

(No Model.)

2 Sheets—Sheet 1.

O. H. TITUS.  
HOMINY MILL.

No. 489,723.

Patented Jan. 10, 1893.

FIG. 1.

FIG. 7.

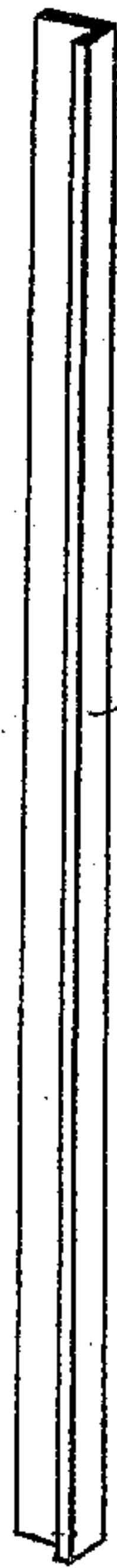
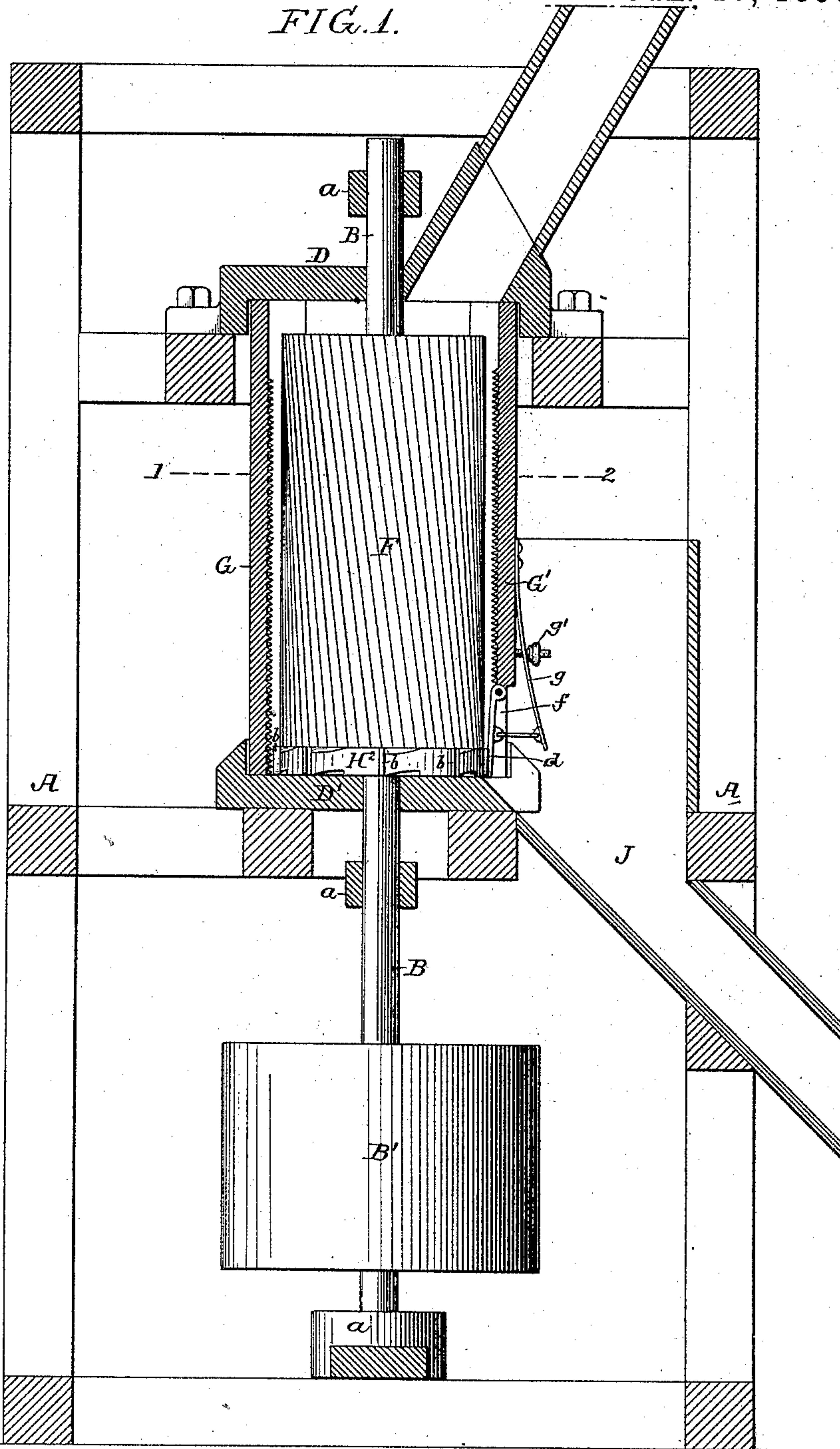
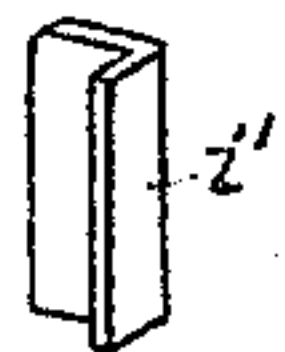


