

No. 846,844.

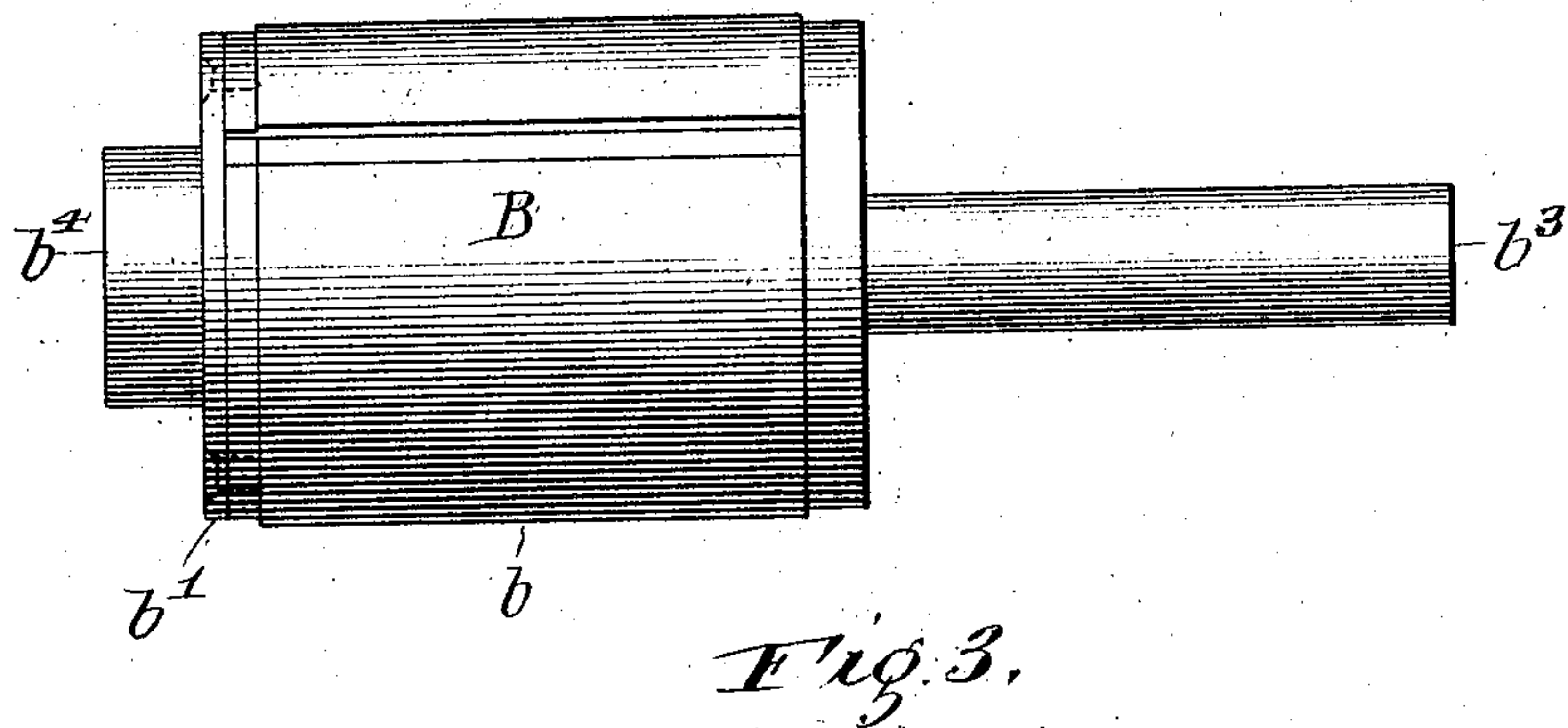
