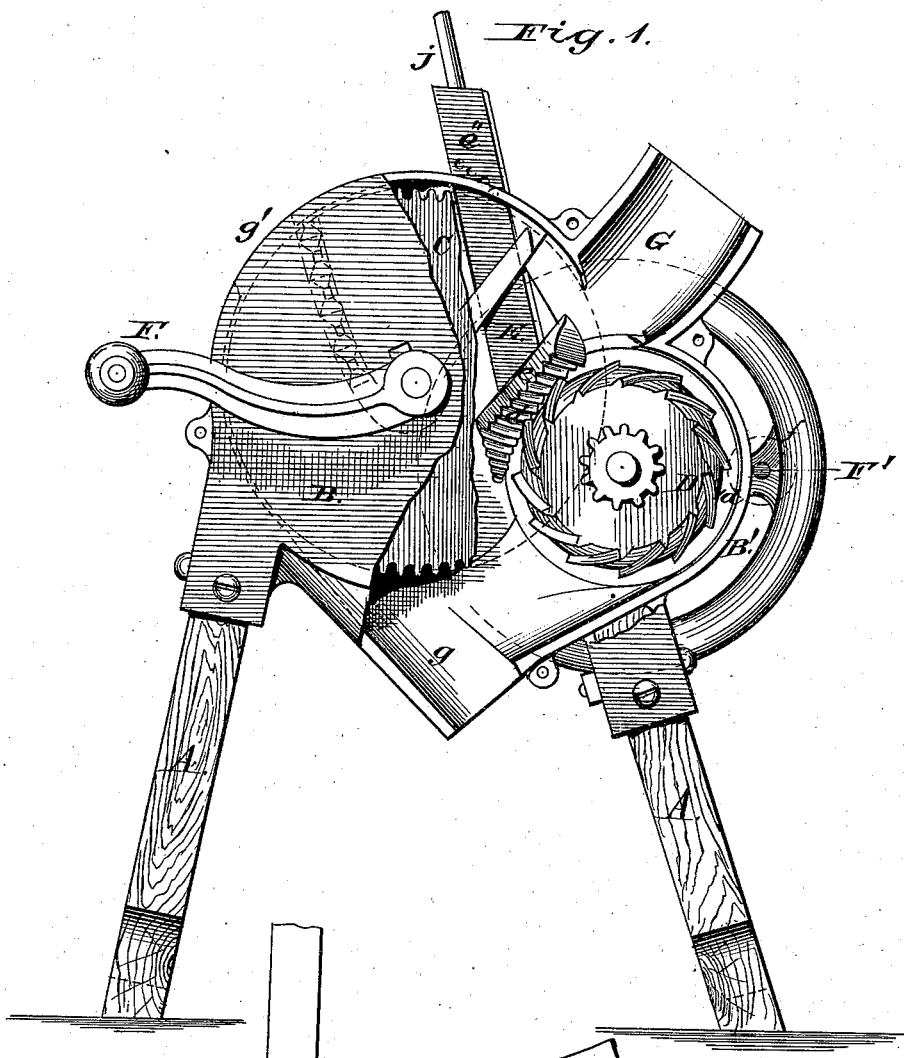
2 Sheets—Sheet 1.

J. S. MARSH.

CORN-SHELLING MACHINES.

No. 194,700. Patented Aug. 28, 1877.

Fig. 1.



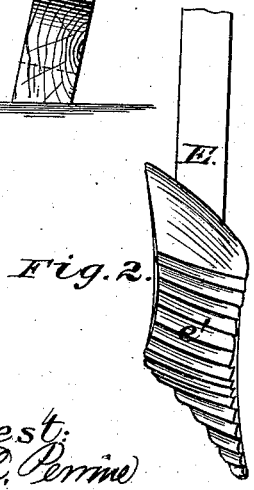


Fig. 2.

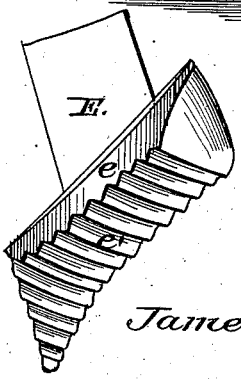


Fig. 2'.

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Fig. 3.

