

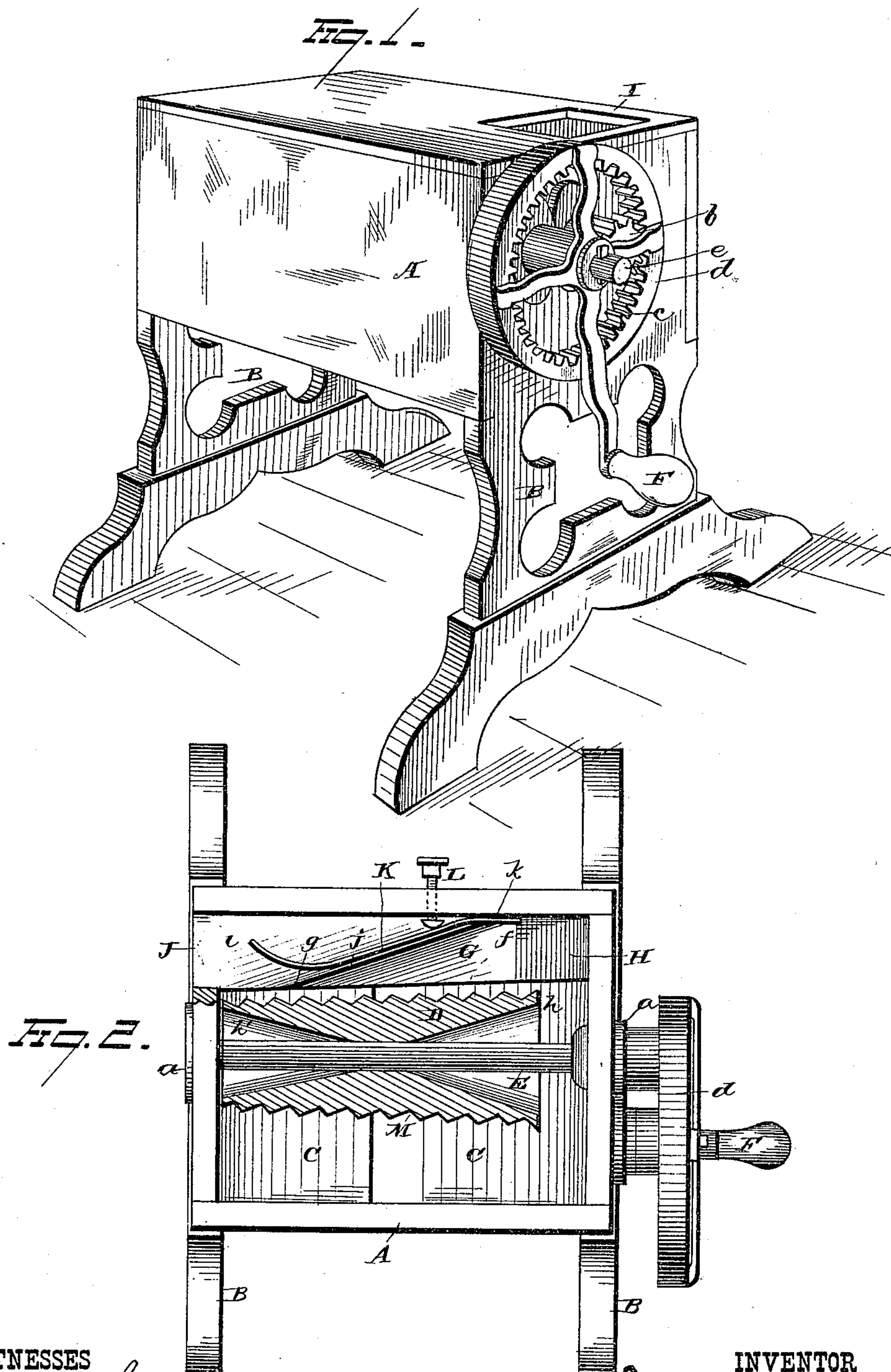
(No Model.)

2 Sheets—Sheet 1.

I. A. WILSON.
Corn Sheller.

No. 231,132.

Patented Aug. 10, 1880.



WITNESSES

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J. O. McElary.

INVENTOR

I. A. Wilson.
By H. A. Symons,
ATTORNEY

(No Model.)

