

(No Model.)

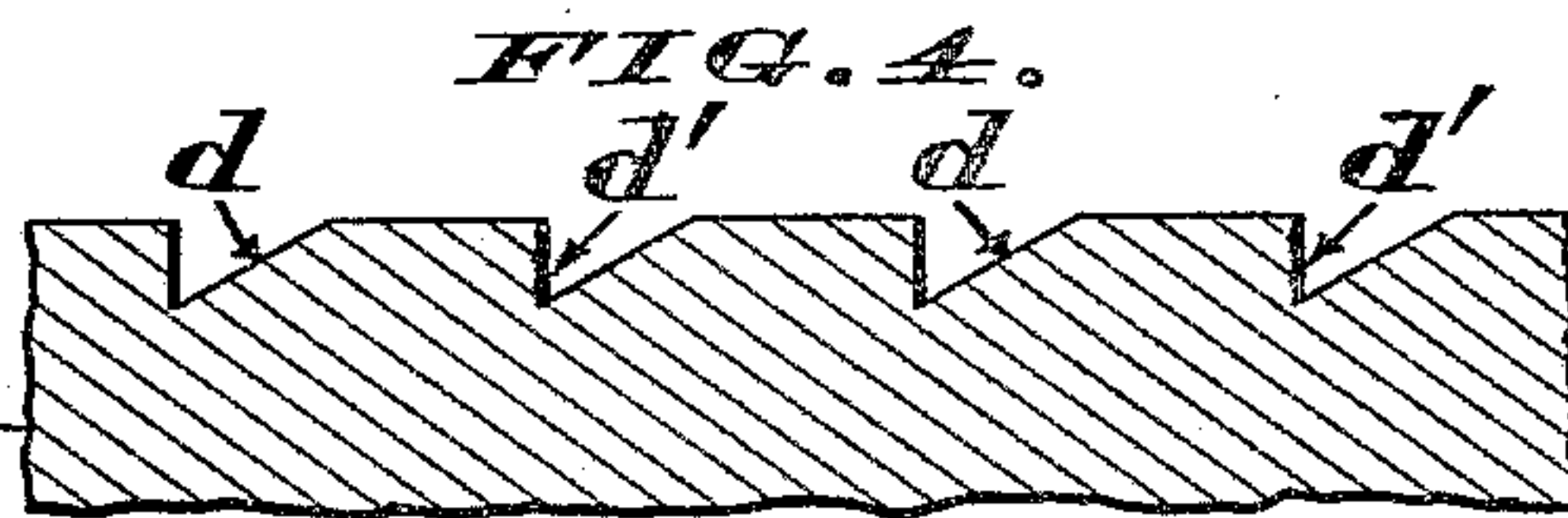
