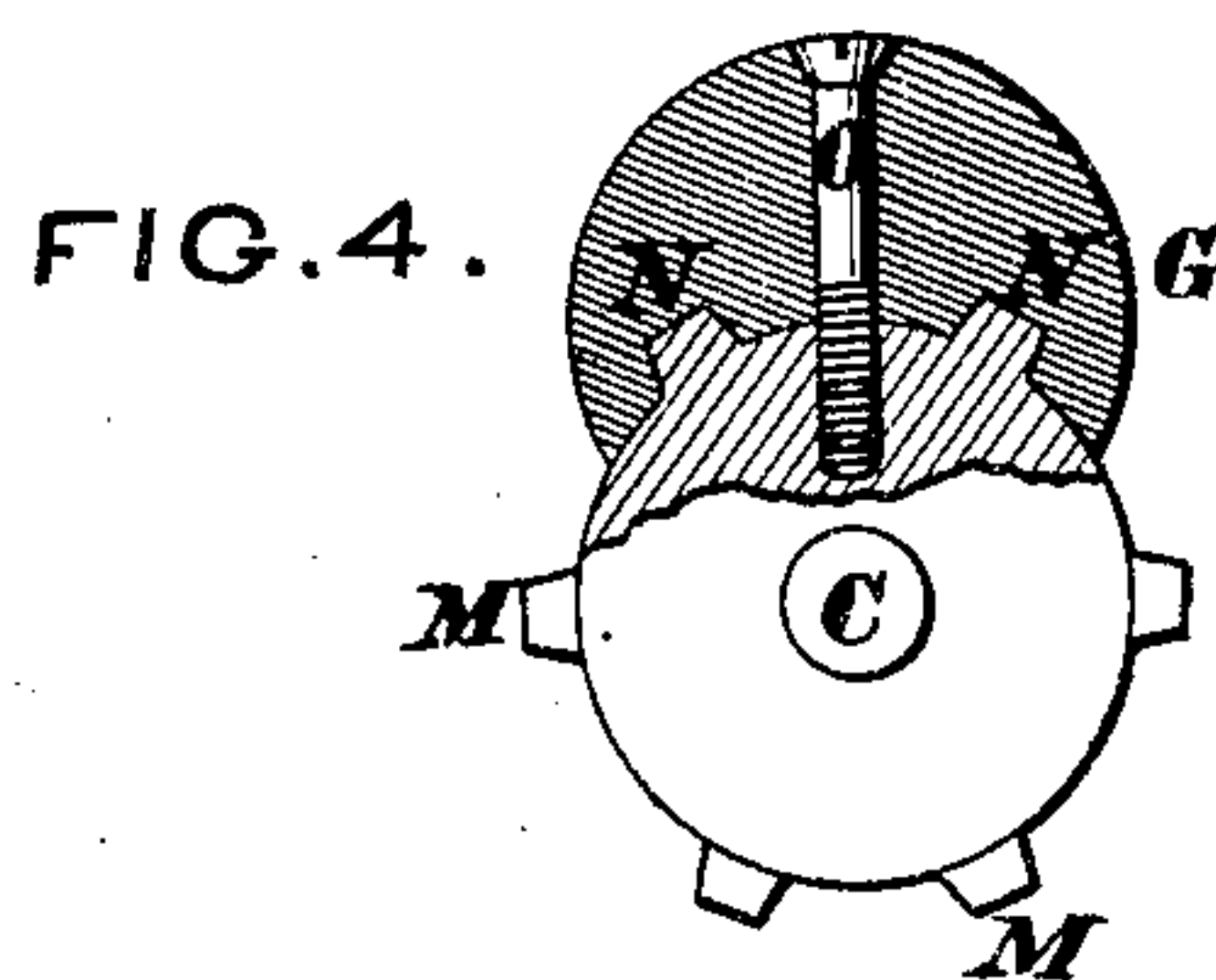
