

J. A. CAULDWELL.

Corn Sheller.

No. 84,610.

Patented Dec. 1, 1868.

Fig. 1.

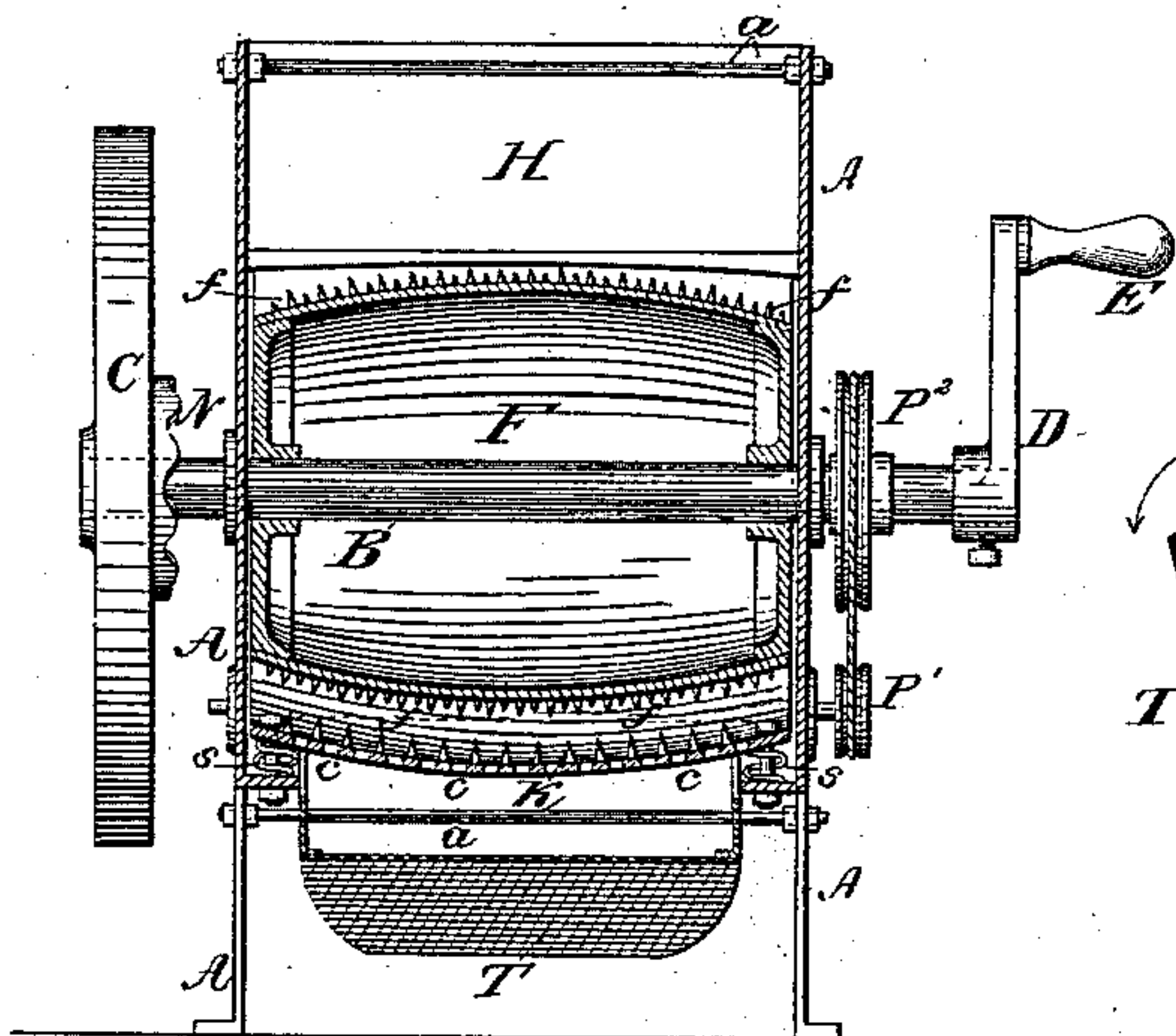


Fig. 2.