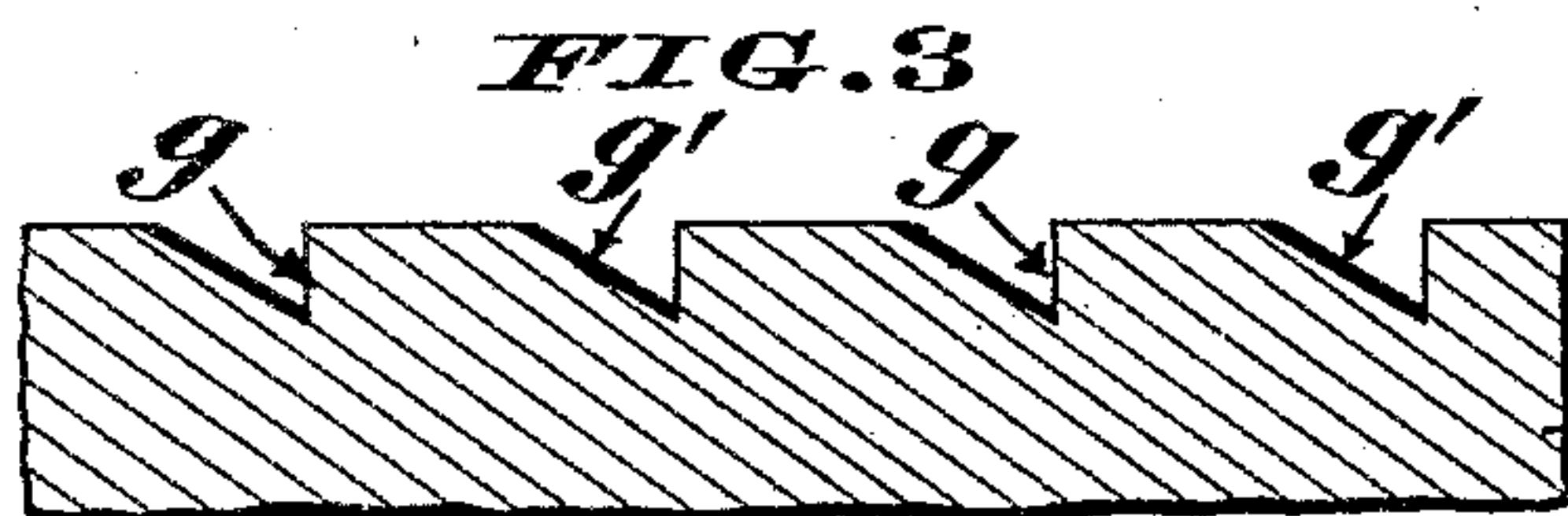
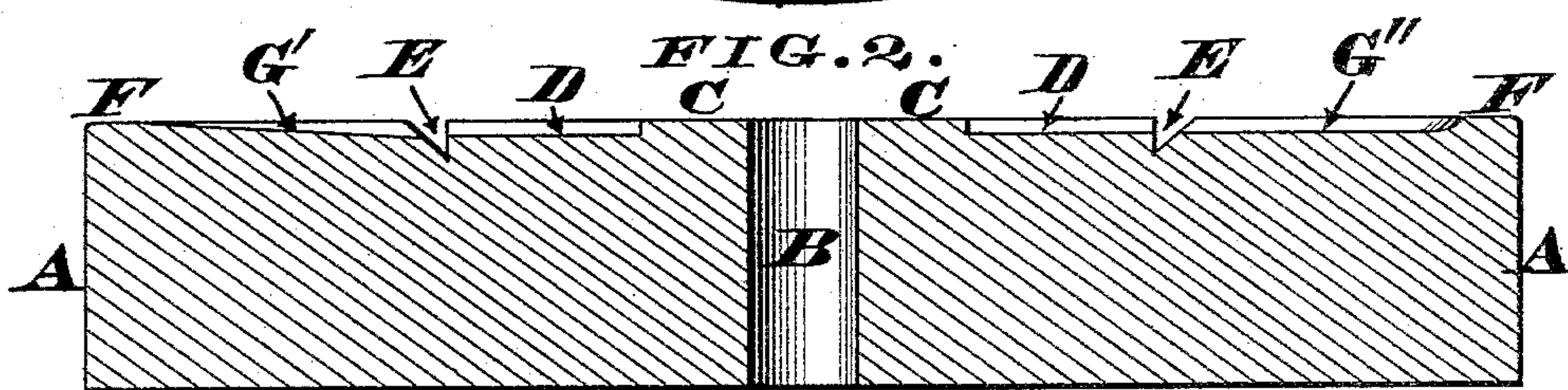