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FIG. 3.

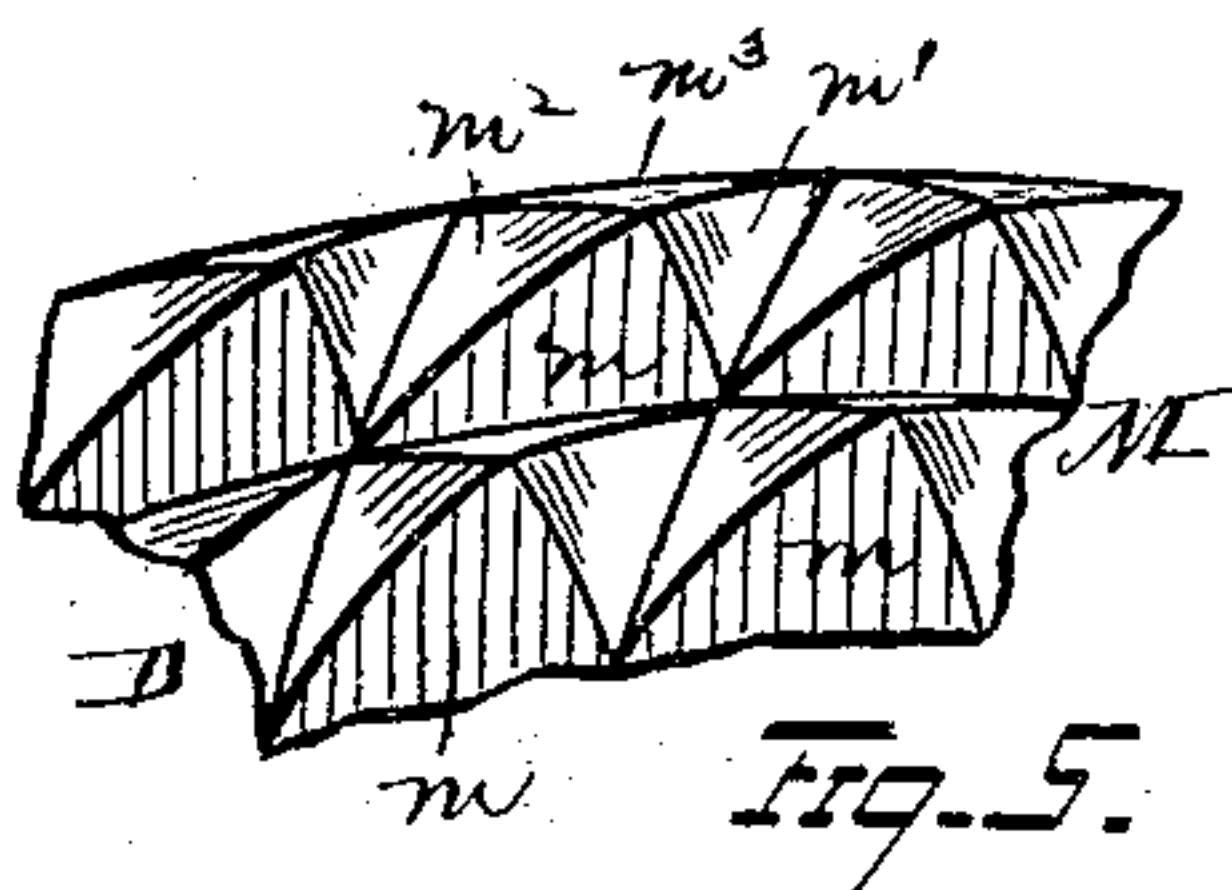
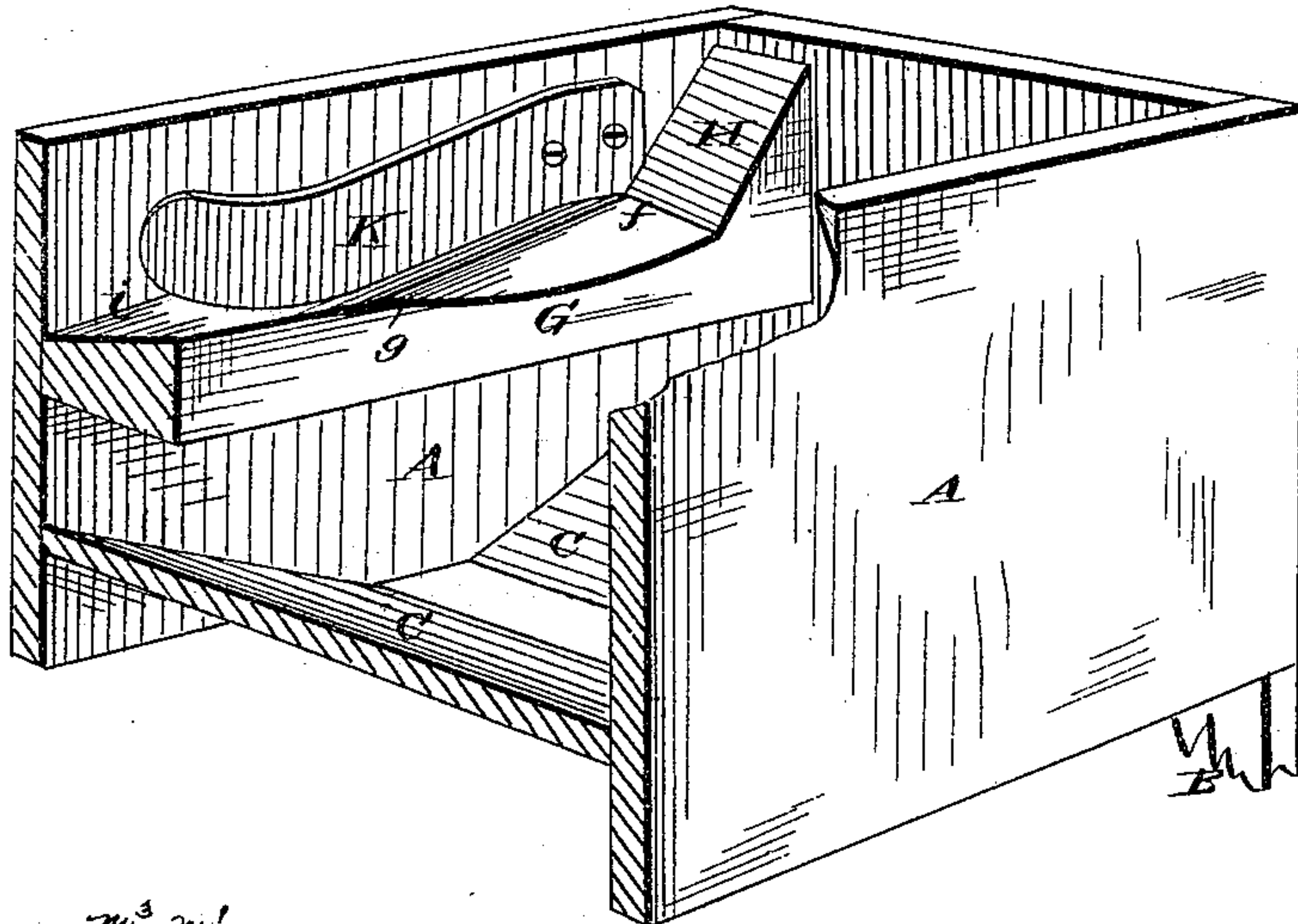


