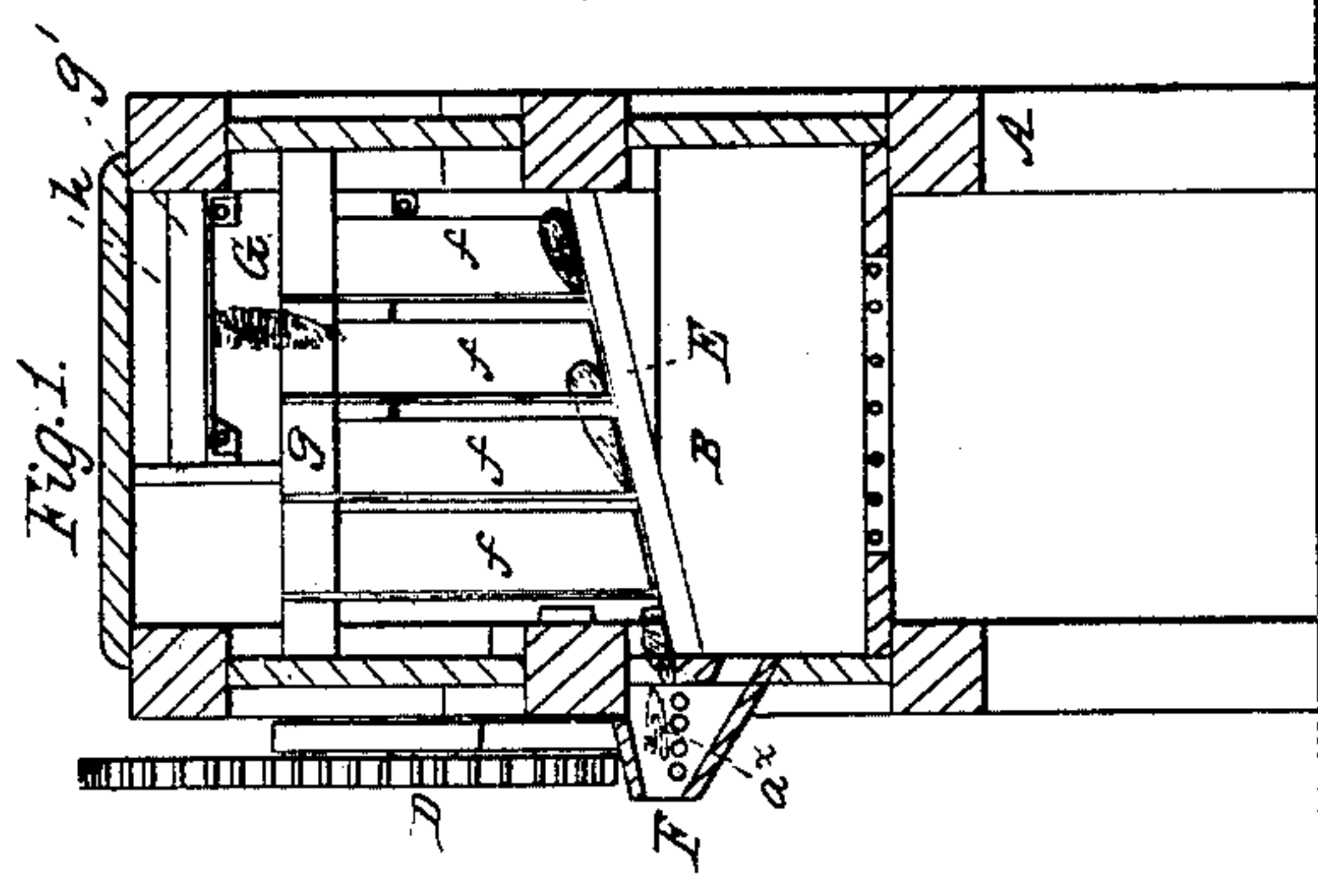
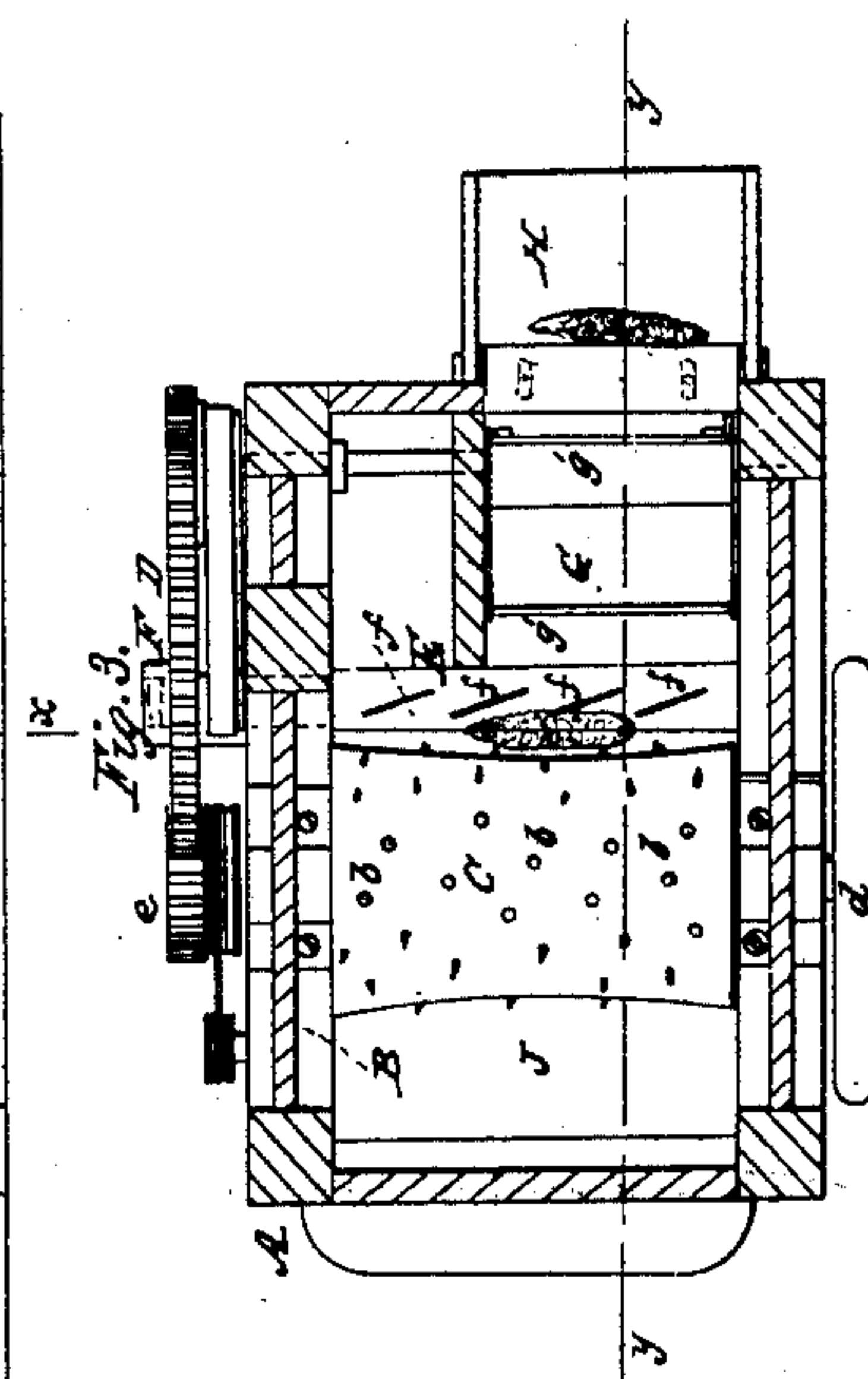
