A. E. LAKE.
Corn-Sheller.

No. 198,397. Patented Dec. 18, 1877.

Fig. 1.

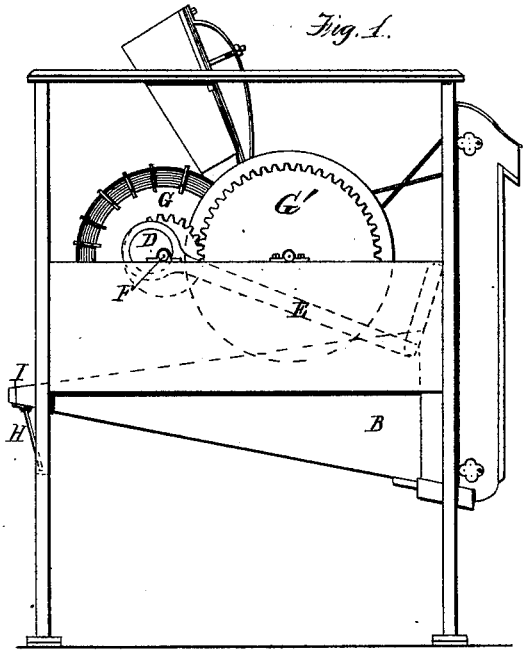


Fig. 2

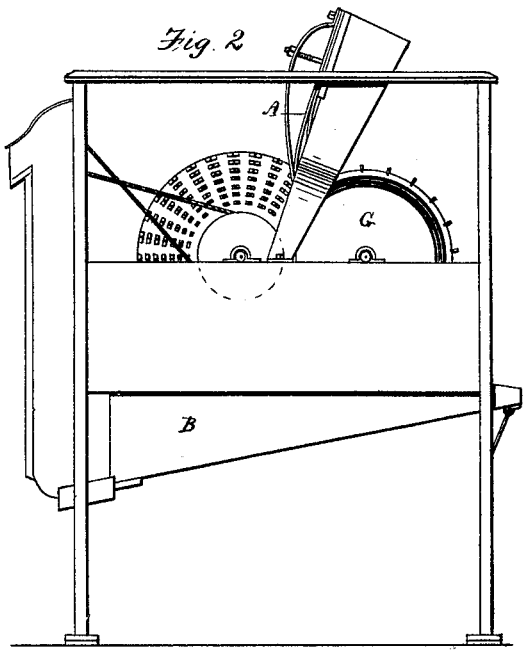


Fig. 3.

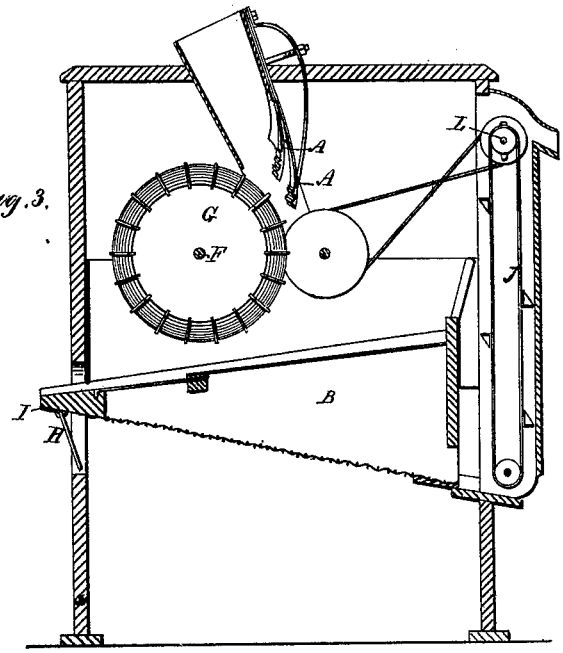
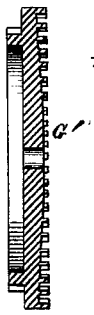


Fig. 4.



Witnesses

A. M. Dubois
Wm. Ellsworth

Inventor

Abraham E. Lake

UNITED STATES PATENT OFFICE.

ABRAHAM E. LAKE, OF MIAMI COUNTY, INDIANA.

IMPROVEMENT IN CORN-SHELLERS.

Specification forming part of Letters Patent No. **198,397**, dated December 18, 1877; application filed February 8, 1877.

To all whom it may concern:

Be it known that I, ABRAHAM E. LAKE, of the county of Miami and State of Indiana, have made a new and useful Improvement in Corn-Shellers, of which the following is a full and exact description, reference being had to the accompanying drawings, and the letters of reference marked thereon, making a part of this specification, in which—

Figures 1 and 2 are side elevations; Fig. 3, a sectional elevation, and Fig. 4 a detail view of the sheller-wheel.

This invention relates in its nature to that class of machines known as "corn-shellers;" and consists in an improvement of the tension-plate and sheller-wheel.

All the other parts of the corn-sheller employed by me are in common use, and are not new; but I improve the tension-plate by making it in two parts, A A, (see Fig. 3 of drawing,) and providing a separate spring for each part.

The object of this mode of constructing the tension-plate is to obviate the difficulty experienced in consequence of small ears of corn passing into the sheller while the tension-plate, (where there is but one,) by the presence of a larger ear, is held up, thus allowing the smaller ear to pass along with it without being properly shelled; but with my arrangement the rear tension-plate will drop down and arrest the advance of the smaller ear until the larger one is out of the way.

I improve the separator-spout by making its bottom and top sides so as to form two inclined planes, descending in opposite direction. The upper surface is covered with sheet-iron about three-fifths of its length, and the remainder is covered with a wire rack, having the wires sufficiently close together to prevent the passage of cobs between them. The bottom of the spout forming the lower inclined plane is made of woven wire, with meshes sufficiently small to prevent shelled corn from passing through, and yet allow of the escape of chaff and dirt, this bottom being inclined in the opposite direction from the upper surface. The shelled corn, falling through the wire rack, will be returned and discharged at the front of the machine, whereas the cobs will be discharged at the rear end of the machine from the upper surface of the spout. As neither of these inclined planes can be sufficiently steep to cause the cobs or shelled corn to discharge of their own gravity, a rapid reciprocating motion is given to the spout B through the agencies of the eccentric D and connection-rod E, attached to the shaft F of the picker-wheel G.

The sides of the spout B are made of thin boards cut in V form. The rear end of the spout is supported by a bifurcated post, H, the two legs of which are pivoted at the lower end to the frame, while its upper end is provided with a round head fitting into a recess in a friction-plate, I, attached to the under side of the spout, while the front end of the spout is supported by pendent arms suspended above the spout. These supports cause a rising-and-falling motion to the spout, which, together with its reciprocating motion, greatly facilitates the discharge of the cobs and corn.

I improve the sheller-wheel G′ by making its face convex around the center, for the purpose of deflecting the points of the cobs outward, and by making the teeth gradually shorter as they approach the center of the wheel, so as to prevent them from being caught by the teeth on the sheller-wheel, causing friction and an unnecessary outlay of power, which difficulty is entirely obviated by making the face of the sheller-wheel G′ convex within the circle of its teeth, as described.

Having described my invention in as exact terms as I can give, what I claim is—

1. The combination, with the sheller-wheel and picker-wheel, of the tension-plates made in two sections, A A, independently supported on springs, substantially as and for the purposes set forth.

2. The sheller-wheel G, having the convex form around the center, and with teeth gradually diminishing in length as they approach the center of the wheel, as and for the purpose described.

ABRAHAM E. LAKE.

Witnesses:
A. N. DUBBS,
WM. E. MOWBRAY.