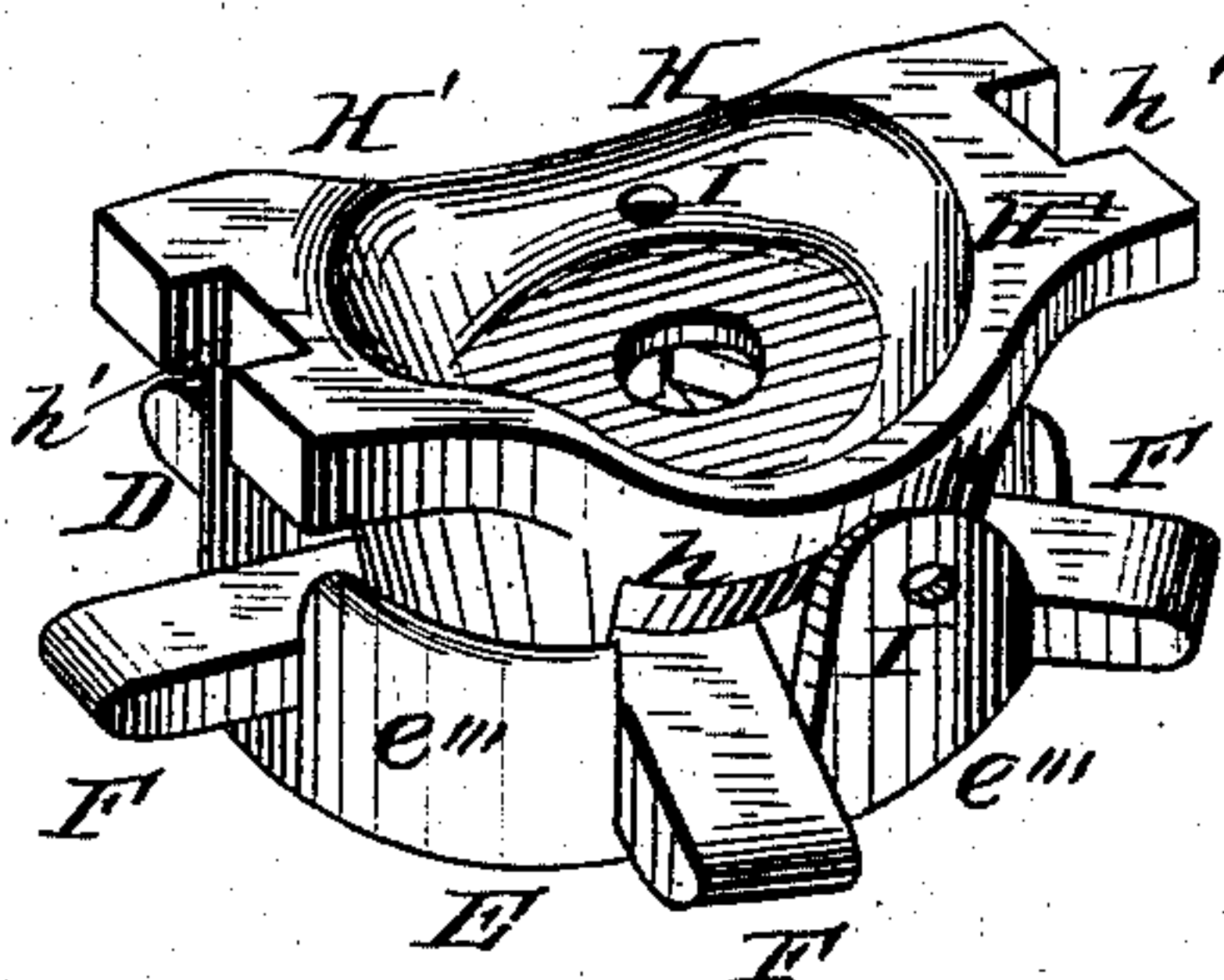


Fig. 6.

