

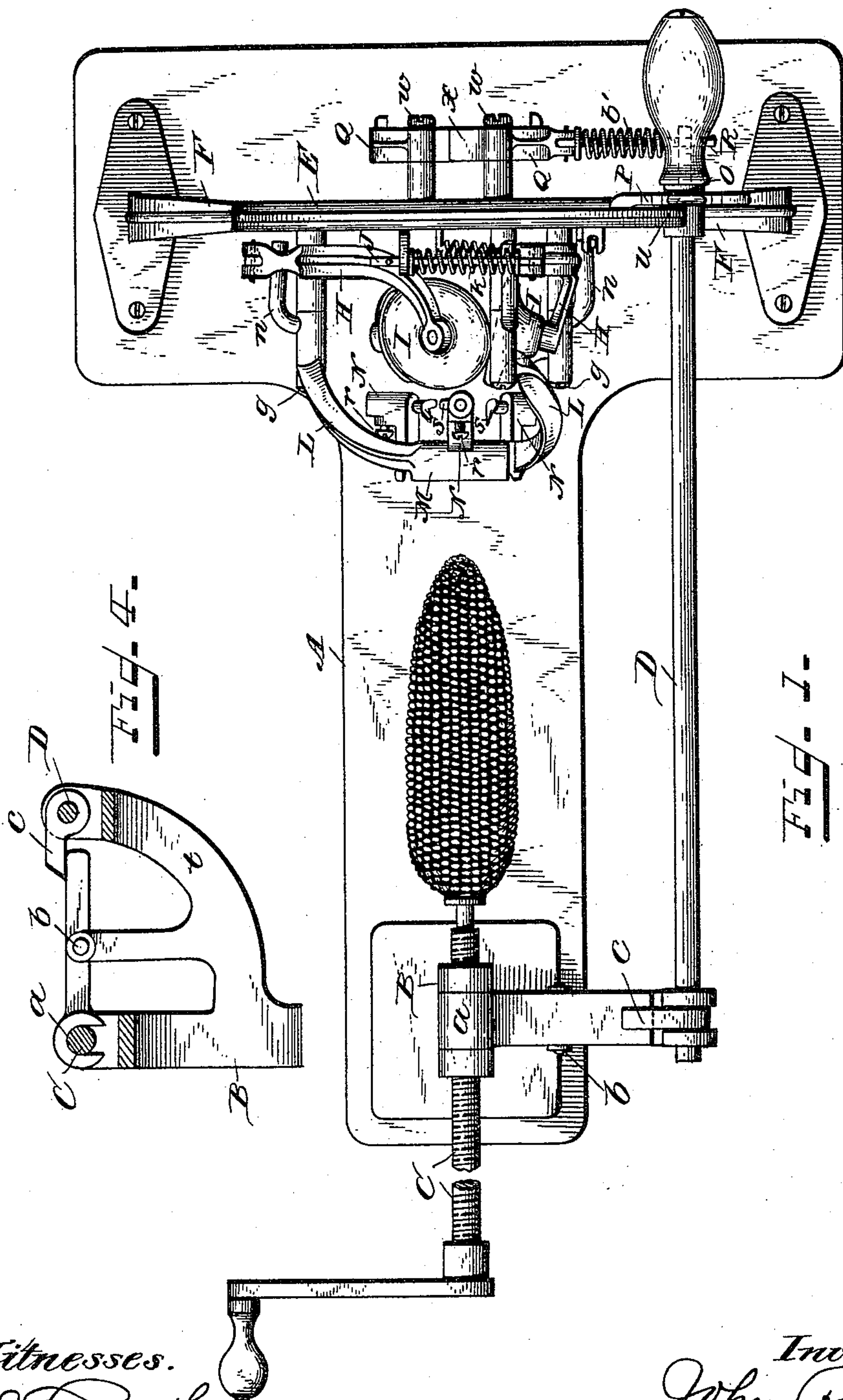
(No Model.)

2 Sheets—Sheet 1.

J. RITTY.
MACHINE FOR HULLING CORN.

No. 464,764.

Patented Dec. 8, 1891.



Witnesses.

Thomson Cross.