FIG. 8.



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2 Sheets—Sheet 2.

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FIG. 2.

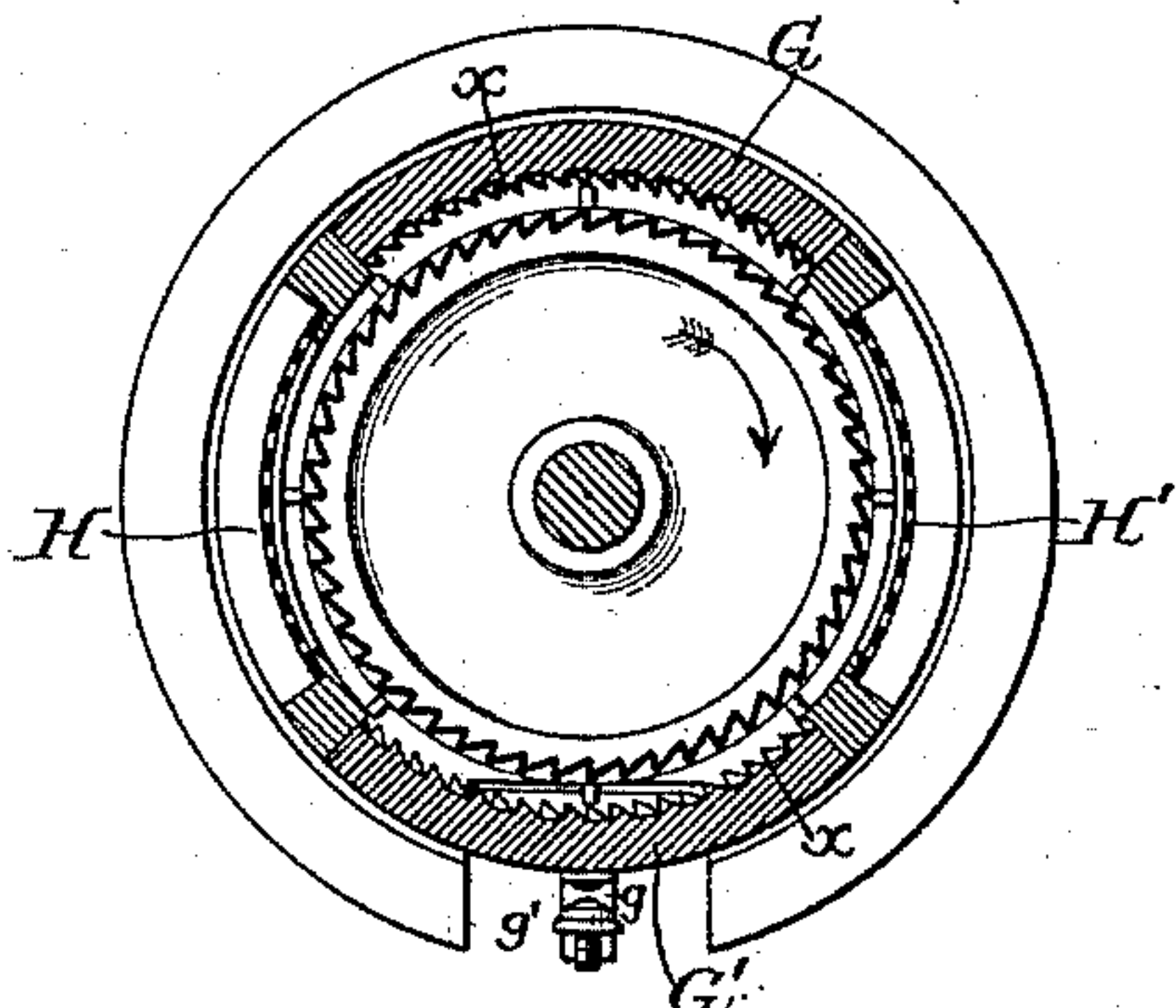


FIG. 3.

