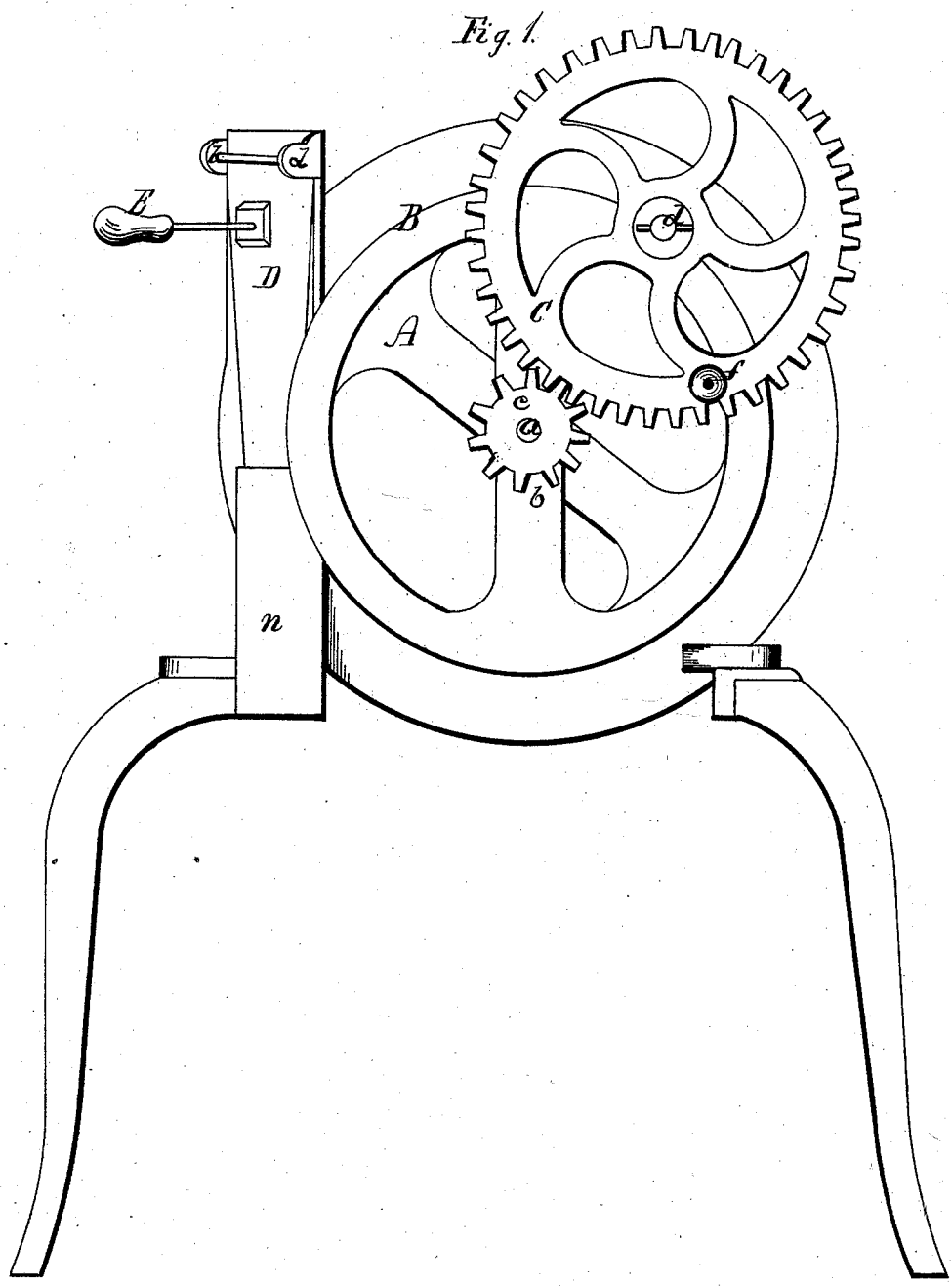
2 Sheets—Sheet 1.

C. P. S. WARDWELL.

CORN-SHELLING MACHINES.

No. 194,018. Patented Aug. 7, 1877.

Fig. 1.



WITNESSES

Geo. W. Gallaher.
Jno. D. Patten

INVENTOR

Charles P. S. Wardwell
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his ATTORNEY.

