(No Model.) 2 Sheets—Sheet 1.

W. C. LANGENAU.

CORN SHELLER.

No. 450,629. Patented Apr. 21, 1891.

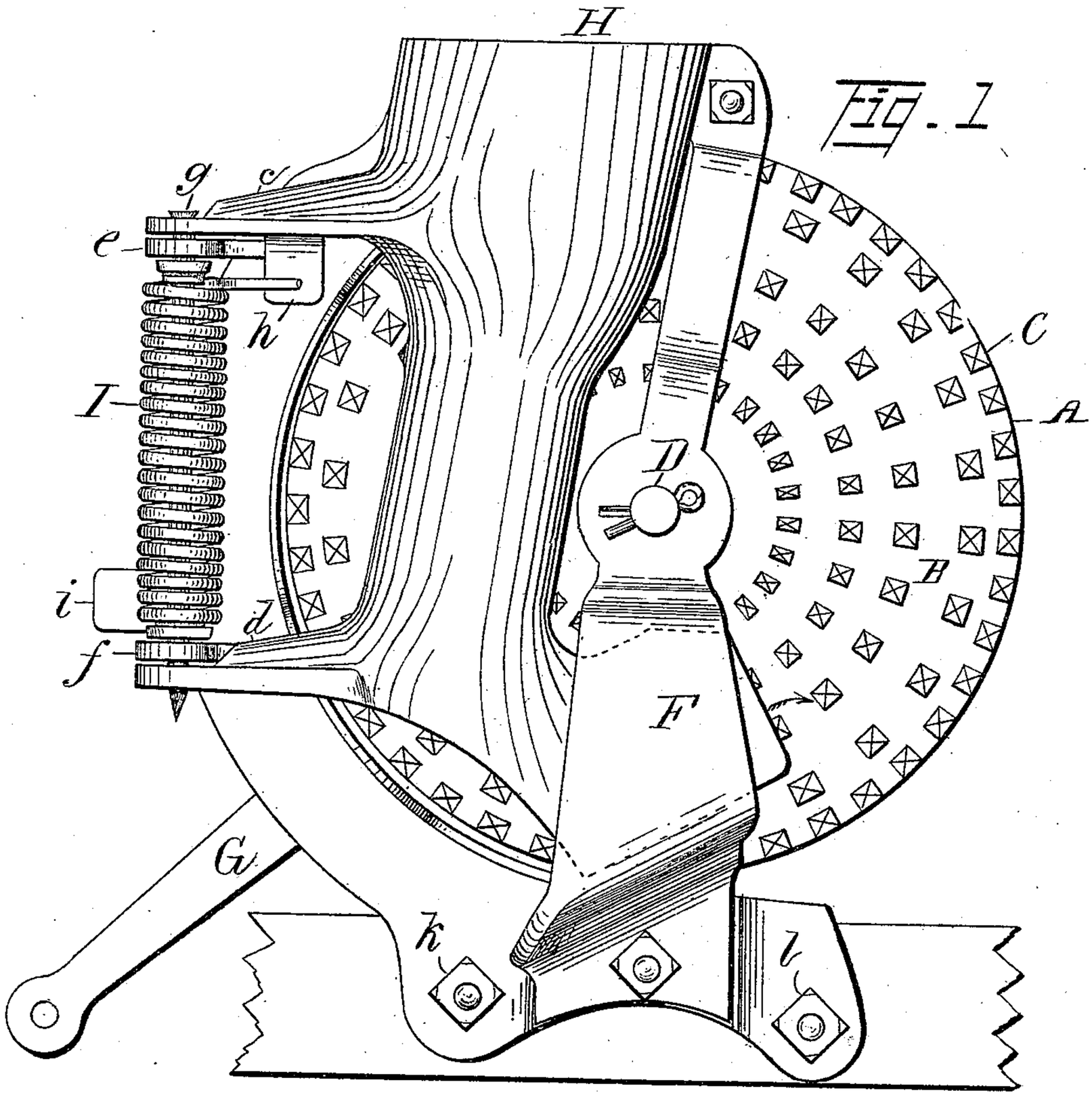

Fig. 1

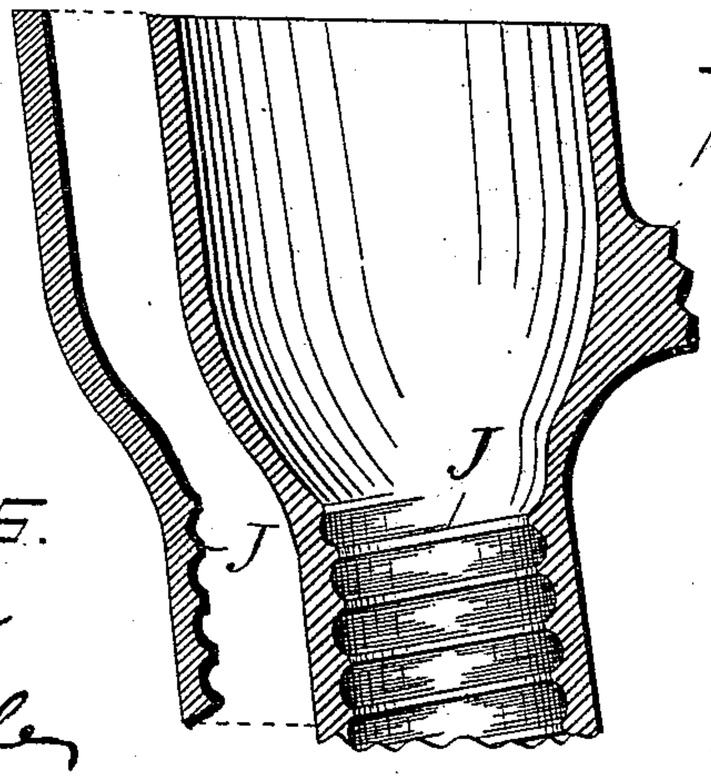

Fig. 2

Witnesses.
H. Born
W. A. Biddle

Inventor.
W. C. Langenau
W. H. Burnings Atty.

(No Model.) 2 Sheets—Sheet 2.

W. C. LANGENAU.

CORN SHELLER.

No. 450,629. Patented Apr. 21, 1891.