FIG. 6.

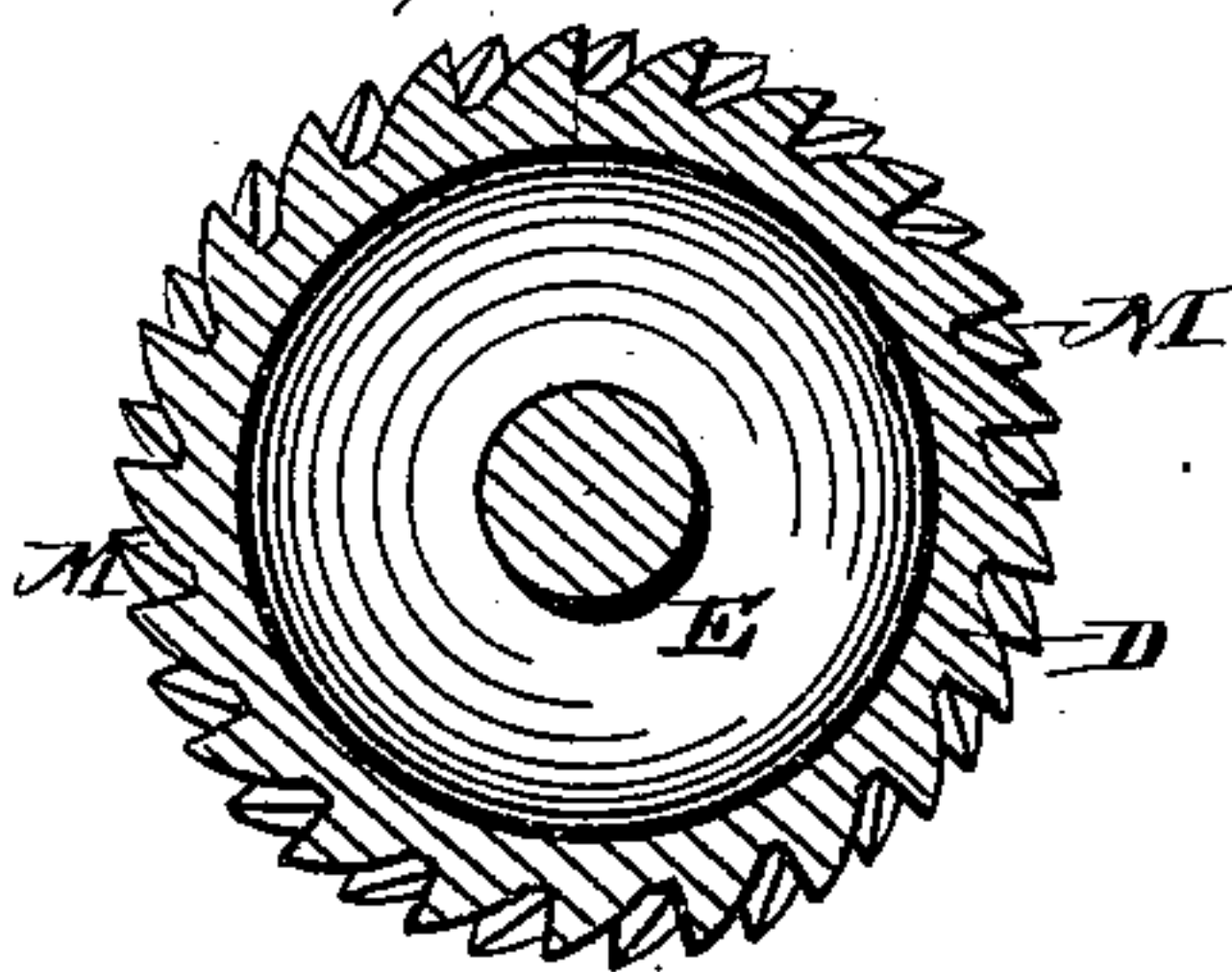
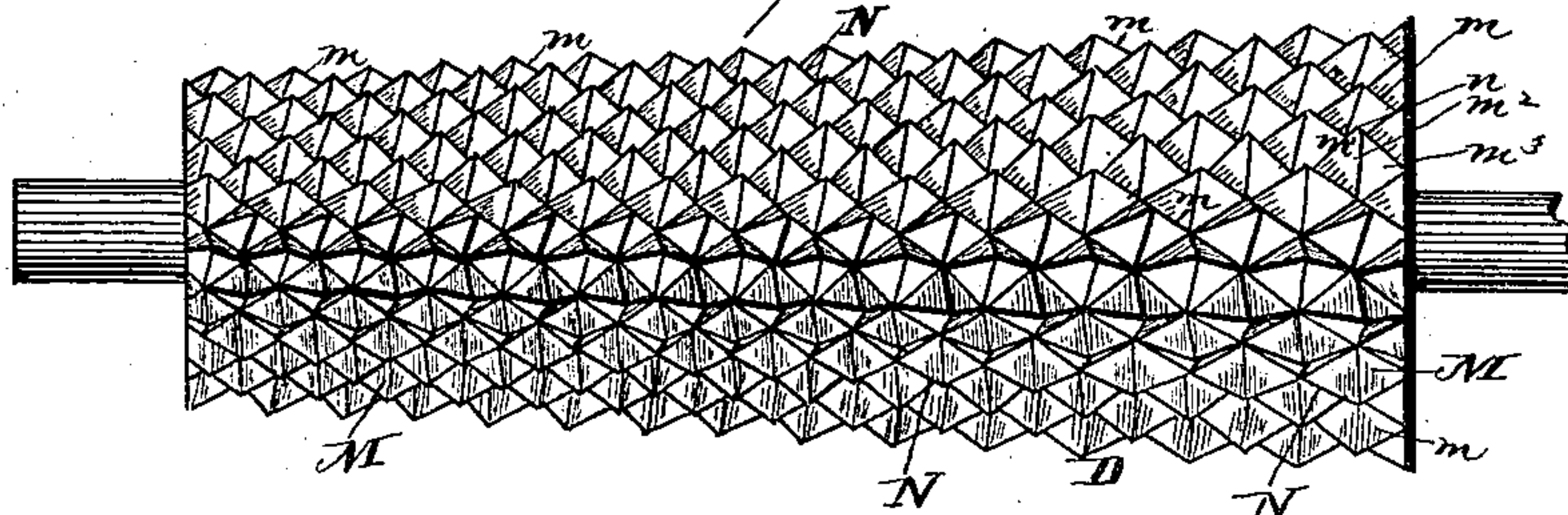