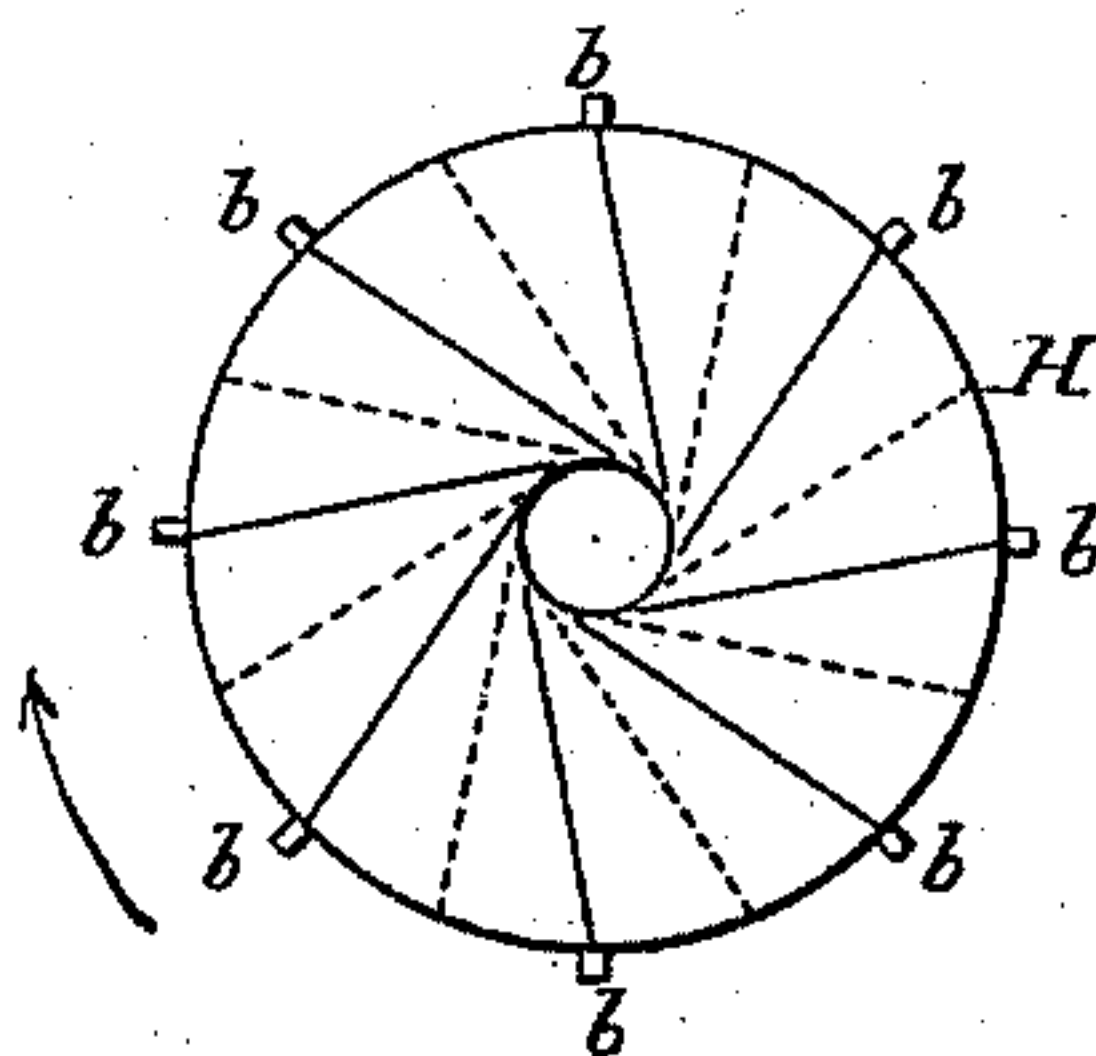


FIG. 5.