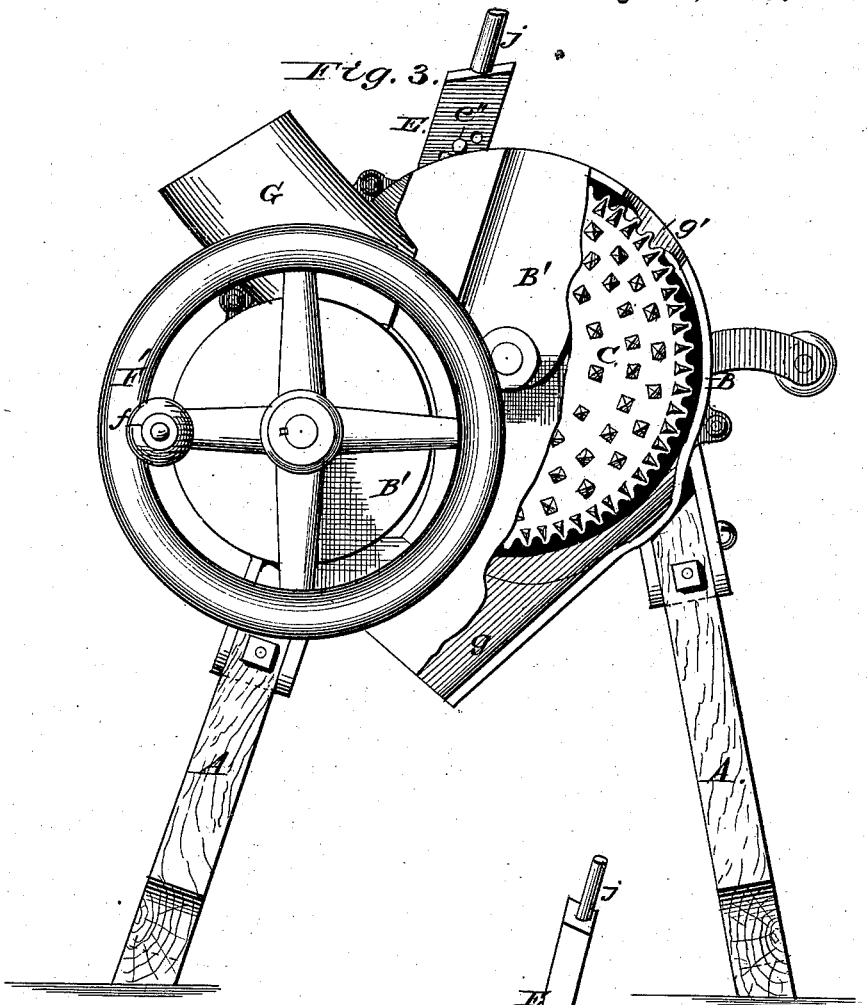


Fig. 4.

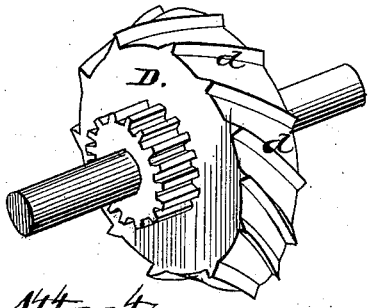
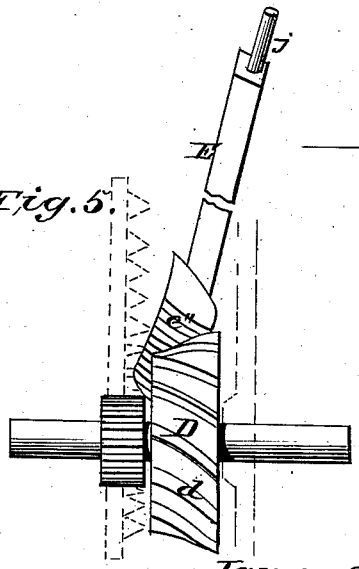


Fig. 5.



Attest:
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UNITED STATES PATENT OFFICE.

JAMES S. MARSH, OF LEWISBURG, PENNSYLVANIA.

IMPROVEMENT IN CORN-SHELLING MACHINES.

Specification forming part of Letters Patent No. **194,700**, dated August 28, 1877; application filed April 25, 1877.

To all whom it may concern:

Be it known that I, JAMES S. MARSH, of Lewisburg, in the county of Union and State of Pennsylvania, have invented certain new and useful Improvements in a Machine for Shelling Corn, of which the following is a specification:

My improvements relate to a class of machines which have long been in common use, having a picker-wheel and a conical-toothed wheel geared together and inclosed between two dish-formed plates, bolted together, forming a chamber in which said wheels revolve, and having an opening for feeding in the ears of corn, and separate eduction-ports for the shelled corn and the cobs.

