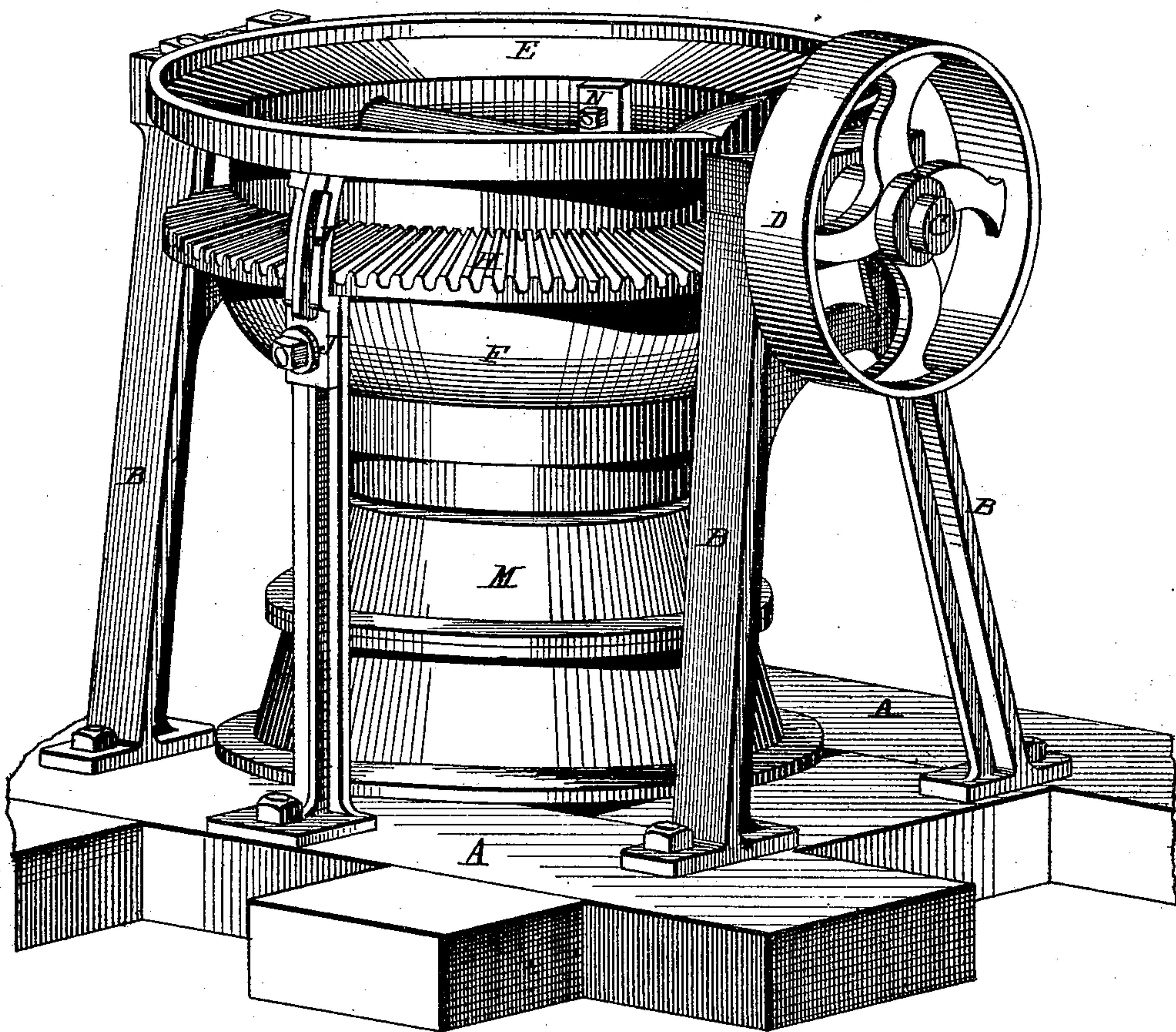


I. A. HEDGES.  
CORN MILL.

No. 179,789.

Patented July 11, 1876.

Fig. 1.



Attest.

Robert Burns.  
Hutchins.

Inventor.

