

No. 680,200.

Patented Aug. 6, 1901.

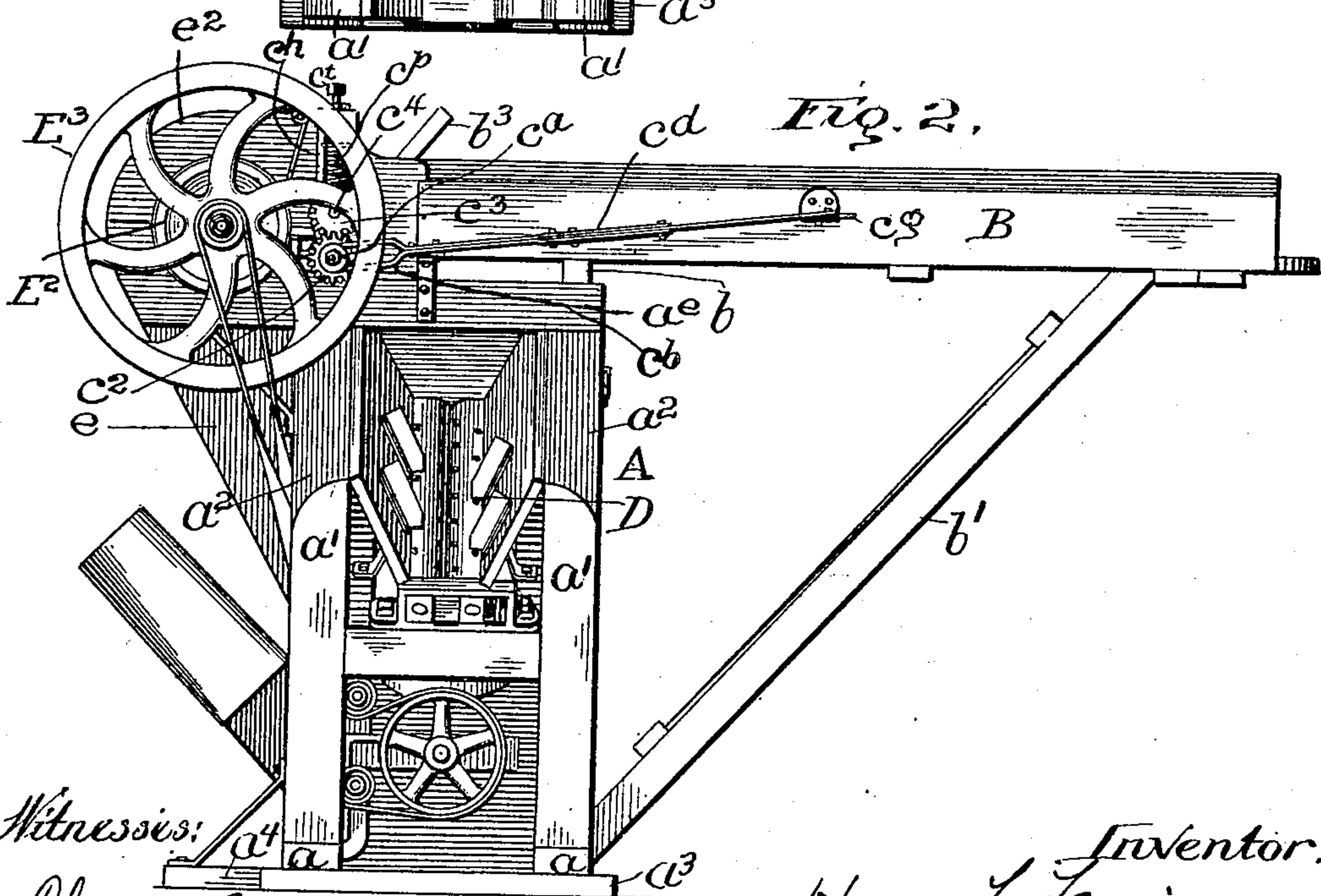