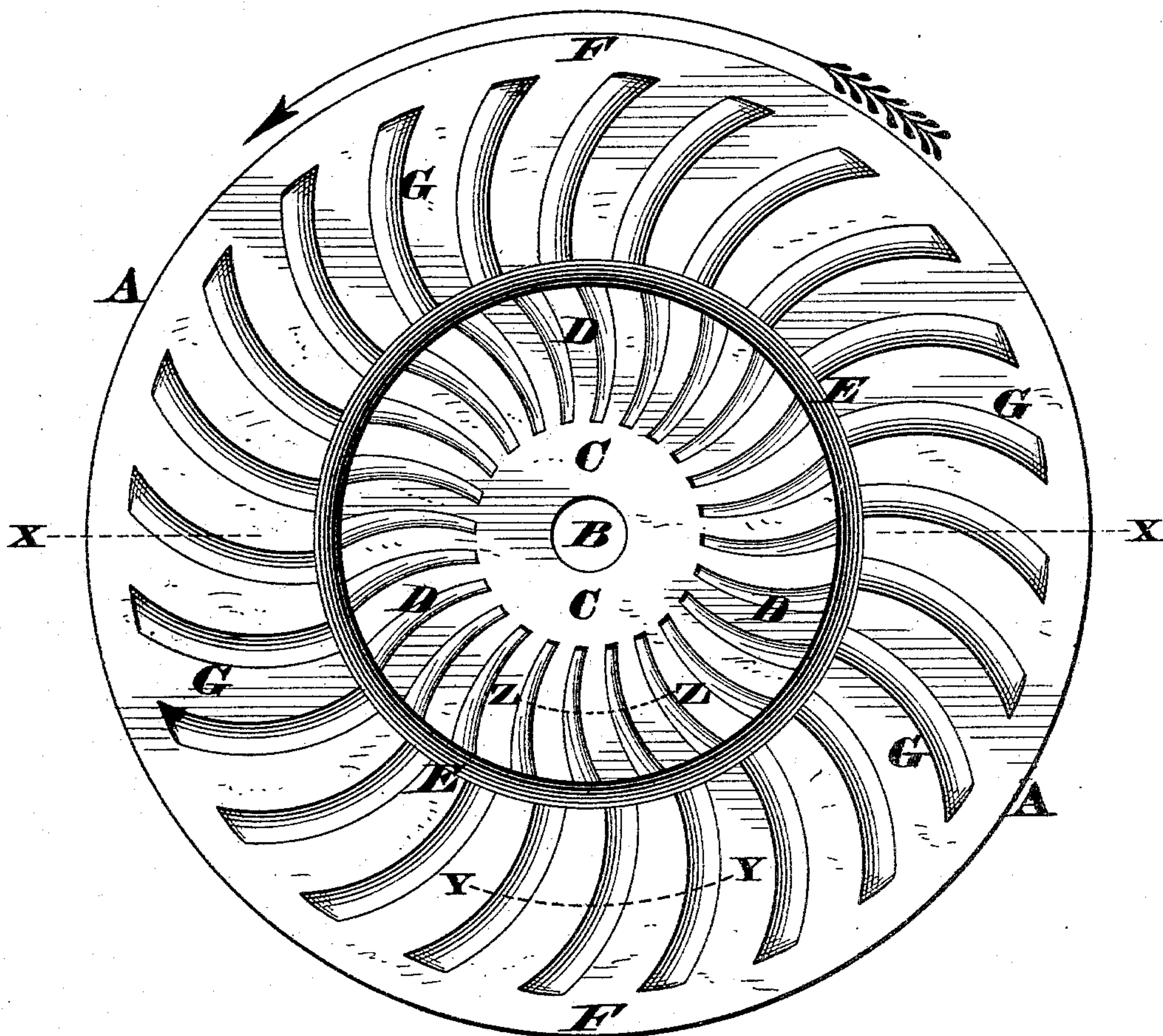
J. BACHULEIN.

