

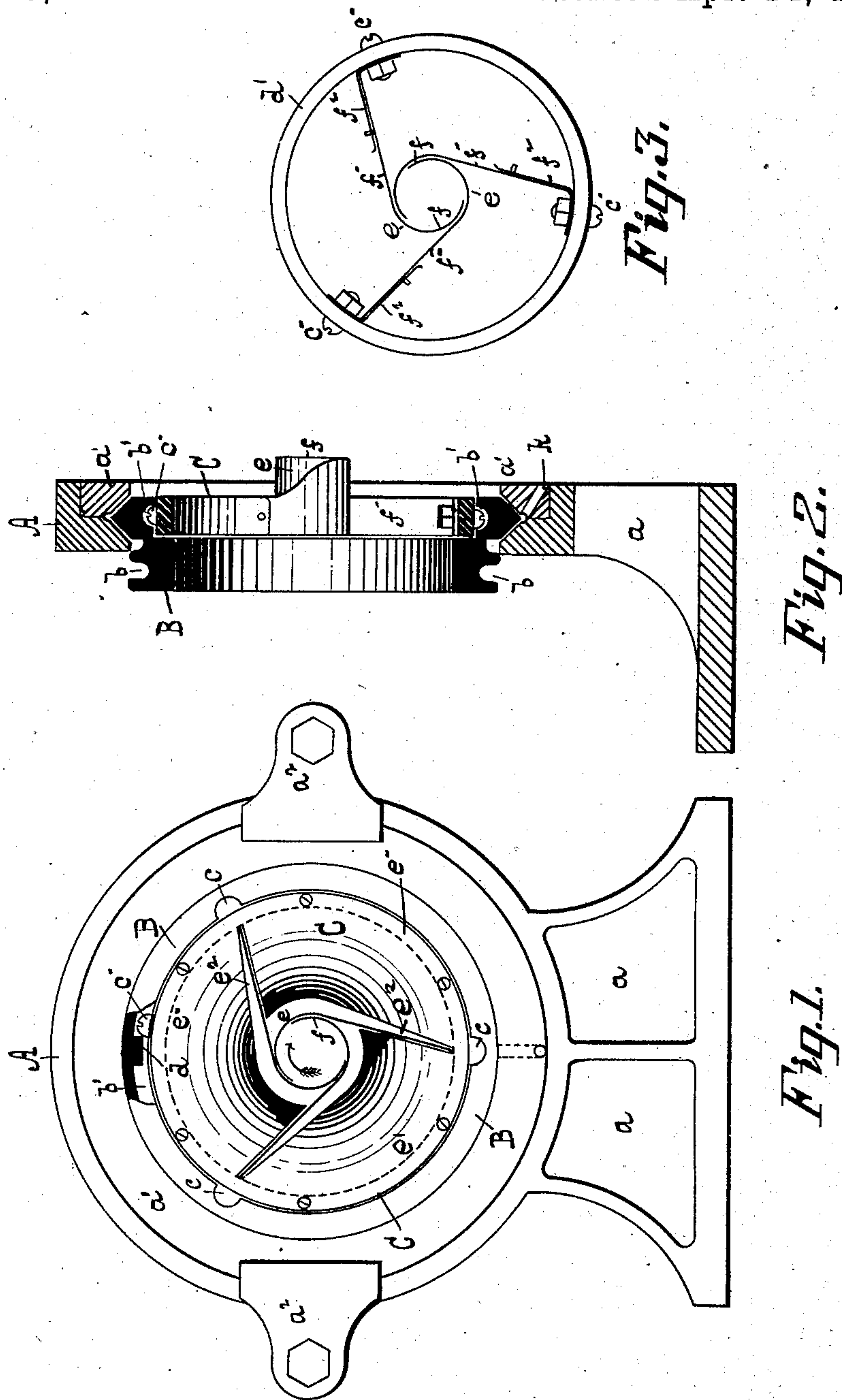
(No Model.)

A. P. WOODS & W. E. LINDSAY.

GREEN CORN CUTTING MACHINE.

No. 315,588.

Patented Apr. 14, 1885.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ALEXANDER P. WOODS AND WILLIAM E. LINDSAY, OF BALTIMORE, MD.

## GREEN-CORN-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 315,588, dated April 14, 1885.

Application filed August 20, 1884. (No model.)

