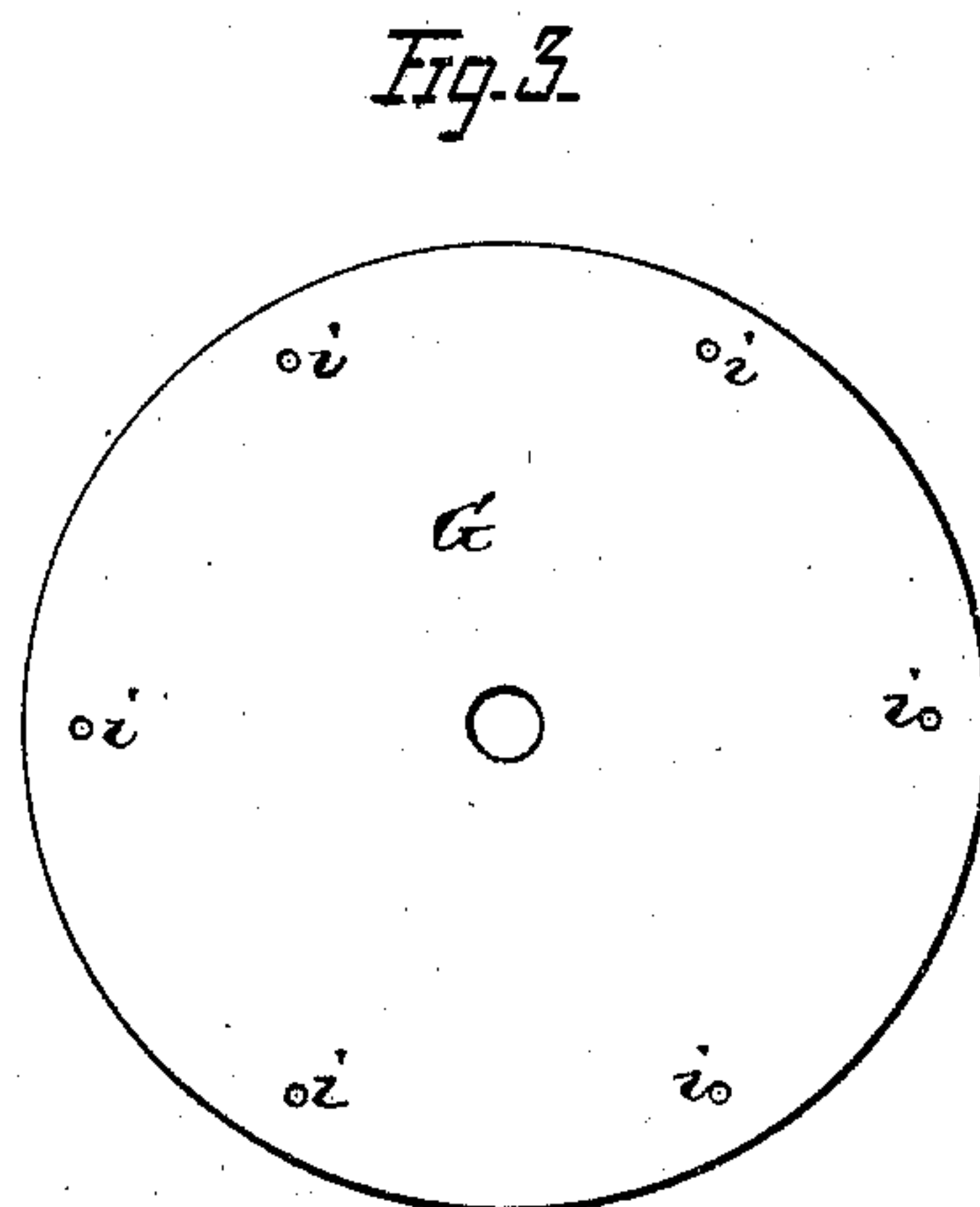
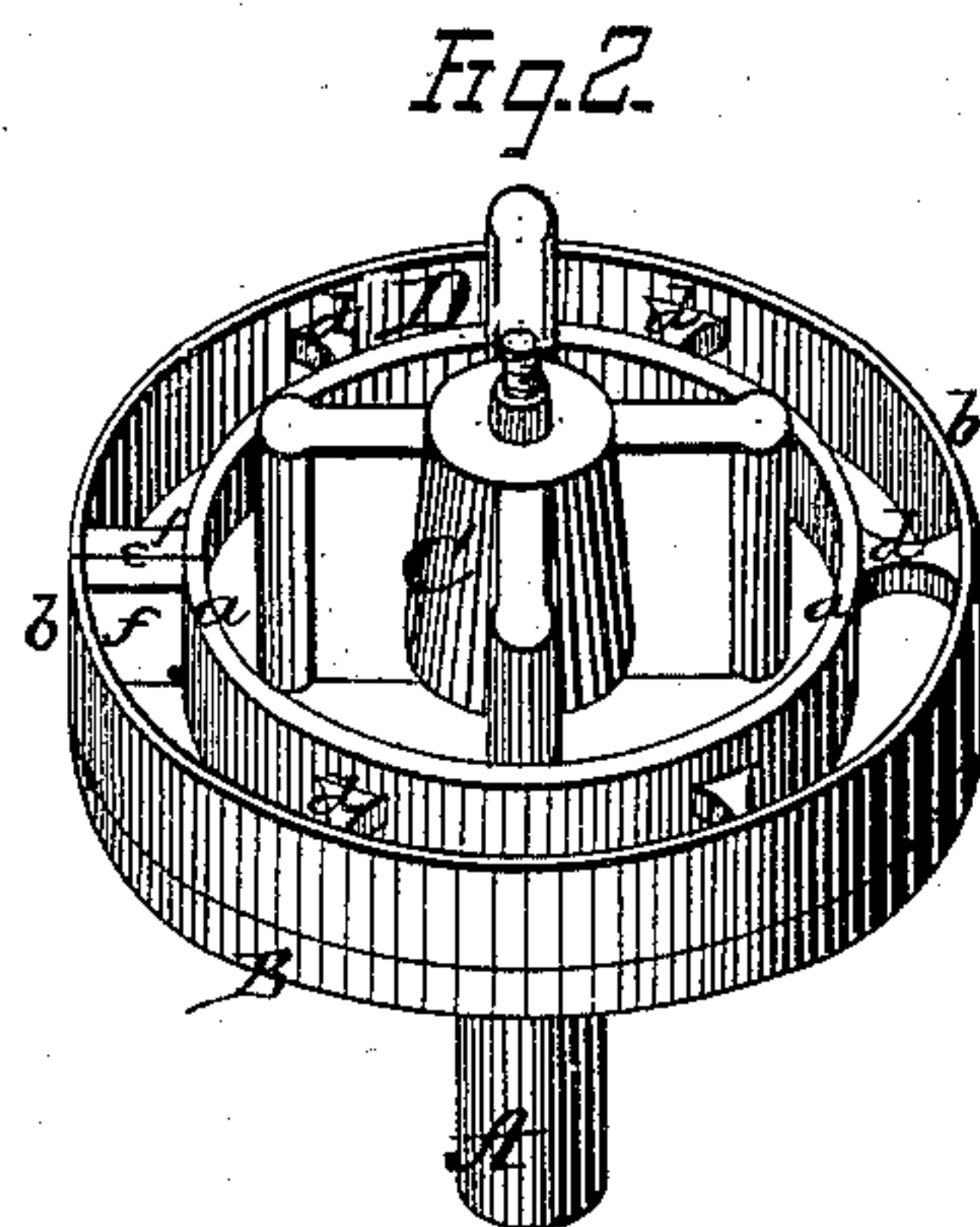
