

G. T. SMITH.  
MILLSTONE-STAFF.

No. 169,858.

Patented Nov. 9, 1875.

Fig. 4.

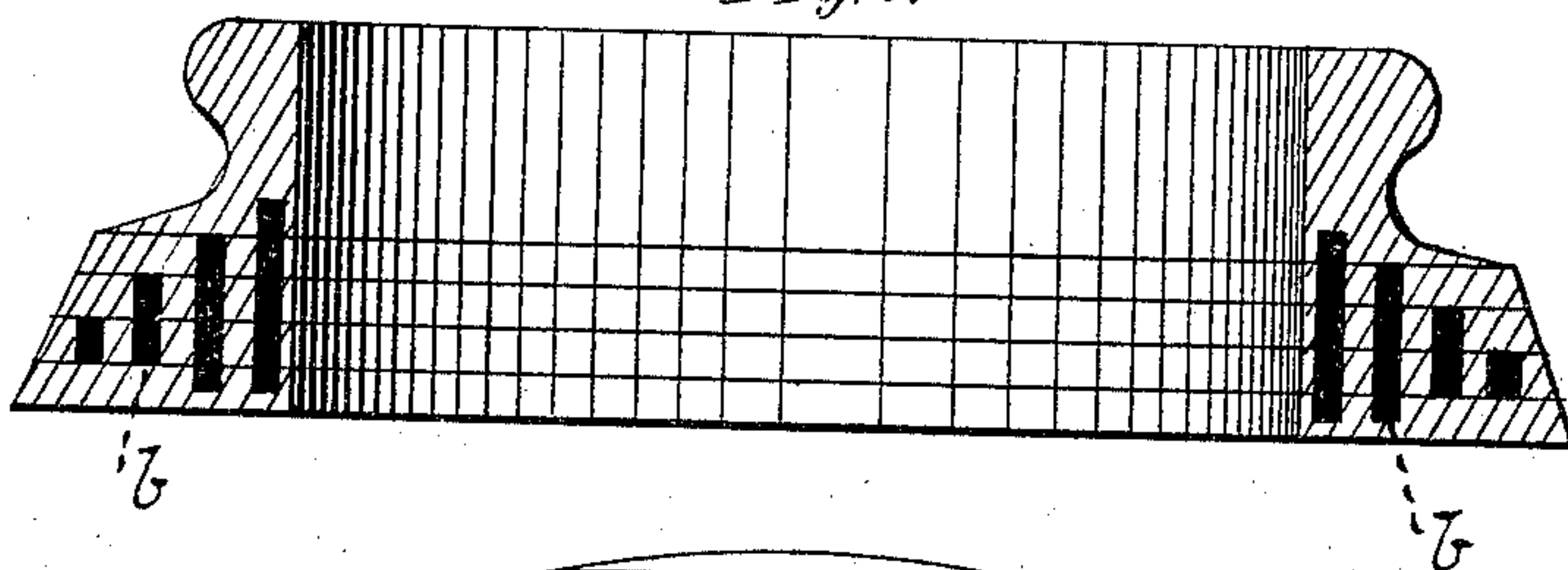
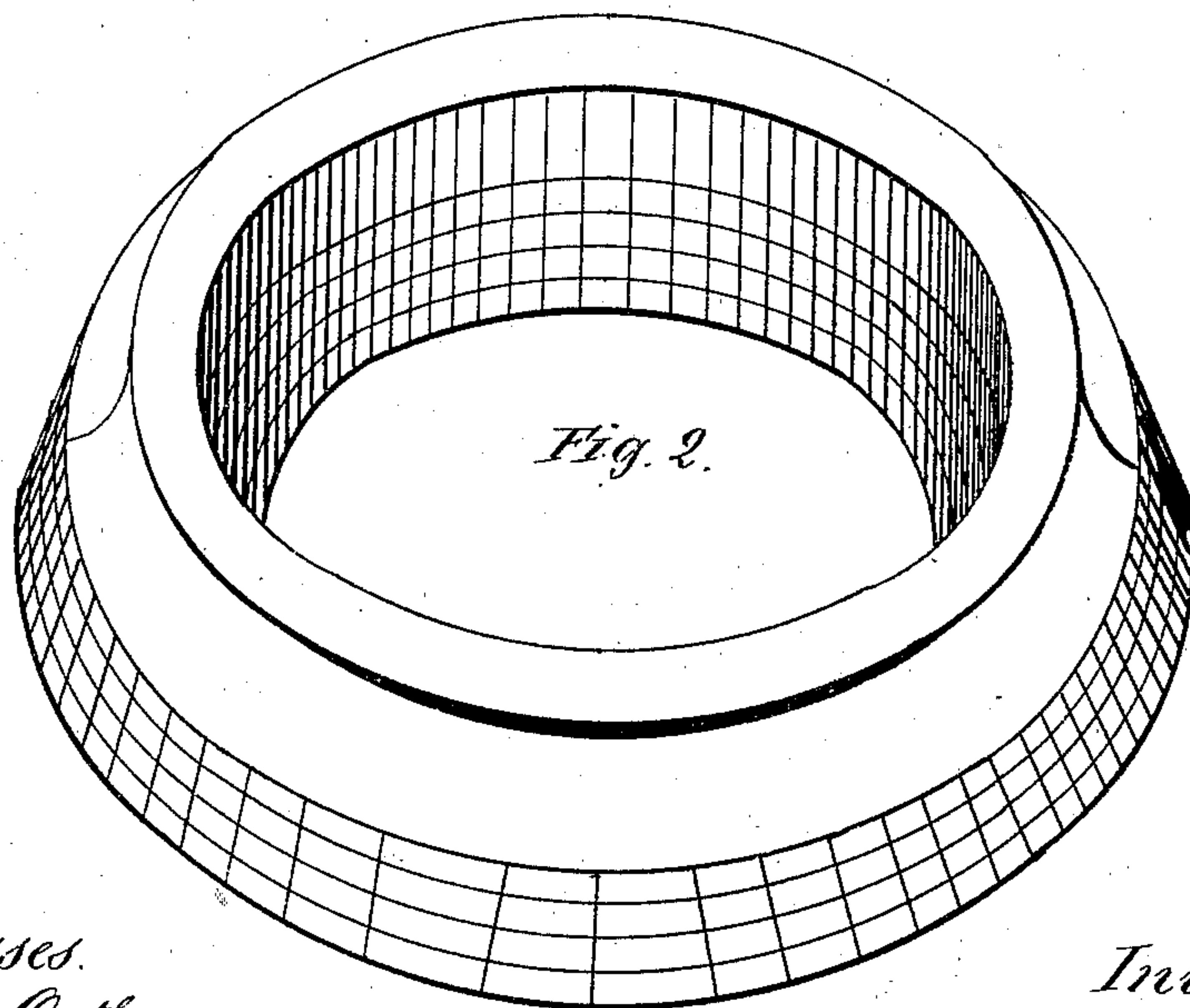
