

(No Model.)

2 Sheets—Sheet 1.

M. A. ANDREWS.
JOURNAL BEARING.

No. 448,624.

Patented Mar. 24, 1891.

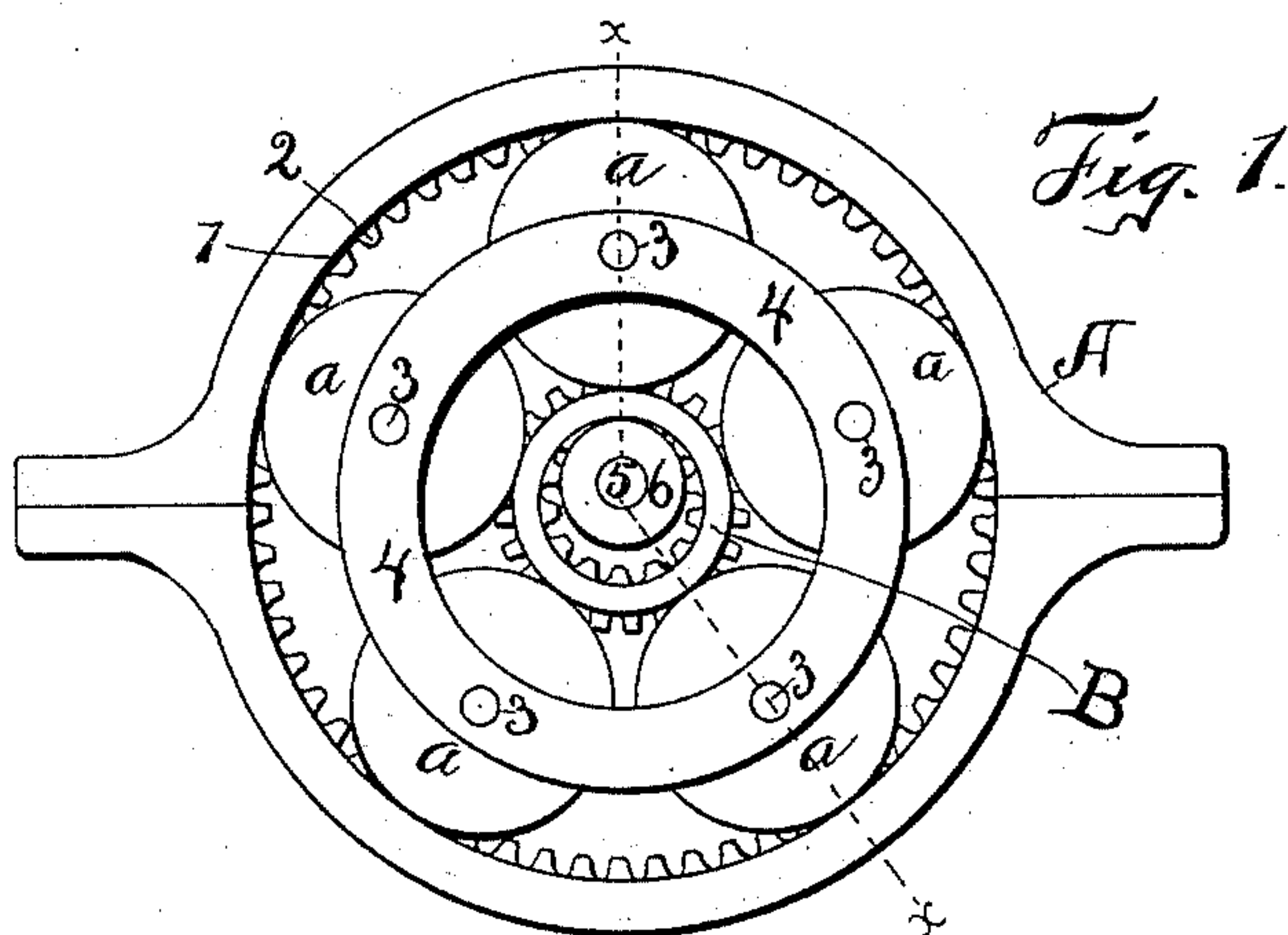


Fig. 1.

Fig. 4.

