

(No Model.)

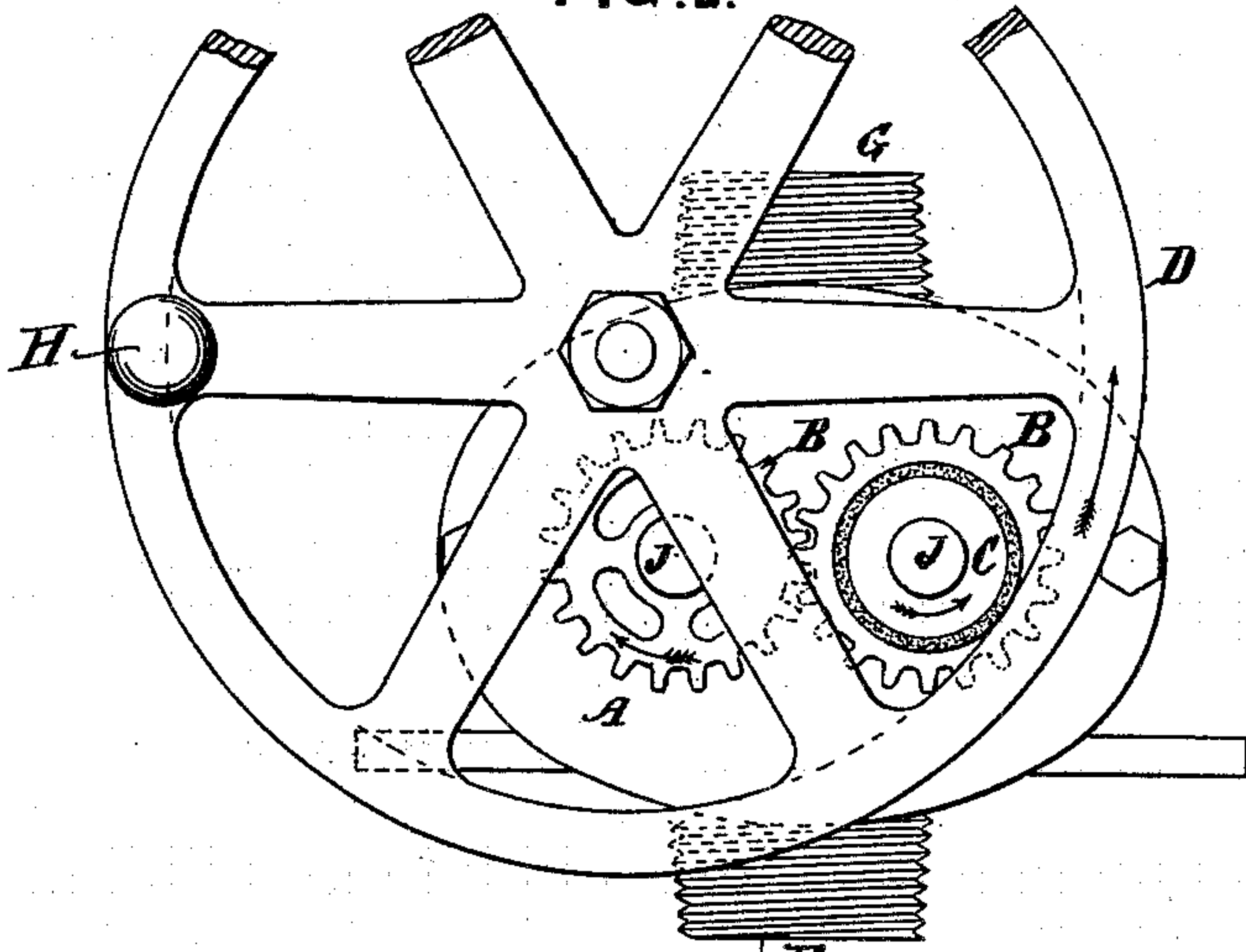
J. O. CHEEVER.

