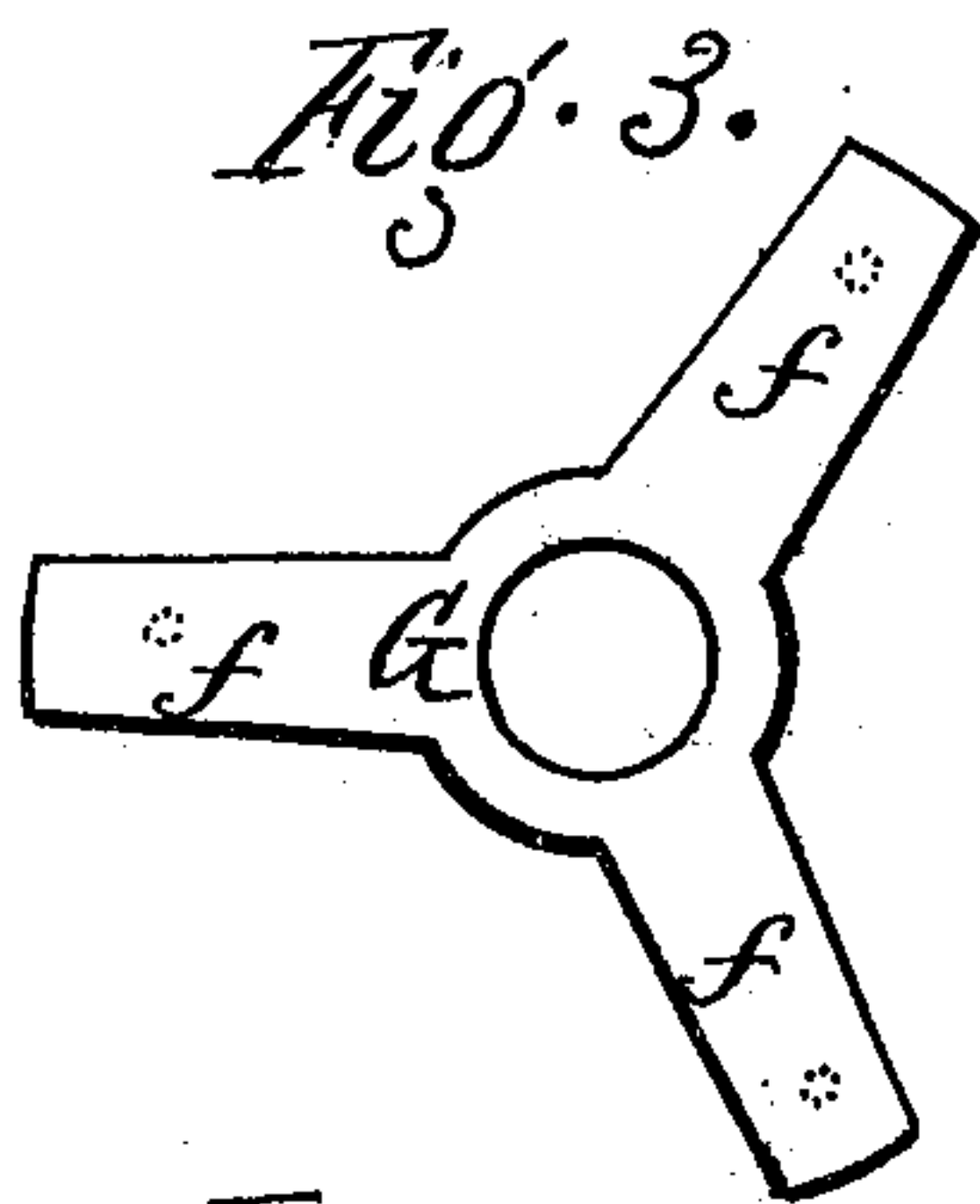