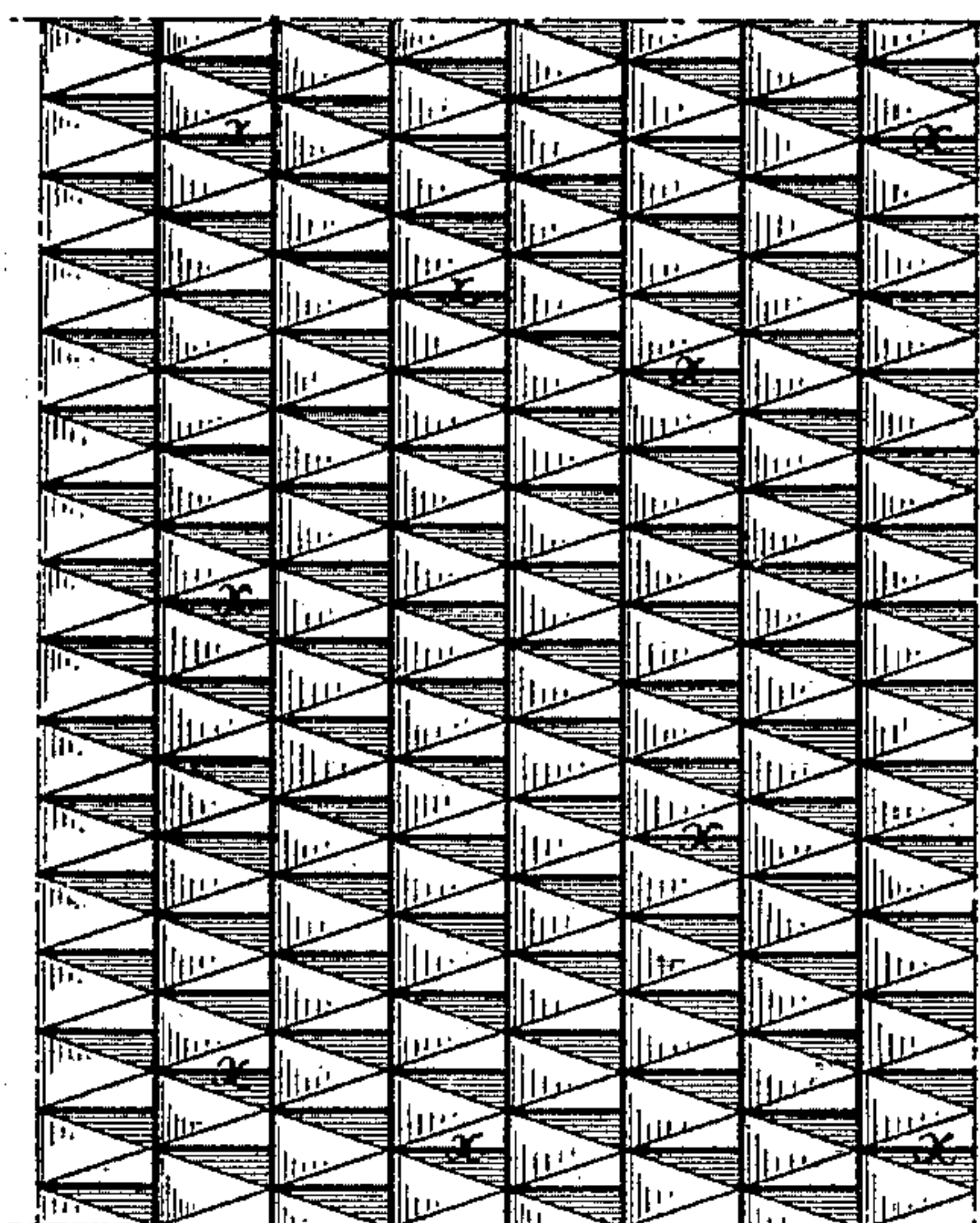


FIG. 4.

