

(No Model.)

J. BOEHNLEIN.
MILLSTONE DRESS.

No. 407,326.

Patented July 23, 1889.

FIG. 1.

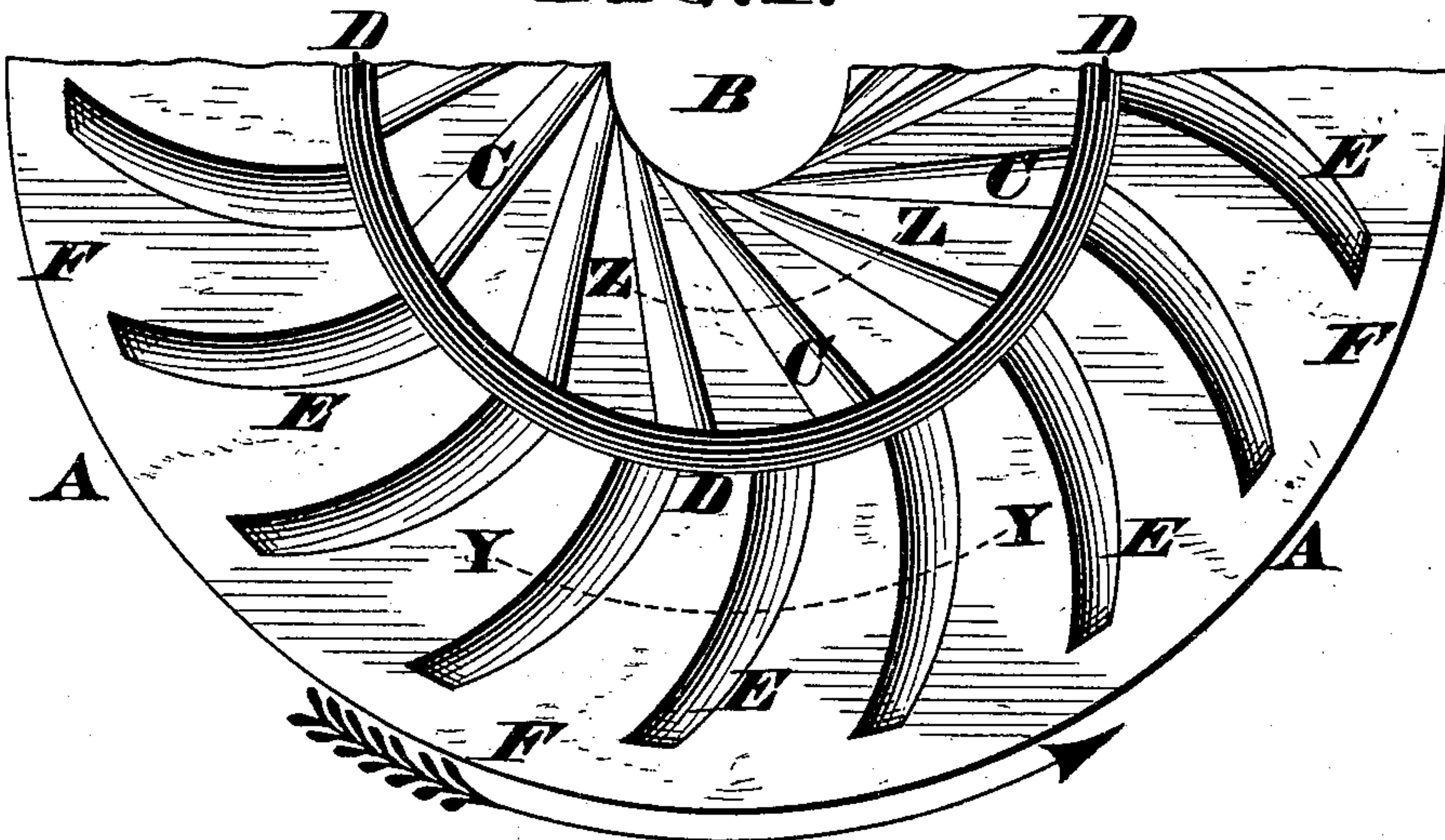


FIG. 2.