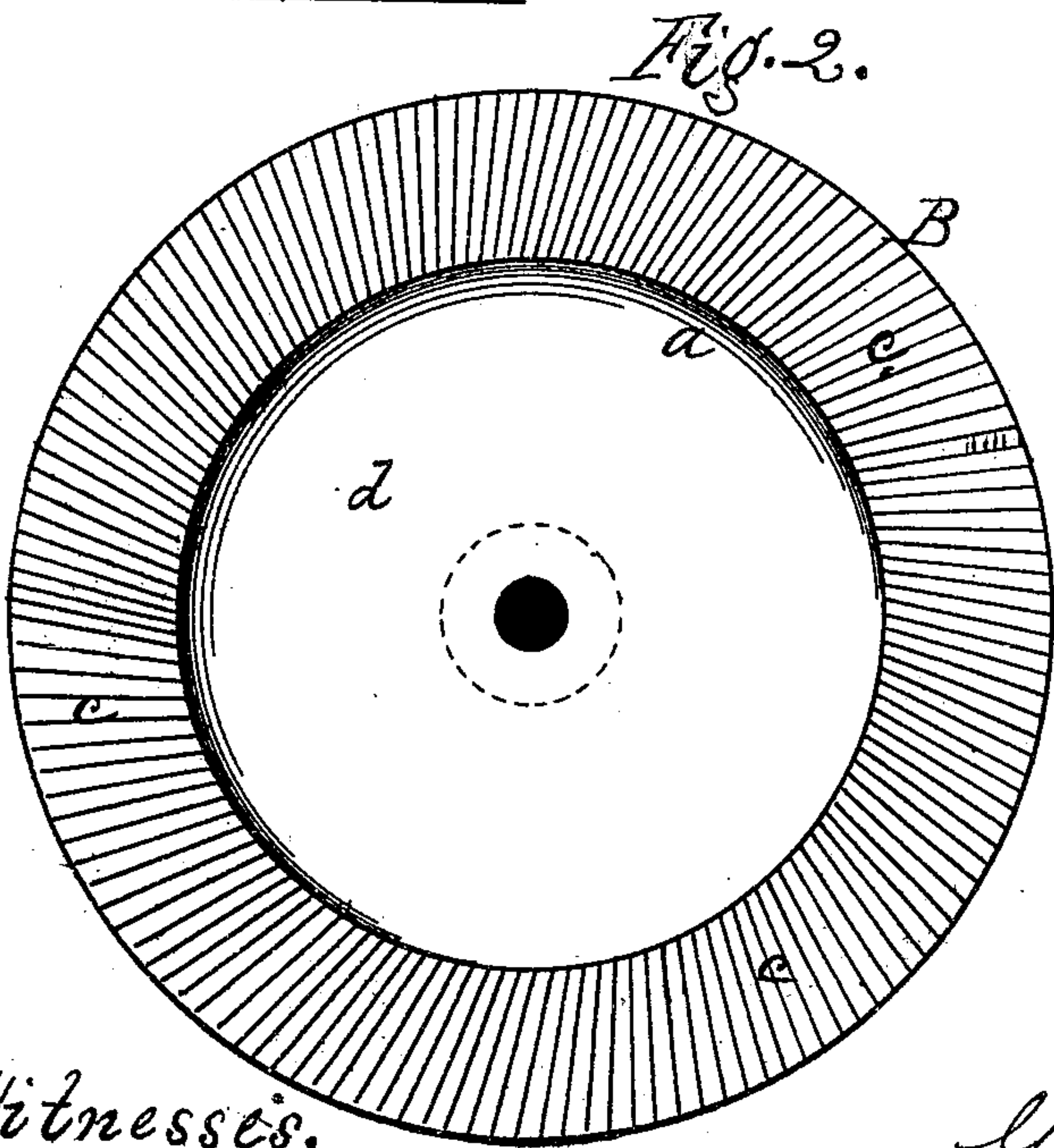