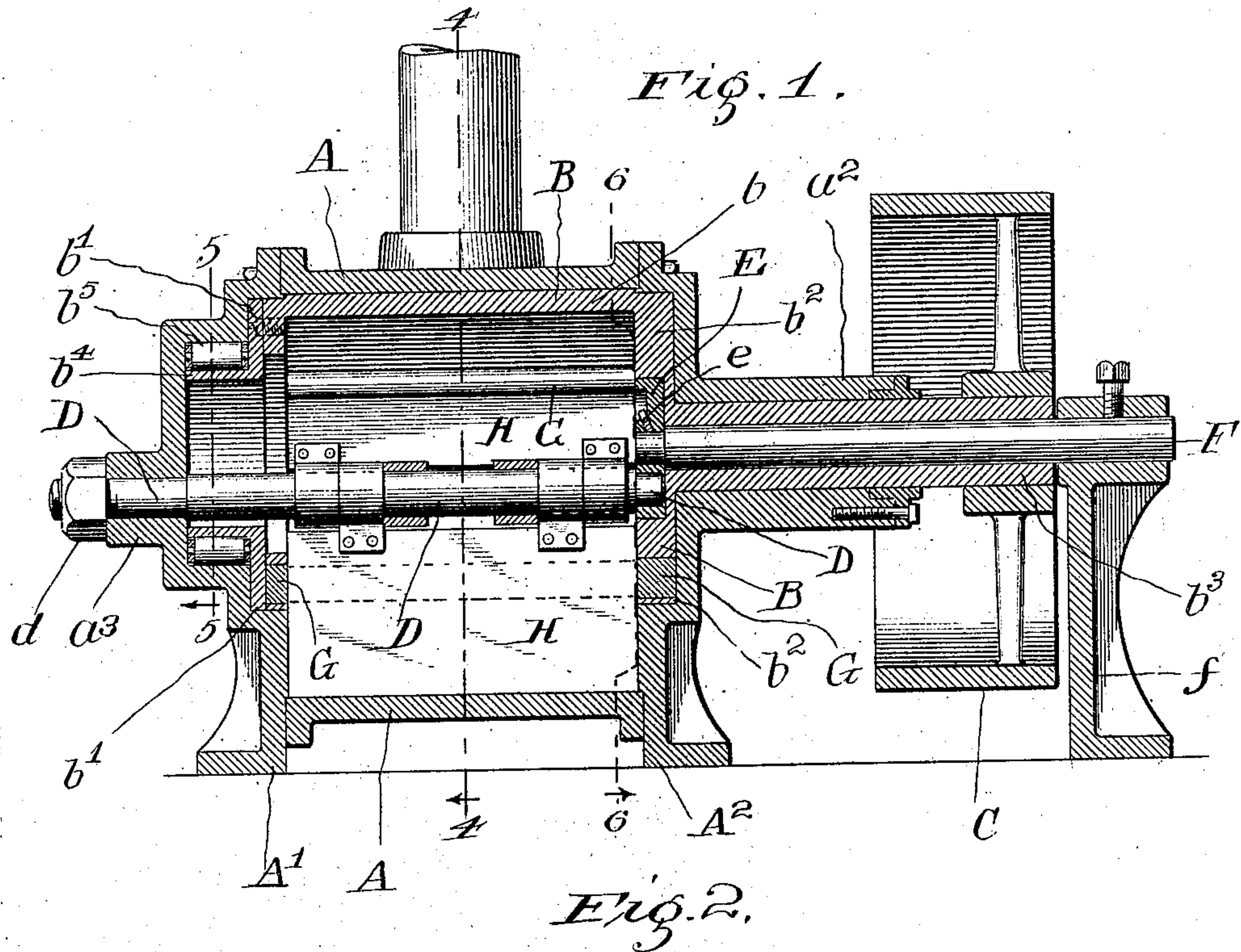
PATENTED MAR. 12, 1907.