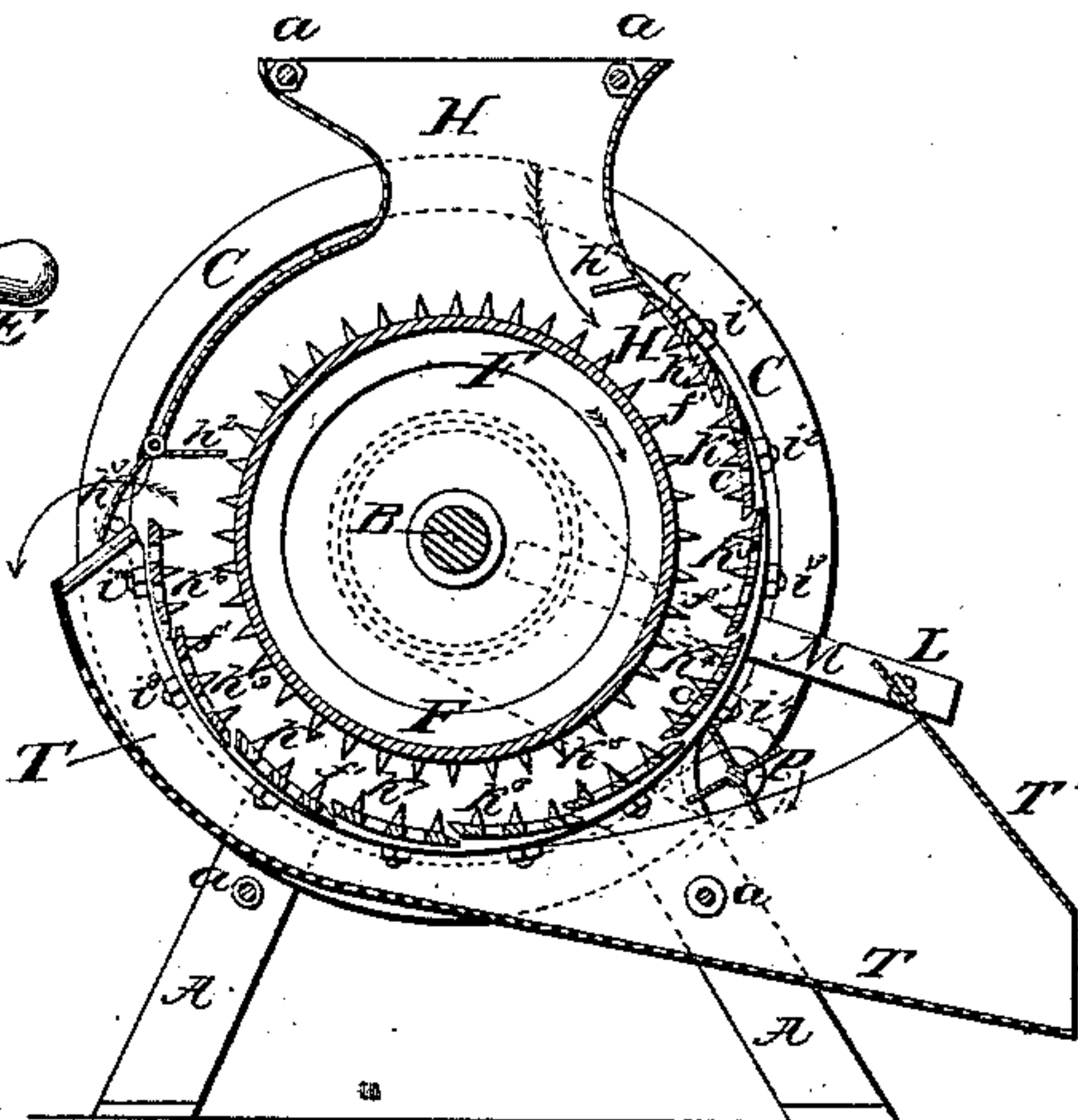