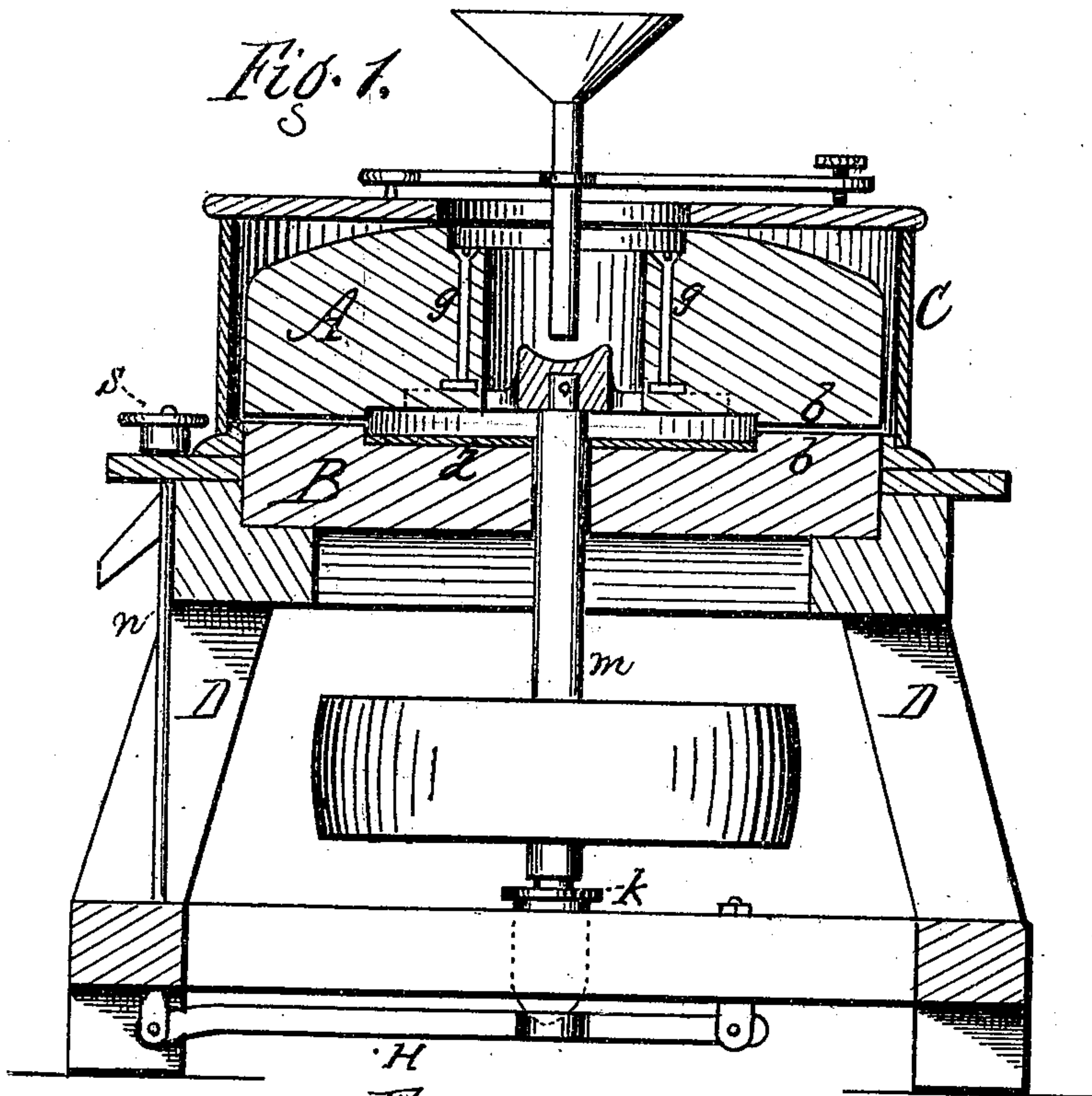