FIG. 4.



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UNITED STATES PATENT OFFICE.

ISAAC A. WILSON, OF ZANESVILLE, OHIO.

CORN-SHELLER.

SPECIFICATION forming part of Letters Patent No. 231,132, dated August 10, 1880.

Application filed April 26, 1880. (No model.)

To all whom it may concern:

Be it known that I, ISAAC A. WILSON, of Zanesville, in the county of Muskingum and State of Ohio, have invented certain new and useful Improvements in Corn-Shellers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in corn-shellers, the object being to provide a corn-sheller which shall be composed of few parts, embodying simplicity and durability in construction, and adapted to be manufactured at a small first cost; and with these ends in view my invention consists in certain details of construction and combinations of parts, as will hereinafter be explained, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view, in perspective, of my improved corn-sheller. Fig. 2 is a plan view with the cover removed. Fig. 3 is a view in perspective, with the top and a portion of one end of the casing removed. Fig. 4 is a plan view of the shelling-cylinder. Fig. 5 is an enlarged view of the teeth on the shelling-cylinder. Fig. 6 is a cross-section of the cylinder.

A represents a box or casing, mounted on supports B, the lower end of the box being provided with a hopper-bottom, C, through which the shelled corn escapes and falls into any suitable receptacle placed beneath the hopper.

D is the shelling-cylinder, which may be cast solid with its journals, or it may be cast hollow and secured to a wrought-iron shaft, E, the opposite ends of which are journaled in bearings *a*, attached to the opposite ends of the box or casing A. On one end of the shaft E is secured a pinion, *b*, which meshes with the internal gear, *c*, on the driving-wheel *d*, the latter being mounted on a supplemental shaft, *e*, and provided with a handle, F, for its operation.

To the casing or box, at one side of the shelling-cylinder, is secured a feed-block, G, which is formed on a sharp inclination, as at H, which is located directly beneath the feed-opening I in the cover. From the point *f* to the point *g*

the feed-block is made to incline downwardly toward the shelling-cylinder, and also inclines from the large end *h* of the shelling-cylinder toward its smaller end *h'*. From the point *g* to the discharge end *i* of the feed-block the latter is rearwardly inclined, as represented in the drawings.

I is the discharge opening for the discharge of the cobs.

It will be observed that the feed-block is formed with a sharp incline beneath the feed-opening, and its remaining portion provided with a ridge, *j*, which extends diagonally the length of the block from the base of the inclined portion to the discharge-opening. On the side of the ridge *j* toward the shelling-cylinder the feed-block is beveled off or downwardly inclined throughout a portion of its length, while the opposite side of the ridge is beveled off in the opposite direction. This peculiar construction is important and valuable in the operation of the machine, as will hereinafter be explained.

K is a metal plate secured to the casing at *k*, the free end K being curved rearwardly, as shown.

