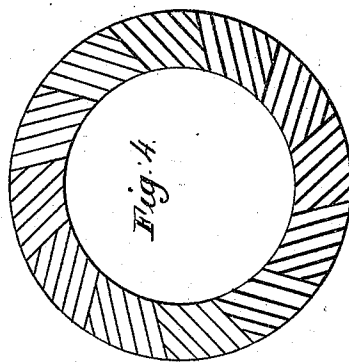
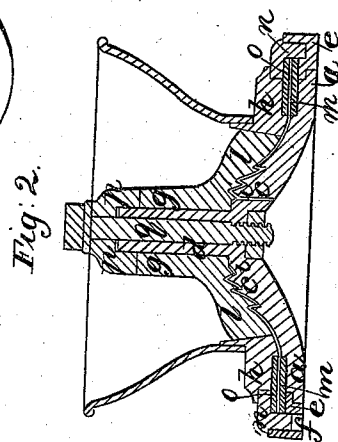
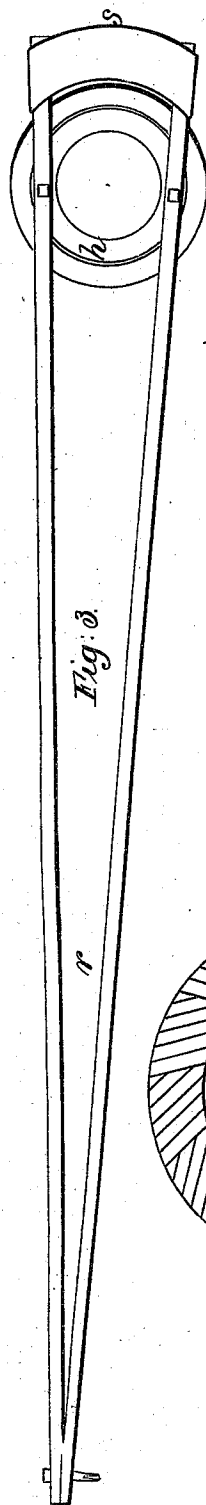
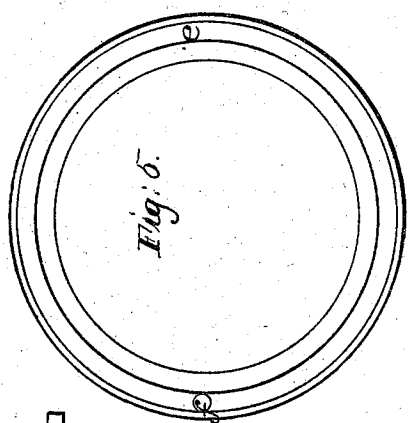
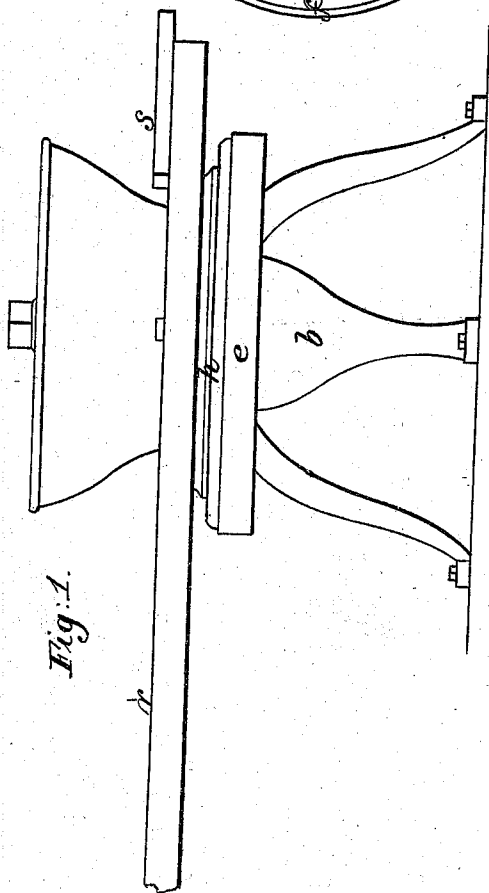


C. Leavitt,
Portable Grain Mill,
No 12,461, Patented Feb. 27, 1855.



UNITED STATES PATENT OFFICE.

CHARLES LEAVITT, OF QUINCY, ILLINOIS.

PORTABLE GRAIN-MILL.

Specification of Letters Patent No. 12,461, dated February 27, 1855.