# ROTARY PUMP.

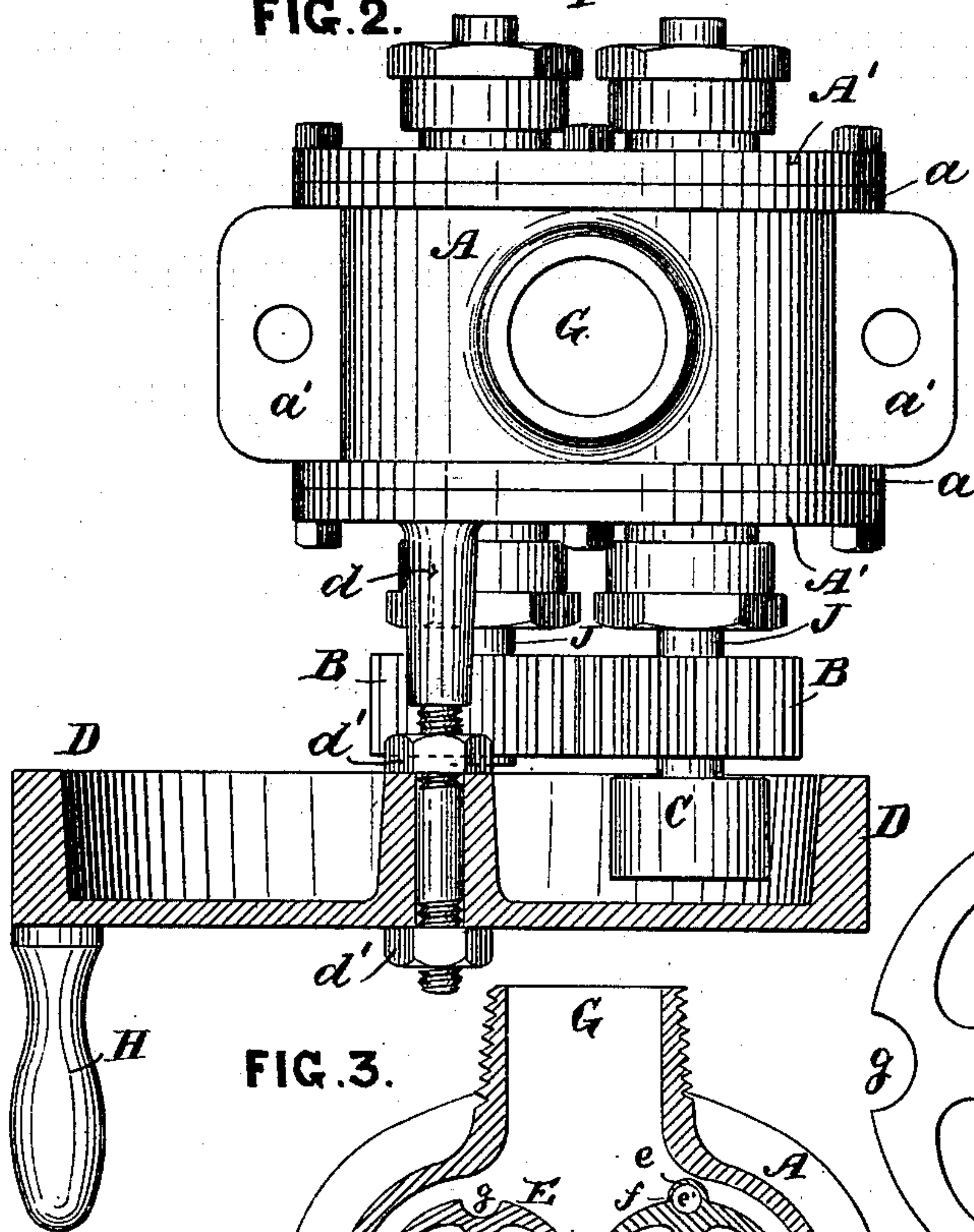
No. 349,270.

Patented Sept. 14, 1886.

