J. H. PENDLETON.

Mill for Grinding Tortilla, &c.

No. 197,889. Patented Dec. 4, 1877

Fig. 2.

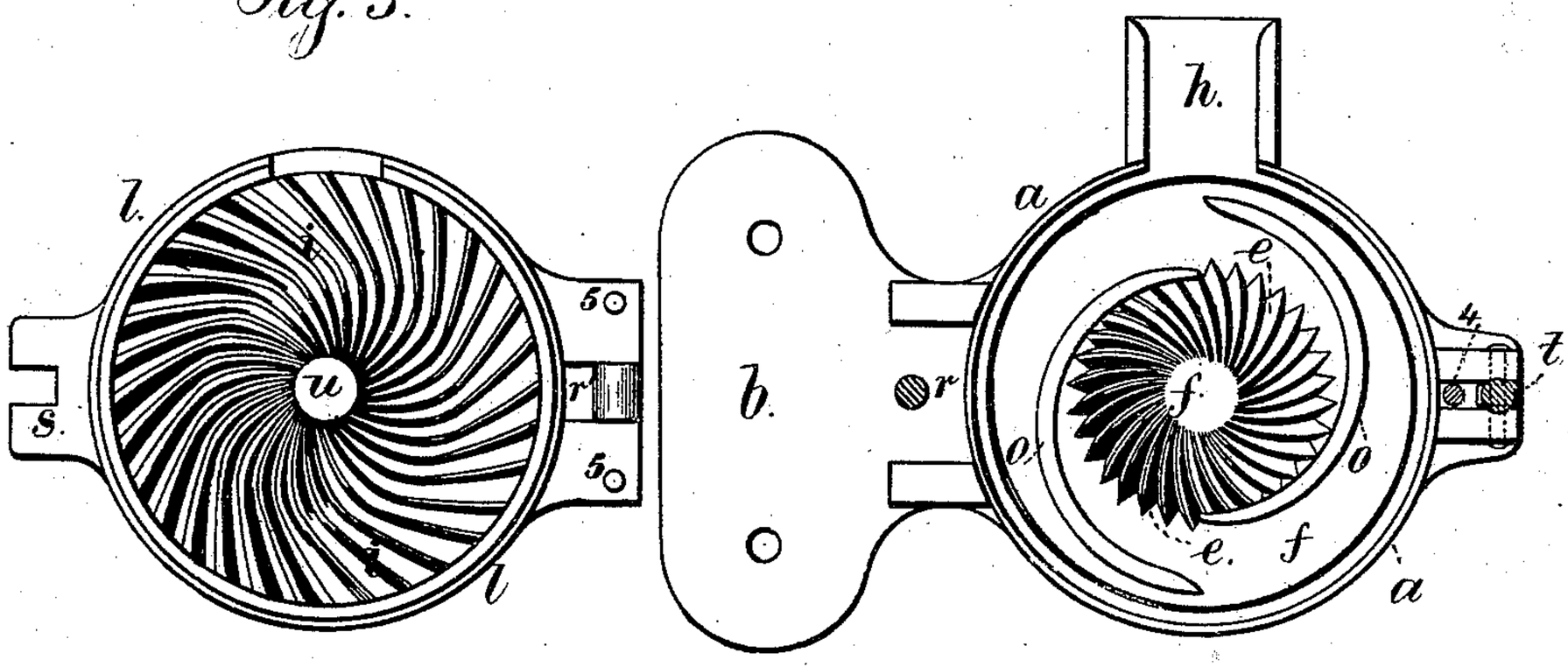

Fig. 3.