2 Sheets—Sheet 2.

C. P. S. WARDWELL.

CORN-SHELLING MACHINES.

No. 194,018. Patented Aug. 7, 1877.

Fig. 2.

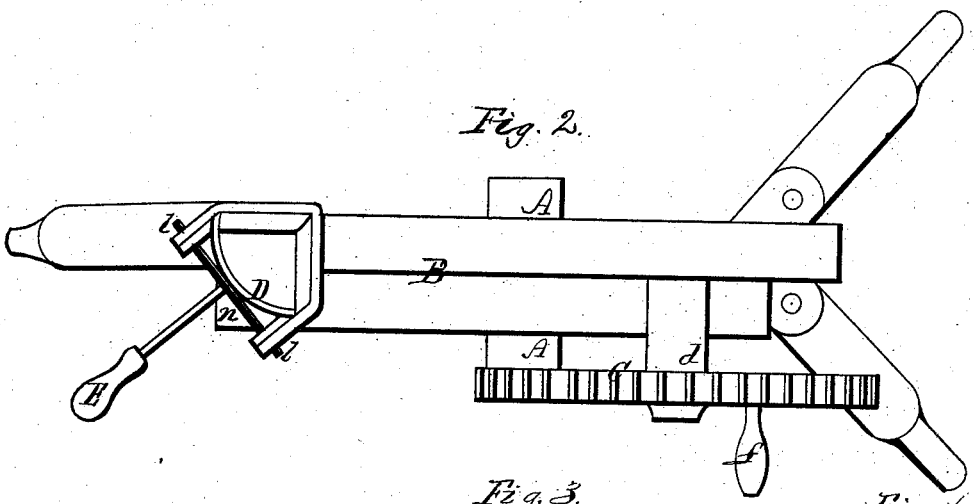


Fig. 3.

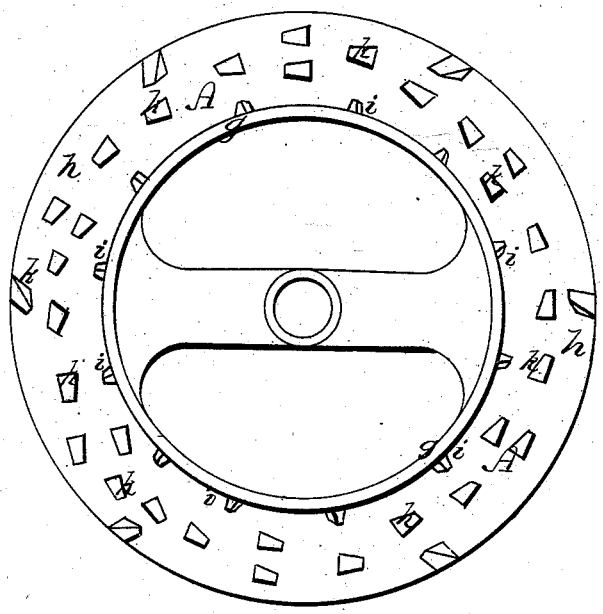


Fig. 4.

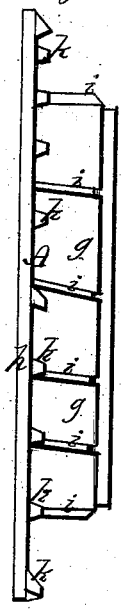
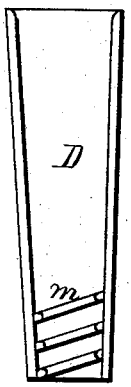


Fig. 5.



WITNESSES

E. McGallaher.

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INVENTOR

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UNITED STATES PATENT OFFICE.

CHARLES P. S. WARDWELL, OF LAKE VILLAGE, NEW HAMPSHIRE.

IMPROVEMENT IN CORN-SHELLING MACHINES.

Specification forming part of Letters Patent No. **194,018**, dated August 7, 1877; application filed June 16, 1877.

To all whom it may concern:

Be it known that I, CHARLES P. S. WARDWELL, of Lake Village, in the county of Belknap and State of New Hampshire, have invented an Improved Corn-Sheller; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings making part of this specification.