W. W. GREEN.


BLOWER:

APPLICATION FILED NOV. 15, 1905.

2 SHEETS—SHEET 1.



Witnesses:
A. M. Cornwall
J. E. Sherrey.

 Inventor:
William W. Green,
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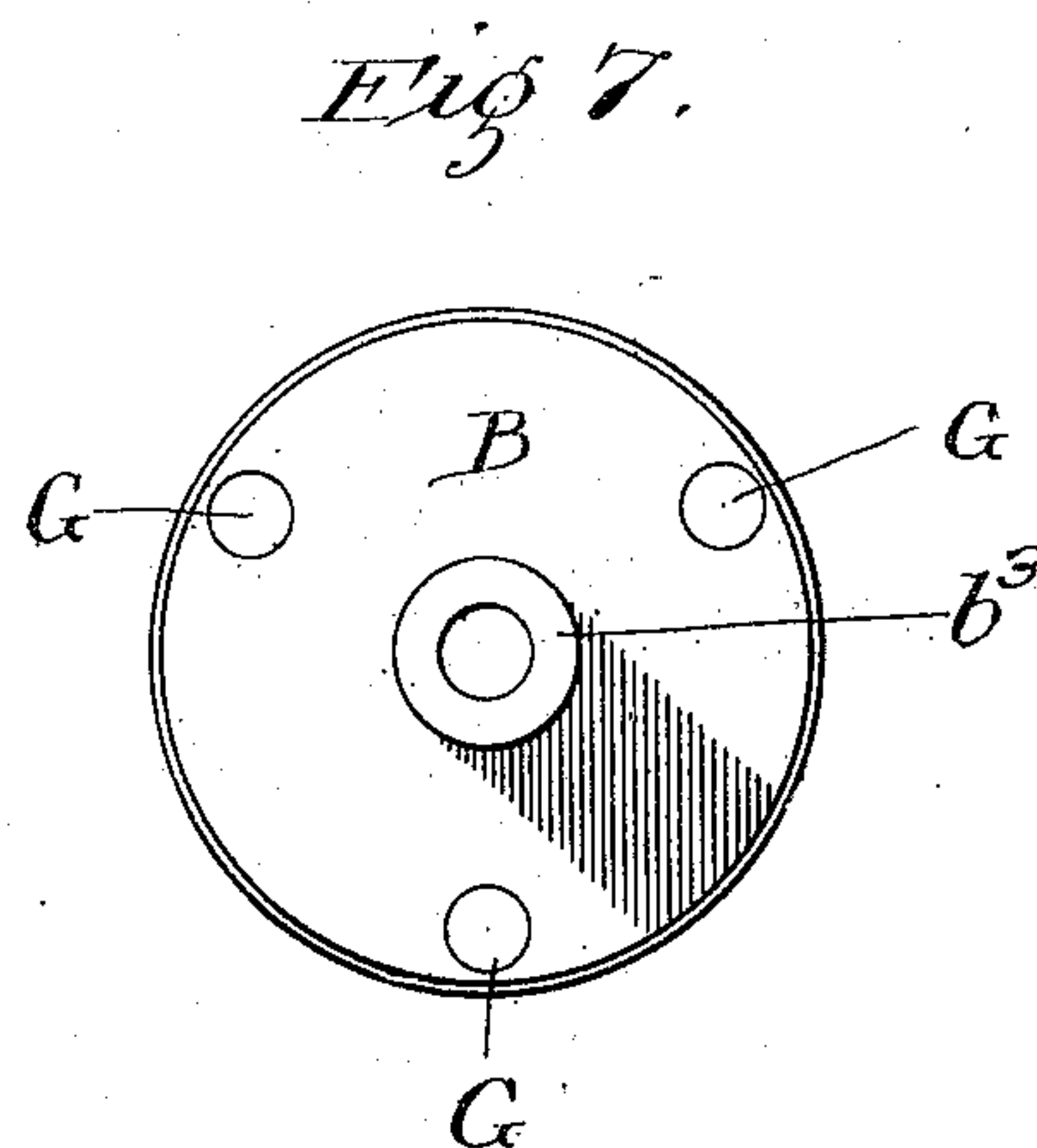
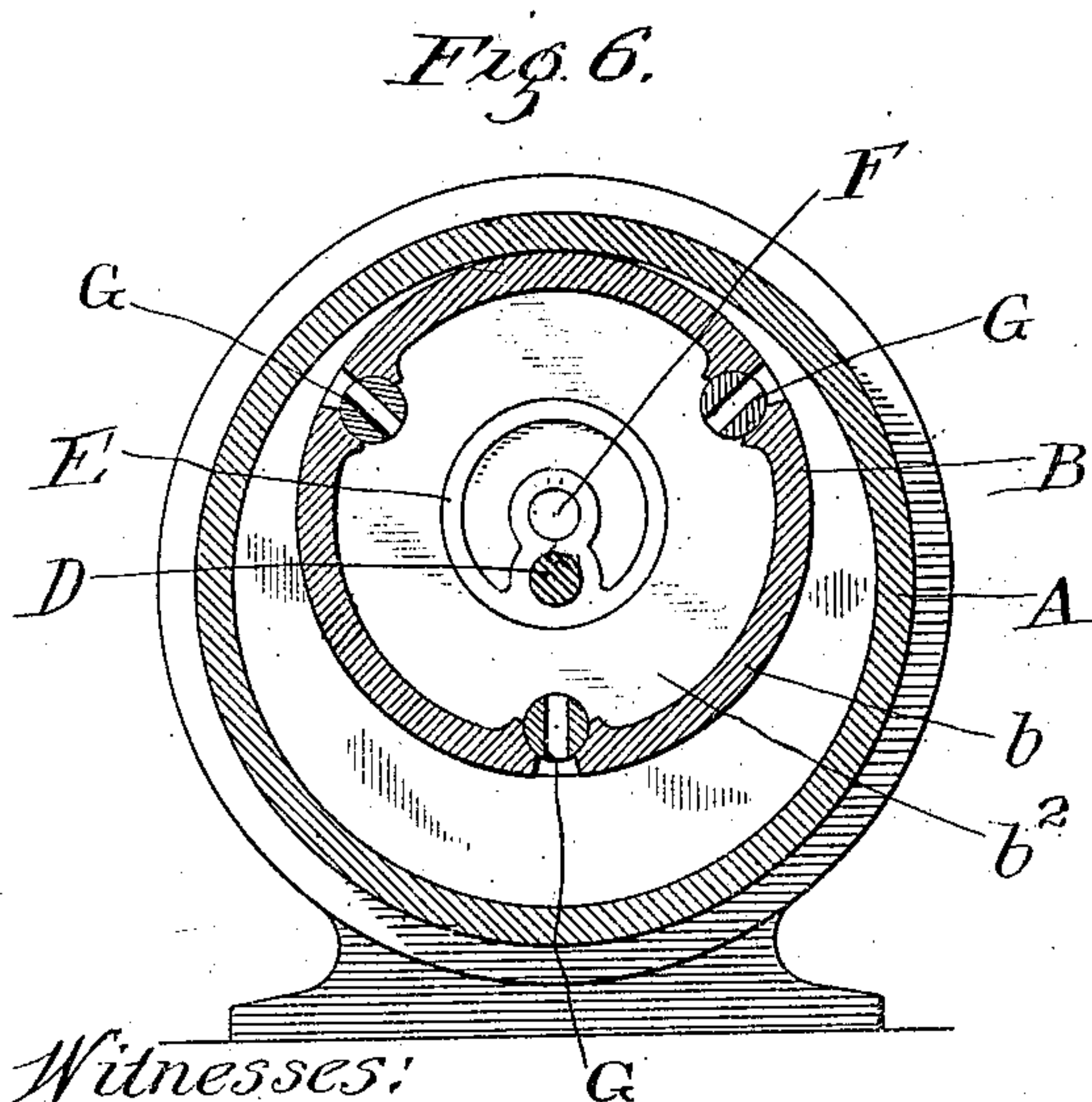
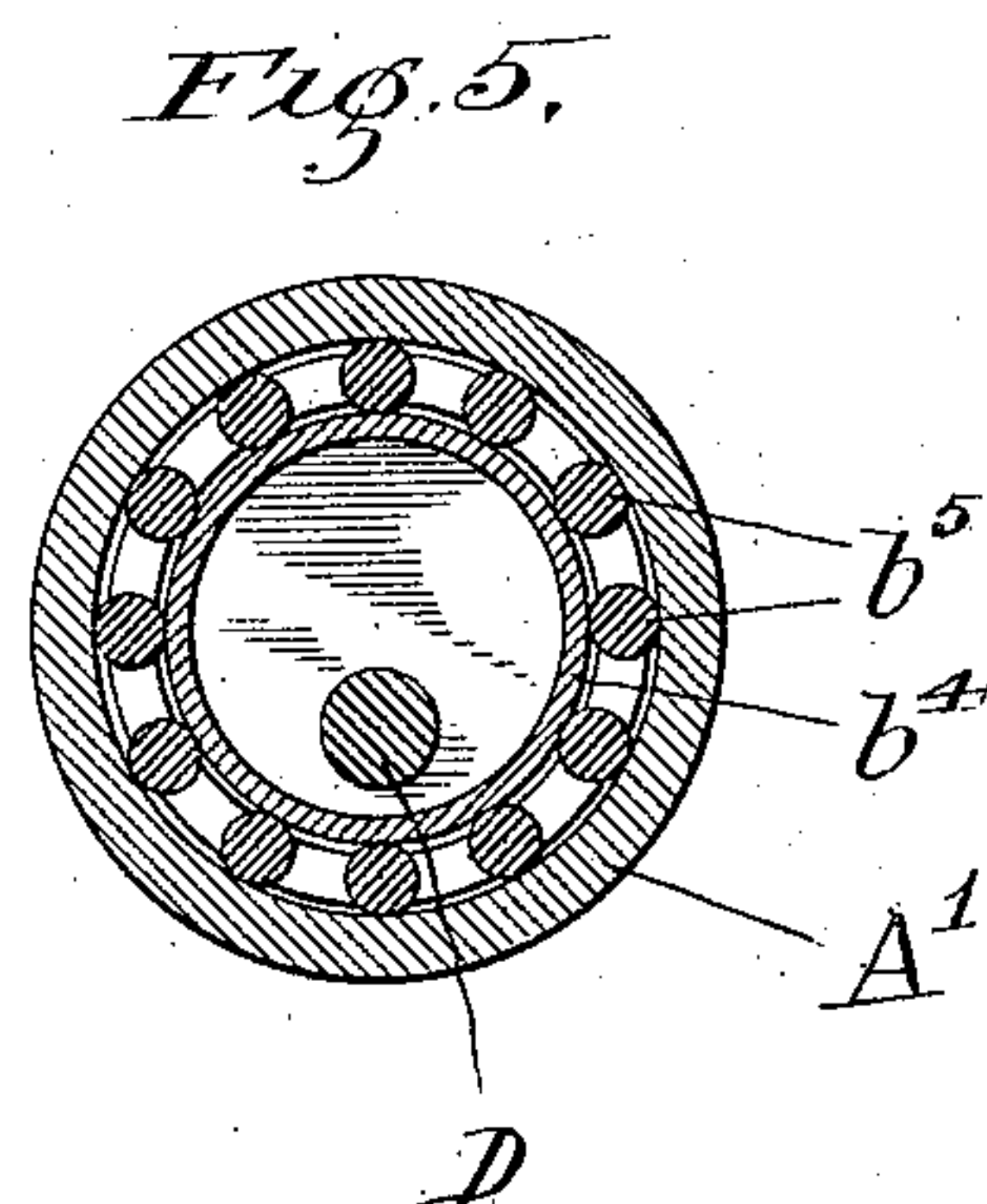
