

J. CIHALEWSKI.
MILL.

APPLICATION FILED JAN. 23, 1905.

4 SHEETS—SHEET 1.

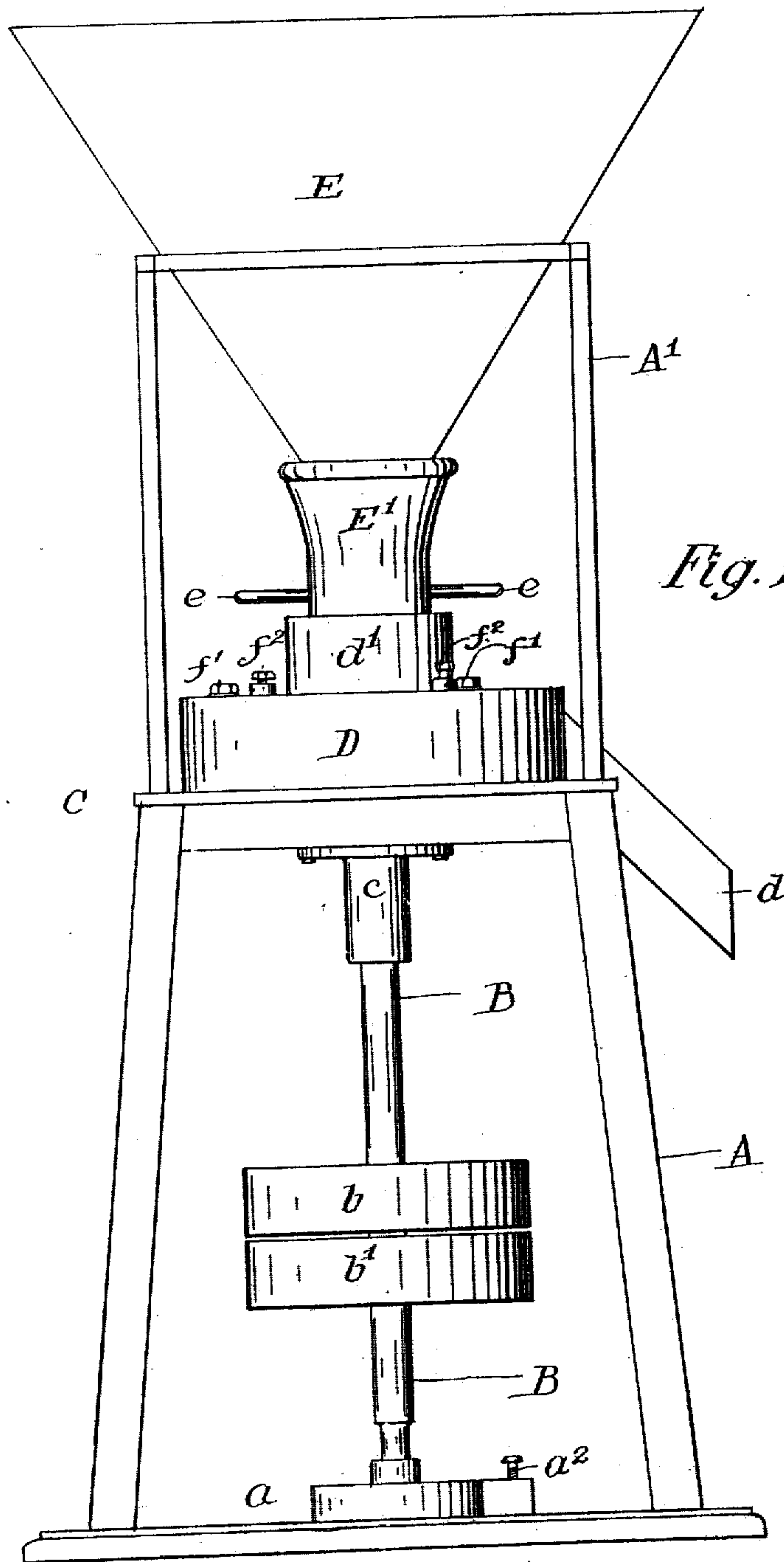


Fig. 1.

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No. 814,672.