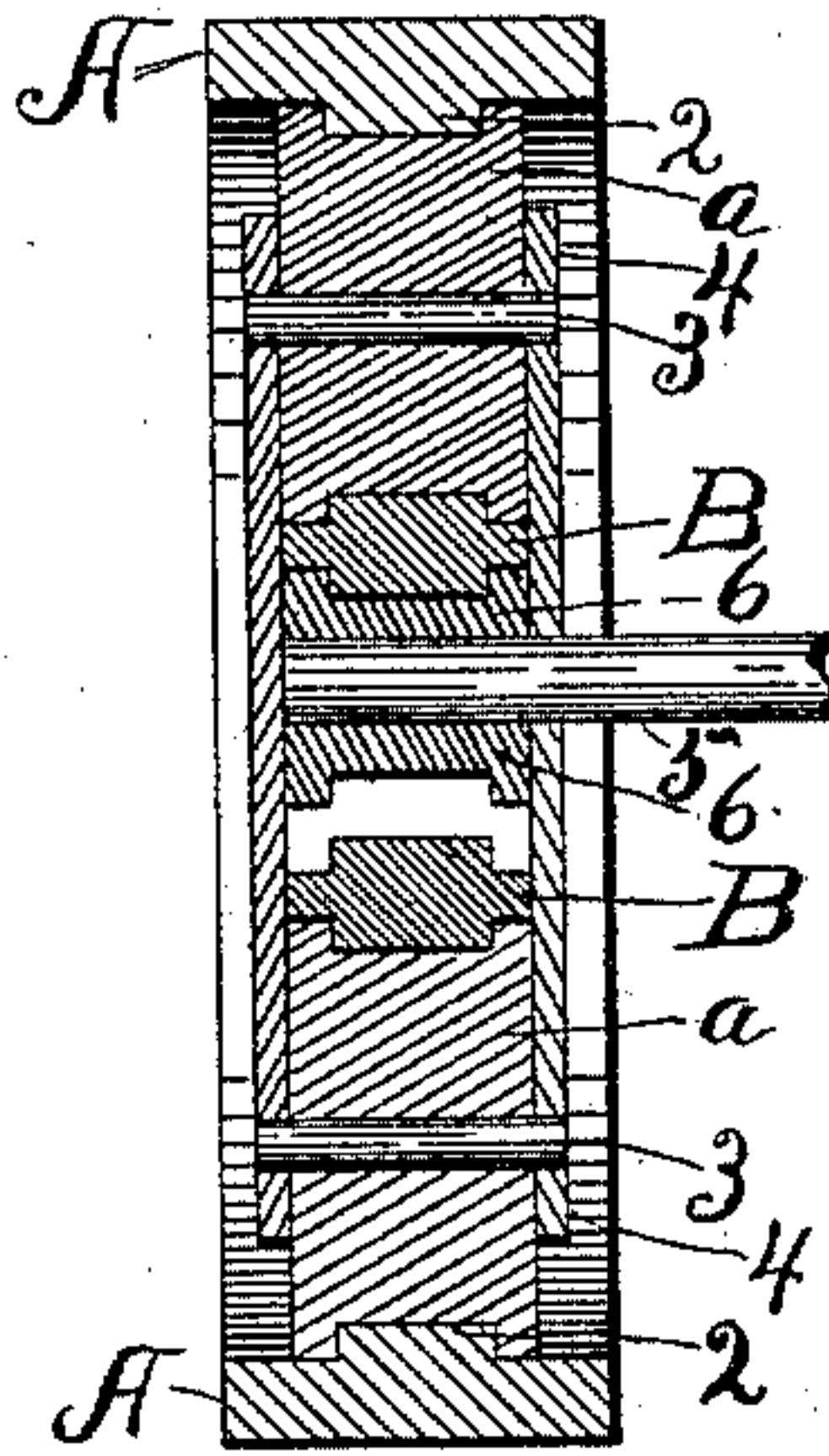
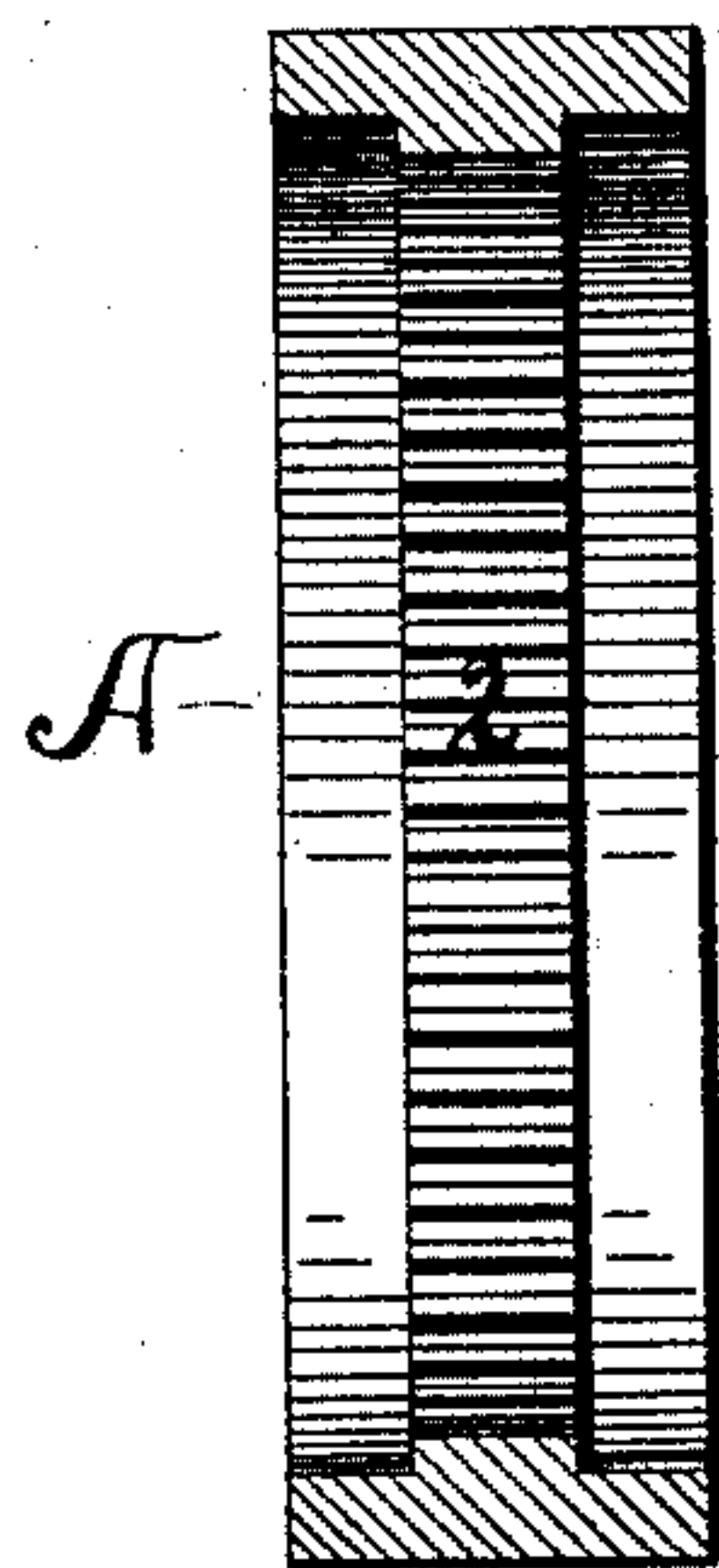