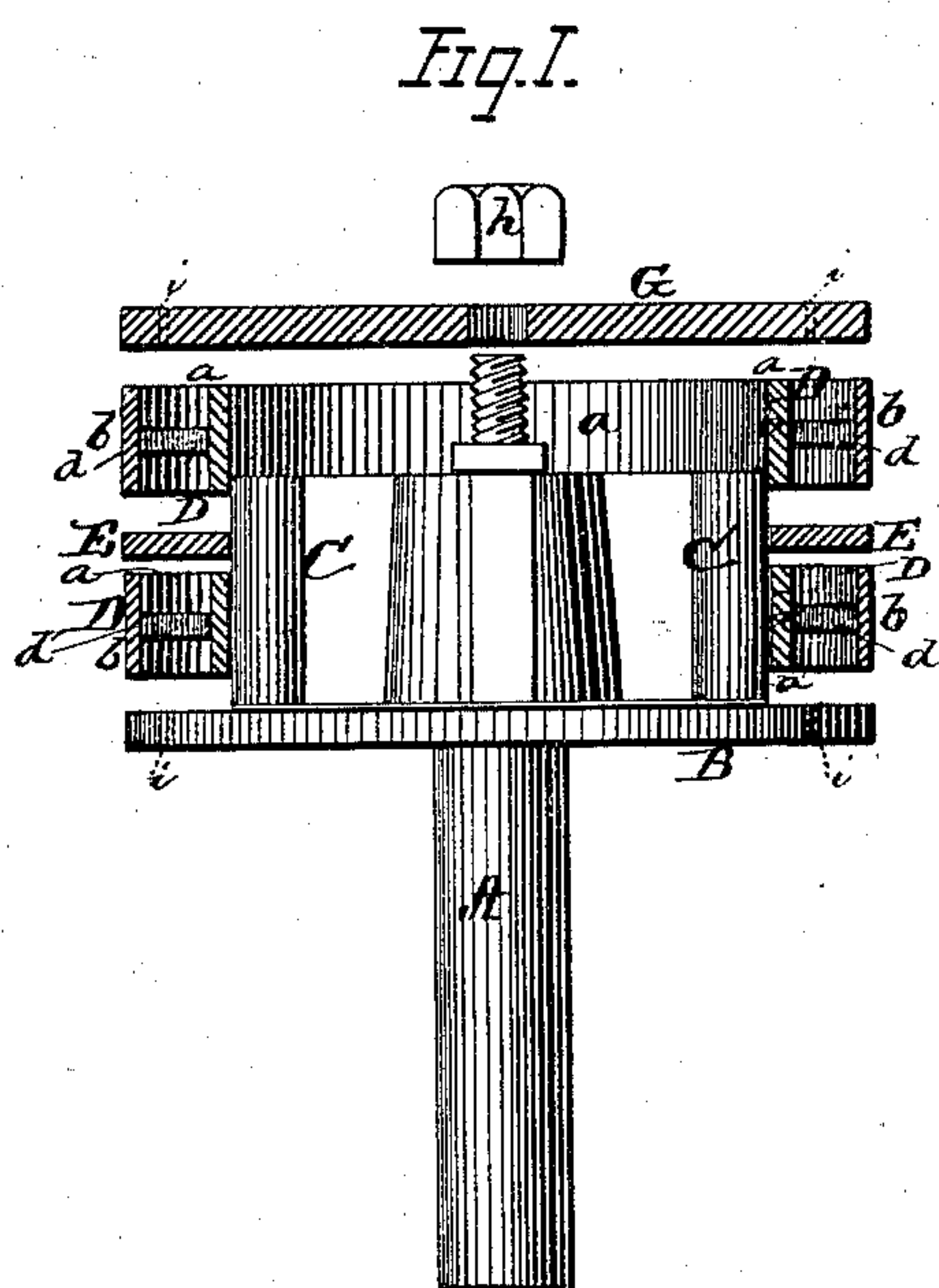