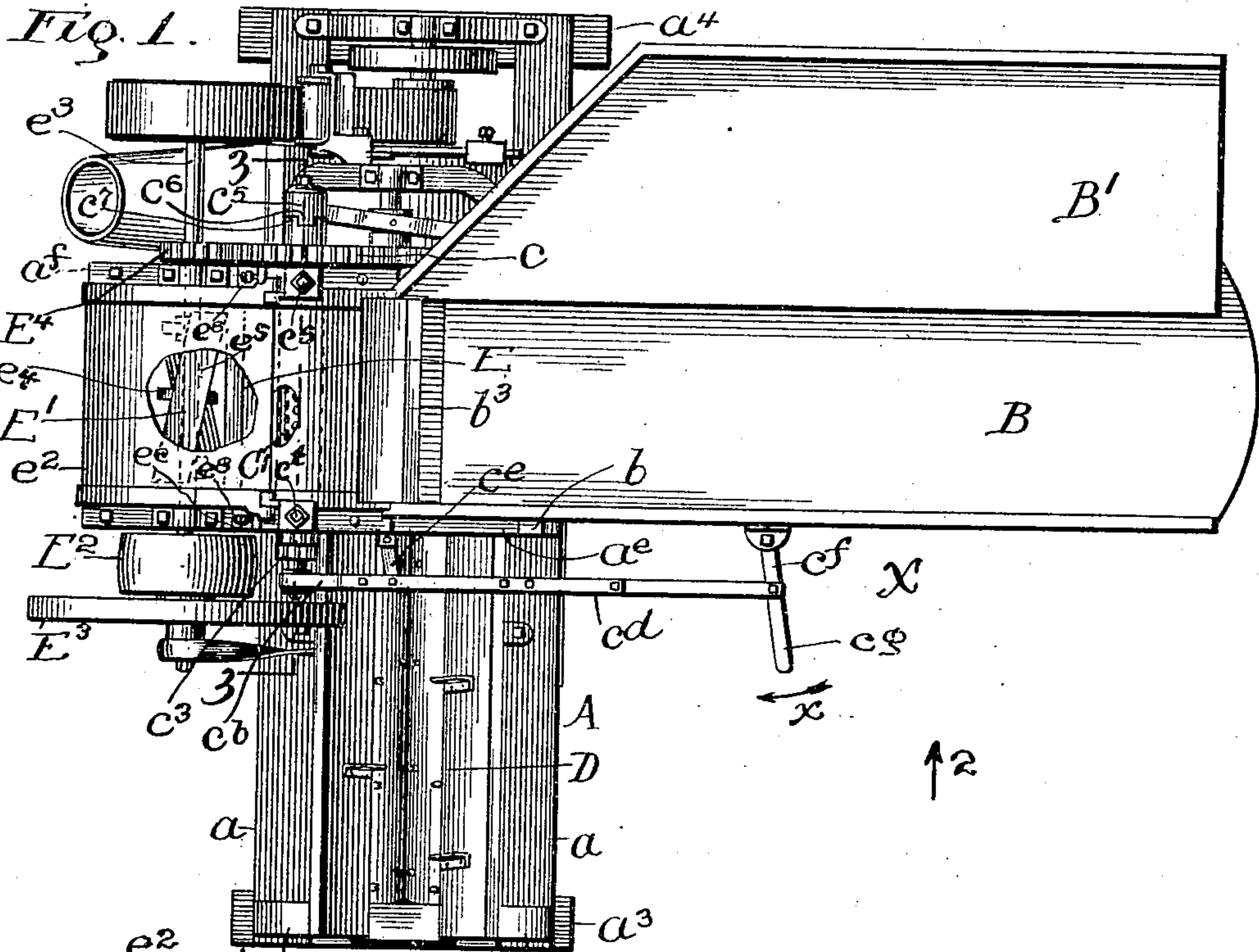
H. L. FERRIS.