L is an adjusting-screw, which is used for regulating the pressure of the plate upon the ears of corn as they are fed to the shelling-cylinder.

The teeth M on the shelling-cylinder are formed in spiral lines N, extending the length of the cylinder and partly or completely around its periphery. Each tooth M on the cylinder is of peculiar shape, as shown in Fig. 5. The front side, *m*, of the tooth is practically straight or radial to the axis of the cylinder. From the apex *n* of the tooth the sides *m'* *m''* *m'''* are formed on an incline, and extend to the corresponding sides of the adjacent teeth. The teeth of one spiral row intersect those of the next adjacent row. The cylinder is cast solid, with the teeth formed and arranged thereon, as shown and described.

Having described the construction and arrangement of the several parts of my improved machine, I will now describe its operation.

The corn on the cob is inserted, large end first, through the feed-opening in the cover, and as it strikes the metal plate it is deflected by the latter and pressed against the shelling-

cylinder. As the sharp edges *o o'* of the spiral rows of teeth come in contact with the corn they operate to separate the corn from the cob, and also to engage with the cob and force it
 5 lengthwise along the feed-block to the point of discharge. As the cob is fed lengthwise along the feed-block by the spiral rows of teeth on the shelling-cylinder it is carried gradually down into the hopper-shaped receptacle formed
 10 by the toothed surface of the shelling-cylinder on the one side and the beveled surface of the feed-block from the point *f* to the point *g* on the other side. As the ear of corn reaches the throat *P* of the hopper, which is located at the
 15 point *g* between the shelling-cylinder and the bend in the metal feeding-plate, it is then subjected to the most thorough action of the shelling-cylinder, and all the corn remaining on the cob is removed at this point. As the cob con-
 20 tinues to be fed lengthwise along the feed-block the larger end of the cob will project through the discharge-opening in the casing.

As heretofore stated, that portion of the feed-block leading to the discharge-opening is beveled off rearwardly or away from the shelling-cylinder, the effect of which is to depress the large and shelled end of the cob, thereby tend-
 25 ing to raise the small end and force it into snug contact with the teeth of the shelling-cylinder, and insure the separation of all the corn from the cob. The sharply-inclined portion of the feed-block enables short ears of corn to be fed to the shelling-cylinder and to be attacked by the teeth on the larger end
 30 thereof, and thus be forced through the machine and discharged at the opposite end.

The corn, after being severed from the cob, falls between the feed-block and shelling-cylinder upon the hopper-bottom, and drops into
 40 any suitable receptacle.

The shelling-cylinder is most durable in use, owing to the fact that the teeth are broad and firmly braced and project but a little distance from the periphery of the cylinder, and hence
 45 are not liable to become broken while in use. The teeth being arranged in spiral rows lo-

cated in close proximity with each other, and the teeth of one series arranged to be contiguous to and intersect with those of the next series in diamond pattern, operate to completely
 50 sever the corn from the cob, and to feed the latter steadily and rapidly through the machine, while the shelling-cylinder is produced at small cost, as it is made of a single iron casting. The teeth may be chilled, if desired. 55

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A conical shelling-cylinder having its perim-
 60 eter formed with shelling-teeth whose bases are contiguous, and arranged in diamond pattern, said teeth tapering to a point and having a substantially radial front edge, substantially as and for the purpose set forth.

2. In a corn-sheller, the combination, with a
 65 conical shelling-cylinder provided with contiguous teeth arranged in spiral lines on the periphery of the cylinder, of a feed-block having a sharp incline at its forward end and beveled off toward the shelling-cylinder for a por-
 70 tion of its length, and an adjustable metal plate for pressing the ear of corn against the cylinder, substantially as and for the purpose set forth.

3. In a corn-sheller, the combination, with a
 75 conical shelling-cylinder, of a feed-block beveled toward the cylinder for a portion of its length, and beveled away from the cylinder from its discharge end to the point *g* on the feed-block, substantially as set forth. 80

4. In a corn-sheller, the combination, with a
 85 conical shelling-cylinder, of a feed-block beveled on opposite sides at opposite ends, and an adjustable metal plate located over said feed-block, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

ISAAC A. WILSON.

Witnesses:

CHARLES P. WEBSTER,
 F. O. McCLEARY.