(Model.) 2 Sheets—Sheet 1.

J. A. FIELD.

CORN MILL.

No. 266,450. Patented Oct. 24, 1882.

Fig. 5

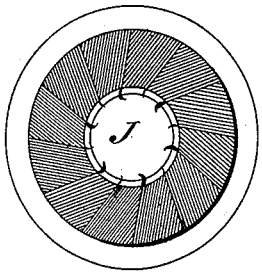


Fig. 3

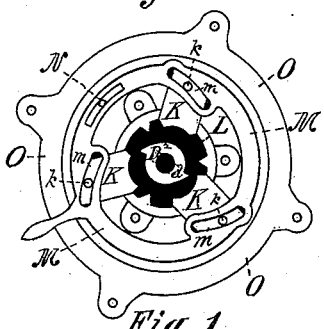


Fig. 4

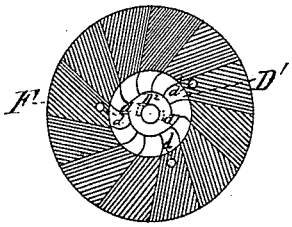


Fig. 1

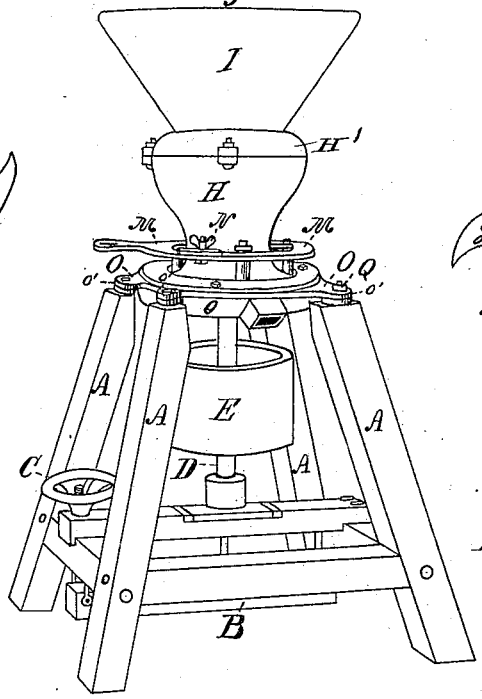


Fig. 7

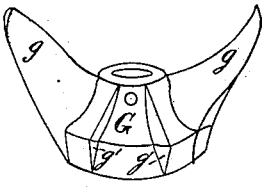


Fig. 8

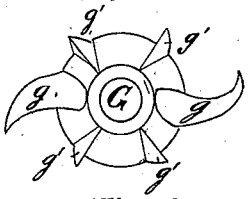


Fig. 9

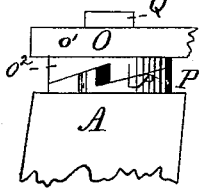


Fig. 2

Fig. 11

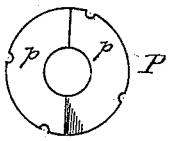


Fig. 6

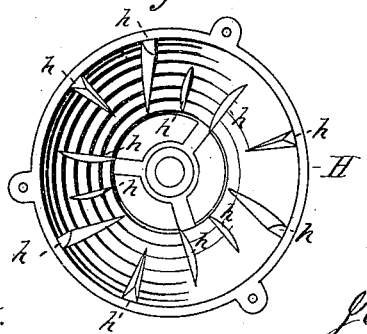
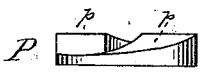