To all whom it may concern:

Be it known that I, CHARLES LEAVITT, of the city of Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Portable Grain-Mills; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is an elevation of a mill; Fig. 2, a vertical section; Fig. 3, a top view of the lever on a smaller scale; Fig. 4, a plan of one of the movable rings and Fig. 5, a plan of the annular conductor.

The indicating letters refer to the same parts in the different figures wherever they occur.

The nature of my invention consists in applying to a portable corn mill (in which the external portion or concave revolves upon a fixed cone) the following improvements: First, the combination of the bed plate, legs or supports, the breaker, and the main pivot, cast in one piece as hereinafter described, and, secondly, in combination with the foregoing a lever in two parts attached to an external revolving concave, constructed and arranged substantially as hereinafter described

The following is a description of the construction of my improved mill: The bed plate *a*, legs or supports *b*, ogee breaker *c*, and vertical main pivot or journal *d* are cast in one piece. Upon a flange projecting from the lower edge of the bed plate *a* I place an annular grooved conductor (*e*) which has an outlet at *f*. Between the top of the breaker *c*, and the base of the pivot is an annular groove *i* with an outlet at the bottom thereof, for the purpose of collecting, and discharging the oil from the pivot *d* and preventing it from mixing with the meal. A sleeve *g*, fits upon the pivot *d*, and revolves thereon, its lower edge resting upon the bottom of the groove *i*. A top plate or cover *h* having a circular opening in its center a little less than the base of the breaker *c*, is joined to the sleeve *g* by four strong arms (*l*). The plate *h* extends to the outer edge of the conductor *e*, and carries on its under side, square projecting scrapers (*n*) which fit in the conductor and revolve therein. The arms *l*, are toothed on their under sides

to correspond with the teeth in the breaker *c* forming together an effective crusher for the corn, and cob when ground together. In the space between the base of the breaker *c*, and the inner edge of the conductor *e* I secure by bolts (in such a manner as to be readily removed when required) a flat ring of steel or hardened iron (*m*) with grinding teeth on its upper side of any convenient form, but it is preferable for crushing or coarse grinding to use teeth, the transverse section of which presents one side inclined, and the other vertical and run the mill in such a direction that the vertical sides of the upper and lower grinding surfaces shall meet each other. In a groove in the upper plate *h*, I place another ring (*o*) of the same size material and form as *m* with the teeth of the same form and arranged as before described, this is also readily removed, when required. Between the ring *o*, and the central opening is a circle of large teeth inclined to the rear, and vertical to the front and beveled upward on their inner edges for the purpose of forcing or crowding the grain on to the rings.

I find it preferable in grinding fine meal to run the grinding surfaces in such a direction as to oppose the inclined sides of the teeth in one ring, to the inclined sides of the teeth of the other and with that view I construct another pair of rings to fit in the same places as the others with the inclined sides of the teeth reversed. Upon the top of the pivot *d* which is there sexagonal I place a cap (*p*) which rests on the sleeve *g*. Through the cap pivot and bed plate a screw *q* passes having its nut at the bottom, the object of this screw is to regulate the mill by pressing the grinding surfaces together. Upon a flange on the edge of the central opening I place a suitable hopper. Upon each side of the hopper, resting upon the top plate *h*, and secured thereto by bolts, is placed a piece of scantling extending to about twelve feet from the center of the mill, they there meet at a very acute angle forming the lever *r* and are secured together by the hooked bolt to which the horses are attached a board *s* extends from one of the ends of the scantling to the other upon which a man can stand to feed the mill.

The mill as above described is best adapted for crushing, and grinding corn, and cob

together, or by using the rings which present the inclined sides of their teeth to one another, for fine meal, &c. If the teeth should wear out or break, fresh rings can be
5 put in at a trifling expense. The annular conductor is a great improvement upon mills of this description which allow the meal to fall from all parts of the base of the concave.

- 10 My plan of casting the legs, and other portions in one piece as before described adds much to the steadiness, and efficiency of the mill while no single stick of timber can afford such strength and stiffness as the
15 lever in two parts above described, without greatly increasing the weight, and being very difficult to attach to the mill.

Having thus fully described my improve-

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

20

The combination of the bed plate *a* the legs or supports *b*, the breaker *c*, and the main pivot *d*, cast in one piece, and these parts in combination with the lever *r*, attached to an external revolving concave,
25 constructed and arranged substantially as herein described and for the purposes specified.

In testimony whereof I have hereunto signed my name this 3d day of January 30
1855.

CHARLES LEAVITT.

Witnesses:

SAML. GRUBB,

CHAS. EVERETT.