MILLSTONE DRESS.

No. 381,522.

Patented Apr. 24, 1888.

FIG. 1.



Attest.
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UNITED STATES PATENT OFFICE.

JOSEPH BACHULEIN, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO
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MILLSTONE-DRESS.

SPECIFICATION forming part of Letters Patent No. 381,522, dated April 24, 1888.

Application filed August 8, 1887. Serial No. 246,477. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BACHULEIN, a citizen of the United States, residing at Cincinnati, in the county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Millstone-Dress, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of my invention is to provide a "dress" that is especially applicable to those millstones used for grinding white lead, potters' slip, and other similar materials. In such mills the lower stone is the runner, and the material is fed in at the eye of the upper stone, a constant stream of water being at the same time discharged into said eye for the purpose of facilitating the grinding operation. Therefore the dress must be so arranged as to prevent the head or pressure of water forcing the material out between the stones in an unground condition, although the properly-ground material must be free to escape. To accomplish this result the dress includes a series of inner or "second furrows" and a series of outer or "skirt furrows," these two sets of furrows being separated by an annular distributing-groove. The inner furrows are tangentially curved to initiate the grinding operation; but as they are arranged to "run against the draft" there is no danger of the material being thrown out too rapidly toward the stone's periphery. These furrows accordingly discharge the partially-ground material into the distributing-groove, which latter is concentric with the eye, and from this groove the material is led into the inner ends of the skirt-furrows, said skirt-furrows being curved tangentially and arranged to "run with the draft." These skirt-furrows finish the grinding operation, their outer ends being closed by an annular unfurrowed portion of the stone, in order that the material may not be projected directly from said outer ends by the centrifugal velocity of the mill.

The above-described arrangement of second furrows, distributing-groove, skirt-furrows, and unfurrowed annulus is applied both to the upper and lower stones, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a plan

of an upper millstone dressed according to my invention. Fig. 2 is an axial section of the stone taken at the line X X of the preceding illustration. Fig. 3 is an enlarged vertical section of some of the skirt-furrows taken at the line Y Y. Fig. 4 is a similar section of some of the second furrows taken at the line Z Z.

The stone A, which is of any desired size, is a coarse-grit burr, and has a customary central eye, B, surrounded with a circular unfurrowed portion, C, from which latter a series of furrows, D, extend outwardly to an annular distributing-groove, E, said groove being concentric with the eye B. These furrows D, which are commonly known as the "second furrows," are curved tangentially in such a manner as to run against the draft, and their leading-edges *d* are inclined, while their trailing-edges *d'* are about vertical, as more clearly seen in Fig. 4.

The inner wall of the concentric distributing-groove E is practically vertical; but its outer wall is sloped, as seen in Fig. 2, in order that the partially-ground material discharged into said groove from the furrows D may be led into the inner ends of the skirt-furrows. Extending from this concentric groove out to an unfurrowed annular rim, F, are the tangentially-curved skirt-furrows G, that run with the draft, the leading-edges of said furrows, *g*, being about vertical, while their trailing-edges *g'* are inclined, as seen in Fig. 3. These skirt-furrows may gradually slope upward from the groove E to the unfurrowed annular rim F, as shown at G' in Fig. 2; or said furrows may be parallel with the grinding-face of the stone, and their outer ends be rounded where they die out at the skirt, as represented at G''.

As a result of the above-described arrangement of groove and reversely-disposed furrows, the material ground in the mill is spread over the stone in a uniform manner from the eye to the skirt, and is reduced to a very fine powder, which escapes from between the stones with a thin sheet of water, the solid or unfurrowed annular rim F preventing the material being thrown directly out of the furrows G.

I claim as my invention—

A millstone-dress consisting of a series of

tangentially-curved second furrows, D, running against the draft and having inclined leading-edges d and vertical trailing-edges d' , a series of tangentially-curved skirt-furrows,
5 G, running with the draft and having vertical leading-edges g and inclined trailing-edges g' , a concentric distributing-groove, E, between these sets of furrows, the inner wall of said groove being vertical and its outer wall inclined,
10 and an unfurrowed annular portion, F,

at the rim of the stone, which annulus prevents the ground material being discharged directly from the outer ends of the skirt, as herein described.

In testimony whereof I affix my signature in 15 presence of two witnesses.

JOSEPH BACHULEIN.

Witnesses:

JAMES H. LAYMAN,
SAML. S. CARPENTER.