My improvement consists, first, in setting the teeth or ribs of the conical wheel (which, for convenience, I will call the feed-wheel) spirally upon the periphery of said wheel; second, in the application of an automatic adjusting device, by means of which the machine adapts itself to operate upon ears of corn of varying sizes without alteration; and, third, in providing the machine with two cranks, one attached to the shaft of the picker-wheel and the other to the shaft of the feed-wheel, for the purpose hereinafter specified.

In the accompanying drawings, Figure 1 is a front side view of the machine, with a part of the front plate cut away to show the interior mechanism. Fig. 2 is a face view of the presser-foot, and Fig. 2′ is a side view of the same. Fig. 3 is a view of the reverse side of the machine, in elevation, with a part of the back plate cut away to show the interior mechanism. Fig. 4 is a perspective view of the feed-wheel, with the shaft and pinion; and Fig. 5 is a view of the feed-wheel, its shaft and pinion, and the adjusting-bar and presser-foot.

A A are the two standards upon which the machine is supported. B B′ are the two dish-shaped plates, which, being bolted together, form a chamber between them, in which the picker-wheel and the feed-wheel revolve. C is the picker-wheel, the inner surface of which is provided with numerous points or teeth. D is the conical feed-wheel, having upon its periphery a series of helical ribs or teeth, *d*.

E is an automatic adjusting device, having a presser-foot, *e*, at its lower end, with teeth *e′* on its lower surface. This adjusting device E is a bar of cast-iron, about an inch and three-fourths in width and about one inch in thickness, and it rests and slides in a recess or groove between the two plates B B′, inclined, as shown in the drawings. It fits so loosely in the recess that it will slide up and down freely, and, when raised, will descend by its own gravity. Its descent is limited by a pin, *e″*, which may be inserted in any one of a series of holes provided for it. The device being adjusted by means of said pin, to operate upon the smallest-sized ears, will, without change, operate equally well upon large ears of corn, as the feed-wheel and the picker-wheel will co-operate together to force the ear forward, raising the foot *e* so that it will pass under, while the weight of the bar E will force said foot down upon the ear sufficiently to hold it to its work.

The picker-wheel C has a series of cogs around its periphery, which gear into a pinion on the shaft of the feed-wheel D, so that when the driving-power is applied to the shaft of the picker-wheel, it will revolve the feed-wheel at a greater velocity than its own, and, when the driving-power is applied to the shaft of the feed-wheel, it will revolve the picker-wheel at a less velocity than its own, but less power will be required to operate the machine.

I therefore provide the shaft of the picker-wheel and the feed-wheel each with a crank, F and *f*, so that the machine may be operated by applying the driving-power to either shaft, as desired.

By means of the crank *f* on the shaft of the feed-wheel, a small boy can operate the machine, but it will not do its work as rapidly as when sufficient power is applied to the crank F.

These cranks I prefer to place on opposite sides of the machine, and the crank *f* may be a crank-pin projecting from a wheel, F′, which serves as a fly-wheel.

G is the induction-chute, through which the ears of corn are inserted; *g*, the eduction-port for the shelled corn; and *g′*, the eduction-port for the cobs.

The presser-bar E is not only inclined from a vertical position, as shown in the drawings, but does not stand parallel to the

face of the picker-wheel, being slightly inclined from it upward, as shown in Fig. 5.

The presser-foot, on its lower face, is convex in the direction of its length, and slightly helical toward its lower end, so that the ribs or teeth *e'*, which cross it diagonally, also run spirally. Both sides of said foot are made concave in the direction of its length, the longer side being the most concave, to make it conform to the shape of the feed-wheel, and the shorter side only concaved so much as to make it lie parallel to the face of the picker-wheel when the bar E is slightly inclined from it, as described.

The pin *j*, projecting from the upper end of the bar E, is for the purpose of attaching additional weight when desired.

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

1. In combination with the picker-wheel, the conical feed-wheel, with helical ribs or teeth, substantially as described.

2. In combination with the picker-wheel and feed-wheel, with helical ribs, as described, the bar E, automatically adjustable by its own weight with its presser-foot *e*, having its face convex, ribbed, and helical, substantially as shown and described.

3. In combination with the picker-wheel and the feed-wheel, geared together, as described, two cranks, one on the shaft of each of said wheels, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

JAMES S. MARSH.

Witnesses:

E. C. WEAVER,

GEORGE R. COUPLAND.