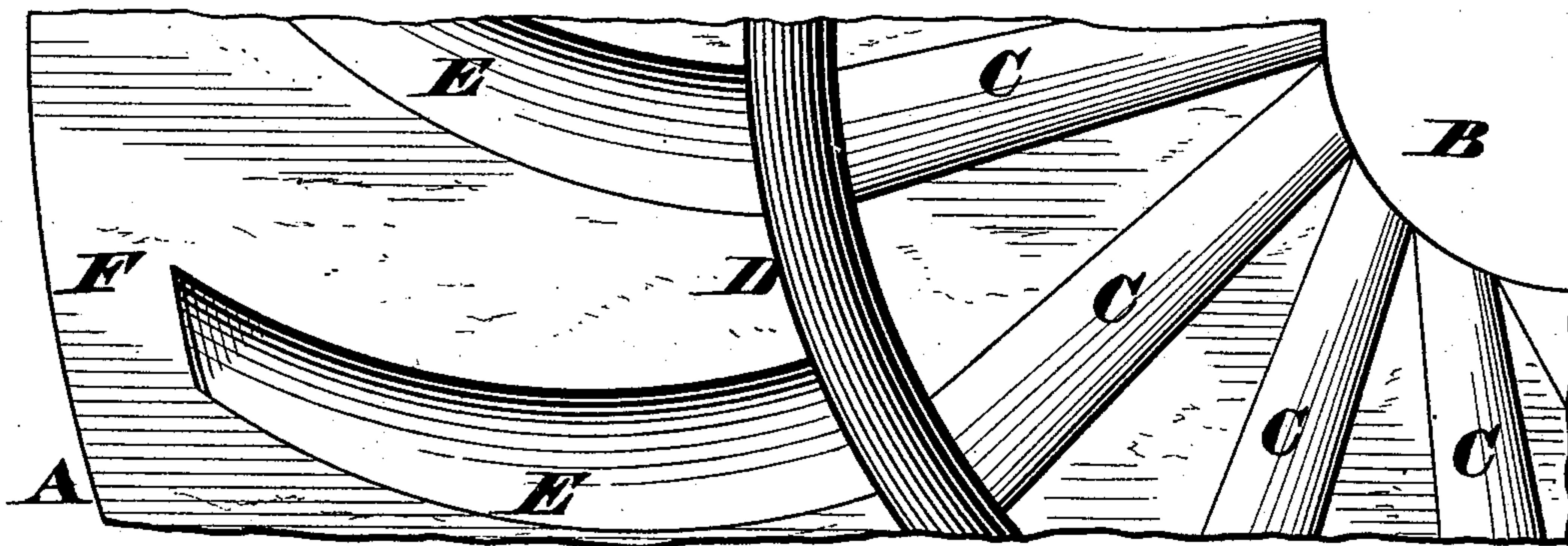


FIG. 3.