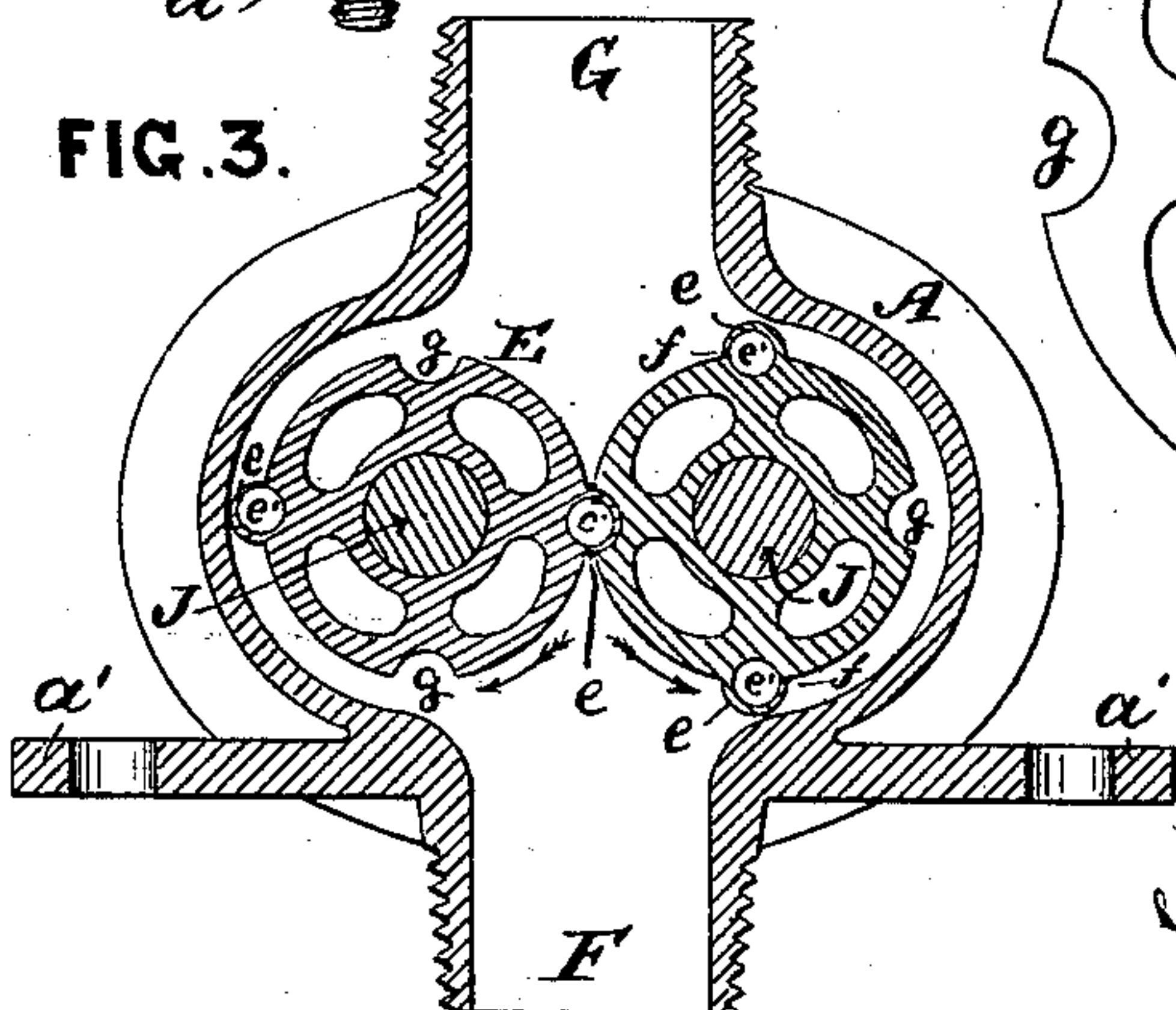
**FIG. 1.**



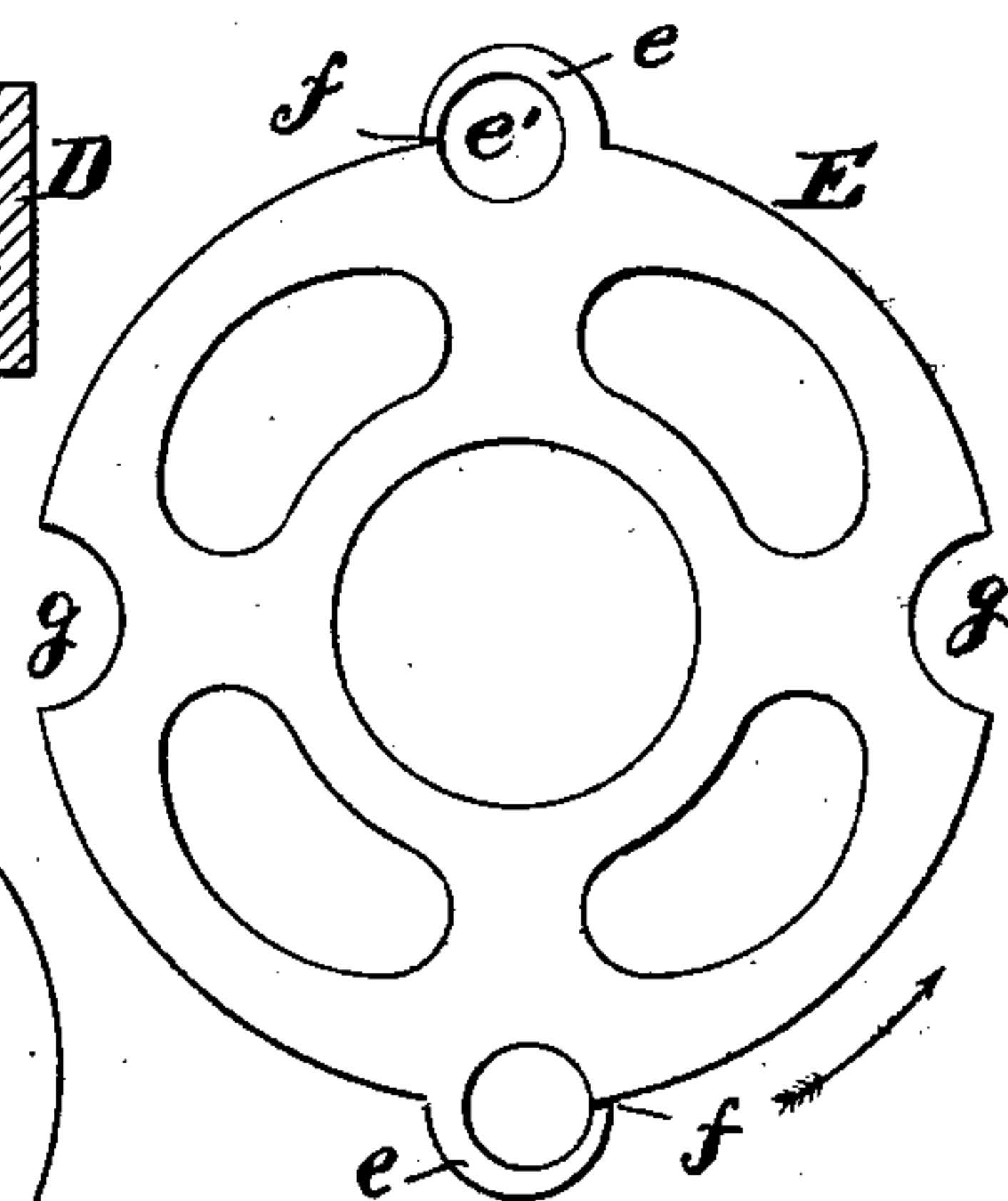
**FIG.2.**



**FIG. 3.**




**FIG. 4.**



Witnesses.

E. Banta.  
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Inventor.

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# UNITED STATES PATENT OFFICE.

JOHN O. CHEEVER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF  
AND HENRY T. LITCHFIELD, OF SAME PLACE.

## ROTARY PUMP.

SPECIFICATION forming part of Letters Patent No. 349,270, dated September 14, 1886.

Application filed January 27, 1886. Serial No. 189,988. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN O. CHEEVER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Rotary Pumps, of which the following is a specification.

My invention relates to an improvement in rotary pumps of that class in which two rotating cams or disks are employed, and which are provided each, respectively, with projections and cavities fitting one within the other as the cams or disks rotate.

My invention consists of two cylinders or pistons, each having two projections and two corresponding cavities, which engage each with the other as the pistons rotate. The projections are made hollow and are cast with the pistons, and after being cast a slit is made in the projections at one side and at a point contiguous to the periphery of the piston, for the purpose of allowing the projection to expand to make a tight packing, and also to compensate for the wear of the casing.

Referring to the accompanying drawings, Figure 1 is a side view showing the means for driving the pistons. Fig. 2 is a plan or top view. Fig. 3 is a section of the casing and pistons, and Fig. 4 is a side view of one of the pistons on an enlarged scale.