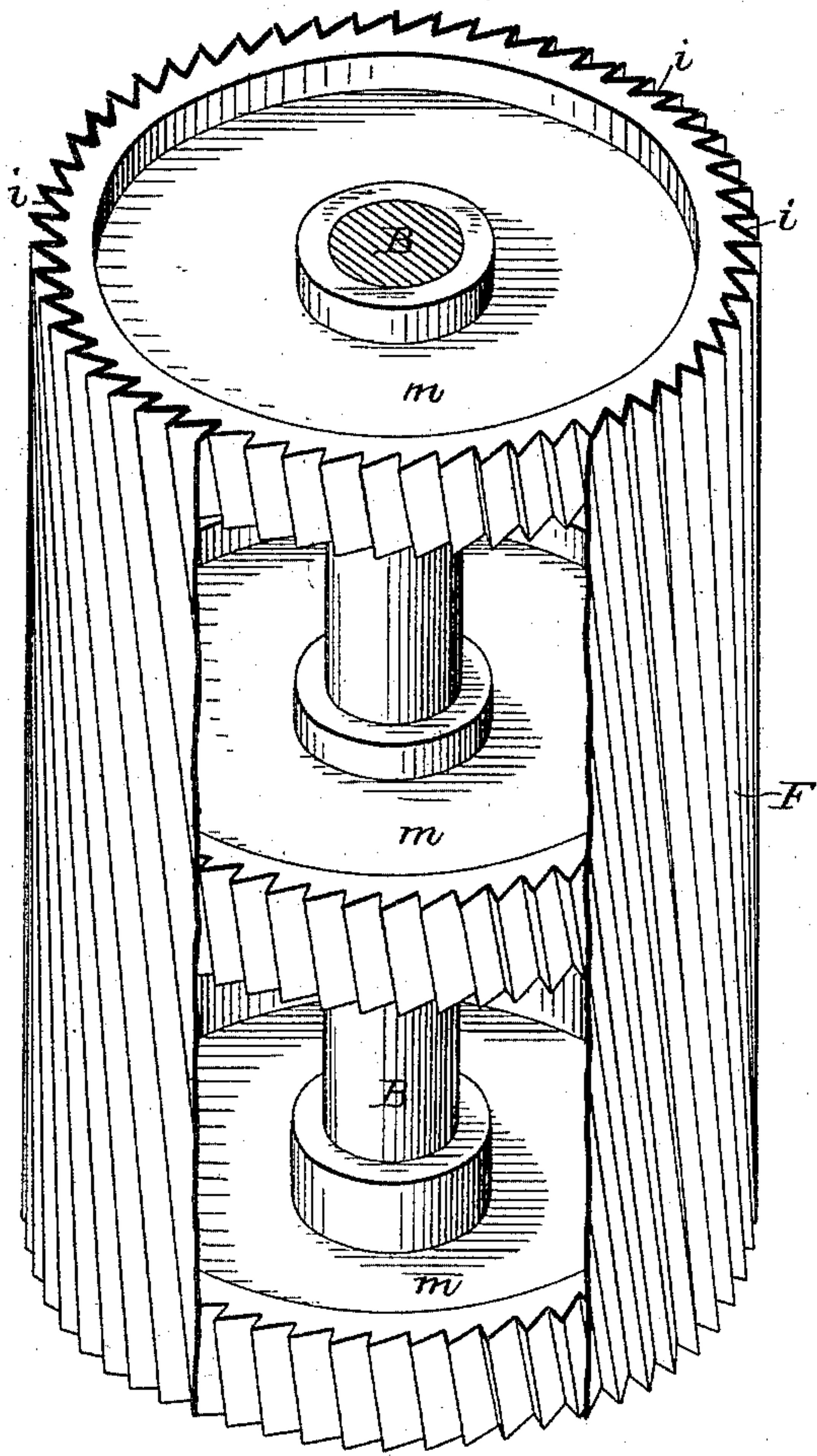