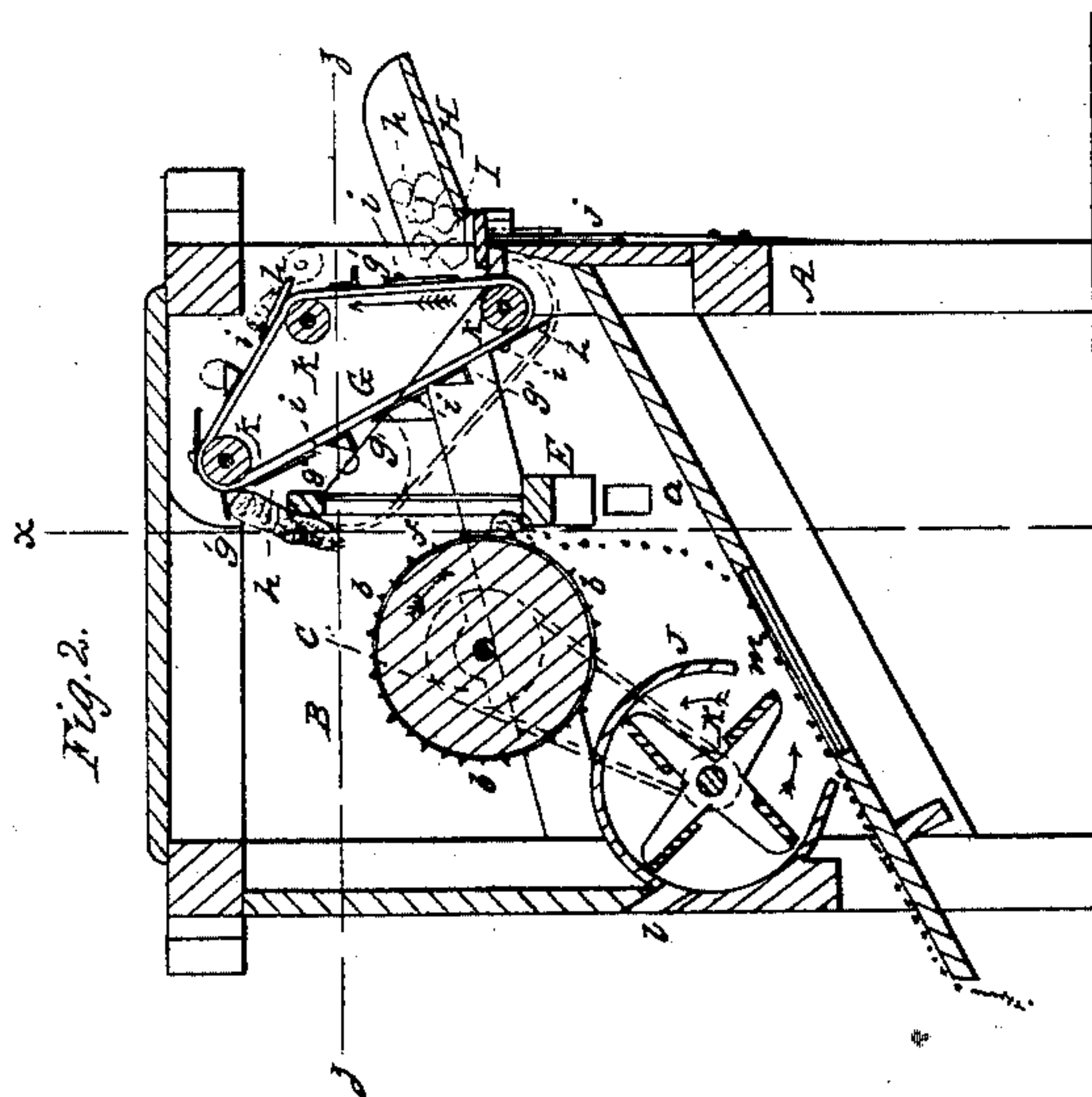