E. H. Mockbee.

Inventor:
John Ritty
by R. C. Rector
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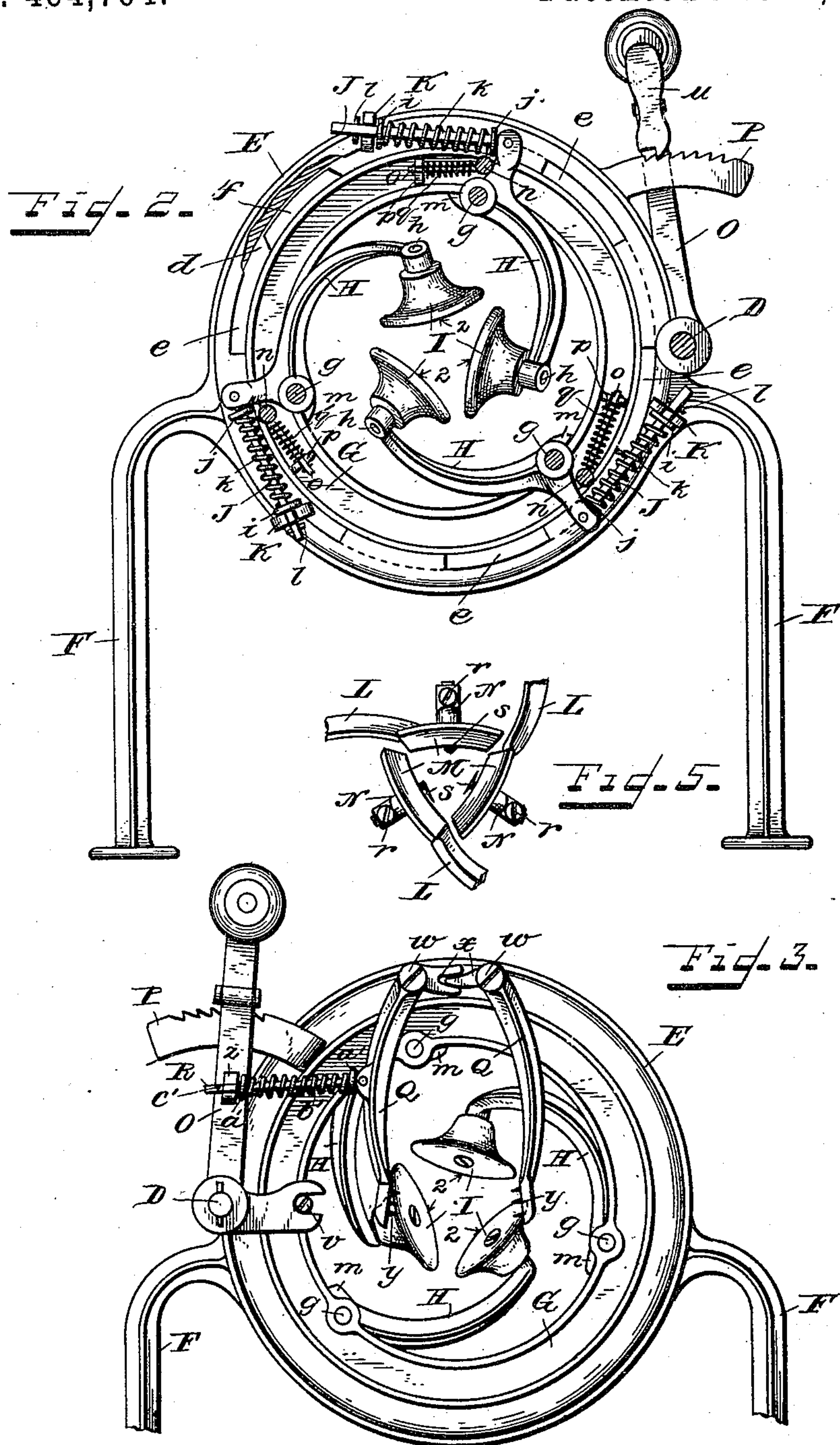
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UNITED STATES PATENT OFFICE.

JOHN RITTY, OF DAYTON, OHIO.

MACHINE FOR HULLING CORN.

SPECIFICATION forming part of Letters Patent No. 464,764, dated December 8, 1891.

Application filed August 15, 1891. Serial No. 402,699. (No model.)