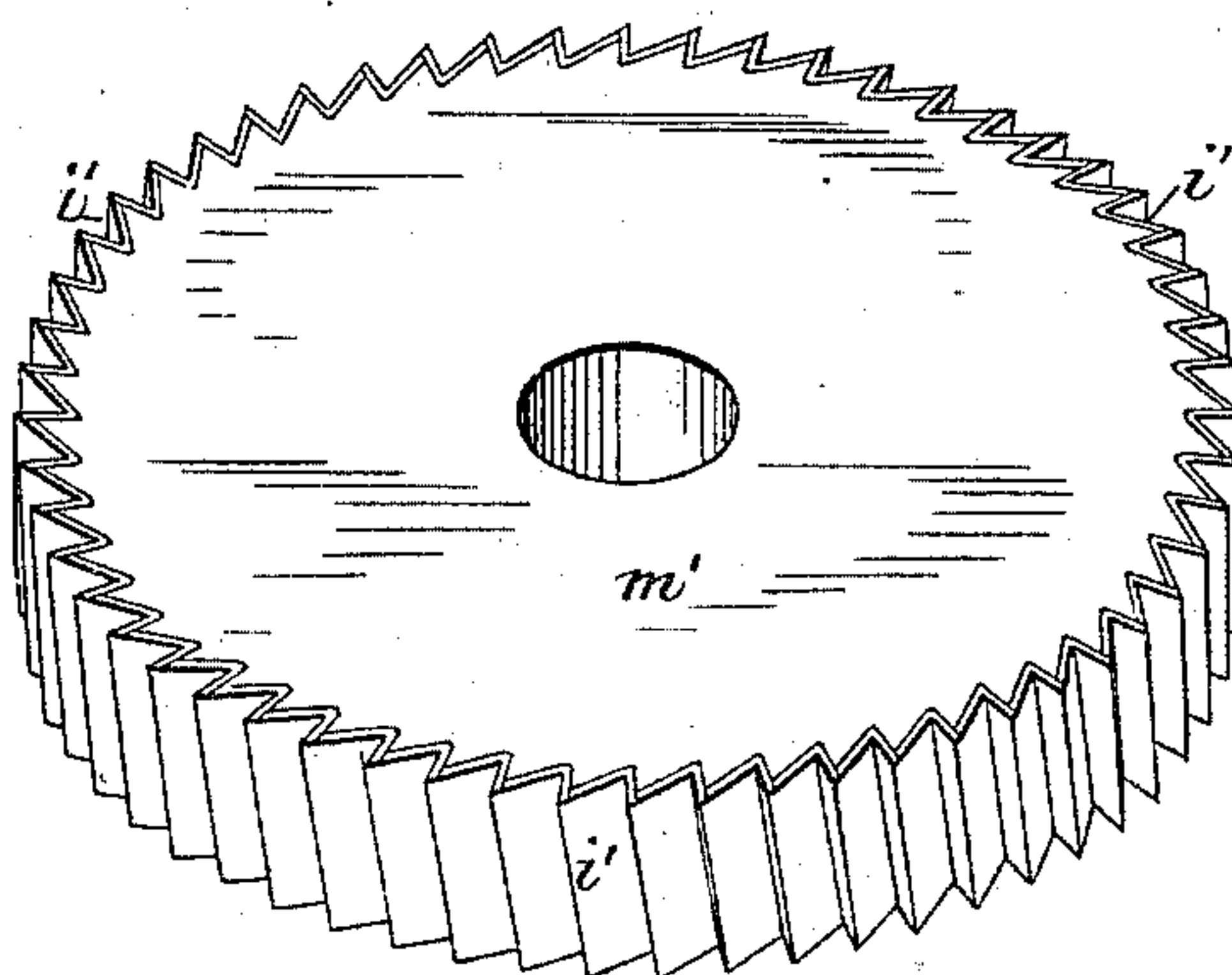