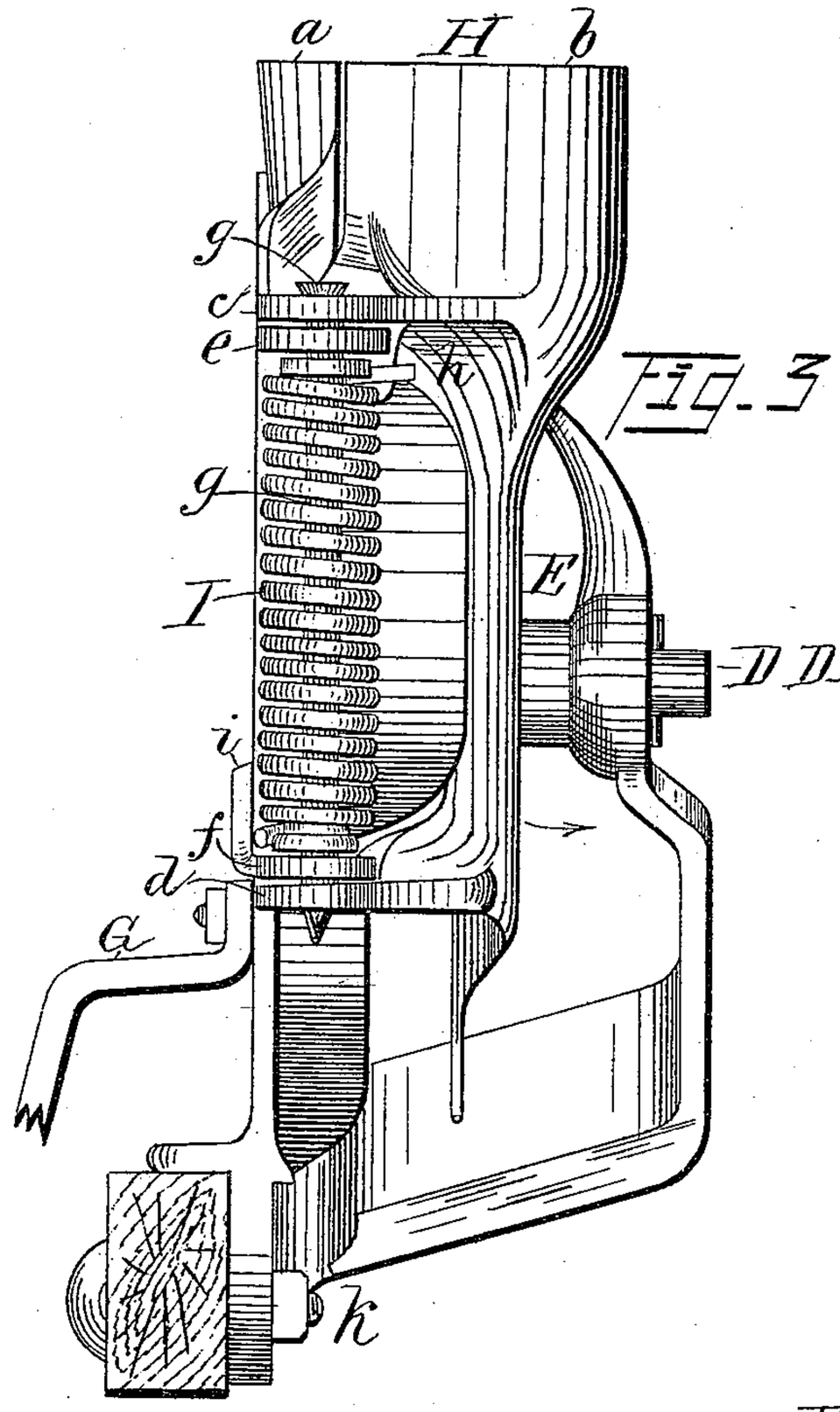

FIG. 3

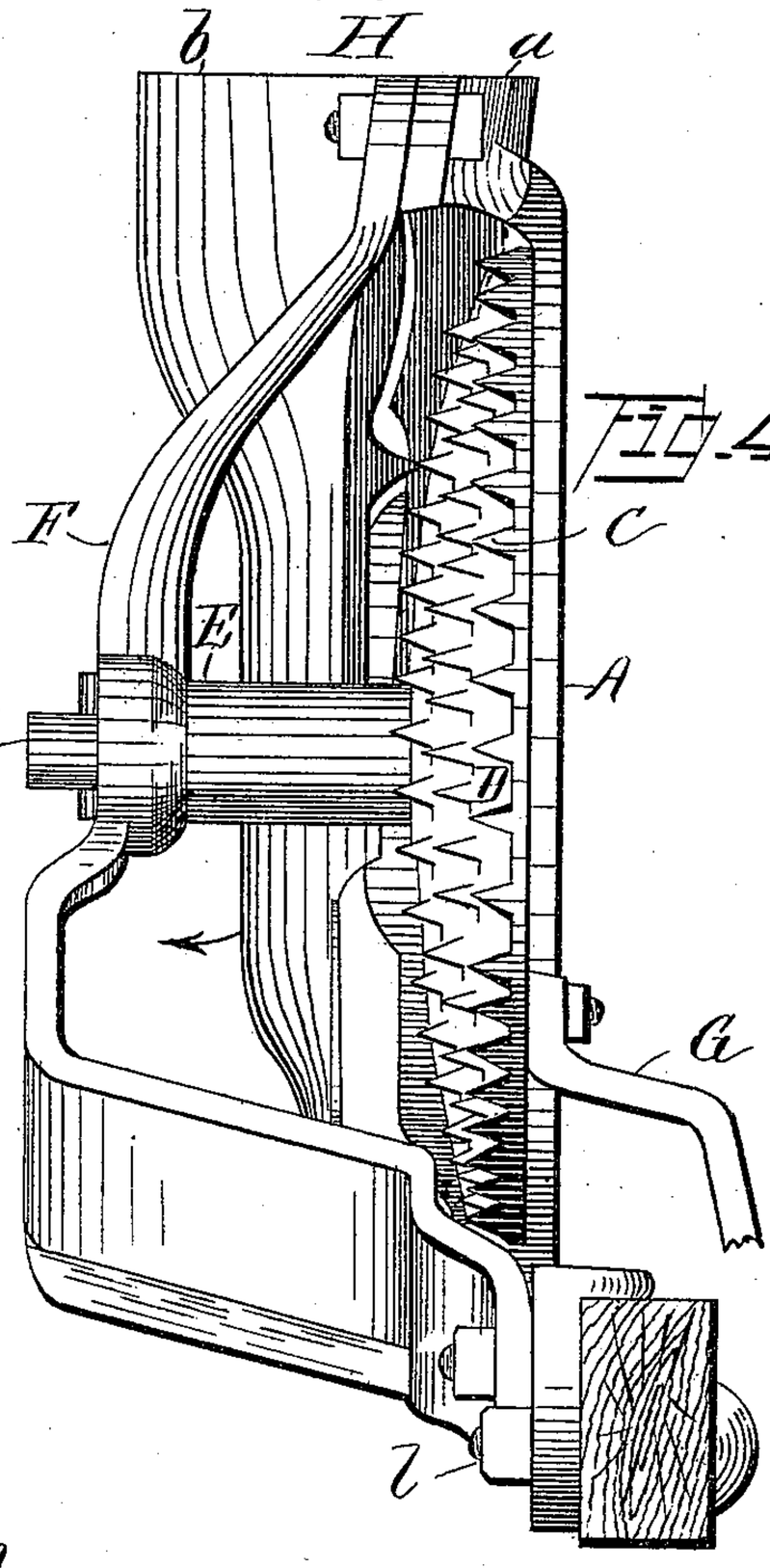

FIG. 4

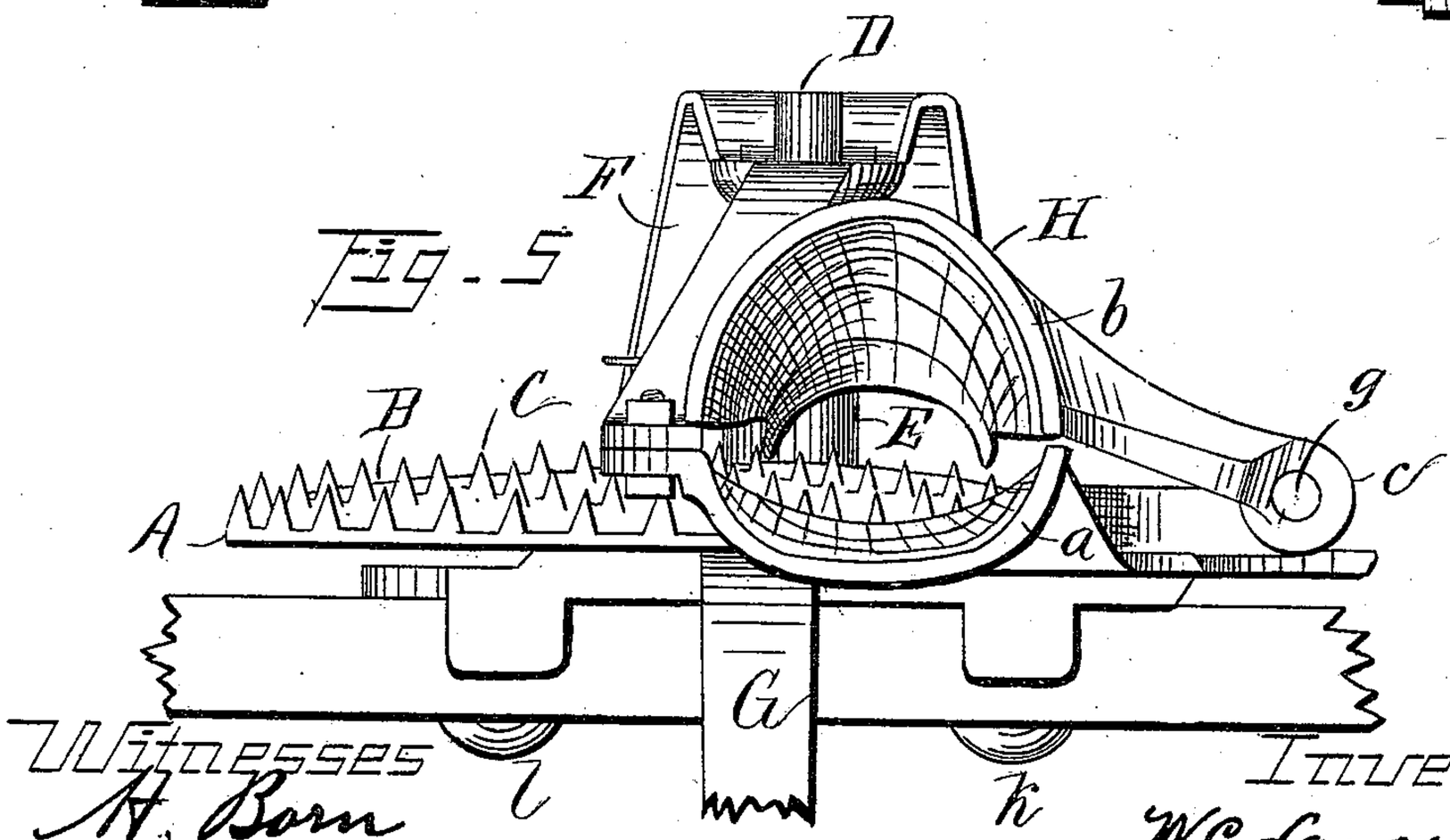

FIG. 5

Witnesses
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W. A. Biddle

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W. H. Brownlee
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM C. LANGENAU, OF BROOKLYN, OHIO.

CORN-SHELLER.

SPECIFICATION forming part of Letters Patent No. 450,629, dated April 21, 1891.

Application filed November 20, 1890. Serial No. 372,107. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. LANGENAU, a citizen of the United States, residing at Brooklyn, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Corn-Sheller; and I do hereby declare that the following is a full, clear, and complete description thereof.