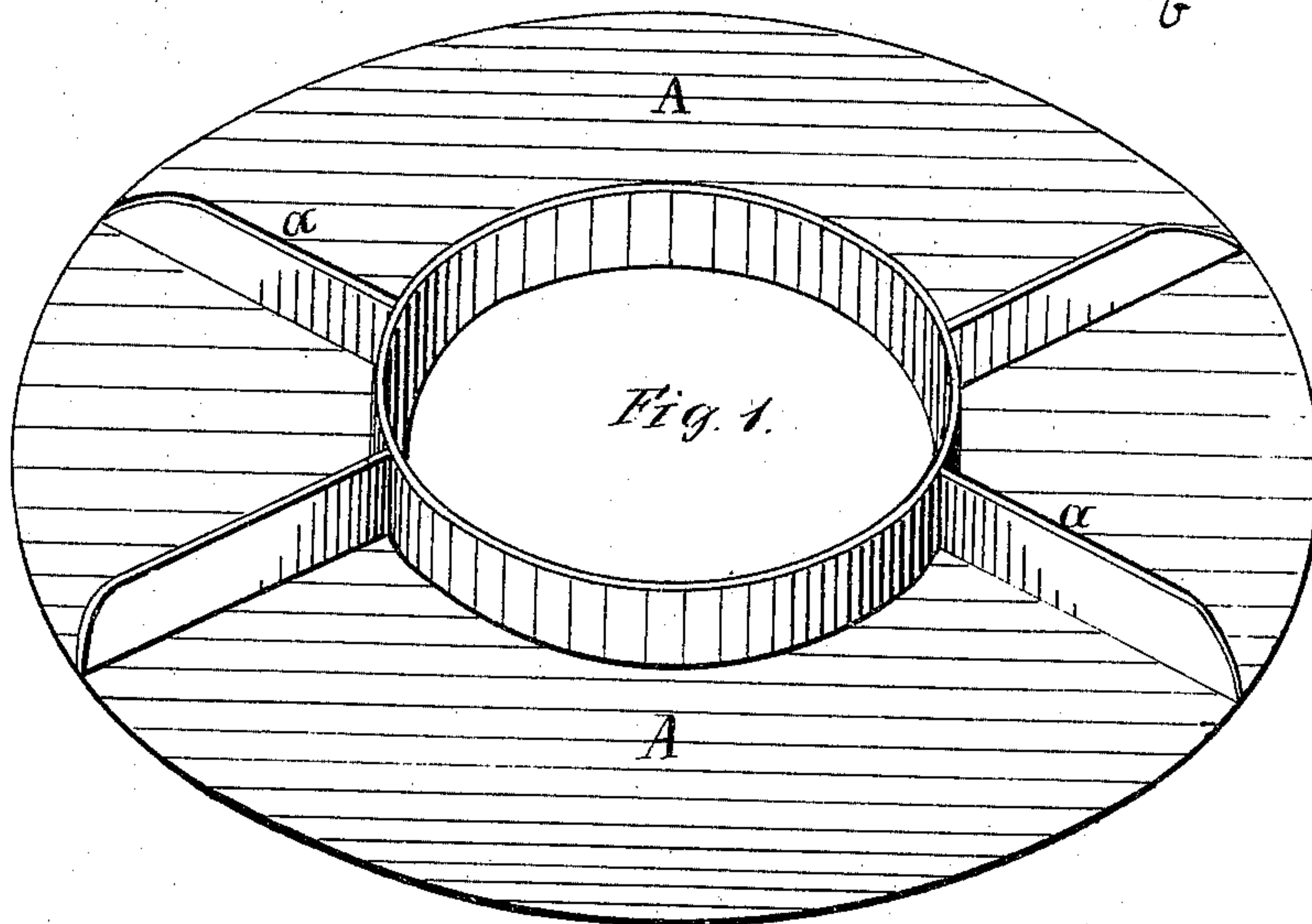
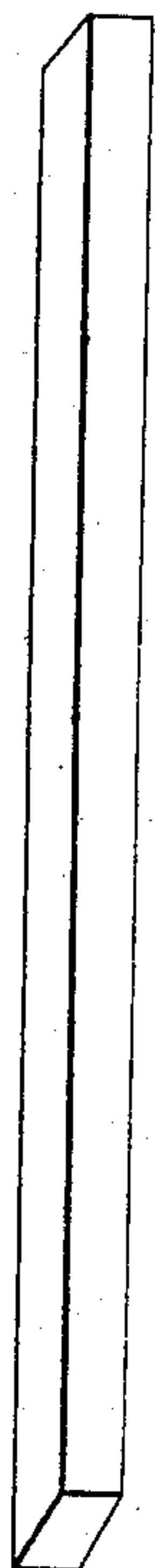