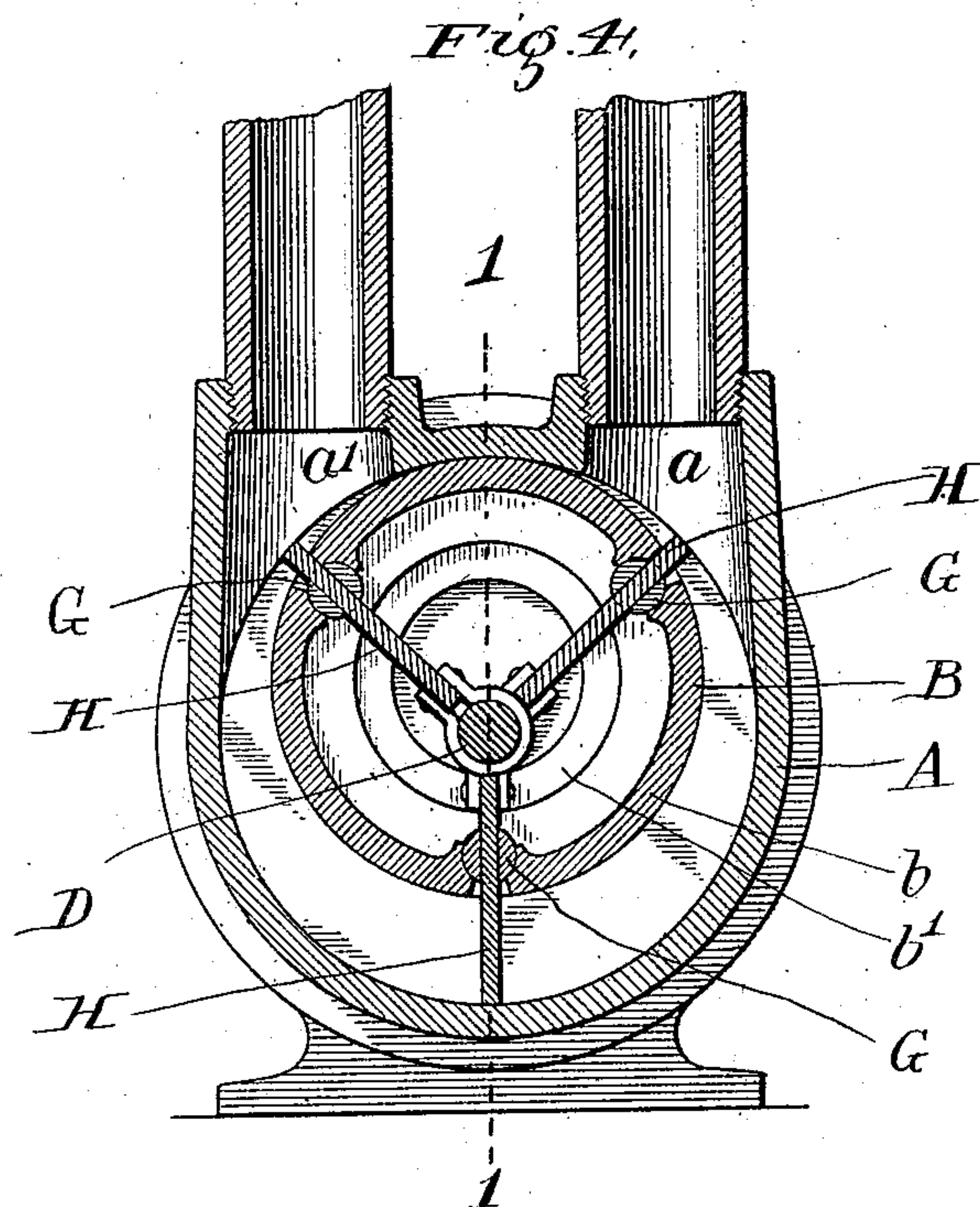
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W. W. GREEN.
BLOWER.

