S. DODSON.

Rice Polishing Machine.

No. 40,917. Patented Dec. 15, 1863.

Fig. 2.

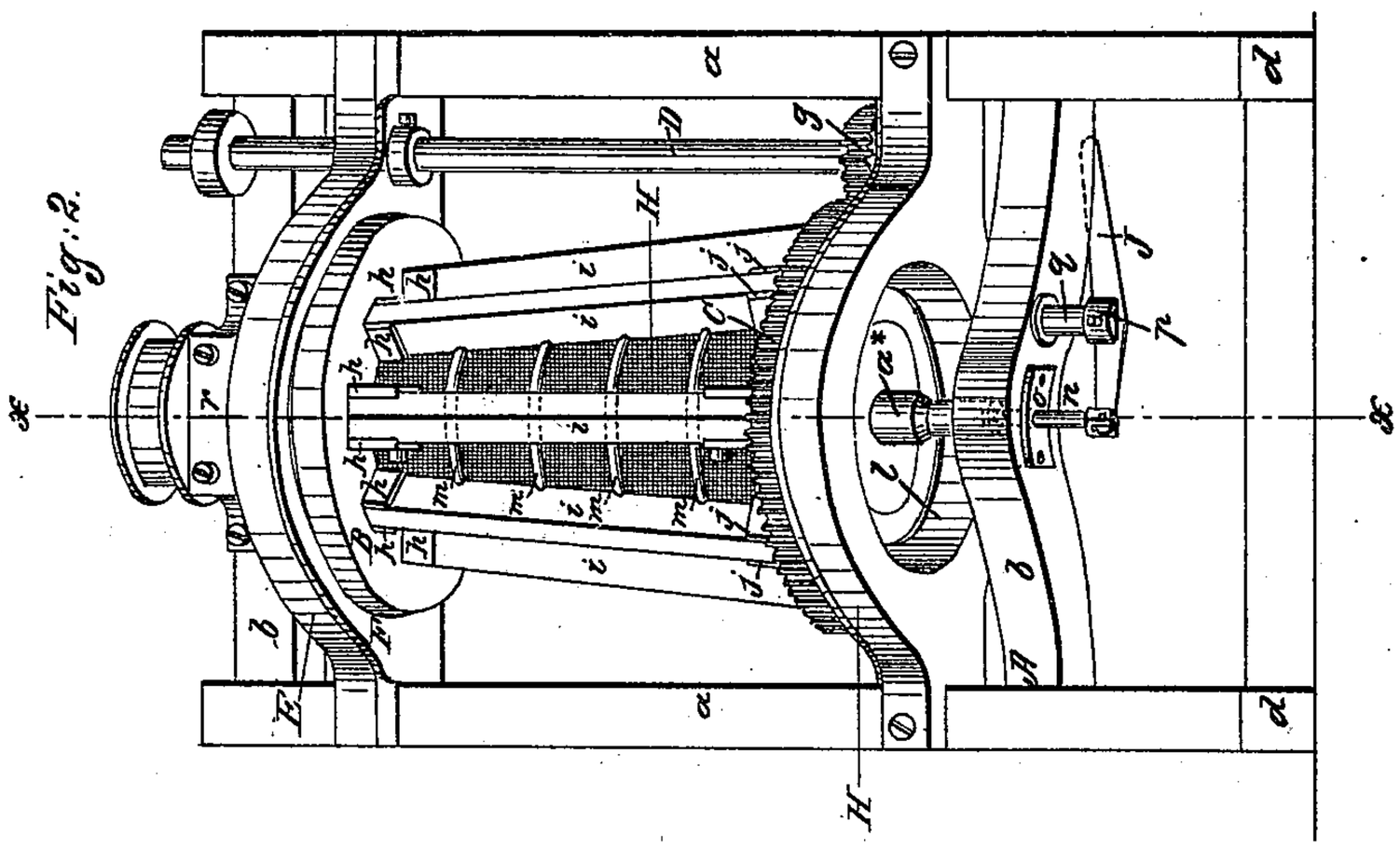
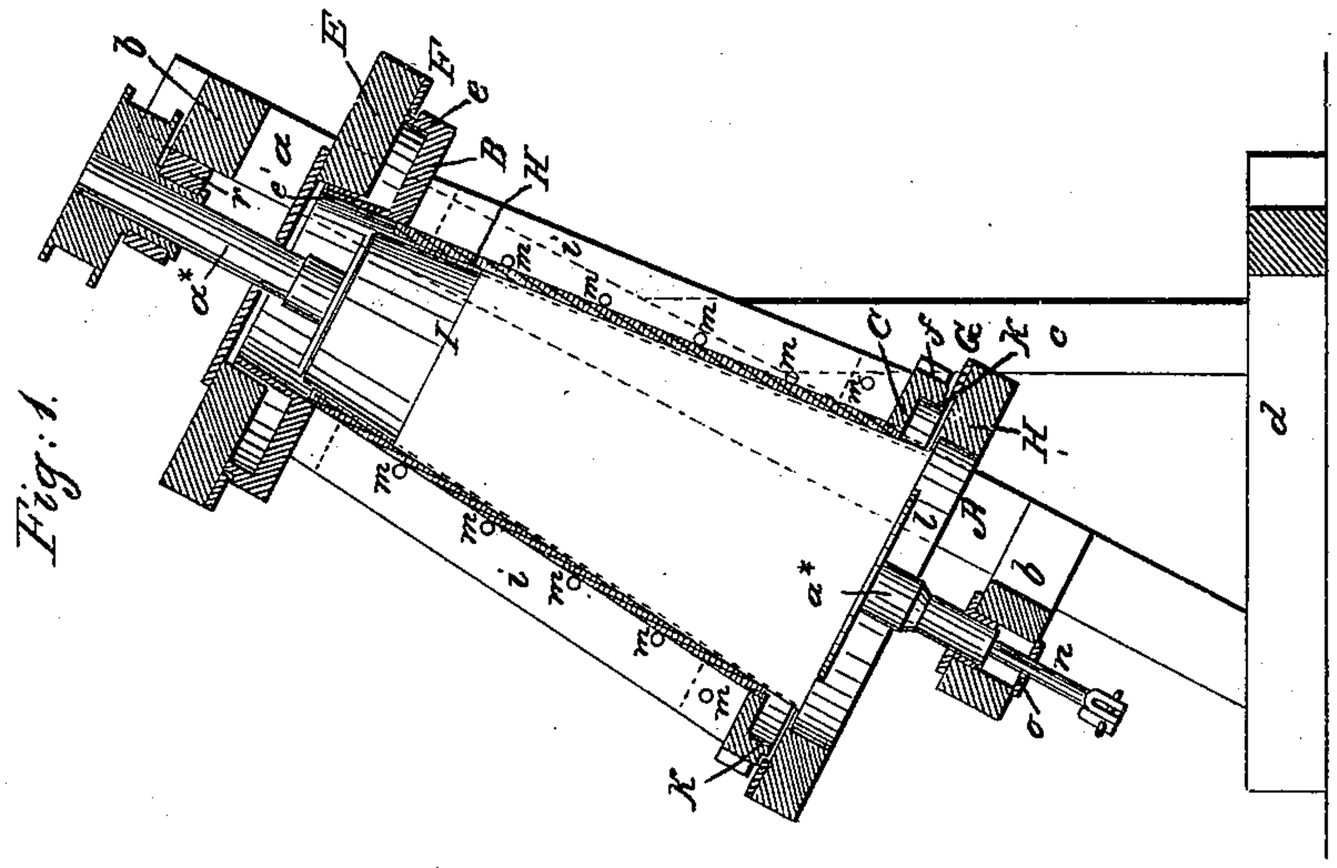