FIG. 6.



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# UNITED STATES PATENT OFFICE.

ODEON H. TITUS, OF WILMINGTON, DELAWARE.

## HOMINY-MILL.

SPECIFICATION forming part of Letters Patent No. 489,723, dated January 10, 1893.

Application filed August 13, 1892. Serial No. 442,986. (No model.)

*To all whom it may concern:*

Be it known that I, ODEON H. TITUS, a citizen of the United States, and a resident of Wilmington, Delaware, have invented certain  
5 Improvements in Hominy-Mills, of which the following is a specification.

The object of my invention is to so construct a hominy mill as to provide for the rapid and complete cracking of the grains of  
10 corn and the thorough removal of the husks and germs so that the hominy grains delivered from the mill will be in perfect condition. This object I attain in the manner hereinafter set forth, reference being had to the  
15 accompanying drawings in which—

Figure 1, is a vertical sectional view of a hominy mill constructed in accordance with my invention; Fig. 2, is a sectional plan view of the same on the line 1—2, Fig. 1; Fig. 3, is  
20 a plan view of the disk at the base of the cylinder; Fig. 4, is an enlarged perspective view of the grinding cylinder with some of the blades of the same removed; Fig. 5, is a face view on an enlarged scale of part of one of  
25 the grinding concaves; Fig. 6, is a perspective view illustrating a modification in the construction of the grinding cylinder, and Figs. 7 and 8 are detached views of angle bars, such as are used to form the working surface  
30 of the cylinder.

In Fig. 1 A represents a fixed upright frame having suitable bearings *a* in which is mounted an upright shaft B, which passes through the top and bottom portions D D' of the shell  
35 of the mill and carries the grinding cylinder F, the lower portion of the shaft being provided with a pulley B' for the reception of the belt whereby it is driven.

The shell of the mill comprises, in the present instance, four concaves or segments G G' and H and H'; the segments H H' consisting of panels of perforated sheet metal, wire gauze or the like, and the segments G G' being provided on their inner faces with facets  
40 *x*, each of these facets, in the preferred form, being in the shape of half of a pyramid laid on its side the center line of one horizontal row of these facets being midway between the center lines of the adjoining rows so that  
45 the apices of one vertical row of facets occupy positions at the points of junction of the bases of the facets of the row in advance,

the points of the pyramid being in the direction from which the grain under the action of the ribbed cylinder F approaches the concave, 55 so that each facet serves to act upon the grain of corn to split the same into halves and, owing to the disposition of the facets, a grain which escapes one facet is directed thereby onto the point of a facet of the succeeding 60 vertical row to be split thereby, in other words there is in advance of the point of each facet, a pocket or recess into which a grain of corn can enter so as to be carried forwardly 65 squarely onto the facet, the central ridge or fin of which acts with a wedge-like or splitting effect upon the grain, owing to the fact that it is in a plane at right angles to the longitudinal line of the cylinder and hence directly in the path of the grains carried around 70 by said cylinder.

The cylinder F is provided with ribs or teeth abrupt on the front faces and inclined on the back, these ribs or teeth serving to carry the grains of corn around within the 75 shell of the mill and to press or throw them against the faceted faces of the concaves G and G' and against the perforated concaves H and H' the effect of which is not only to split the grains of corn into halves but also 80 to rub from them the enveloping husk or cuticle and to separate the germs, a large proportion of the meal and fine hulls resulting from this treatment escaping through the perforations of the concaves H and H'. The 85 ribs of the cylinder F are inclined from top to bottom, the pitch being rearward so that the tendency of the cylinder is to feed the grain downward within the mill, and immediately beneath the ribbed cylinder F is a 90 disk H<sup>2</sup> secured to and rotating with the shaft B, said disk being furrowed both on its upper and lower faces so that a disk can be used in connection with a shaft running either to the right or to the left, the disk being reversed 95 to change it from a right hand run to a left hand run. The function of the furrows is to throw outward any grains which may find their way between the disk and the bottom of the mill casing, the furrows on the under 100 side of the disk being disposed in respect to the direction of rotation as shown in Fig. 3. The disk H<sup>2</sup> has also, around the periphery of the same, a series of projecting ribs *b* which