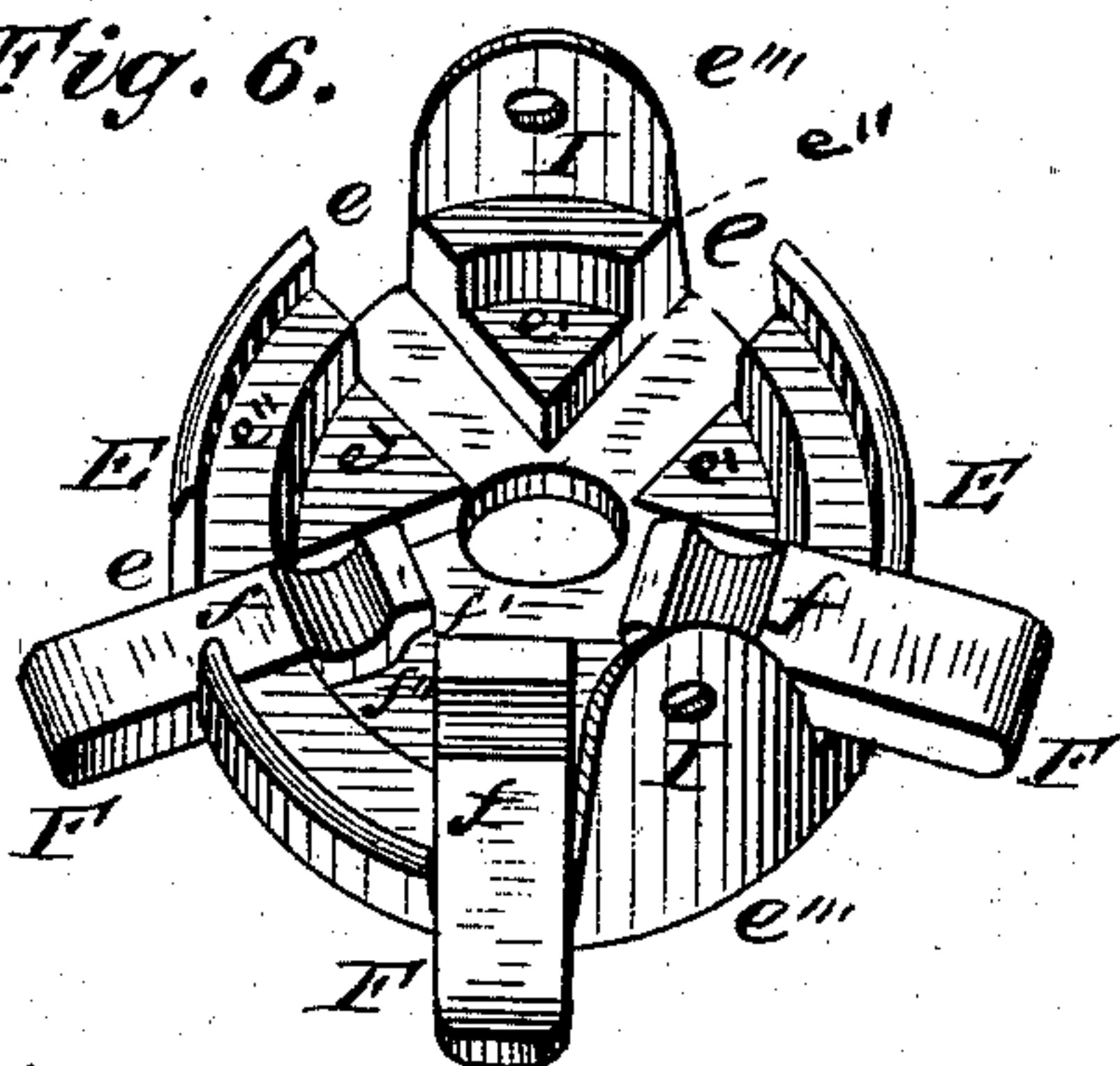
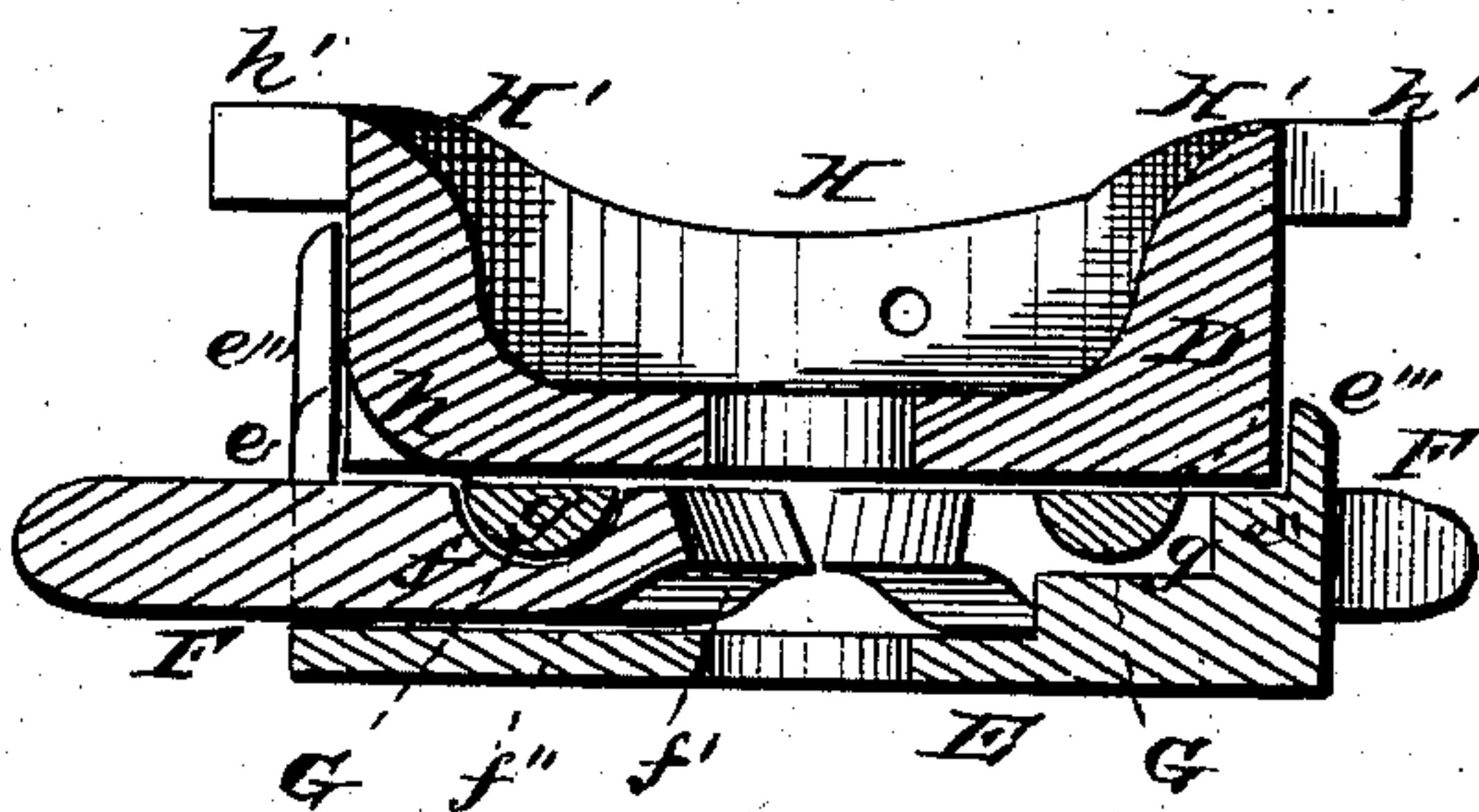