APPLICATION FILED NOV. 15, 1905.

2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM W. GREEN, OF NILES, MICHIGAN, ASSIGNOR TO GARDEN CITY FAN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

BLOWER.

No. 846,844.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed November 15, 1905. Serial No. 287,517.

To all whom it may concern:

Be it known that I, WILLIAM W. GREEN, a citizen of the United States of America, residing at Niles, in the county of Berrien and State of Michigan, have invented certain new and useful Improvements in Blowers, of which the following is a specification.

My invention relates to improvements in blowers, and is fully described and explained in this specification and shown in the accompanying drawings, in which—

Figure 1 is a longitudinal section through my improved device in the line 1 1 of Fig. 4. Fig. 2 is an elevation of the drum. Fig. 3 is an elevation of one of the packing-rollers. Fig. 4 is a transverse section in the line 4 4 of Fig. 1. Fig. 5 is a section in the line 5 5 of Fig. 1. Fig. 6 is a section in the line 6 6 of Fig. 1 looking in the direction of the arrow, and Fig. 7 is an elevation of the right-hand end of the drum as viewed in Fig. 1.

Referring to the drawings, A is a central hollow cylinder having upwardly-projecting bosses a a' , which operate as inlet and exhaust ports, respectively, in the ordinary operation of the machine. It will be understood that the machine may be run in either direction and the function of these ports reversed, but in the operation as herein described the boss a will be assumed to be an inlet and the boss a' the exhaust port. End plates A' A^2 are secured to opposite ends of the cylinder A to inclose the same, and these end plates are shaped, as illustrated in the drawings and as will be hereinafter set forth, to receive certain of the moving parts. Within the cylinder A is a cylindrical drum B, said drum comprising a central portion b , longitudinally slotted from end to end, an end plate b' , secured to the left-hand end of the central portion b , and an end plate b^2 , preferably integral with the central portion b . The end plate b^2 runs within the end piece A^2 of the cylinder and is provided with a hollow projecting sleeve b^3 , which runs in a projecting boss a^2 on the end piece A^2 . The projecting sleeve b^3 has at its end a driving-pulley C, by which the drum B can be rotated. The end piece b' of the drum B is provided with a sleeve b^4 , shorter than the sleeve b^3 and of larger diameter, and this sleeve runs in a cylindrical space provided for the purpose in the end piece A' of the main cylinder, antifriction-rollers b^5 being interposed between the said sleeve and the

adjacent surface of the end piece. By the means thus described the drum B is given a firm rotative bearing in each end of the cylinder, on which bearings it can readily be rotated. It will be observed that as the drum is rotated it remains constantly in contact with the upper element of the cylinder A between the ports a and a' , as seen in Fig. 4.

The end piece A' is provided with a projecting boss a^3 , centrally disposed with respect to the cylinder A, and this boss supports a shaft D, which is locked against rotation by means of a nut d . The opposite end of the shaft D is supported in a cylindrical block E, mounted in a cylindrical hollow provided for the purpose in the end b^2 of the drum B. This block is non-rotatably secured to the end of a shaft F, which runs through the center of the sleeve b^3 and is non-rotatably supported at its free end by a bracket f . The block E is locked upon the shaft F by a set-screw e . By this arrangement the shaft D is given a firm and substantial bearing at both ends and the sleeve b^3 is given an internal stationary bearing.

It will be seen that the end plate b^2 of the drum is perforated to receive the ends of three packing-rollers G, which lie in line with the slots in the central portion b of said drum. The opposite ends of the packing-rollers are passed through corresponding perforations in an inwardly-projecting flange which is formed on the central portion b of the drum, and longitudinal movement of the packing-rollers is prevented by the end plate b' on the drum. These rollers are longitudinally slotted and fit tightly upon piston-vanes H, which are pivotally secured to the shaft D, as illustrated. These piston-vanes are of such length that each extends through the packing-roller and the wall of the drum to the inner surface of the cylinder A.

The operation of my device is readily apparent. When power is applied to the pulley C, the drum B is rotated, and this rotation causes constant rotary movement of the piston-vanes about the stationary shaft D. Each of the vanes as it passes the inlet-port sucks in fluid behind it, the fluid so sucked in being pushed forward by the next succeeding vanes and finally forced from the exhaust-port. The drum B cuts off communication between the two ports and causes the fluid to flow from the exhaust-port rather than in a circle about the blower.

I realize that considerable variation is possible in the details of this construction without departing from the spirit of the invention, and I therefore do not intend to limit myself to the specific form herein shown and described.

I claim as new and desire to secure by Letters Patent—

1. The combination with a ported cylinder having projecting eccentric bosses at each end, of a hollow cylindrical drum having sleeves journaled in the bosses, said drum being in contact with the wall of the cylinder between its ports, a shaft rigidly fixed to the center of the cylinder at one end, a rigid cylindrical block within the drum in its center line, said block being adapted to receive the opposite end of said shaft, and a plurality of vanes rotatable upon the shaft and extending through slots in the drum.

2. The combination with a ported cylinder,

of a rotatable cylindrical drum having sleeves at its two ends, a projecting boss on the cylinder to receive one sleeve, a shaft passing through said sleeve, a cylindrical block rigidly fixed to said shaft, said drum being rotatable upon said block, a cylindrical boss on the opposite end of said cylinder to receive the second sleeve on the drum, a second shaft secured in said boss at one end and in said cylindrical block at its other end and lying in the center line of the cylinder, and a plurality of vanes journaled upon the shaft and extending through slots in the drum-wall.

In witness whereof I have signed the above application for Letters Patent, at Chicago, in the county of Cook and State of Illinois, this 7th day of November, A. D. 1905.

WILLIAM W. GREEN.

Witnesses:

ERIC HEDEEN,
REINHOLD F. LINDEMAN.