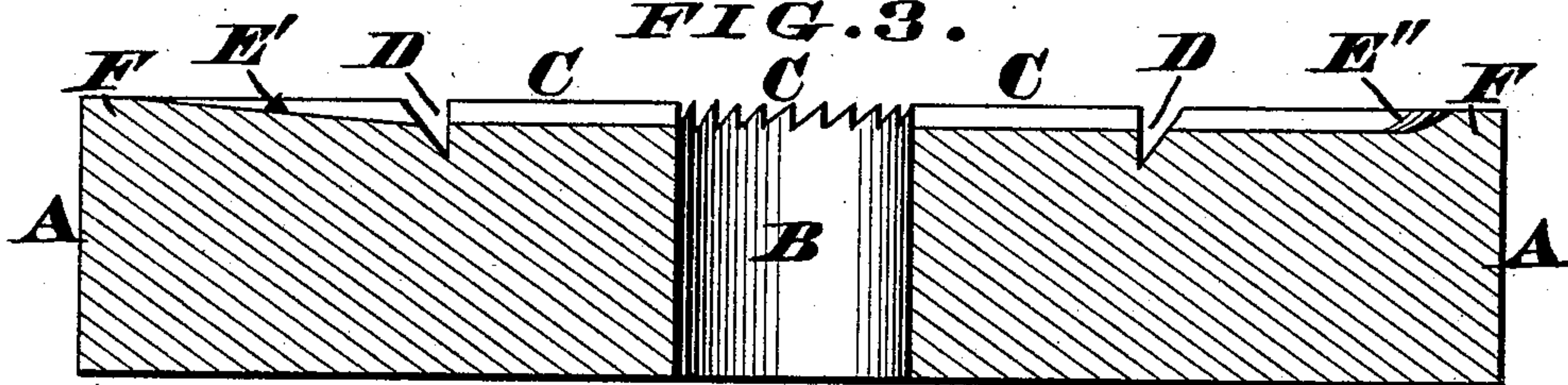
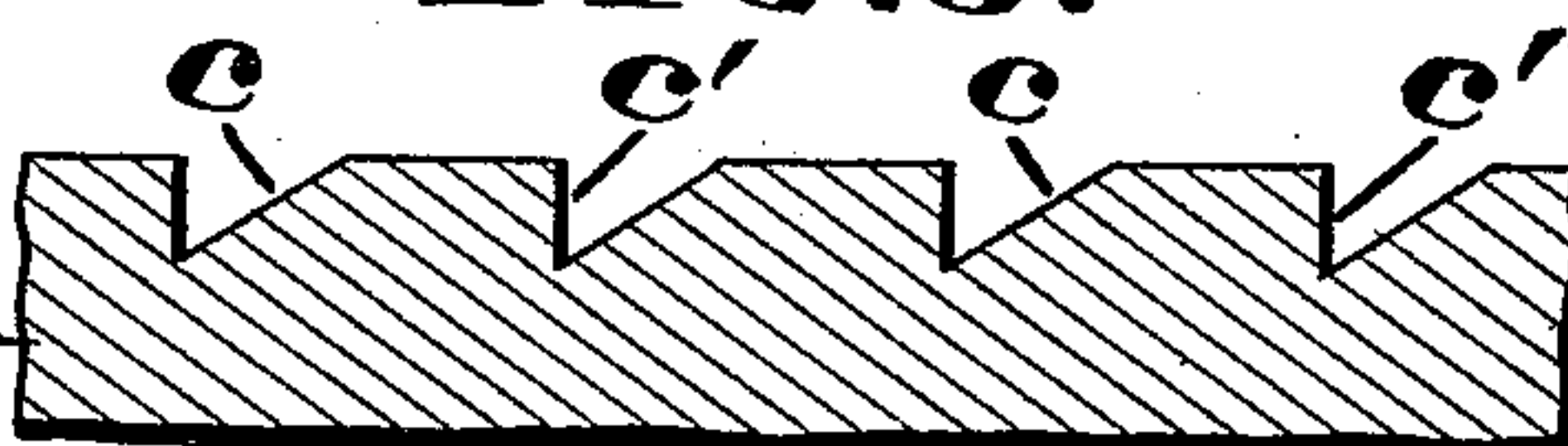


FIG. 4.



FIG. 5.



Attest.
J. W. Boehnlein.
S. S. Carpenter.

Inventor.
Joseph Boehnlein.
By James H. Layman.
Atty.

UNITED STATES PATENT OFFICE.

JOSEPH BOEHNLEIN, OF CINCINNATI, OHIO.

MILLSTONE-DRESS.

SPECIFICATION forming part of Letters Patent No. 407,326, dated July 23, 1889.