*To all whom it may concern:*

Be it known that we, A. P. WOODS and W. E. LINDSAY, citizens of the United States, residing at Baltimore, State of Maryland, have invented certain new and useful Improvements in Green-Corn-Cutting Machines, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to improvements in green-corn cutters in which the corn is removed from the cob by a series of volute segment-knives interlapping each other and attached to flexible supports that are mounted on or attached to a removable cylindrical ring, which is provided with devices that permit it to be quickly secured to or removed from the rotating head, which is driven by a suitable belt passing around the same, as illustrated in the accompanying drawings, in which--

Figure 1 is a front view of our device, partly broken away; Fig. 2, a vertical section of the same, and Fig. 3 a front view of the ring to which the knives are attached with the covering-sheet removed.

Similar letters refer to similar parts throughout the several views.

The letter A designates the frame, which forms a cylindrical bearing for the rotary head B to run in, and consists of a base, *a*, by which it is secured to a table or suitable stand, and an annular ring, *a'*, provided with lugs *a''*, by which it is attached to the frame A by suitable screws and corresponding lugs thereon. The rotating head B projects from the rear side of the frame A, and is provided with a groove, *b*, in which a suitable belt runs and by which the head is driven. To the opposite side thereof and directly in the center of the bearing is a groove, *b'*, provided with notches *c* and projection *d*. The auxiliary head C consists of a cylindrical ring, *d'*, cutter-knives *e*, cover *e'*, and screw-heads *c'*, the latter holding the head C in its place, and by which it is made to rotate in unison with the head B by one of them coming in contact with the projection *d* in the groove *b'*. In case it is desired to remove the auxiliary head C, to sharpen or replace a knife or for other purposes, the same may be quickly and conveniently done by turning it forward until the screw-head *c'* comes opposite the notch *c* and then drawing it outward.

To prevent the corn as it is cut from the cob from passing through or into the machine, we attach to the auxiliary head C a sheet-metal disk, *e'*, which is cut out in the center to permit the knives to project through and beyond its front surface, and it has also portions cut away, which form the slots *e''*, by which the knife-supports are permitted to open as the knives expand. By these portions of the disk being cut away three wings are formed, which project between the knife-supports, and which are slightly twisted, so that their front surfaces are at an angle to the plane in which the head rotates, thereby having a tendency to throw the corn as it is removed from the cob outward toward the operator and prevent it from passing backward through the machine, as above stated. The knives *e* are formed of sheet-steel, and each consists of a straight spring, *f'*, bent nearly at right angles at one end to conform to the inner diameter of the ring *d'*, the other end being bent circular, with the cutting-edge *f* projecting outward, which may be formed integral with the spring *f'* or attached thereto by soldering or otherwise. To the back of each spring *f'* is placed a second spring, *f''*, which stiffens the former. The knives, interlapping each other at all times, encircle the cob, the circle of each knife expanding in the same ratio as the diameter of the cob increases, the straight portion *f'* opening from the center accordingly or in unison with the circular portion, thereby resulting in an expansible or volute circular knife which cuts the kernels closely to the cobs of any and continually varying diameter.

The lubrication of the machine is accomplished by the glucose as it exudes from the kernels as they are cut from the cob, a small portion of which passes to the periphery or bearing of the main head, thereby dispensing with oiling, which is detrimental, as it sometimes gets in the cut corn. The small port *k*, leading from the bearing, permits any surplus to pass off through the same.

The machine may be driven by steam or hand power, as any ordinary or well-known device of the kind may be applied thereto.

In operating our invention the rotary head is driven from three hundred to five hundred revolutions per minute, the operator p



the small end of the ear first against the knives and pushing it through, at the same time retaining a grip sufficient to prevent it from turning. When the ear is about two-thirds its way through the knives, the unemployed hand of the operator is used to extract the same from the rear, or in case of two machines being run together an operator is stationed in front and one in the rear, one feeding or starting the cobs in both machines, the other drawing them through.

To the machine may be attached any suitable hood to prevent the corn from flying and direct it into a suitable hopper or receptacle, as may be desired.

Having fully described our invention, what we claim, and wish to secure by Letters Patent of the United States, is—

1. In a green-corn cutter, the combination

of the frame A, the head B, the ring C, the volute knives having the flexible supports and the covering-disk provided with a central opening for the knives to project through, and the slotted openings for the flexible supports, as herein specified.

2. In a green-corn cutter, the rotary head B, provided with the groove *b'*, the projection *d*, and the notches *c*, in combination with the head or ring C, on which are projections *c'*, whereby the ring C is conveniently removed and replaced, as herein set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

ALEXANDER P. WOODS.

WILLIAM E. LINDSAY.

Witnesses:

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