The nature of my invention relates to a certain arrangement of devices operating conjointly, whereby ears of corn of various sizes may be effectually shelled and the corn and cob separately discharged at different points from the machine.

The following specification, in connection with the annexed drawings, fully sets forth the construction and arrangement of the said invention, on reference to which—

Figure 1 is a front view of the machine. Fig. 2 is a detached section, hereinafter explained. Fig. 3 is an end view of the left of Fig. 1. Fig. 4 is an end view of the right of Fig. 1, and Fig. 5 is a plan view.

Like letters of reference designate like parts in the drawings and specification.

A is a revolving toothed disk, the face B of which is convex or crowning and provided with teeth C. From the face of the disk extends a spindle D, which passes through a sleeve or socket E, Figs. 1, 2, 3, and 4. This socket is an integral part of the frame or plate F. By means of the socket E and spindle D the disk is mounted in place and rotates on applying manual or other power to the crank G, attached to the back of the disk, as shown in the drawings.

At the upper part of the machine is the hopper H, the part *a* of which is stationary and in connection with the upper part of the plate F, the section *b* of the hopper, to which is connected a conductor hinged to the plate F by the two arms *c* and *d*, (which extend from said part *b*,) being pivoted to the lugs *e* and *f* of the plate F. This jointed or hinged connection of the hopper-section and conductor admits of its moving to or from the rotative disk, according to the size of the corn-ear, so as to effectually remove all the grain from the ear, as hereinafter more fully described. The pivot *g*, which forms the hinge by passing through the arms *c* and *d* and the lugs *e* and *f*, is circumscribed by a spiral spring I, one end of which bears on the lug *h*, said lug being an integral part of the arm *c*, the other end bearing on a lug *i*, which lug is an integral part of the plate F. The conductor is segmental in cross-section or concave in the inside, with spiral grooves or ridges, Fig. 2, the purpose of which is to aid in the rotation of the ear, and at the same time to act as a screw in turning the cob and forcing its discharge from the machine. The form or configuration of the concave with spiral ridges or screw-sections J are seen in Fig. 2. The purpose of the spring is to admit the hopper and the spiral-faced conductor to be adjusted to the size of the corn-ear in passing through the machine for shelling. In case of a large ear of corn the hopper and its conductor will turn upon its pivots or hinges, (formed by the arms *c* and *d*, lugs *e* and *f*, and pivot *g*,) and thereby adjust the area of the passage through the machine in shelling. The ear of corn in passing through the machine causes the said hinged section *b* of the hopper, with its conductor, to move out from the toothed disk A in direction of arrow in Figs. 3 and 4, according to the size of the ear of corn. The resiliency of the spring I causes the ears to be brought in close contact with the teeth C as the disk revolves, which strips or shells the corn from the cob. The groove and rib, Fig. 2, which form sections of a concave screw, cause the ear of corn to be turned or rotated in its passage through the machine, and by the joint action of the spring in pressing said concave screw upon the ear of corn it is so rotated that the entire ear is exposed to the teeth and the grain removed thereby. The cob is conveyed from the machine at the lower end of the hopper, and the corn as fast as it is stripped off the cob is discharged by the rotative action of the disk and teeth through the lower terminal of the hopper. The cobs are thereby separated from the corn in the discharge, the cobs being ejected in the direction of the arrow, Fig. 1. By the action of the spring I on the section *b* corn-ears of various sizes are shelled in close contact with the toothed disk while it is being conveyed through the machine.

The machine is attached to a frame or suitable support, as indicated in Figs. 1, 3, 4, and 5, by means of the bolts *k* and *l*. The convex

or crowning form of the disk-face B and teeth C thereon causes said teeth to recede gradually from the axis of rotation to the periphery of the disk. By this arrangement the teeth of the axis are brought nearer the point of the ear of corn than at the butt—that is, the passage is rendered tapering—which, in connection with the hinged arrangement of the conductor having the spiral ribs, cause the hinged mechanism of the machine to be readily adjusted to the tapering form of the ear of corn, and at the same time rotates it, shells off the grain, conducts it through and from the machine separate from the cob.

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

In combination, the plate F, the rotary disk, and the hopper-section *a*, supported by said plate, the conductor-section *b*, having laterally-extending arms *c d*, pivoted to the frame by the pin *g* and the ears *e* and *f*, and the spring encircling the pin *g* for pressing the conductor-section to its work, substantially as described.

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

WILLIAM C. LANGENAU.

Witnesses:
W. H. BURRIDGE,
L. F. GRISWOLD.