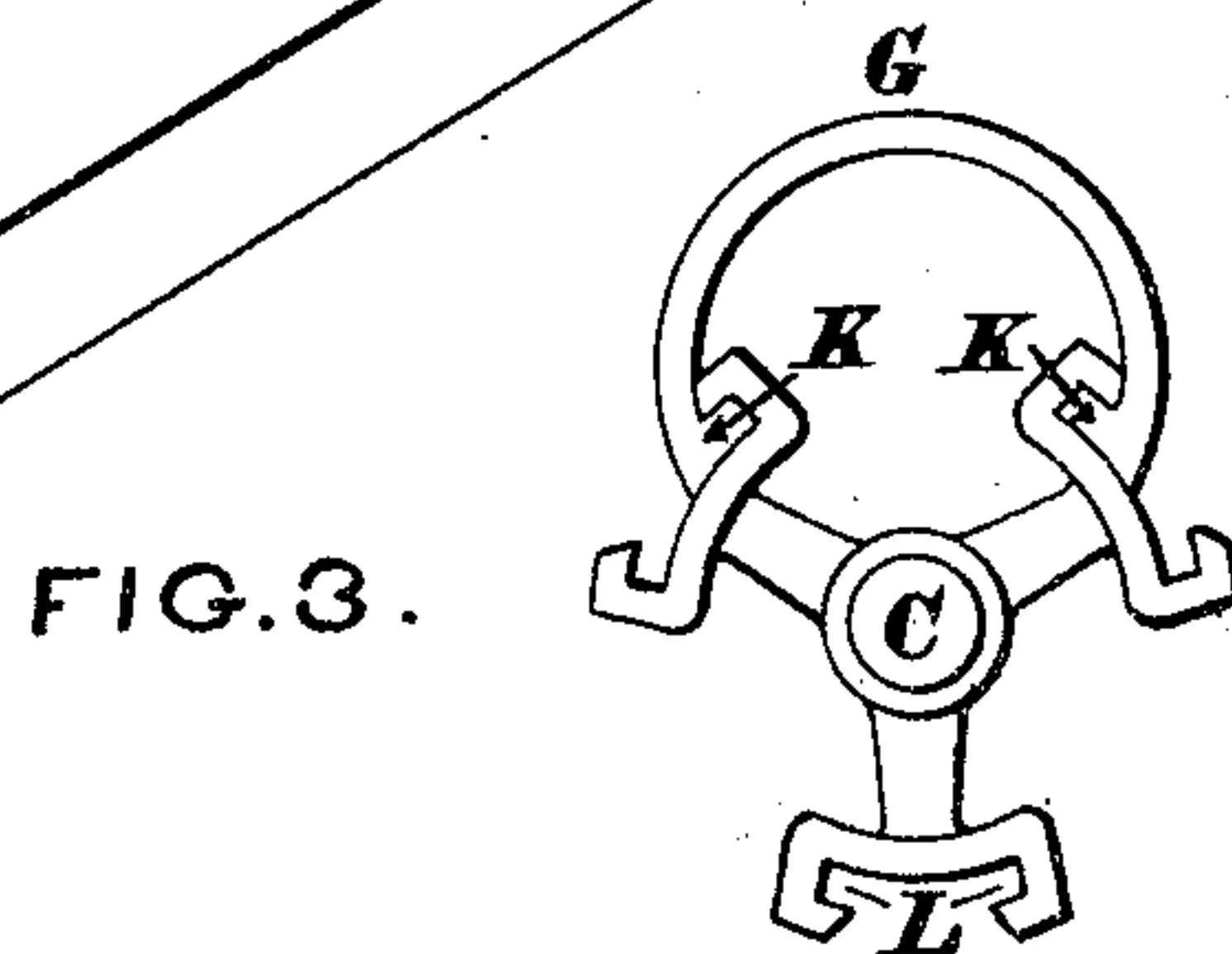
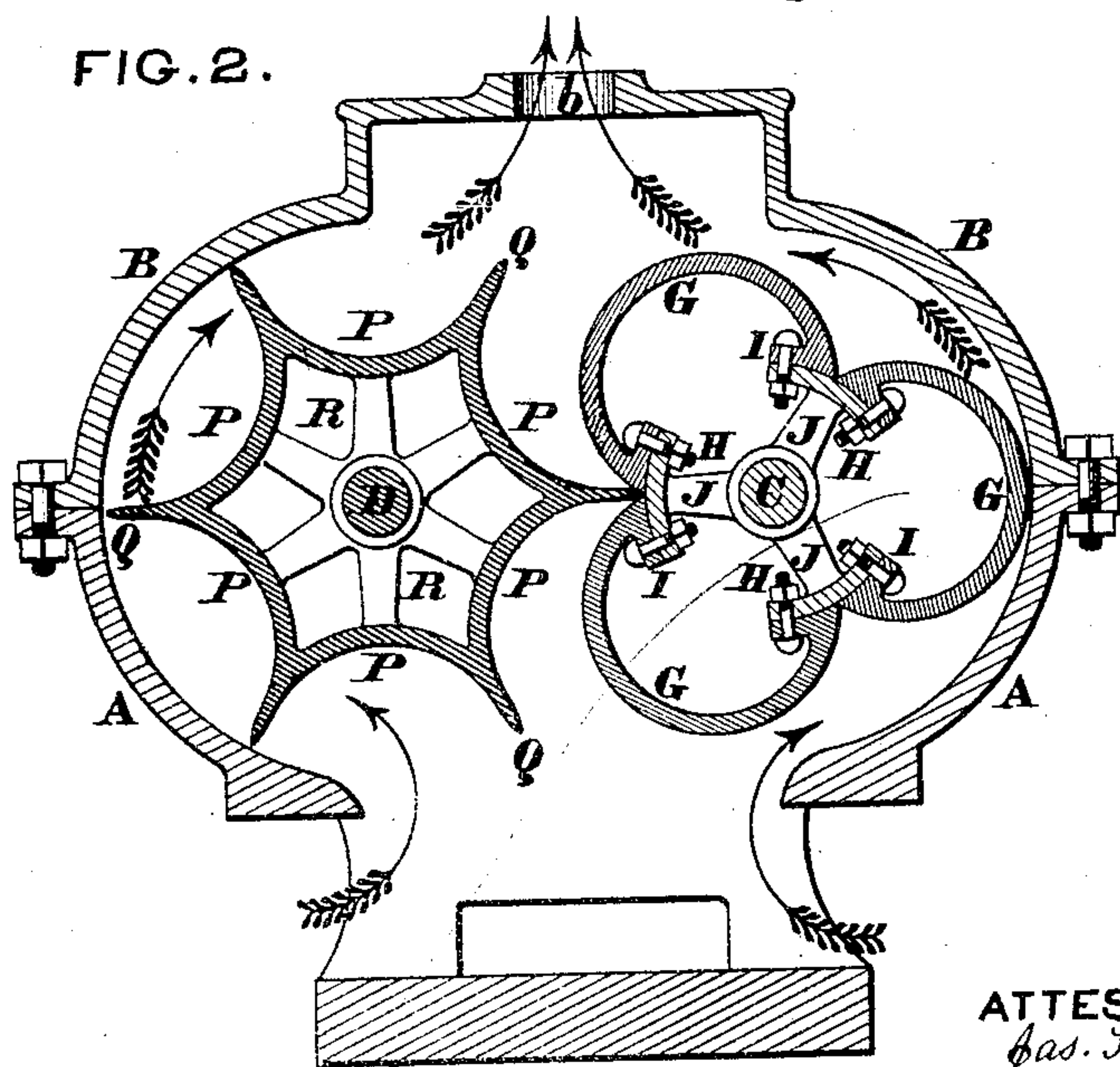