Fig. 7.



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UNITED STATES PATENT OFFICE.

ANDREW RUNSTETLER, OF MOLINE, ILLINOIS, ASSIGNOR TO FARMERS
FRIEND MANUFACTURING COMPANY, OF DAYTON, OHIO.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 238,161, dated February 22, 1881.

Application filed November 23, 1880. (Model.)

To all whom it may concern:

Be it known that I, ANDREW RUNSTETLER, a citizen of the United States, residing at Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Corn-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, in which—

Figure 1 is a top plan of a seed-cup wheel, actuating-slide, and bottom of a corn-planter seed-box. Fig. 2 is a top plan of the parts shown at Fig. 1, except the seed-cup wheel and annular plate on which it rests. Fig. 3 is a sectional elevation in the line *xx* in Fig. 1. Fig. 4 is a perspective of the head below the seed-wheel. Fig. 5 is a perspective of the head shown at Fig. 4 with the top plate thereof removed. Fig. 6 is a perspective of the bottom plate of the head shown at Fig. 4 with part of the hinged lugs in place. Fig. 7 is a sectional elevation of the parts shown at Fig. 4 in the line *yy* in Fig. 5.

This invention relates to corn-planters of that class in which an intermittent rotary motion in one direction is given to a seed-cup wheel by lugs or tappets on a reciprocating slide, and in which a fixed plate is located between the slide and seed-wheel; and the invention consists in improvements in constructions and combinations of parts hereinafter described, and set forth in the claims hereto annexed.

Referring to the drawings by letters, the same letter indicating the same part in the different figures, letter A represents the bottom plate of a corn-planter seed-box, and B the slide, which reciprocates lengthwise thereon, being held in its path by lugs *a* on the bottom plate, and limited in the extent of its throws by lugs *b* on the slide. The slide B has limbs *b'* *b''*. The bottom A and slide B are parts of an ordinary planter, except tappets and stops

hinged lugs F, journal-plate G, and a top plate, H. The head D is journaled on a stud-bolt, *a'*, which projects upward from the bottom plate, A, between the limbs *b'* *b''*, and passes through the plates E and H, so that the head D may rotate thereon, and may be removed therefrom when required. The stud-bolt *a'* may be attached to the plate E and be journaled in the plate A. The head D may be journaled in various ways to the bottom plate, A. The plate E has radial grooves *e*, in which the lugs F are seated, with their outer ends projecting from the plate E. Each lug F has a transverse groove, *f*, in its upper side near its inner end, and its lower side and inner end, *f'*, made concentric with the groove *f*, immediately below the groove, and has a projecting shoulder, *f''*, as shown at Fig. 7.