S. W. RYCKMAN.

Corn Sheller.

No. 27,077.

Patented Feb. 7, 1860.



Witnesses:
J. Nathaniel
Edward P. Lester

Inventor:
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UNITED STATES PATENT OFFICE.

S. W. RYCKMAN, OF PONTIAC, MICHIGAN.

CORN-SHELLER.

Specification of Letters Patent No. 27,077, dated February 7, 1860.

To all whom it may concern:

Be it known that I, S. W. RYCKMAN, of Pontiac, in the county of Oakland and State of Michigan, have invented a new and Improved Machine for Shelling Corn; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a vertical section of my invention, taken in the line *x, x*, Fig. 2. Fig. 2 is a side sectional view of ditto, taken in the line *y, y*, Fig. 3. Fig. 3 is a horizontal section of ditto, taken in the line *z, z*, Fig. 2.

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

This invention consists in the employment or use of an elastic apron provided with plates or buckets and strips, in connection with a cylinder, plates, and an inclined bed piece, also in a yielding bar placed at the end of the feed trough and arranged to operate in combination with the apron above mentioned.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A represents a rectangular frame which is inclosed at its upper part to form a box, B, to inclose the machine. The box B, has an inclined bottom, *a*, and within said box a cylinder, C, is placed transversely. This cylinder, C, is provided with teeth, *b*, which are placed in the cylinder in oblique parallel lines as shown clearly in Fig. 2. The shaft, *c*, of the cylinder, C, has a fly-wheel, *d*, on one end of it at the outside of the box, and the opposite end of said shaft has a pinion, *e*, on it, which pinion gears into a toothed wheel, D, at the outer side of the box, and to which wheel the power is to be applied.