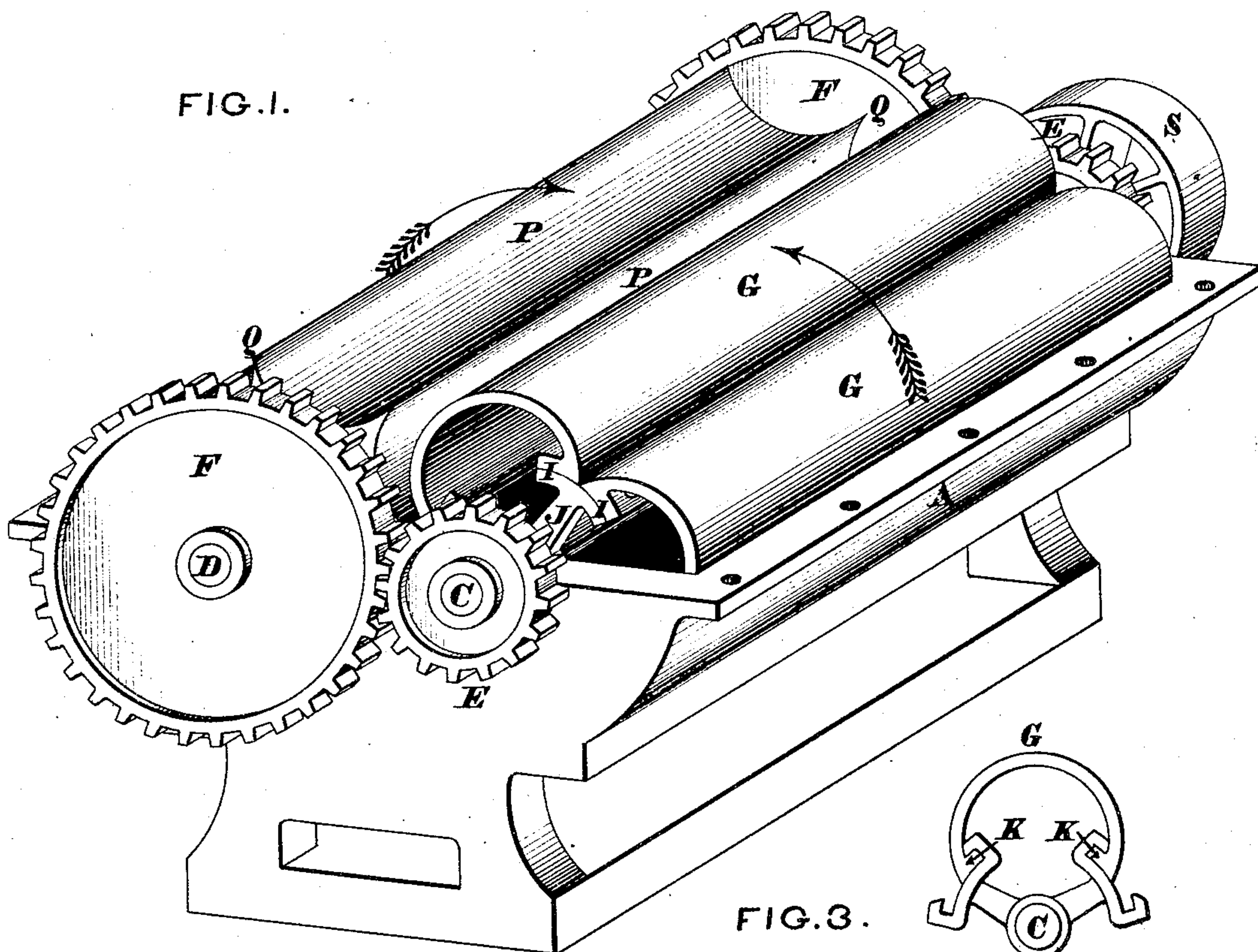