Fig. 3.

Fig. 6.

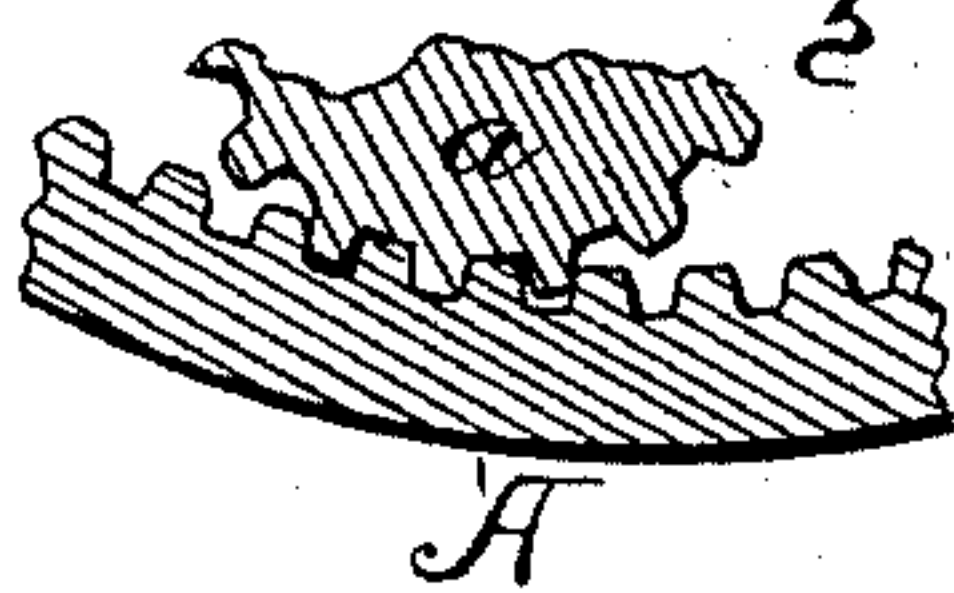


Fig. 5.