CORN SNAPPING, CUTTING, AND HUSKING MACHINE.

(Application filed July 24, 1900.)

(No Model.)

2 Sheets--Sheet 1.



Witnesses:  
Chas. C. Shurway  
S. Bliss.

Inventor:  
Henry L. Ferris  
by Wm. H. H. Pittman  
attys.

No. 680,200.

Patented Aug. 6, 1901.

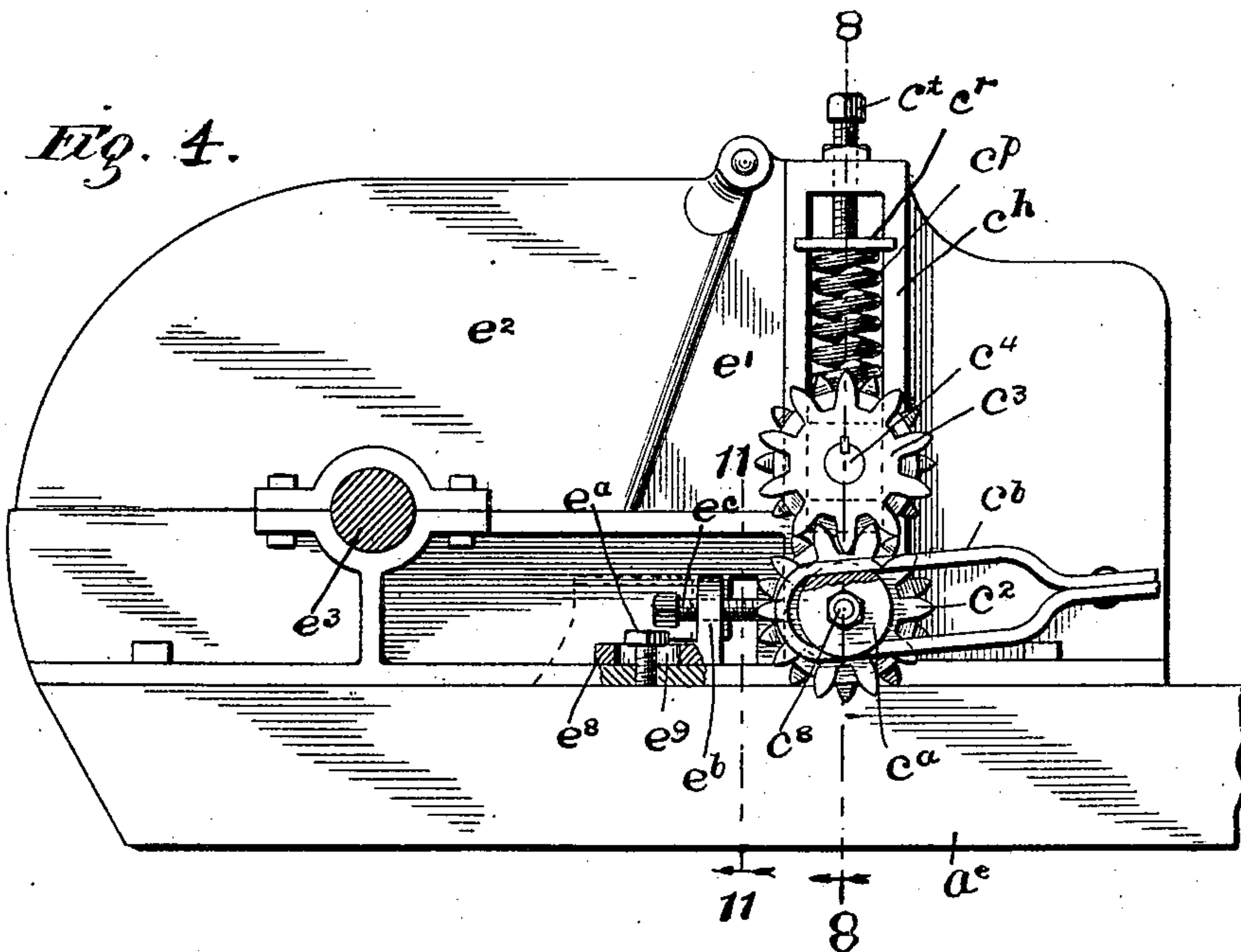
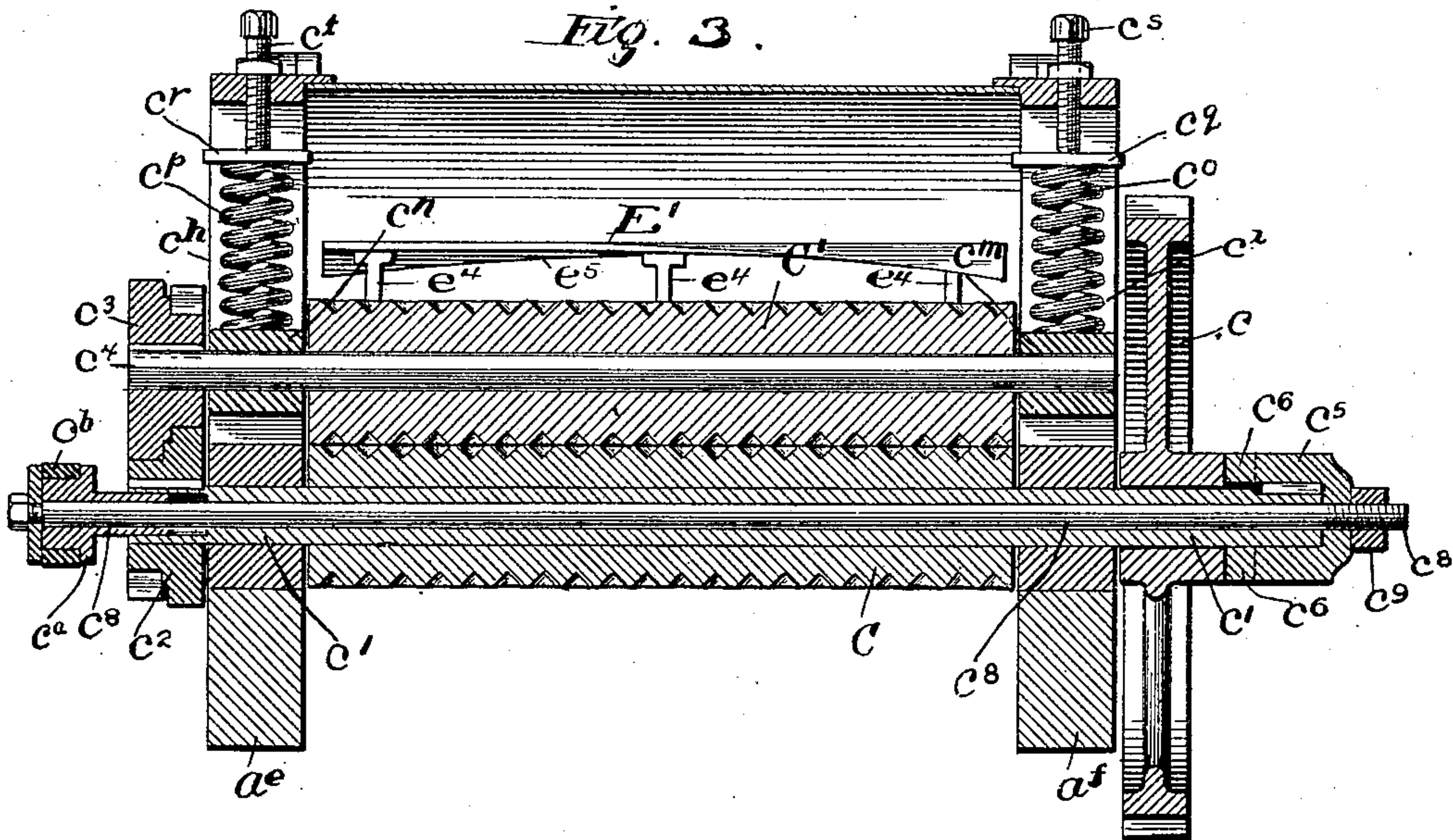
H. L. FERRIS.