tend to throw the grain outward toward a discharge valve or flap *d* which closes an opening *f* in the lower portion of the faceted concave *G'*, this flap being acted upon by a spring *g*, the tension of which can be regulated by a thumb nut *g'* so that when the pressure of the grains within the mill exceeds the pressure of the spring the flap will yield and permit the grains to escape into the hopper *J*, and after delivery from the latter, they are subjected to a winnowing operation in order to separate from the hominy the fine meal, grits and germs which have not been delivered through the perforated concaves *H* and *H'* of the mill casing.

The cylinder *F* may consist of a solid or hollow cylinder having its surface provided with the desired teeth or ribs, but, as the production of a cylinder of this character with the desired hardened surface would be an expensive operation, I prefer to build up the cylinder by securing a series of angle bars *i* of hardened steel to a series of rings or disks *m* suitably notched in their peripheries for the reception of said angle bars, which are so constructed that the abrupt portion of one bar overlaps the inclined portion of the succeeding bar around the entire cylinder and thus provides at comparative slight expense, a cylinder presenting hardened ribs or teeth having the desired pitch from top to bottom of the cylinder. The cylinder may, however, be built up of a series of rings *m'* placed one above another upon the shaft *B* and properly secured to said shaft, these rings being likewise notched at their peripheries and provided with a hardened casing of short angle bars *i'* as shown for instance in Fig. 6.

Having thus described my invention I claim and desire to secure by Letters Patent:—

1. A hominy mill in which a rotating cylinder is combined with a shell having concaves with facets each representing a section of a pyramid, and having one beveled face and one abrupt face substantially as specified.

2. A hominy mill in which a ribbed and rotating cylinder is combined with a shell having concaves with facets each representing a section of a pyramid and having one beveled face and one abrupt face the apex of the beveled face of the facet being toward the advancing ribs of the cylinder, substantially as specified.

3. A hominy mill in which a rotating cylinder is combined with a shell or casing having concaves provided with vertical and horizontal rows of pyramidal facets staggered or offset in respect to each other, substantially as described.

4. A hominy mill in which a rotating cyl-

inder is combined with a shell or casing having concaves with facets each representing a section of a pyramid, the central ridge or fin of the beveled front face of each facet being in a plane at right angles to the longitudinal line of the cylinder, substantially as specified.

5. A hominy mill in which an outer casing having concaves provided with pyramidal facets is combined with a rotating cylinder having ribs or teeth abrupt on the forward faces and inclined on the rear faces, the abrupt faces of the teeth moving toward the apices or points of the facets of the concaves, substantially as specified.

6. The within described cylinder for a hominy mill, the same consisting of a body portion having secured thereupon bars presenting successive faces at reverse angles, said bars abutting against each other so as to form a continuous ribbed working surface for the cylinder, substantially as specified.

7. The within described cylinder for hominy mills, the same consisting of a body portion having secured thereupon angle bars each having an abrupt portion and an inclined portion, the abrupt portion of each bar overlapping the inclined portion of the succeeding bar, substantially as specified.

8. The within described cylinder for hominy mills, the same consisting of a skeleton or hollow body composed of a series of notched rings or disks and bars secured to said notched rings or disks, and presenting successive faces at reverse angles, said bars abutting against each other so as to form a continuous ribbed working surface for the cylinder, substantially as specified.

9. The combination of the shell of the mill having a yielding delivery flap at the lower portion with the cylinder having at the bottom a disk with projecting peripheral ribs or vanes, substantially as specified.

10. The combination of the shell of the mill with the cylinder having at the bottom a disk furrowed on the under surface so as to throw outward any grains which may gain access thereto, substantially as specified.

11. The combination of the shell of the mill with the cylinder having at the bottom a disk furrowed upon both its upper and lower surfaces, the furrows of one surface being in a reverse direction of those of the other surface, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ODEON H. TITUS.

Witnesses:

THOS. MCCOMB,

FREDERICK W. NEUTZE.