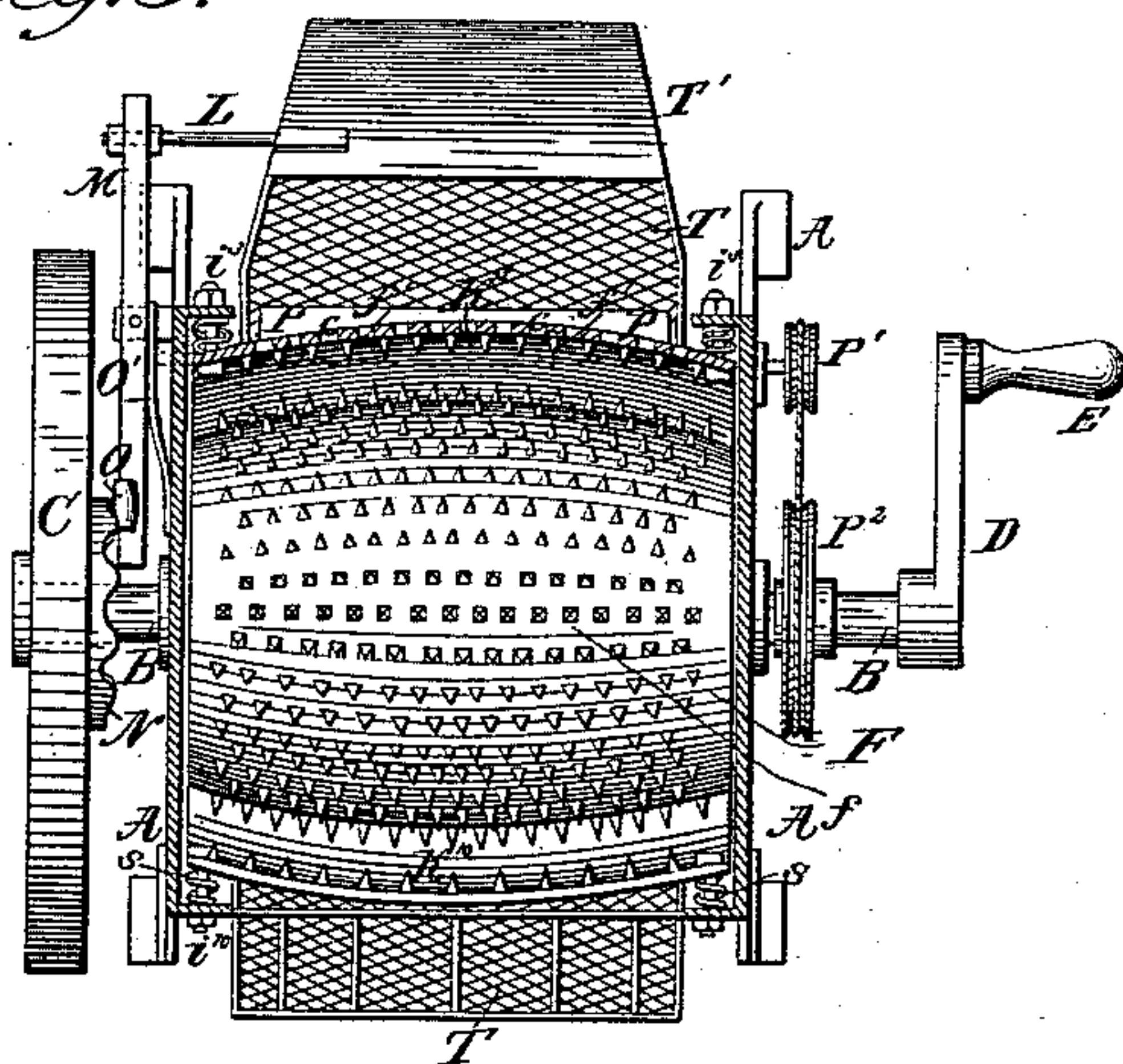