To all whom it may concern:

Be it known that I, JOHN RITTY, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Machines for Hulling Green Corn, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to that class of green-corn hullers described in my prior patent of January 8, 1889, No. 395,997, and is an improvement in the construction of said machine whereby it is simplified and rendered more efficient.

The novelty of my invention will be hereinafter set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1, Sheet 1, is a plan view of a corn-huller embodying my invention. Fig. 2, Sheet 2, is a front elevation, partly in section, of the right-hand end of Fig. 1, with the knife-carrying guide-jaws removed. Fig. 3, Sheet 2, is a rear elevation of Fig. 2. Fig. 4, Sheet 1, is a detail elevation of the half-nut and connected parts. Fig. 5, Sheet 2, is a detail front elevation of the guide-pieces forming the throat of the hulling devices.

The same letters of reference are used to indicate identical parts in all the figures.

Upon any suitable base A are mounted at one end the corn-propelling devices and at the opposite end the corn-hulling devices. The former consist of an upright B, through the upper forked end of which passes a horizontal threaded shaft C, driven by a crank-handle or by power. This shaft is engaged by a swinging half-nut *a*, Fig. 4, pivoted, as at *b*, and engaged by a tappet *c*, fast upon a shaft D, parallel to the shaft C. The end of the shaft C is provided with a screw or other means for gripping or holding the butt of an ear of corn in line with the shaft.

The hulling mechanism consists of a circular frame E, supported on legs F and having on its inner edge an annular groove *d*, into which openings *e*, Fig. 2, on its front side are formed. The carrier for the hulling devices is a ring G, having on its outer edge as many flanged lugs *f* as there are openings *e*, through

which openings the lugs pass and by partially turning the ring they enter the groove *d* to lock the ring to the frame E after the manner of a bayonet-joint, as will be readily understood.

Fast to and projecting at right angles from the inner edge of the ring G on its forward side are three equidistant pins *g*, on which are pivoted three bell-crank arms H, whose inner ends carry inwardly and rearwardly projecting pins *h*, upon which are journaled presser-rollers I, Figs. 2 and 3. These rollers are preferably of hard wood and have their peripheries beveled or rounded off, as shown, and their inner inclined faces slightly dished. The short ends of the bell-crank arms H have pivoted between their forked outer ends the three pins J, whose outer ends are normally confined in slots in three lugs K, projecting from the frame E on its forward side. Encircling each of the pins J, between loose collars *i j*, are spiral springs *k*. The collars *i* bear against the lugs K and the collars *j* against the short arms of the bell-cranks H, while passing through the outer ends of the pins J on the opposite sides of the lugs K are short stop-pins *l*. The springs *k* are normally under tension and serve to hold the arms H and rollers J inward, the limit of inward play being determined by stop-shoulders *m* upon the inner ends of the hubs of the bell-cranks H bearing against the inner side of the ring G. Likewise pivoted upon the forwardly-projecting ends of the pins *g* are three equidistant forwardly and inwardly curved bell-crank arms L, whose ends terminate in three segmental guide-pieces M, Fig. 5, arranged to approximate an equilateral triangle and with their forward edges beveled or flaring. The inner short ends of the arms L extend back, as shown at *n*, Fig. 2, and rest against the short arms of the bell-crank H, where they are provided with pivoted pins *o*, whose outer ends pass through slots in lugs *p*, projecting from the ring G. Spiral springs *q* under tension encircle the pins *o* between the lugs *p* and the ends of the bell-crank arms and serve to hold the guide-pieces M in proper working position. Each of the guide-pieces M has projecting from the middle of its rear side a lug N, in which is adjustably secured by means of a set-screw *r*

any suitably-shaped knife *s*, set in the path of the grains of corn on the cob and between the pieces *M* and press-rolls *I*.