Figure 1 is a side view of the corn-sheller; Fig. 2, a top view thereof; Fig. 3, a side view of the shelling-wheel; Fig. 4, an edge view thereof; Fig. 5, a view of the inner surface of the hopper-concave.

Like letters designate corresponding parts in all of the figures.

My improvements are upon that class of corn-shellers in which a shelling-wheel revolves inside of a case and co-operates with a movable counterpressing concave or hopper, to perform the function of shelling the corn.

The shelling-wheel A revolves inside of the case B, which forms part of the stand of the machine, and incloses the front side of the rim and flange part of the wheel, the back side of the wheel being in one plane and smooth and simply flush with the rear edge of the case, and consequently needing no inclosing.

The shaft *a* of the wheel turns in an extended central bearing, *b*, of the case, and has a pinion, *c*, on its front end, into which a driving-wheel, C, gears, the said driving-wheel being mounted on a fixed pivot, *d*, and provided with a crank-pin or handle, *f*, or other means of communicating motion to it. Thus the shelling-rim *g* and flange *h* of the shelling-wheel A are both given a rapid motion, and are caused to turn downward on the side of the machine next to the position where the operator stands, and these functional parts being near the periphery of the wheel, the rapidity of their motion is effective for rapid shelling.

My invention relates principally to the construction of these functional parts, the shelling-rim *g* and feeding-flange *h*, and of the counter-pressure hopper or concave D, operating in connection therewith.

Upon the periphery or face of the shelling-rim *g*, which projects at nearly right angles from the wheel, is a set of ribs or teeth, *i i*, which are set somewhat obliquely thereon, or spiral to the axis of the shelling-wheel, as shown in Fig. 4. The effect of this arrangement is to prevent the abrupt striking of the teeth against the grains of corn, which would make the shelling more difficult and break some of the grains, while this oblique arrangement of the teeth, acting gradually on the grains, removes them with ease.

The flange *h* of the shelling-wheel, which projects beyond the shelling-rim *g* in the direction of the face of the wheel, also has teeth *k k* thereon, arranged obliquely, as shown, or otherwise. These teeth serve mainly to feed the ears of corn down in the concave, and also assist in the shelling. Their form is more pointed than the shelling-teeth *i i*.

The shelling-rim and feeding-flange of the shelling-wheel form a nearly right-angled corner, in which the ears of corn are held by the counter-pressure concave D, as shown most clearly in Fig. 2. This concave, mounted near its upper end on pivots *l l*, swings obliquely inward in relation to both the shelling-rim and feeding-flange of the shelling-wheel, or toward the said right-angled corner formed thereby. I find that this arrangement produces the best result, thus dividing the pressure between the shelling-surface and the feeding-surface, one regulating the other thereby. The concave has a few oblique teeth or cross-ribs, *m*, at the lower end, to afford the proper resistance to the descent of the ears and insure their complete shelling. The inward pressure of this concave to press the ears of corn against the shelling-wheel is produced by a counter-weight, consisting, as represented in the drawings, of a weighted arm, E, projecting outward therefrom. The advantage of this weight over a spring in this place is, that its action is the same on small ears and large ears of corn, as required, whereas a spring is much more powerful in action with large ears than with small ones.

Below the lower end of the concave, the case B forms an inclosed passage, *n*, to conduct the shelled corn and cobs downward to a receiver.

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

1. In a corn-sheller, a shelling-wheel, A, con-

structed with a peripheral shelling-rim, *g*, and a feeding-flange, *h*, projecting outward nearly at right angles from one edge of the shelling-rim, both the rim and flange having teeth or projections on their faces, substantially as and for the purpose herein specified.

2. In a corn-sheller, a shelling-wheel, A, constructed with a peripheral shelling-rim, *g*, having teeth or ribs *i i* upon its periphery, arranged in lines oblique to the axis of the shelling-wheel, and an outwardly-projecting toothed feeding-flange, substantially as and for the purpose herein specified.

3. In combination with the shelling-rim *g* and feeding-flange *h*, arranged at an angle to each other, the counter-pressure concave D, moving inward in an obliquè direction toward the said rim and flange, substantially as and for the purpose herein specified.

CHAS. P. S. WARDWELL.

Witnesses:
C. J. A. WARDWELL,
S. A. WHITTEN.