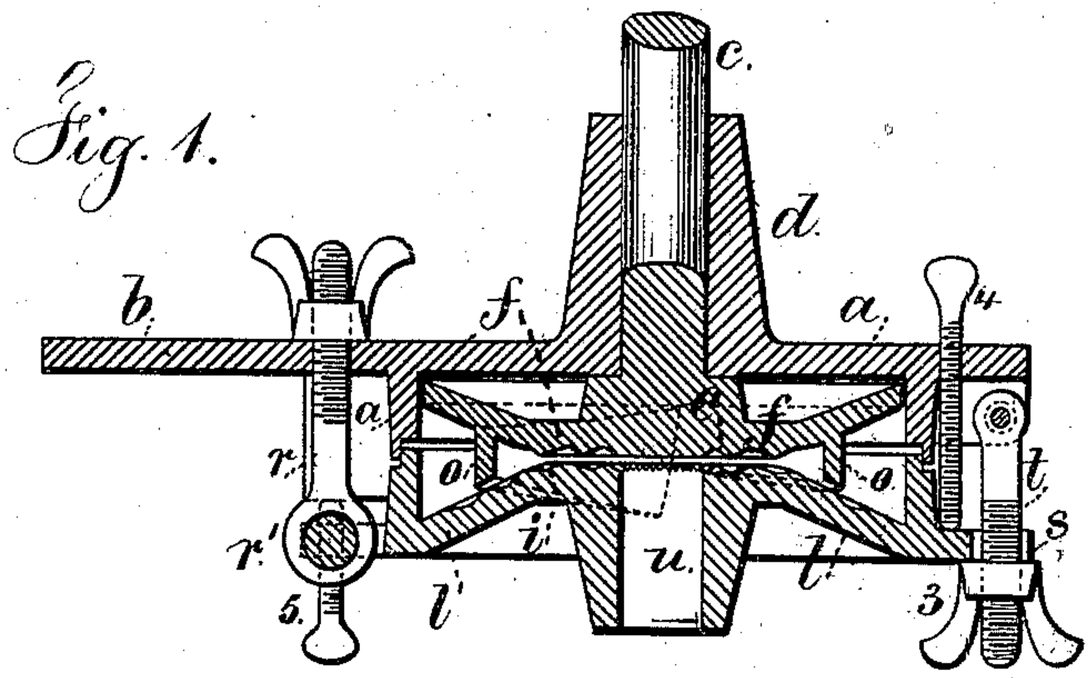

Fig. 1.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN H. PENDLETON, OF BROOKLYN, ASSIGNOR TO HIMSELF, ALEXANDER H. TIERS AND CORNELIUS TIERS, OF NEW YORK, N. Y.

IMPROVEMENT IN MILLS FOR GRINDING TORTILLA, &c.

Specification forming part of Letters Patent No. **197,889,** dated December 4, 1877; application filed November 6, 1877.

To all whom it may concern:

Be it known that I, JOHN H. PENDLETON, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Grinding-Mills for Tortilla and other Materials, of which the following is a specification:

In the preparation of tortilla the maize is in a moist condition, and cannot be ground advantageously in an ordinary mill.

My improved mill is constructed with special reference to grinding moist and adhesive materials; and consists in a revolving burr, with volute compressing-blades, that convey the material toward the center and also into contact with cutting-edges; and near the middle of the mill there are teeth or grinding-ribs, formed as ranges of volutes, that pass each other in opposite directions as the burr is revolved, and not only cut and grind the materials, but pass the same to the central delivery-opening.

I also arrange the stationary grinding-surface at one side of the revolving nut, so that it may be loosened and swung open for cleaning the mill without changing the adjustment of the cutting or grinding surfaces.

In the drawings, Figure 1 is a sectional plan of the mill. Fig. 2 is a face view of the revolving burr; and Fig. 3 shows the face of the shell.

The case *a* is of suitable size and shape, and provided with a flange, *b*, at one side, by means of which it may be attached to a support.

The shaft *c* in the bearing *d* of the case *a* is to be revolved by a hand-crank or otherwise.

Within the case *a* is the grinding-burr *f*, with a face that is slightly conical, and provided with the volute blades *e e*, that start from the edges of the burr and pass toward the middle portion of the burr in a volute line; and the direction of revolution is such that the outer end of the volute blade is in advance; and hence the materials passing from the hopper *h* in between the burr and the stationary shell *l* are gathered by the blades *e* toward the center of the mill; and this is promoted by the material being carried around against the volute corrugations *i* upon the inner face of the shell *l*, said volute corrugations standing in opposite direction to the volute blades *e*, so that the action on the material is toward the center; and the volute corrugations are made with edges that cut or grind the material at the same time that the same is carried toward the center of the mill. The volute corrugations or cutting-edges *o* upon the central portion of the face of the burr *f* also aid in cutting the material, and causing it to be carried toward the center. There is a hole or opening at *u*, in the center of the shell *l*, through which the ground material is forced out in a horizontal or nearly horizontal direction.

In order to give access to the mill for cleaning, the shell *l* is removable. At one end is a hinge, *r'*, formed by a screw-bolt, *r*, with an eye at the end around a cylindrical part of the case *l*, at one side, and at the other side of the shell is a slotted projection, *s*, into which the hinged bolt *t* is swung, said bolt having a clamping-nut, 3.

A screw, 4, passing through the case *a*, and screws 5, passing through the shell *l*, serve to adjust the distance between the cutting-surfaces of the burr and shell; and it will be apparent that these adjusting-screws do not have to be turned in opening the mill, because by loosening the bolts *r* and *t* the shell can be swung back and cleaned, and then closed to place, and secured by a reverse movement.

I claim as my invention—

1. The revolving burr *f*, having the volute compressing and grinding blades *e* upon its surface, in combination with the case *a* and shell *l*, having reverse volute cutting-ribs *i* and a central delivery-opening, *u*, as specified.

2. The combination, with the revolving burr *f*, blade *e*, case *a*, and shell *l*, having a central opening, of the hinge *r'* upon the bolt *r*, the clamping hinged bolt *t*, and the adjusting-screws 4 and 5, substantially as specified.

Signed by me this 1st day of November, A. D. 1877.

J. H. PENDLETON.

Witnesses:

GEO. T. PINCKNEY,

CHAS. H. SMITH.