Within the box, B, there are placed a series of vertical steel plates, *f*, the upper ends of which are secured to a transverse horizontal bar, *g*. The lower ends of the plates, *f*, extend down nearly to an inclined bar, E, which is placed transversely in the box. This bar, E, forms a bed or bearing for the ears of corn while being acted upon by the toothed cylinder, and may be of metal, or of wood cased with metal. The plates, *f*, have a certain degree of elasticity, and they have an oblique position relatively with the cylinder as shown clearly in Fig. 3. At one side of the box, B, and in line with the in-

clined bed, E, there is a spout, F, containing a small screen, *a**.

Within the box, B, there is placed an endless apron, G. This apron has a series of transverse plates or buckets, *g'*, attached to it. These plates or buckets may be made of metal, and they project from the belt at right angles, as shown clearly in Fig. 2. To the apron G, and between the plates or buckets, *g*, metal strips, *h*, are attached longitudinally, said strips being secured at one end to the apron, as shown at *i*, Fig. 2.

H is a feed trough, which is secured to the box, B, at one end and in line with the apron, G. At the lower end of this feed box there is a bar, I, against which a spring, *j*, bears, said spring having a tendency to press the bar against the apron, preventing the escape of the ears of corn down between the apron and the lower end of the feed trough. This will be fully understood by referring to Fig. 2. The endless apron works over rollers, *k*, arranged substantially as shown in Fig. 2, so that the upper part of the apron will project above the traverse bar, *g*, of the plates *f*.

Within the box, B, and at the lower part of the inclined bottom, *a*, there is a fan case, J, in which a rotary fan, K, is placed. The fan case, J, communicates with the external air, as shown at *l*, Fig. 2, and in the inclined bottom, *a*, just under the fan case a screen, *m*, is placed.

The operation is as follows:—The wheel, D, is driven by any convenient power and the cylinder, C, fan, K, and apron, G, move in the direction as indicated by the arrows, the apron and fan being driven by proper belts from the shaft of the cylinder, C. The ears of corn are placed in the feed trough, H, and are carried up by the plates or buckets, *g'*, are dropped over the traverse bar *g*, of the elastic plates, *f*, and the ears pass down between the cylinder, C, and plates, *f*, the latter keeping the ears pressed against the cylinder while the former shells the corn therefrom. The obliquity of the teeth, *b*, of the cylinder in connection with the inclined bed-piece, E, causes the ears to pass down the inclined bed, E, the cobs passing out of spout, F, and the corn falling on the inclined bottom, *a*, and passing down on it is subjected to a blast from the fan, H, which deprives the corn of dust, chaff and other light impurities, the corn being discharged in a clean state at the lower end

of bottom, *a*. The ears of corn are of course rotated by the revolutions of the cylinder, *C*, and the cylinder is made slightly concave in order to prevent too quick a discharge of the cobs and insure a perfect stripping of the corn therefrom.

The plates or buckets, *g'*, carry up each one ear of corn at a time, and in order to prevent two ears passing up on the same plate or bucket the strips, *h*, are employed. These strips, it will be seen by referring to Fig. 2, have their lower or loose ends thrown outward as they pass over the central roller, *k*, of the apron, and in case two ears of corn should be on the plate below, the uppermost one would be thrown off, as clearly shown in red, Fig. 2. As the apron, *G*, moves the plates or buckets, *g'*, force outward the bar, *I*, as they pass above the lower end of the feed trough, the spring, *j*, forcing the bar inward toward the apron, as each plate or bucket passes it. The elastic plates, *f*, yield or give to suit different sized ears. The small screen, *a**, in the spout, *F*, admits of

the passage of shelled corn that might have passed into said spout back into the box.

I do not claim a rotary toothed cylinder for that is an old device, and has been used combined with various devices for shelling corn; nor do I claim separately any of the parts herein shown and described; but

I do claim as new and desire to secure by Letters Patent:—

1. The elastic apron, *G*, provided with plates or buckets, *g'*, and strips, *h*, in connection with the cylinder, *C*, plates, *f*, and inclined bed-piece, *E*, the whole being arranged for joint operation, substantially as described.

2. The yielding bar, *I*, placed at the inner end of the feed trough, *H*, and arranged to operate in combination with the apron, *G*, as and for the purpose specified.

S. W. RYCKMAN.

Witnesses:

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