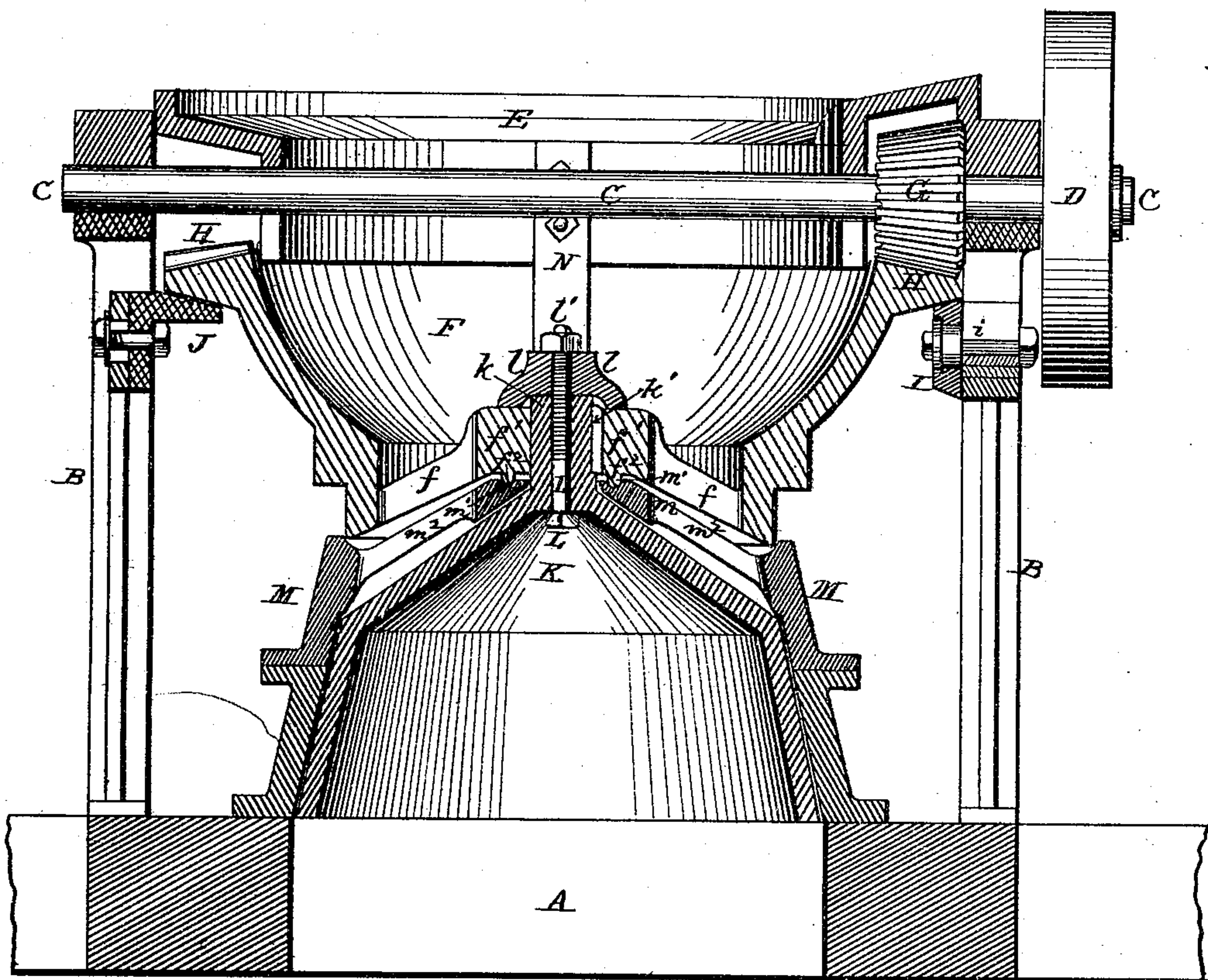
Isaac A. Hedges  
By *Knights*  
*Atty*

I. A. HEDGES.  
CORN MILL.

No. 179,789.

Patented July 11, 1876.

Fig. 2.



Attest.

Robert Burug.  
Notary

Inventor.

Isaac A. Hedges  
By Knight Bros.  
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# UNITED STATES PATENT OFFICE

ISAAC A. HEDGES, OF ST. LOUIS, MISSOURI.