Fig. 3.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MILLSTONE-STAFFS.

Specification forming part of Letters Patent No. **169,858**, dated November 9, 1875; application filed September 1, 1875.

*To all whom it may concern:*

Be it known that I, GEORGE T. SMITH, of St. Louis, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Millstone-Staff; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 represents a circular proof-staff. Fig. 2 is the wooden working or red staff, as it is sometimes called. Fig. 3 represents a long square staff, similar to those in common use among millers, and Fig. 4 is a transverse section, Fig. 2.

My invention is designed to enable the miller to reduce the skirt or outer grinding-face of the stone to a perfectly flat or plane surface, and at the same time to dress the central portion or eye to such height or face relative to the skirt as his judgment shall decide is advisable.

In Fig. 1, A is the body of the proof-staff, the lower face of which is reduced to a plane by any usual or preferred method, although I usually employ the method of grinding set forth in my application of earlier date. *a* are radial arms or ribs cast upon the back of the staff, for the purpose of insuring that it shall not spring or be accidentally warped.

The proof-staff shown in Fig. 2 is made of successive layers of wood, so arranged that the grain of each layer shall cross that of the adjacent layer or layers.

The working face of this staff is reduced to a plane, using the metal staff as a test or proof, as will be readily understood.

The sides of the long staff, Fig. 3, may be straight, or one or more of them may be made slightly convex.

After the skirt of a stone has been dressed to a satisfactory face by the use of the circular wooden staff, the central portion may be worked down by using the long staff in the following manner: Paint only the central part of this staff, and when it is on the stone swing it slowly around without allowing ei-

ther end to project beyond the hoop of the stone, and dress off each time such portions as are painted. The result will be that the height of the central part or eye will be determined by the plane of the skirt, as the ends of the staff will ride upon this skirt, and if care be taken to paint only such part of the staff as will correspond to the inner diameter of the circular staff, a belt or skirt of uniform width and in a perfect plane, will be formed, and the eye will be very nearly uniform in its plane relative to the skirt—that is to say, supposing the long staff to be of a slight but regular curve on its working face, then all the radial lines will be in a common plane from their inner starting-points until they reach the skirt of the stone.

This operation requires that the long staff should be of a length corresponding to the diameter of the stone; but where this is impracticable care should be taken to place the staff centrally upon the stone, and in swinging it around keep its ends equidistant from the outer edge.

In case greater accuracy is desired in keeping the skirt of the stone of uniform width, two colors of paint may be employed, and after the central portion has been staffed with one color—say, with red—blue may be applied with the circular staff, which will indicate clearly the line to which the eye or breast should be dressed.

I have found that two difficulties grow out of the weight of a wooden staff when it is made solid; first, it is heavy to handle, and, secondly, it wears away so fast where it touches upon the high spots of the stone, that it requires to be frequently proved.

In order to obviate these two objections, and also to lessen the liability of its becoming warped from absorbing moisture and drying out, I have made it hollow, or partially hollow, and, by preference, I leave intervening walls between cavities, as shown in Fig. 2.

I do not in this patent claim, broadly, the idea of proving or testing the face of a millstone by means of a circular staff, as that forms the subject of another application heretofore filed by me.

What I claim is—

The herein-described method of proving or

determining the face of a millstone by the use, first, of a circular staff, Fig. 2, which is employed to level the skirt; and, second, of a long staff, Fig. 3, to establish the height or plane of the eye or central part of the stone relative to the skirt, said skirt serving as a guide for the ends of the long staff, substantially as set forth.

In testimony that I claim the foregoing as my own, I have affixed my signature in presence of two witnesses.

GEORGE T. SMITH.

Witnesses:

H. H. DOUBLEDAY,  
S. C. TIBBITTS.