CORN SNAPPING, CUTTING, AND HUSKING MACHINE.

(Application filed July 24, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:  
Chas. O. Shurweg  
S. Bliss.

Inventor:  
Henry L. Ferris  
by Milburn & Bitner  
Attys.



# UNITED STATES PATENT OFFICE.

HENRY L. FERRIS, OF HARVARD, ILLINOIS, ASSIGNOR TO HUNT, HELM,  
FERRIS & COMPANY, OF SAME PLACE.

## CORN SNAPPING, CUTTING, AND HUSKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 680,200, dated August 6, 1901.

Application filed July 24, 1900. Serial No. 24,646. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY L. FERRIS, a citizen of the United States of America, residing at Harvard, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Corn Snapping, Cutting, and Husking Machines, of which the following is a specification.

My invention relates to certain improvements in corn snapping, cutting, and husking machines, the object of the same being to better the general operation of the machine, render more convenient the handling of the same, and to remove as far as possible all danger to the operator of injury which might be caused through his own carelessness.

To such end the invention consists in certain improvements, the exact nature of which will be pointed out below.

In the drawings, Figure 1 is a plan view of the complete machine. Fig. 2 is a front elevation thereof with the exception of the auxiliary feed-table, the direction of the view being indicated by the arrow 2 in Fig. 1. Fig. 3 is a detailed vertical section through the feed-rolls and adjacent parts, the section being taken in the line 3 3 of Fig. 4; and Fig. 4 is a detail side view of the parts seen in Fig. 3.

Referring to the drawings, the main frame A of the machine is preferably made up of suitable longitudinal members  $a$ , vertical posts  $a'$   $a^2$ , and transverse members  $a^3$   $a^4$   $a^e$   $a^f$ , securely bolted together and forming a substantial and rigid framework for supporting the operating parts of the machine. Above this frame are supported a feed-table B and auxiliary table B', one end of the feed-table resting upon a block  $b$ , secured to the members  $a^e$   $a^f$ , its free end being supported by the diagonal brace  $b'$ . The feed-table directs the stalks of corn beneath a guide-board  $b^3$  to a pair of snapping and feed rolls  $c$   $c'$ , Figs. 1 and 3, which pinch the ears of corn from the stalks, dropping them down into a husking-trough D, the stalks being fed between the rolls to a rotating knife E', which cuts them up into short portions and delivers the latter through a chute  $e$  into a suitable elevator (not shown in the drawings) or other devices for removing them from the machine. The snapping or feed rolls, Figs. 3 and 4, are driven by a gear

$c$ , loosely mounted on a hollow shaft  $c'$ , to which the roll  $c$  is fastened. Said hollow shaft bears at the opposite end a pinion  $c^2$ , in mesh with a pinion  $c^3$  upon a shaft  $c^4$ , carrying the other snapping-roll C'. Upon the end of the hollow shaft  $c'$ , adjacent to the gear  $c$ , is feathered a cap  $c^5$ , provided with clutch-teeth  $c^6$ , adapted to engage with corresponding teeth  $c^7$  of the gear, Fig. 1, and disengage therefrom by the movement of the cap away from the gear. This movement is controlled by a rod  $c^8$ , threaded to the cap and bearing a jam-nut  $c^9$ , tightened upon the same, which rod extends through the hollow shaft and bears upon its opposite end a spool  $c^a$ , embraced by a yoke  $c^b$ , Fig. 4, upon a bar  $c^d$ , Fig. 1, pivoted to links  $c^e$   $c^f$ , the other ends of which are pivoted to brackets upon the feed-trough, the link  $c^f$  being extended beyond the bar-pivot in the form of a handle  $c^g$ , by means of which the bar and yoke may be reciprocated longitudinally and thereby, because of the link connection with the feed-trough, be drawn toward or moved away from said trough. When the handle  $c^g$  is pushed in the direction of the arrow  $x$ , Fig. 1, the yoke is crowded toward the feed-roll, pushing the rod to the right in Fig. 3 and withdrawing the teeth of the cap from those of the gear  $c$ , which disengages the gear from the shaft and disconnects the feed-rolls from the driving mechanism. The operator who feeds the machine stands at the position marked X in Fig. 1, and it should be noticed that if through eagerness to crowd the corn between the snapping-rolls he should attempt to move too closely to said rolls his body will necessarily bear upon the handle  $c^g$  and disengage the feed-rolls before his hands can be caught thereby. This adds greatly to the safety of the operator while engaged in feeding the machine.