Application filed April 22, 1889. Serial No. 308,058. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BOEHNLEIN, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Millstone-Dress; and I do declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to the peculiar millstone-dress seen in Letters Patent No. 381,522, granted to myself and Michael Trott April 24, 1888; and the object of the present improvement is to secure a freer delivery from the inner or "second" furrows to the annular distributing-groove seen in said patent, and to retard the flow of material through the outer or "skirt" furrows. To accomplish this result the second furrows, instead of being curved tangents, are straight tangents, and are somewhat wider at their discharging than at their receiving ends. Furthermore, said furrows are arranged so as to run against the draft and have inclined leading edges and practically vertical trailing edges; but the skirt furrows are tangentially curved and run with the draft, their leading edges being practically vertical, while their trailing edges are inclined, said furrows being wider at their receiving than at their discharging end, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a half-plan of an upper millstone dressed according to my invention. Fig. 2 is a greatly-enlarged plan of a portion of said millstone. Fig. 3 is a vertical section of the same. Fig. 4 is an enlarged vertical section of some of the skirt furrows, taken at the line Y Y. Fig. 5 is a similar section of some of the second furrows, taken at the line Z Z.

The stone A, which is of any suitable size, is a coarse-grit burr and has a customary central eye B, from which a series of furrows C extend outwardly to an annular distributing-groove D, that is concentric with said eye. These furrows C, which are commonly known as the "second furrows," are straight tangents; but their discharging ends, which open into said groove D, are somewhat wider than their receiving ends at the eye B, as more clearly seen in Fig. 2. These furrows are arranged

to run against the draft and their leading edges *c* are inclined, while their trailing edges *c'* are practically vertical; as more clearly seen in Fig. 5. The inner wall of the concentric distributing-groove D is about vertical, but its outer wall slopes, as seen in Fig. 3, in order that the partially-ground material discharged into the groove from the furrow C may be led into the inner ends of the skirt furrows E. These skirt furrows E are tangentially curved and run with the draft, their leading edges *e* being about vertical, while their trailing edges *e'* are inclined, as seen in Fig. 4. Furthermore, these skirt furrows may gradually slope upward from the groove D to the unfurrowed annular rim F, as seen at E' in Fig. 3; or said furrows may be level or parallel with the grinding-face of the stone and their outer ends be rounded up where they die out at said rim, as represented at E''; but whichever of these arrangements may be adopted said skirt furrows must be somewhat narrower at their outer than at their inner ends, as more clearly shown in Fig. 2.

The above-described "dress" is especially adapted for those stones used for pulverizing white lead, potter's slip, and other similar materials, which are usually ground with water, the material being fed into the mill at the eye B. The material then runs into the furrows C, and as there can be but a limited number of the latter it is desirable to have a free flow of material through them, which free delivery is obtained by arranging said furrows in the manner described. Therefore these straight furrows, with their enlarged discharging ends, deliver into the grooves D sufficient material to supply the skirt furrows E, although the latter are about twice as numerous as said straight furrows C; but this full supply of the skirt furrows could not take place were it not for the fact that they are contracted at their outer ends, the result of said contraction being to check or retard the delivery toward the rim of the stone. Consequently, by feeding rapidly toward the groove D and then checking the feed from said groove to the rim, the material is ground very thoroughly and uniformly, and finally escapes from between the stones in a thin sheet of water, the solid rim F preventing the material being projected directly out of the furrows E.

I claim as my invention—

5 A millstone-dress consisting of a series of straight tangential second furrows C, running against the draft and having inclined leading
edges *c*, vertical trailing edges *c'*, and enlarged discharging ends, a series of tangen-
tially-curved skirt furrows E, running with the draft and having vertical leading edges
10 *e*, inclined trailing edges *e'*, and contracted outer ends, a concentric distributing-groove
D between these sets of furrows, the inner wall of said groove being vertical and its

outer wall inclined, and an unfurrowed annular portion F at the rim of the stone, which solid annulus prevents the ground material
15 from being discharged directly from said skirt furrows, all as herein described.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH BOEHNLEIN.

Witnesses:

JAMES H. LAYMAN,
MATHILDA BOEHNLEIN.