J. N. Gilchrist,

Flower.

No. 103733.

Patented May 31, 1870.



J. N. Gilchrist
INVENTOR.
by his Attorneys
Knight Bros.

ATTEST.
Geo. H. Layman,
William Hauer

United States Patent Office.

JAMES N. GILCHRIST, OF CONNERSVILLE, INDIANA, ASSIGNOR TO HIMSELF AND JOHN I. GILCHRIST.

Letters Patent No. 103,733, dated May 31, 1870.

IMPROVEMENT IN BLOWERS.

The Schedule referred to in these Letters Patent and making part of the same.

I, JAMES N. GILCHRIST, of Connorsville, Fayette county, Indiana, have invented a new and useful Rotary Blower, of which the following is a specification.

Nature and Objects of the Invention.

This is an improvement in the class of rotaries which act by the opposite rotation within a suitable case of two intermeshing heads or pistons; the two heads, in my improvement, consisting, respectively, of three convex and of six concave cylindrical segments.

General Description with Reference to the Drawing.

Figure 1 is a perspective view of a blower embodying my improvements, the upper member of the case being removed.

Figure 2 is a transverse section of said blower.

Figures 3 and 4 represent modifications of my convex head.

Confined within an oblong shell or case A B, such as commonly employed with this class of rotaries, are two shafts C D, of which the shaft C is the driving, and the shaft D is the driven one.

These shafts are geared together at one or both ends of the case by cog-wheels E F, of which the wheel E, on the driving-shaft C, is half the diameter of the wheel F on the driven shaft D, which shaft, consequently, revolves at half the velocity of its driver.

My driving-head or piston consists, essentially, of three cylindrical segments G of two hundred and forty degrees each, whose convex surfaces are presented outward.

These segments, having been separately cast and turned, are firmly secured to the shaft in any suitable way, such as by bolts H, flanges I, and arms J, (see figs. 1 and 2,) by tongues K, and grooves L, as in fig. 3, or by tongues M, grooves N, and bolts O, as in fig. 4. They may be either hollow, as in figs. 1, 2, and 3, or solid, as in fig. 4.

The periphery of my driven head consists of six channels P whose more recessed portions are concave cylindrical segments of equal or nearly equal radius to the segments G, and of about one hundred and twenty degrees each, and whose more projecting portions constitute rounded spurs Q.

The head P Q may be cast in one piece with its arms R, as represented, or may be cast in two, three, or six pieces or segments, and suitably bolted or otherwise made fast to the shaft.

The rotation of the head G may be effected through the instrumentality of a pulley, S, or otherwise.

Operation.

The head G being rotated as per arrow, causes a simultaneously opposite rotation at half the speed of the head P, and the rotation of these heads acts to chamber and carry up successive volumes of air or other fluid between said heads and the case, and to discharge them through the aperture b in the top of the said case, with a force and velocity commensurate with that of the said heads.

Claim.

I claim herein as new and of my invention.

The described combination of driving-head composed of three convex cylindrical segments G, and the driven head having six concave cylindrical segments P, separated by convex spurs Q, the said heads being geared together and inclosed in a suitable case or shell, as set forth.

In testimony of which invention I hereunto set my hand.

JAMES N. GILCHRIST.

Witnesses:

GEO. H. KNIGHT,
JAMES H. LAYMAN.