A represents the casing in which the pistons revolve, and it is provided with flanges *a a* on each side, to which the heads *A'* are secured. The casing *A* is also provided with openings on its upper and lower sides, which form the inlet and outlet *F* and *G*, and also with flanges *a'*, for securing it in position. The heads *A'* are provided with ordinary stuffing-boxes, through which the shafts *J* pass. On the shafts *J* are mounted cylinders or pistons *E E*, each having two projections, *e*, and two corresponding cavities, *g*, so arranged that as the pistons

*E* revolve the projections on one piston will fit into the cavity on the other piston. The projections *e* are cast in one with the piston *E*, and their outer surface is a segment of a circle. An aperture, *e'*, is drilled or otherwise formed half in the piston and half in the projection *e*, so that the thickness of the projection is greater on one side than the other. A slit is cut on the thinnest side of the projection at a point contiguous to the periphery of the piston *E*, so as to leave the projection attached to the piston at the thickest side only, and thereby act as a spring. The pistons are so set that as they revolve the pressure of the fluid will be on the thinnest side of the projection *e*, and will be forced through the slit into the aperture *e'*, and force the projection *e* so as to be in contact with the inner side of the casing or cylinder *A*, thereby insuring a perfect vacuum and compensating for any wear. The pistons are to be driven by any suitable power.

What I claim as my invention is—

1. In a rotary pump, the pistons *E E*, each provided with projections *e e* and apertures *e' e'*, so arranged that each projection will be thicker on one side than the other, and the thinnest side being separated from the piston, so that it will act as a spring, in combination with recesses *g g*, substantially as shown, and for the purposes described.

2. In a rotary pump, the pistons *E E*, provided with semicircular spring projections *e'*, in combination with corresponding cavities, *g*, substantially as shown, and for the purposes described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN O. CHEEVER.

Witnesses:

J. H. ADAMS,  
E. PLANTA.