Fig. 10



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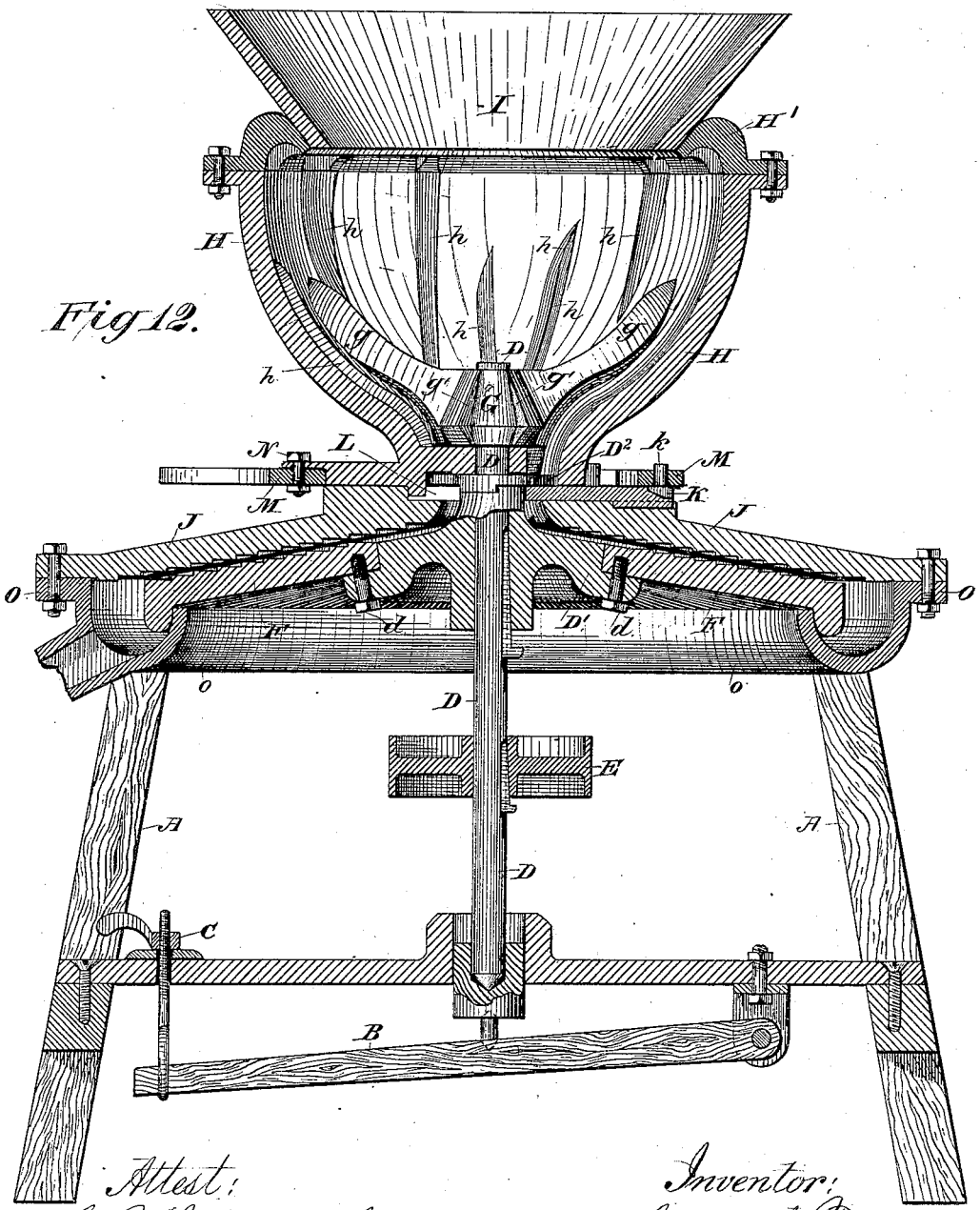
J. A. FIELD.

CORN MILL.

No. 266,450. Patented Oct. 24, 1882.

Fig 12.



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UNITED STATES PATENT OFFICE.

JAMES A. FIELD, OF ST. LOUIS, MISSOURI.

CORN-MILL.

SPECIFICATION forming part of Letters Patent No. 266,450, dated October 24, 1882.

Application filed January 24, 1882. (Model.)