C. E. PERKINS.
Piston-Packing.

No. 138,690.

Patented May 6, 1873.



Witness:
Jas. C. Hutchinson
L. L. Everett.

Inventor.
Chas. E. Perkins.
per
Alexander Mason
Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES E. PERKINS, OF MALONE, NEW YORK.

IMPROVEMENT IN PISTON-PACKINGS.

Specification forming part of Letters Patent No. **138,690**, dated May 6, 1873; application filed September 24, 1872.

To all whom it may concern:

Be it known that I, CHAS. E. PERKINS, of Malone, in the county of Franklin and in the State of New York, have invented certain new and useful Improvements in Piston-Packing; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of a piston-packing, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a section of my piston-packing, the various parts of the same being slightly removed from each other. Fig. 2 is a perspective view of a part of the packing, and Fig. 3 is an outside view of one of the piston-heads.

A represents the piston-rod, upon which is firmly secured the head B, and the spider C projects from the outer side of said head around the end of the rod. D represents a double ring, composed of an inner ring, *a*, and an outer ring, *b*, of precisely the same width, and connected at suitable intervals by studs *d d*. The inner ring, *a*, should fit around the spider C, while the outer ring, *b*, should fit the inside or bore of the cylinder. The two rings are cut through at *e*, and their ends connected on both sides of said cut by partitions *f f*, which are of the same width or height as the rings. In my piston-packing I use two of these double rings D, one being placed immediately adjoining the head B, and then an annular ring, E, placed on top of the same. The other double ring D is then put on, after which the cover or follower G is fastened, as usual,

by a nut, *h*, the ring E forming a partition between the double rings D D. Suitable holes *i i* are made in both heads B and G to allow the steam to enter in the spaces of the double rings D D at each alternate stroke of the piston. Only one of these rings is in labor at a time, as the partition-ring E separates the spaces of the two double rings.

The operation at work is as follows: Steam being admitted in the space between the inner and outer ring of the double ring, and not having a circulation all the way around, (only up to the cut *e*, or rather to the partitions *f f*,) causes the rings to expand on account of the excess of pressure-surface on the inside of the outer ring over that on the outside on the inner ring, which, with the pressure of steam, will tend to straighten or expand the ring and make it fit the cylinder.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The double ring D, constructed, as described, of an inner ring, *a*, and an outer ring, *b*, connected together by studs *d d*, and cut apart at *e*, with a partition, *f*, on each side of said cut, substantially as and for the purposes herein set forth.

2. The combination of the head B with holes *i i*, spider C, the double rings D D, partition-ring E, and cover or follower G with holes *i i*, all constructed, arranged, and fastened together, substantially in the manner and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 27th day of August, 1872.

CHARLES E. PERKINS.

Witnesses:

S. S. WILLARD,
WM. E. HALL.