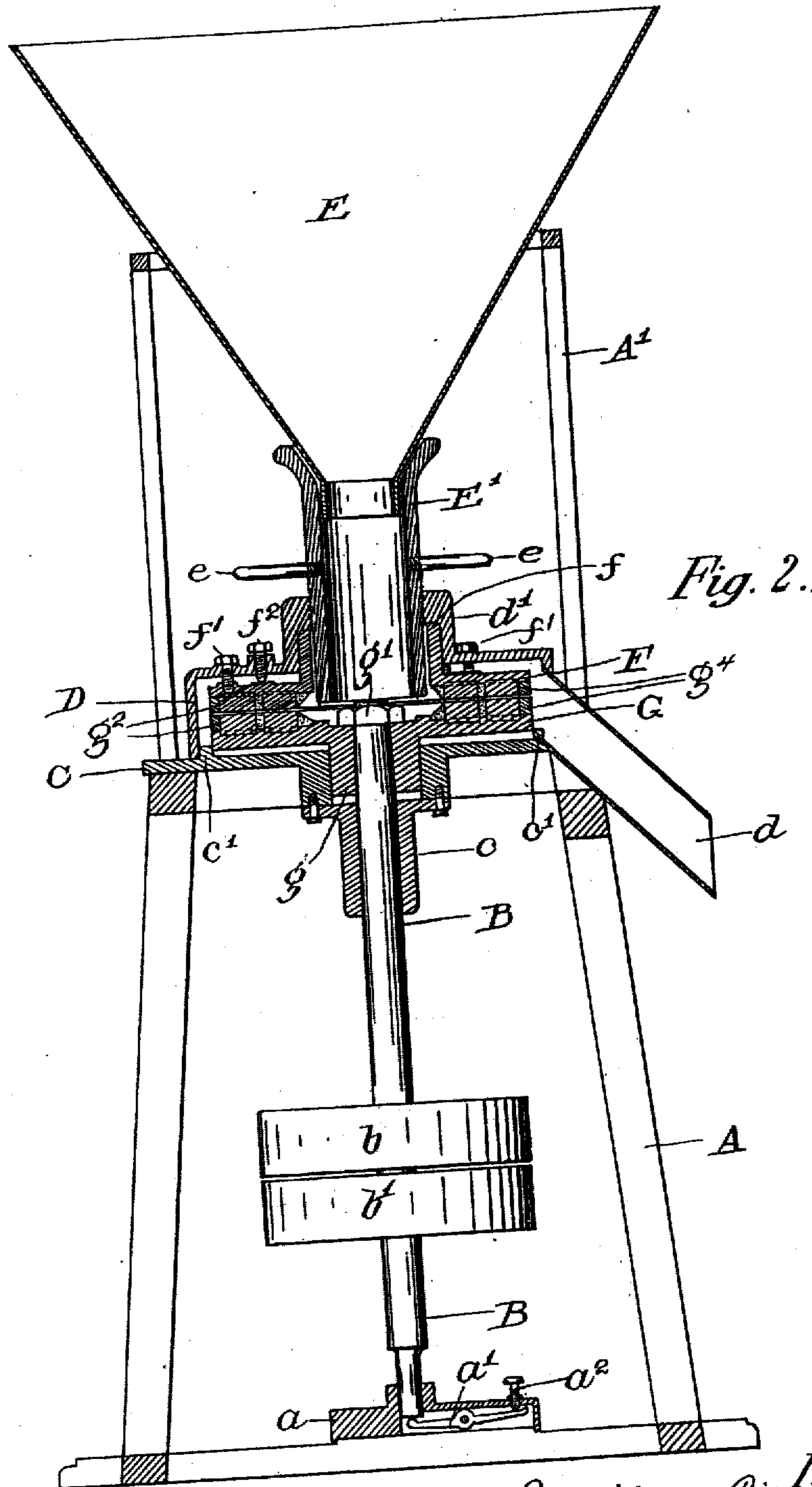
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4 SHEETS—SHEET 2.