The shaft *D* is journaled through the frame *E* at one side and through the upper forked end of a bracket-arm *t*, Fig. 4, projecting from the upright *B*. It has keyed or otherwise fast upon its end, just in rear of the frame *E*, a bell-crank-handle arm *O*, provided at its upper end with a spring-dog *u*, engaging a segment-rack *P*, projecting from the frame *E*. The lower arm of the bell-crank *O* is forked and engages a pin *v*, Fig. 3, upon the rear side of the ring *G*, so that by disengaging the dog *u* from the rack and vibrating the handle the ring *G* is partially rotated in either direction. Pivoted upon pins *w*, projecting from the upper rear side of the frame *E*, are two pendent arms *Q*, interlocked at their upper ends by the teeth *x* and having at their lower ends engaging points *y*. The arm *Q* nearest the handle *O* is connected to the latter by a pivoted pin *R*, whose outer end passes through a slot in a lug *z* on the rear side of the handle. Encircling the pin *R* between loose collars *a'* is a spiral spring *b'*, and a stop-pin *c'* is passed through the pin *R* on the opposite side of the lug *z*, as seen in Fig. 3.

As in my prior patent referred to, the ear of corn carried by the shaft *C* is carried forward and rotated by said shaft. It first enters the throat formed by the pieces *M* and comes under the action of the cutters or knives *s*, which separate the meats from the hulls. It then passes on between the forward edges of the presser-rolls *I*, which are rotated by the turning of the cob and which effectually press out the juice and meats not removed by the knives *s*. Any suitable receptacle is placed beneath the hulling devices to receive the meats and juices, and when the butt of the cob has passed through the rollers *I* the handle *O* is drawn toward the frame *E*, thereby causing the arms *Q* to grip the cob and at the same time, by the oscillation of the shaft *D*, causing the tappet *c* to press upon the rear end of the half-nut and lift the same out of engagement with the shaft *C*, which is then disengaged from the cob and retracted to receive another unstripped cob. Upon pressing the handle *O* out again the jaws *Q* are opened and drop the cob, and the half-nut is re-engaged by its own gravity with the shaft *C*, and so on repeatedly. By pressing the handle *O* outward and locking it in the notches of the rack the springs *k* are put under greater tension, thereby applying greater pressing power to the rollers *I*, as will be readily understood. Sufficient lateral play is given the pins *J* to permit their outer ends to be disengaged from the lugs *K*, and upon similarly disengaging the pin *R* from the handle *O* the ring *G* can be turned to bring the lugs *f* opposite the openings *e*, and then the ring with all its connected parts can be lifted out for the purpose

of washing the same and then be replaced and the pins *J* and *R* be re-engaged, as before described.

Especial attention is called to the manner in which the rollers *I* are set, as seen more particularly in Figs. 2 and 3, so that only their forward edges at the points 2 come in contact with the cob, for by this manner of setting the rollers they can follow more closely the irregularities in the cob and more effectually press out the meats and juices.

Having thus fully described my invention, I claim—

1. In a machine for hulling green corn, the combination, with a propelling and rotating shaft carrying the ear and non-revoluble cutters, of presser rollers engaging the cob and rotated by the same to press out the adhering meats and juices.

2. In a machine for hulling green corn, the combination, with a propelling and rotating shaft carrying the ear and non-revoluble cutters, of presser-rollers under adjustable spring tension engaging the cob and rotated by the same to press out the meats and juices.

3. In a machine for hulling green corn, the combination, with a propelling and rotating shaft carrying the ear and non-revoluble cutters, of presser-rollers engaging the cob rotated by the same and set at such an angle that only the edge of the rollers at one point engage the cob to press out the adhering meats and juices.

4. In a machine for hulling green corn, the cutting-knives and presser-rollers secured to a rotating ring removably attached to a stationary frame, whereby said ring and hulling devices may be removed bodily for the purpose of cleaning.

5. In a machine for hulling green corn, the combination, with a stationary frame for the hulling devices, of a rotating ring engaged by said frame and carrying the hulling devices, springs for the presser-rollers of said hulling devices, and a lock-handle for partially rotating said ring and regulating the tension of said springs, substantially as described.

6. In a machine for hulling green corn, the combination and arrangement of the bell-crank arms *H*, carried by the adjustable ring *G* and provided with pivoted rollers *I*, the pins *J*, and springs *K*, with the propelling, rotating, and cutting mechanism, substantially as described.

7. In a machine for hulling green corn, the combination, with the frame *E* and ring *G*, carrying the hulling mechanisms, of the bell-crank lock-handle *O*, connected to the ring *G*, substantially as and for the purpose specified.

JOHN RITTY.

Witnesses:

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E. J. FINK.