G. MOTLEY.  
MILLSTONES.

No. 179,835.

Patented July 11, 1876.



Witnesses.  
N. Campbell  
E. P. Scott.

Inventor.  
George Motley.  
per R. F. Osgood  
Atty.



# UNITED STATES PATENT OFFICE.

GEORGE MOTLEY, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF  
HIS RIGHT TO JIRAH B. MOSELEY, OF SAME PLACE.

## IMPROVEMENT IN MILLSTONES.

Specification forming part of Letters Patent No. 179,835, dated July 11, 1876; application filed  
January 17, 1876.

*To all whom it may concern:*

Be it known that I, GEORGE MOTLEY, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Millstones; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a central vertical section of my improvement. Fig. 2 is an inner or face view of the bed-stone. Fig. 3 is a plan of the driver for sustaining and adjusting the runner-stone. Fig. 4 is a detail view.

My improvement relates to stones for cracking wheat or other grain preparatory to grinding, the object being to simply split the same in the line of the longitudinal axis, so that the chit or germ and the seam impurities may be removed by sifting or blowing before the process of grinding is performed. To this end my invention consists in constructing the working face of the stones with a central depression or cavity to receive and discharge the grain by centrifugal action, and with a rim outside the depression provided with angular channels to crack the wheat, the bottom of the cavity having a metallic plate to polish the wheat and prevent attrition upon the same, as hereinafter described.

A represents the runner, and B the bed-stone. C is the curb, made, preferably, of metal to lessen wear, and D is the framing upon which the parts rest. Each of the stones has a central cavity or depression, *a*, sunk deep enough to receive the grain without producing action thereon, and so as to throw the grain outward by the centrifugal motion. Outside this cavity is a plain rim, *b*, in which are cut the coarse channels *c c*, which form the working surface for cracking the grain. In a stone four and a half feet in diameter the channeled rim *b* is, preferably, nine inches wide, and the channels *c c* are cut at a tangent with a circle of four and a half inches radius from the center of the stone, as indicated by the dotted lines, Fig. 2. In different-sized stones the same, or substantially the same,

proportions may be observed. This angle of the channels is most effective in exerting a quick action upon the grain and a rapid discharge from the stones, thereby preventing undue breaking or cracking of the wheat, which would be wasteful by disintegrating the body or walls of the wheat into small pieces that would sift out with the chits and cause loss. The wheat fed into the eye of the stones falls into the cavity *a*, and is thrown out by the centrifugal action. Passing between the channeled rims *b b* it receives a quick and sharp action, which is sufficient to crack or break the wheat without disintegrating it. This loosens the chits and the seam impurities, and leaves the whole body of the wheat free to be ground into the best quality of flour. It is obvious that to accomplish the cracking of the wheat without disintegration the rim *b* must be made narrow, so that but little action and a rapid discharge will be given, and the angular form of the channels *c c* is quite as important. The runner-stone runs in that direction that will cause the inclines of the channel to pass back over each other, as indicated by the arrow, Fig. 4, by which means the cracked grain is carried out through the channels instead of being ground up, as would be the case if the stone run the other way.

*d* is a metallic plate fitted into the bottom of the cavity *a* in the bed-stone. Its object is, first, to prevent undue wear of the stone by the forcible action of the grain therein, and, second, to lessen the friction of the grain over the cavity, which would occur if the face were exposed, thereby causing wear and friction upon the grain before reaching the rim. The smooth surface presented by the metal causes but little wear, and polishes the grain. G is the driver, upon which the runner-stone is hung. It has three arms, *f f f*, which fit loosely into corresponding slots of the stone. Screws *g g g* pass downward through the eye of the stone, near the inner periphery, and rest upon the arms of the driver. The stone is adjusted or leveled by simply turning these screws. The runner is raised or lowered by means of a lever, H, which rests under the

step *k* that holds the spindle *m*. A rod, *n*, passes up from the long end of the lever, and has upon its upper end a nut or hand-wheel, *s*, by turning which the step is adjusted.

I am aware that in stones for grinding wheat annular depressions, with shoulders forming a center-dress for crushing the grain before it passes to the grinding-surfaces, have been known. Such I do not claim.

What I claim as new is—

The combination, with the stones A B, provided with the cavity *a* and exterior rim *b*, of

the metallic bed-plate *d*, set into the bottom of the cavity of the lower stone, for the purpose of preventing attrition upon the grain till it reaches the outer channeled rim, as shown and described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

GEORGE MOTLEY.

Witnesses:

WM. S. MOORE,  
R. F. OSGOOD.