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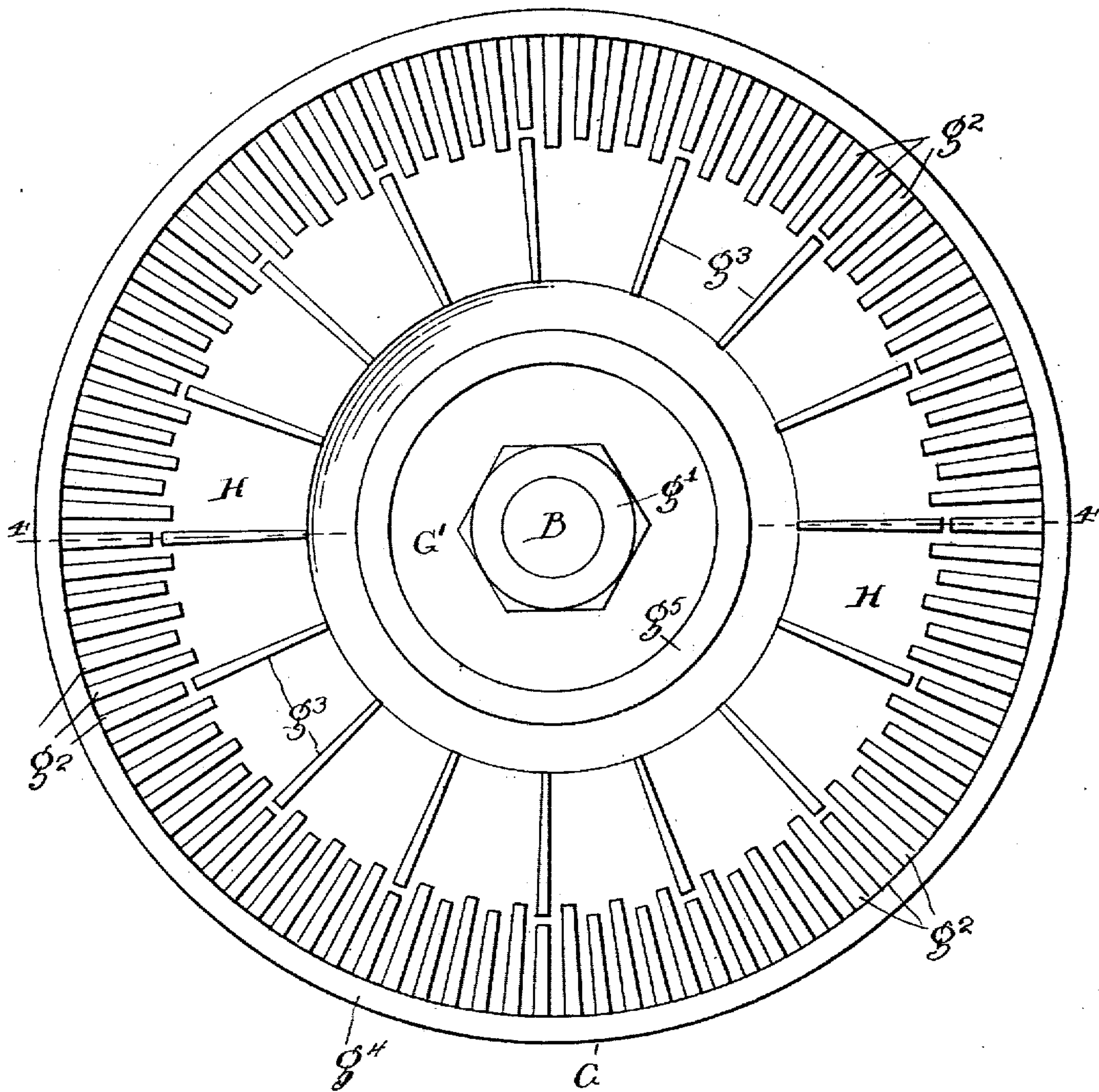
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4 SHEETS—SHEET 3.

Fig. 3.