To all whom it may concern:

Be it known that I, JAMES A. FIELD, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Corn-Mills, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

In the drawings, Figure 1 is a perspective view of the mill. Fig. 2 is an axial section of the breaker. Fig. 3 is an enlarged top view of the throat of the mill, showing the feed-adjusting device between the breaker and the grinder. Fig. 4 is an enlarged top view of the lower grinder or runner. Fig. 5 is an enlarged bottom view of the upper or fixed grinder. Fig. 6 is an enlarged top view of the lower part of the breaker-case, with the top part of same and the hopper removed. Fig. 7 is an enlarged side view of the breaker-head, and Fig. 8 a top view of the same. Fig. 9 is an enlarged side view, showing the adjustable attachment of the upper grinder to the frame. Fig. 10 is a side view of one of the adjusting-blocks shown in Fig. 9, and Fig. 11 is a top view of the same. Fig. 12 is a vertical longitudinal section of the mill on a much larger scale than that shown by the other figures.

The frame is shown at A. B is the bridge-tree, one end of which is adjusted, as usual, by a hand-nut, C, on the lighter-screw.

D is the spindle, carrying the driving-pulley E and the runner or lower grinder, F. The runner is preferably made in annular form, and fits a hub, D′, on the spindle, and is secured thereto by bolts *d*, so that it may be removed when worn out and a new one substituted. On the hub D′ are grinding ribs or teeth. The spindle D extends up above the grinders and carries a breaker-head, G, which has curved horns *g* and ribs *g′*. This head is made fast to the spindle, and turns in a case, H, of a turbinate form, having upon its inner side ribs or projections *h*, which, in combination with the projections *g g′*, act to break the corn-ears into pieces so small as to be suitable for feeding to the grinders. The upper part, H′, of the case H is incurved, as shown, to prevent pieces of the broken ears from being thrown out of the case by the action of the breaker.

I is the hopper, secured to the top of the case H. The case H is secured to the top of the upper or fixed grinder, J. Upon the spindle between the runner-hub D′ and the breaker-head is a feed-collar or stirrer, D^2, clutched to the spindle so as to turn with it. This has claw-like projections *d*, which prevent the broken corn from lodging in the throat of the mill. Around the throat are a number of radial slots, in which are adjustable slides K, which are moved inward or outward to lessen or increase the size of the throat L to regulate the quantity of material passing from the breaker to the grinders. These slides are moved inward and outward by a turn plate or ring, M, having oblique slots *m* to receive studs *k* upon the slides. As the ring is turned the slot forces the stud, and with it the slides, simultaneously inward, to decrease the size of the throat, or vice versa, according to the direction in which the ring is turned. The ring is locked in position by a set-screw, N.

The upper grinder is bolted to an annular plate or spider, O, whose lower portion, *o*, is formed into a circular trough to receive the meal that escapes from the periphery of the grinders.

o′ are lugs whose lower sides have spiral inclines o^2, which rest on similar inclines of the upper faces, *p*, of the circular blocks or washers P. The lugs *o′* are secured to the top of the frame-uprights by bolts Q. To adjust the upper runner to the lower one, the bolts Q are loosened, and the incline-blocks P may be turned to raise or lower the lugs upon them.

The breaker-case is made in two parts, to admit of it being cast without the use of a core, which would otherwise be necessary, and which would increase the cost of production.

The operation is as follows: The ears of corn are placed in the hopper, and the lower ears, coming in contact with the breaker-head, descend and are broken up into pieces suitable for feeding to the grinders. These pieces pass down through the throat L. In case the feed through the throat L is too abundant, the ring M is turned to move the slides K inward, or vice versa.

This device forms a very convenient and accurate means of adjusting the feed by contract-

ing the throat-aperture equally on every side, and such adjustment may be made during the running of the mill.

I claim as my invention—

1. The combination of spindle D and breaker-head G, mounted thereon, having horns *g* and ribs *g'*, with case H, having ribs or projections *h*, grinders F J, and throat L intermediate of breaker and grinders, as set forth.

2. The slides K and means for radially adjusting the same to regulate the feed, in combination with and arranged between the breaker and grinders, as set forth.

3. The combination, with the breaking and grinding devices, of the slides K and obliquely-slotted ring M, for the purpose set forth.

JAMES A. FIELD.

Witnesses:
SAML. KNIGHT,
GEO. H. KNIGHT.