## IMPROVEMENT IN CORN-MILLS.

Specification forming part of Letters Patent No. 179,789, dated July 11, 1876; application filed February 8, 1876.

*To all whom it may concern:*

Be it known that I, ISAAC A. HEDGES, of the city of St. Louis, county of St. Louis, and State of Missouri, have invented a new and useful Improvement in Corn-Mills, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

This is an improvement in the hopper and driving mechanism; and my improvement consists, partly, in the combination of the cone and the lower part of the hopper. The cone has a neck at its apex, which passes up through a hub at the bottom of the lower portion of the hopper, and is keyed and bolted thereto, and the upper part of said portion of the hopper has a toothed rim, engaged by a bevel-pinion upon the driving-shaft. The toothed rim of this portion of the hopper has a smooth beveled under surface, which bears on an anti-friction roller beneath it, and upwardly against the spur-pinion of the main shaft. There are also other bearings for this part of the hopper at points at a distance from the anti-friction roller. The upper part of the hopper is fixed, and secured to its inner side is a depending bar, which extends down the inner surface of the rotating part of the hopper, and agitates the corn therein, so as to cause it to descend through the bottom of the hopper to the grinding part of the mill, and this forms another feature of my invention.

The cone and concave are substantially like those described in my patent dated November 23, 1875, and no novelty is claimed in these parts.

Figure 1 is a perspective view. Fig. 2 is an axial section.

A is the bed of the mill, and B the standing frame. C is a shaft, having journal-bearing in the frame, and carrying a pulley, D, for a driving-belt. The shaft C extends across the upper and fixed part E of the hopper, and carries a bevel-cog pinion, G, which engages a toothed rim, H, of the lower and rotating part F of the hopper. The rim or flange H is smooth at the under side, and has bearing on an anti-friction roller or traveler, I, vertically beneath the cog-pinion G. The arbor of the friction-wheel or traveler is made

vertically adjustable in the frame, said arbor passing through a slot, and being held by a screw-nut. At a distance from the anti-friction roller or traveler I are adjustable bearings J for the rim-flange H, these bearings J being made vertically adjustable, in the same manner as the anti-friction roller I, so as to enable their adjustment to a point just below the surface of the flange H when the mill is running smoothly. This would prevent the rotating part of the hopper from being thrown out of place, and would not be in contact with the periphery at ordinary times. The lower part F of the hopper has radial bars  $f$ , connecting its hub  $f^1$  to the outer part, and its hub has an axial hole, in which fits the neck  $k$  of the cone K. This neck is keyed in by key  $k'$ , or other suitable connection, and is sustained also by a bolt, L, passing axially through the neck, and through a cup-formed washer,  $l$ , above which is a nut,  $l'$ , screwing on the upper end of the bolt. The part F of the hopper has an annular bearing-rib,  $f^2$ , resting in an annular bearing-groove,  $m^1$ , at the top  $m$  of the concave casting M. This bearing is similar to that described in my patent of November 23, before alluded to, and no novelty is claimed for the same in this application. Said bearing forms a steady support for the cone in the concave, and also forms the foot-support for the rotating part of the hopper.  $m^2$  are bars, connecting the top  $m$  with the outer part of casting M, and between these bars are spaces, between which the corn falls. N is a bar, secured to the fixed part E of the hopper, and which descends into the part F, and is curved, so as to be parallel with the inner surface of F. The purpose of this bar is to agitate the corn in the hopper and prevent it from becoming lodged against the sides of the rotating part F, the bar N standing near to the surface, and, besides dislodging the corn from the surface, prevents its rotation with the hopper, and, from this, acquiring a centrifugal force that would tend to prevent its descent between the bars  $f$ .

I claim—

1. The combination of cone K, rotating part of hopper F, toothed rim H, and driving-wheel D, constructed and combined substantially as set forth.

2. The combination, with the cone K and hopper-bottom F, firmly attached together, of the bearing-wheel and blocks I and J, substantially as set forth.

3. The combination, with the cone K and hopper-bottom F, firmly attached together, of the annular bearing  $m^1$ , substantially as set forth.

4. The combination of the fixed part E and rotating part F of the hopper and the agitating-bar N, substantially as set forth.

ISAAC A. HEDGES.

Witnesses:

SAML. KNIGHT,  
H. HUTCHINS.