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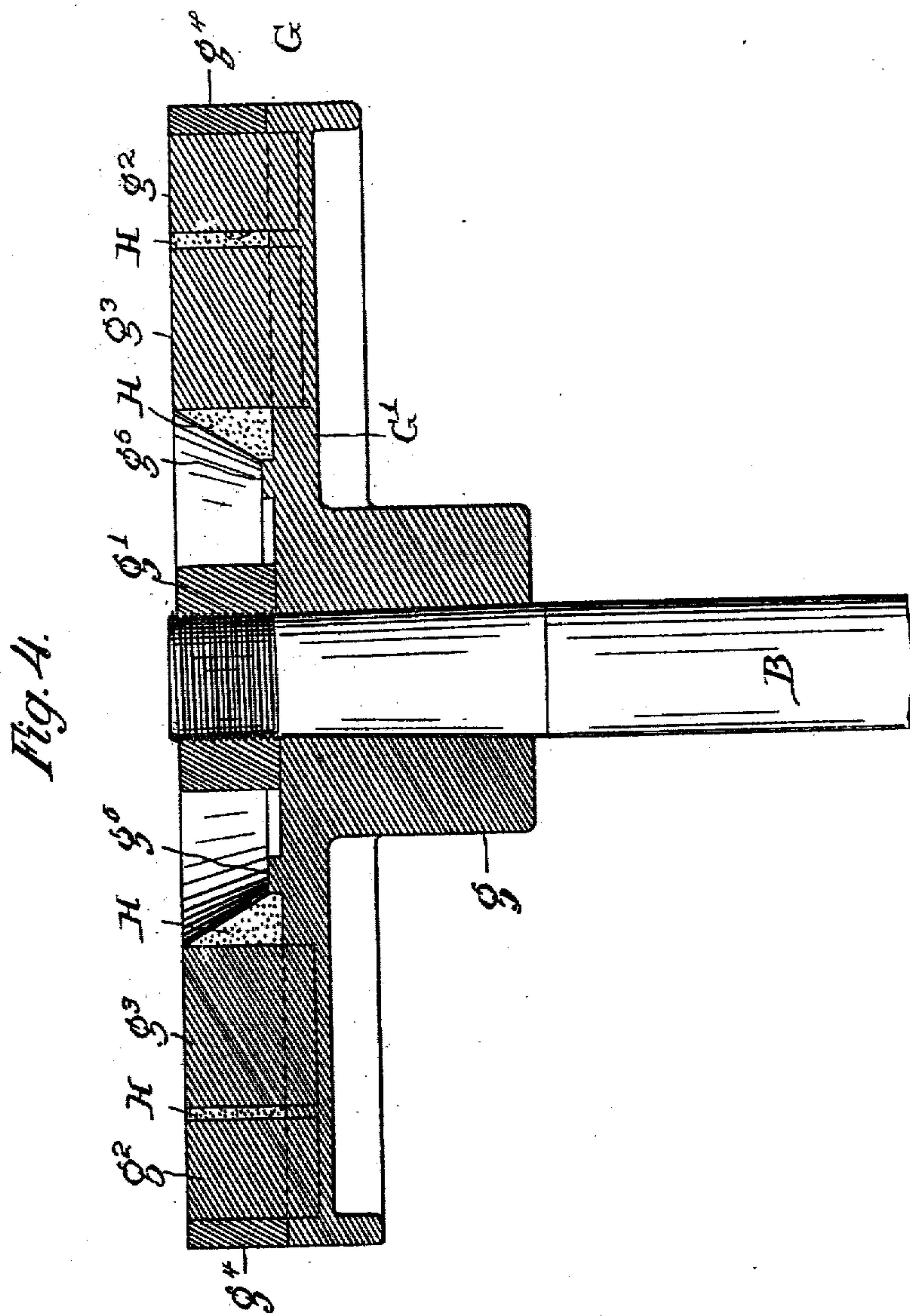
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

JULIJAN CIHALEWSKI, OF CHICAGO, ILLINOIS, ASSIGNOR TO J. CIHALEWSKI FARM HILL MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

MILL.

No. 814,672.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed January 23, 1905. Serial No. 242,250.

To all whom it may concern:

Be it known that I, JULIJAN CIHALEWSKI, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mills, of which the following is a specification.

My invention relates to certain new and useful improvements in mills; and its object is to produce a device of this class which shall have certain advantages which will appear more fully and at large in the course of this specification.

To this end my invention consists in certain novel features which are shown in the accompanying drawings as embodied in my preferred form of construction.

In the aforesaid drawings, Figure 1 is a side view of a mill embodying my invention. Fig. 2 is a vertical diametrical section through the same. Fig. 3 is a plan view of one of the millstones, and Fig. 4 is a vertical diametrical section taken in the line 4 4 of Fig. 3.

Referring first to Figs. 1 and 2, A represents the framework of the mill, upon the base of which is secured a bracket *a*, adapted to receive the lower end of the driving-shaft B. A lever *a'* is pivoted in the bracket, one arm of which supports the lower end of the shaft, the other bearing against a set-screw *a²* in the bracket *a*. By turning the set-screw the shaft may be raised or lowered to regulate the coarseness or fineness of the ground material. Tight and loose pulleys *b* and *b'* are mounted upon the shaft B, by means of which the shaft may be belted to any suitable source of power. The upper end of the shaft is journaled in a bearing *c*, secured upon the lower face of a plate C, supported upon the top of the frame A, said plate forming part of the casing of the mill proper. A hood D rests upon the plate C and completes the casing. This hood fits tightly upon an annular flange *c'*, extending up from the plate C to prevent leakage at this place. A spout *d* opens out from the casing for the discharge of the ground material. Upon the plate C is a framework A', which supports a hopper E, the lower end of which empties into a feed-regulating chute E', threaded in a neck *d'*, extending up from the hood D. Handles *e*