A bar, *g*, semicircular in its cross-section, rests with its curved side in each groove *f*, which, while they hold the lugs in place, also act as journals on which they (the lugs) may be swung upwardly at their outer ends until their shoulders *f''* strike the bottom of plate E and limit their upward movement. In raising the outward ends of the lugs F they rock on their rounded bottom portions, *f'*. The bars *g* are preferably united at their ends to form a polygonal ring-like plate, G, as shown at Fig. 5, which is held from close contact with the walls of the grooves *f* by resting on parts *e'* of the plate E. (See Fig. 6.) The bottom of the plate H rests on shoulders *e''* of the plate E and holds the plate G in place. Flanges *e'''* project upward from the periphery of the plate E, exterior to the lower part of the plate H, and secure the plate H from lateral displacement, and it is further held by screw-bolts, I, which pass through two of the longer flanges *e'''* and into the plate H. Grooves *h* in the lower part of the plate H permit the lugs F to swing upward. The plate H may be solid, but is preferably cup-shaped, as shown at Fig. 4, to reduce its weight, and has projections H' from opposite sides of its upper edge, with a groove, *h'*, in the outer ends of each projection.

J is an annular plate held in a fixed position above the slide B by lugs *a''*, which project upward from the bottom A, to which lugs

D is a head formed of a bottom plate, E,

it is bolted. The fixed plate J is common in certain classes of planters, and forms a bottom for the seed-cups *k*, which are arranged in circular series in an annular seed-cup wheel, K, that is located above the fixed plate J. The plate J has the usual opening *j* for the discharge of seed from the seed-wheel K in the manner common in planters with intermittingly-rotating seed-wheels. The seed-wheel K is connected with the plate H by lugs *k'*, which fit the recesses *h'* in the plate H.

L is a lug or tappet projecting upward from the limb *b'* of the slide B, and has an inclined side, *l*, and a side, *l'*, about perpendicular to the slide. A similar tappet, L', is located on the limb *b''*, and has sloping and vertical sides. (Indicated by same letters respectively.) The tappets L L' are not located in a line at right angles with the slide, but are obliquely located with reference to such line, as shown at Figs. 1 and 2.

M is a lug or stop projecting upward from near one end of the limb *b'*, and M' is a similar stop projecting upward from the opposite end of the limb *b''*.

In making a throw of the slide B toward the right hand the tappet L will be brought in contact with one of the lugs F, and, forcing it forward, will give a partial rotation to the seed-wheel and head D. When the last-described throw of the slide is terminated one of the lugs F will come in contact with the stop M on the slide, and thus arrest the motion of the seed-wheel. In making the partial rotation referred to one of the hinged lugs F was raised by the inclined side of the tappet L' and passed over said tappet. The relative positions of the slide B, seed-wheel K, and its attached head D, when the slide has completed a throw toward the right hand, are shown at Figs. 1 and 2. In making a throw in the reverse direction the tappet L' acts upon a lug, F, while another lug, F, swings over the tappet L, and the stop M' arrests the motion of the seed-wheel, and thus by alternate throws of the slide—forward and return—an intermittent motion in one direction is given to and seed discharged in measured quantities

at the termination of each movement of the seed-wheel K.

I do not claim in this application the hinged lugs on the seed-wheel *per se*, nor, broadly, in combination with a seed-wheel and reciprocating slide, as such features are shown and claimed in another application which I have filed contemporaneously with this; but

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a seed-cup wheel, slide, and fixed plate located between the seed-cup wheel and slide, a head connected with and located beneath the seed-cup wheel and provided with swinging lugs, substantially as and for the purpose specified.

2. In combination with a slide and seed-cup wheel, a head connected with and located beneath the seed-wheel and provided with swinging lugs, substantially as and for the purpose specified.

3. In combination with the slide having tappets L L' and stops M M', a head having lugs F hinged thereto and a seed-wheel secured to and above it, substantially as and for the purpose specified.

4. In combination with a seed-cup wheel, lugs hinged to a head below the seed-wheel and adapted to receive motion from a reciprocating slide, substantially as and for the purpose specified.

5. The plate E, having recesses *e*, in combination with the lugs F, having grooves *f* and shoulders *f''*, and the journal-plate G, substantially as and for the purpose specified.

6. The plate E, having recesses *e*, in combination with the lugs F, having grooves *f* and shoulders *f''*, the journal-plate G, and cap H, substantially as and for the purpose described.

7. In combination with a seed-cup wheel, a head located beneath it and provided with swinging lugs, for the purpose specified.

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

ANDREW RUNSTETLER.

Witnesses:

H. A. ALLEN,

HARRY M. RICHARDS.