Fig. 3.



Witnesses

C. E. Papp
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Inventor:

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UNITED STATES PATENT OFFICE.

JAMES A. CAULDWELL, OF HORSEHEADS, NEW YORK.

IMPROVEMENT IN CORN-SHELLERS.

Specification forming part of Letters Patent No. 84,610, dated December 1, 1868.

To all whom it may concern:

Be it known that I, JAMES A. CAULDWELL, of Horseheads, in the county of Chemung, and in the State of New York, have invented a new Corn-Sheller; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

Figure 1 represents a vertical longitudinal section. Fig. 2 is a vertical transverse section. Fig. 3 is a horizontal section and a plan of the corn-sheller.

A A are the side frames of the machine, with feet for the whole machine to stand on, and which are kept in position by brace-rods *a a a*. These side frames carry the journals of a shaft, B B, on which is fastened, between the frames, a drum, F F, the surface of which is convex and armed with rows of pointed teeth *f f*, which stand vertical on the surface of the drum.

On one side of the machine is a fly-wheel, C. On the other side is a crank, D, with handle E, fastened to the shaft B, to set the drum F in rotary motion. Vertical over the drum F is a hopper, H, formed on the ends by the side frames A A and on the sides by sheet-iron fastened to the frames, and shaped at the lower ends to connect with another cylindrical shell made in sections, which is placed somewhat eccentric around the drum F.

The inside surface of the sectional pieces $K^1 K^2 K^{10}$ is concave, and is also armed with pointed teeth *f' f'* in rows vertical on the inner surface, and the spaces between the teeth are perforated with holes *c c c*, large enough to let through the largest-sized corn.

The pieces $K^1 K^2$ are fastened on each end to an inward-projecting flange of the side frames A A by bolts $i^1 i^2 i^{10}$, leaving space enough between the put-springs *s s*, between the pieces $K^1 K^2$ and the flange, to keep those segments as close as possible to the inner drum, F, but allow each single segment to move outside when the pressure from inside grows stronger than the springs are pressing from outside. These segments overlap each other, and are placed around the drum F in such a way that the space between the drum F and the first segment, K^1 , is larger than the space between F and the last segment, K^{10} .

Above the segment K^{10} is an opening left in the shell for its whole width, which opening can be closed by a hinged door, h^3 , opening easily outward, and a cross-piece, h^2 , closes up the space between the drum F and the outside shell, so that nothing can pass around with the drum F, but has to fall out the door h^3 . Below this outside shell, and partially around it, is suspended a sieve, T T, inclined toward the front of the machine, on which sieve drops all the corn through the holes in the pieces $K^1 K^2 K^{10}$. This sieve is put in a shaking motion during the working of the machine by means of a pulley, N, with ragged edge, fastened to the hub of the fly-wheel, and by a lever, O M, and rod L, which take hold of the plate T' covering the front end of the sieve T.

Above the sieve, and a little in front of the outside cylinder, is placed a fan with wings P, which is put in rotary motion by a pair of pulleys, the one, P^2 , placed on the shaft B, the other one, P^1 , placed on the overhanging end of the shaft of the fan, both connected by a belt. This fan has to blow back all the shells or chaff of the corn falling with the corn through the holes *c c*, so that only the clear corn will roll from the sieve in front of it.

At the upper end of the sieve are placed a few iron rods, across the opening left between the outside cylinder and the sieve, to prevent the cobs from falling on the sieve when they are pushed out the door h^3 by the motion of the drum F.

The operation of the machine is as follows: The inside cylinder, F, is set in rotary motion by the crank or by a pulley when moving-power is at hand, and the ears of corn are thrown horizontally in the hopper, where they are caught by the teeth of the drum F and rolled around in the space between the drum F and the sectional shell, bending, at the same time, the cobs over the convex surface of the drum, loosening in this way the corn in its seat. While the teeth on both sides break the corn from the cob the corn is falling through the holes *c c* on the sieve with the chaff or trash, where it rolls down by the shaking motion of the sieve, the fan blowing the chaff and the shells backward, the corn dropping down clean in front of the sieve. The cobs are rolled clear around to the obstruction h^2 , when

they fall out the door h^3 , and are in that way removed from the machine.

The size of ears of corn is very different; but small ears as well as large ears of corn are equally well cleaned of the corn by the machine. The sectional pieces $K^1 K^2 K^{10}$ are placed so near to the drum F that even the smallest-sized ears will be caught and all corn removed from the cob. When, by large-sized ears, the pressure between the two cylinders is growing too high, the springs behind the pieces $K^1 K^2$ allow those sectional pieces to move outside, each for itself, and no corn can be crushed in this way between the teeth.

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

The corn-sheller as composed of the drum F, with convex surface and armed with teeth, the concave sectional shell $K^1 K^2 K^{10}$, also armed with teeth and perforated between the teeth, the springs $s s$, the sieve T T, with the attachment for shaking the same, the fan P, all constructed for the purpose as specified.

JAMES A. CAULDWELL.

Witnesses.

JOHN OAKLEY,
E. E. CLAPP.