are secured upon this regulating-chute by means of which it may be turned in the neck to raise or lower it. Within the casing formed by the hood D and plate C are the millstones F G, the upper millstone F being the stationary one and the lower one, G, the rotatable one. The upper millstone is formed with a flange *f*, seated in the neck *d'* of the hood D, and is carried by set-screws *f'*, which extend through the hood and are accessible from without to level up the upper millstone. To furnish more delicate means for this adjustment, other set-screws *f²* are provided in the hood which bear directly upon the millstone. The lower millstone is mounted upon the shaft B by means of a flange *g*, and a nut *g'* is threaded upon the upper end of the shaft to clamp the millstone thereupon. The millstone G is made to fit within the flange *c'* of the plate C, so that in the vertical adjustment of this millstone no material is liable to enter the space below the same.

Referring now to Figs. 3 and 4, which illustrate the preferred form of millstone used in this construction, it will be seen that it consists in a flat plate G', provided with a series of radially-extending blades *g²* *g³*. A binding-ring *g⁴* is placed upon the plate G' outside of the blades *g²*, the object of which will appear below. An annular flange *g⁵* is formed upon the plate G' within the inner margin of the blades *g²*, and the space between the ring *g⁴* and the flange *g⁵*, and between the blades is filled in with a hard substance H—as, for instance, stone or artificial stone, such as concrete, cement, or the like. The blades are thus embedded in the stone substance, their upper surfaces only being exposed. In practice the blades form ridges, while the surface of the stone between the blades forms the furrows, which are necessary in devices of this kind. The inner edge of this stone material flares from the edge of the flange *g⁵* to the inner upper corners of the blades *g²*, so as to provide a hopper-like entrance to the space between the millstones to direct the grain to be ground toward the grinding-surfaces of the millstones.

The construction of the upper stone is practically the same as the lower one, only difference being that it is arranged supported by the hood, whereas the

one is arranged to be supported upon the shaft. The construction of the grinding-faces is just alike.

In preparing the millstones the space between the blades and ring is filled up with the stone material flush with the tops of the blades and ring; but being somewhat softer than the metal blades and ring it wears away more rapidly than the metal parts, so that after the stone has been used a very short while the blades become ridges upon the surface of the stone, whereby the effectiveness thereof is greatly facilitated. It should be noticed that the blades g^3 are spaced farther apart than the peripheral blades g^2 , thereby leaving the furrows between them wider near the center than at the circumference. This facilitates the feed of the material through the grinding devices.

To regulate the feed to the millstones from the hopper, the feed-chute E' may be raised or lowered, thereby increasing or decreasing the opening between it and the lower millstone. The upper stationary millstone F is leveled up by allowing it to rest upon the lower millstone, then turning the set-screws $f' f^2$, after which the lower millstone can be lowered as much as is desired by the set-screw a^2 .

In the operation of the mill the grain to be ground is dumped into the hopper E and runs through the feed-chute into the annular space in the center of the millstones, from whence it runs out between them where it is ground, after which it falls into the casing

and eventually discharges out through the spout d .

I have described the filling material as consisting either of natural stone or artificially-made stone, and I wish it to be understood that in the claim this refers to any hard substance which, however, is not as hard as the blades, so that in the operation of the device this hard substance will wear away somewhat more rapidly than the blades, so as to leave furrows and ridges in the grinding-faces of the millstones.

I realize that considerable variation is possible in the details of this construction without departing from the spirit of the invention, and I therefore do not intend to limit myself to the specific form herein shown and described.

I claim as new and desire to secure by Letters Patent—

In a device of the class described, the combination with a base-plate having an annular rib upon its upper face, of a hood fitted upon said rib and extending up from the base-plate, a stationary millstone adjustably supported by said hood and a rotatably-mounted millstone fitting the inner edge of said rib.

In witness whereof I have signed the above application for Letters Patent, at Chicago, in the county of Cook and State of Illinois, this 21st day of January, A. D. 1905.

JULIJAN CIHALEWSKI.

Witnesses:

CHAS. O. SHERVEY,
K. M. CORNWALL.