The frame of the machine is shown in Figs. 3 and 4 to contain vertical guides  $c^h$   $c^i$ , in which are guided bearing-blocks  $c^m$   $c^n$  for the upper feed-roll. Coiled springs  $c^o$   $c^p$  crowd the upper roll downward and are themselves placed under tension by plates  $c^q$   $c^r$ , forced downward by adjusting-screws  $c^s$   $c^t$ . Back of the feed-rolls is a casing  $e'$ , Fig. 4, provided with a hinged cover  $e^2$ , within which is jour-



naled the rotary cutting-knife E' upon a shaft  $e^8$ , carried in suitable bearings at the sides of the machine and extending beyond the casing upon both sides. Without the casing it carries a main driving-pulley E<sup>2</sup>, Fig. 1, and fly-wheel E<sup>3</sup>, and also certain pulleys and gears for driving other portions of the mechanism. Among these is a pinion E<sup>4</sup>, which meshes with the gear c, above described, to drive the snapping or feed rolls. Within the casing the shaft carries a series of spiders  $e^4 e^4 e^4$ , to which are secured the spiral cutting-knives  $e^5$ . A cutting edge is provided by means of a block E, having laterally-extending lugs  $e^8$ , Fig. 4, at its opposite ends to rest upon the frame, and slotted at  $e^9$  to receive a bolt  $e^a$ , Fig. 4, by means of which it may be clamped in position. Suitable openings are provided in the casing through which this lug may extend, and an upright extension  $e^b$  upon each leg has threaded in it an adjusting-screw  $e^c$ , bearing upon the frame of the casing and providing means of accurate adjustment of the cutting edge toward the knives.

More or less of the details of the construction above described are immaterial to the improvements claimed, and I do not limit myself to said details, except as they are essential to the invention set forth below.

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

1. In a machine of the class described, the combination with the feed-rolls, of a clutch for connecting and disconnecting the same with and from the driving-gear, and an op-

erating-handle for said clutch suitably connected therewith, located in the ordinary path of movement of the body of the feeder as he approaches the feed-rolls, and moving in the same direction to disengage the clutch; substantially as described.

2. In a machine of the class described, the combination with a longitudinally-reciprocating clutch-operating rod,  $c^8$ , of an operating-bar therefor at right angles and slidingly connected to said rod, said bar being carried by a pair of links, one of which forms an operating-handle for reciprocating the bar longitudinally and laterally; substantially as described.

3. In a machine of the class described, the combination with a suitable framework, of a feed-trough, a husking-trough extending from the frame on the side of the feed-trough where the operator stands, suitable gearing for driving the working parts of the machine, located upon the opposite side thereof from that occupied by the operator, suitable clutches for controlling said gearing, and devices for actuating said clutches located adjacent to the operator's position and suitably connected with the clutches; substantially as described.

In witness whereof I have hereunto set my hand at Harvard, in the county of McHenry and State of Illinois, this 15th day of June, A. D. 1900.

HENRY L. FERRIS.

Witnesses:

BLAKE B. BELL,  
JOHN CROSS.