Fig. 1.



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UNITED STATES PATENT OFFICE.

SILAS DODSON, OF BLOOMSBURG, PENNSYLVANIA.

IMPROVED MACHINE FOR POLISHING RICE.

Specification forming part of Letters Patent No. **40,917**, dated December 15, 1863.

To all whom it may concern:

Be it known that I, SILAS DODSON, of Bloomsburg, in the county of Columbia and State of Pennsylvania, have invented a new and Improved Machine for Polishing Rice; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2. Fig. 2 is an elevation of my invention.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to a new and improved machine for polishing rice after the same has been divested of its hulls.

The object of the invention is to obtain a machine of the class specified which will be more efficient in its operation than those previously devised, by admitting of the free discharge of the dust or flour from the screen, so as to prevent the choking or clogging of the same; also, by preventing the wire-cloth of the screen from being bent or getting out of proper shape or form; and, further, by having the polisher arranged so as to be capable of being adjusted and giving the screen a rotary movement as well as the polisher.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents an inclined framing, which is composed of two parallel inclined bars, *a a*, connected by cross-ties *b b*, and braced by uprights *c*, the bars *a a* and uprights *c* being attached to sill-pieces *d d*.

B represents an annular plate, which is provided with two annular upright rims or ledges, *e e'*, one, *e*, at its outer, and the other, *e'*, at its inner edge, (see Fig. 1,) and C represents an annular plate, the outer edge of which is provided with teeth *f*, into which a pinion, *g*, gears, said pinion being on the lower end of a shaft, D, which is fitted in the framing A. At the under surface of the annular plate B there are flanges *h*, between which the upper ends of bars *i* are secured by bolts or other fastenings, and similar flanges, *j*, are at the upper side of the plate C, between which the lower ends of the bars *i* are bolted. The plate C is considerably larger in diameter than the plate B, and hence the bars *i*, when secured to said plates, form a conical frame, as will be seen by referring more particularly to Fig. 2. The inner flange, *e*, of the plate B is fitted within a circular opening made in a plate, E, which is attached to the bars *a a* of the framing A in an inclined position, the outer ledge, *e*, being fitted within an annular opening in a plate, F, which is attached to the under side of the plate E. The plate C has an annular flange, *k*, at its under side, and this flange is fitted within an annular opening in a plate, G, which is attached to the upper surface of a plate, H, the latter, like the plate E, being attached to the bars *a a* and parallel with E. The plate G has a circular opening, *l*, at its center. The bars *i* have a series of wire rings or bands, *m*, attached to their inner surfaces. These rings or bands are fitted in recesses in the inner sides of the bars *i*, so that their inner edges will be flush with the inner surfaces of the bars *i*. (See Fig. 1.)

H is a piece of wire-cloth, which is bent in conical form, and attached to the inner surfaces of the bars *i* and within the rings or bands *m*. This wire-cloth extends the whole length or height of the bars *i* and forms a screen, of which the bars *i* and rings or bands *m* constitute the frame. The wire-cloth screen has an inclined position corresponding to the inclination of the framing A, and the screen is allowed to rotate in consequence of the flange *e'* of the plate B and the flange *k* of the plate C being allowed to turn freely within the annular plates F G. The shaft D of the pinion *g* has its bearings in the plates E H. (See Fig. 2.)

I represents a conical polisher, which may be constructed of wood, covered with felt, buckskin, or other suitable material. The lower end of the shaft $a^{\times}$ of this polisher rests on a rod, *n*, which passes through a guide-plate, *o*, attached to the lower cross-tie, *b*, and the lower end of the rod *u* is attached to a lever, J, which has its fulcrum-pin *p* passing through a pendent rod, *g*, secured to the lower cross-tie, *b*. The upper part of the shaft $a^{\times}$ of the polisher is fitted in a bearing, *r*, which is attached to the upper cross-tie, *b*, and is allowed to slide freely in said bearing. By this arrangement the polisher I may be raised and lowered within the screen H by actuating the lever J. The shaft D of the pinion *g* and the shaft $a^{\times}$ of the polisher I are rotated by sep-

arate belts from a driving-shaft, and the rice, after being properly hulled, is passed into the upper end of the screen and is subject to the necessary rubbing process between the exterior of the polisher and the inner side of the screen H, and is discharged in a perfectly-polished state from the bottom of the screen H. The rice may be subjected to a greater or less pressure within the screen H by adjusting the polisher I higher or lower within it, and the lever *j* may be retained at any desired point within the scope of its movement or adjustment by means of a weight or spring applied to it. The screen may rotate in a reverse direction to the polisher, or both may rotate in the same direction. In the latter case the friction upon the rice would be due to the variation in speed between the polisher and screen.

In consequence of having the screen inclined and arranged so as to rotate, the dust or flour is allowed to escape freely through it, and all clogging and choking of the screen, as in the ordinary upright stationary one, is avoided. The rings or bands *m* keep the screen H in proper form, preventing all "buckling" or indentations being formed in it. The frames of the ordinary screens for this purpose are composed of bars *i* only, no support being between them, and the wire-cloth, owing to expansion and the action of the polisher, will almost invariably bulge out between the bars *i*, so that the latter will form prominences and cause the rice to be more or less broken in passing through the screen. The rings or bands *m* effectually obviate this difficulty.

By arranging the polisher so that it may be raised and lowered the rice may be subjected to a greater or less rubbing and friction, as may be desired.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The employment of the rings *m* in combination with the screen H, and the bars *i*, in the manner and for the purpose herein shown and described.

2. In combination with the inclined adjustable rotating polisher I, giving an independent rotary motion to the inclined screen H, as and for the purpose herein shown and described.

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Witnesses:

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