Witnesses
E. T. Mack
H. A. Carhart.

Inventor
Marian A. Andrews
by Smith & Denison
his Attorneys

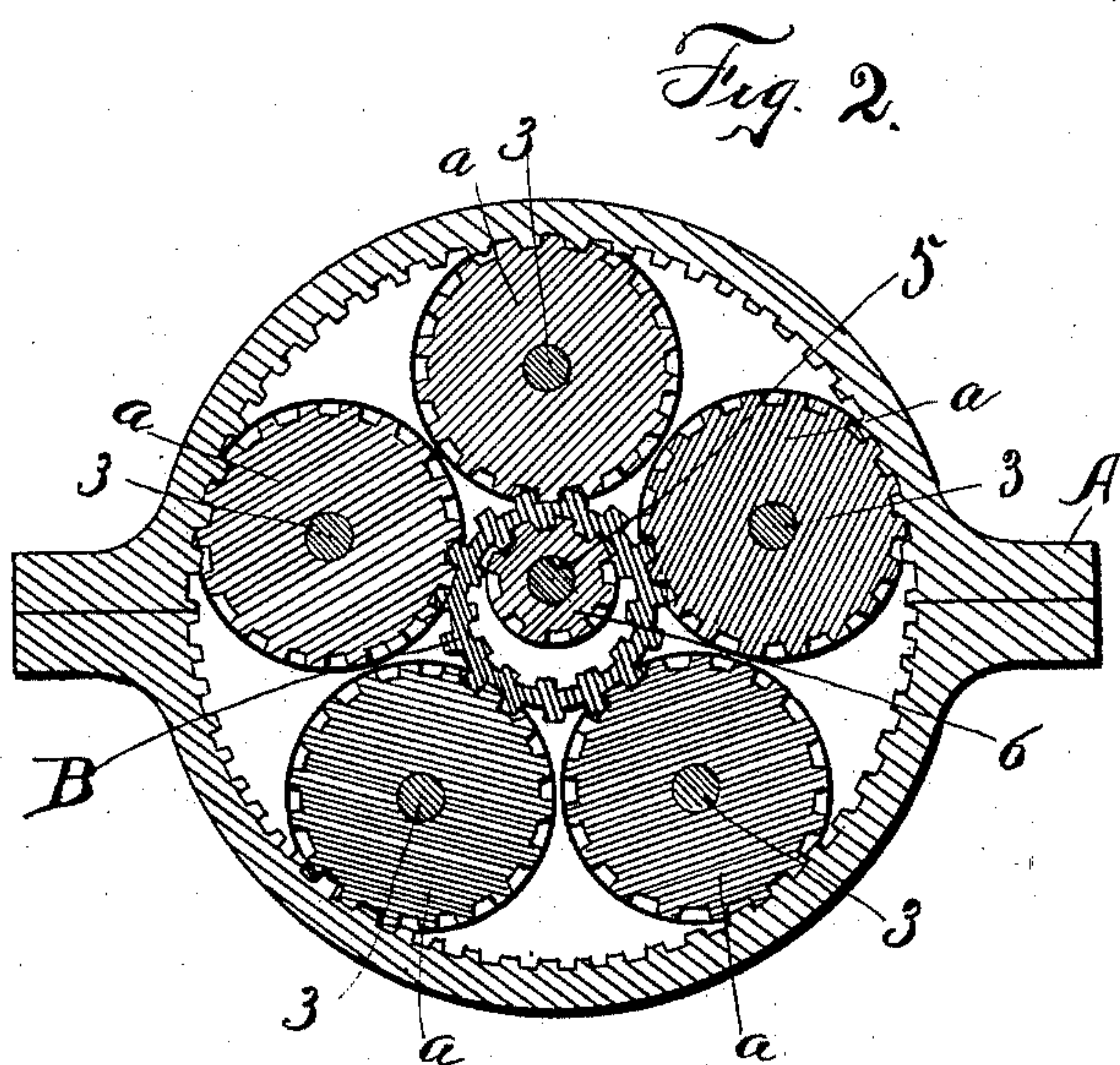
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2 Sheets—Sheet 2.

M. A. ANDREWS.
JOURNAL BEARING.

No. 448,624.

Patented Mar. 24, 1891.



Witnesses
H. A. Carhart,
Kate Curtin

Marion A. Andrews Inventor

By his Attorneys

Smith & Benson

UNITED STATES PATENT OFFICE.

MARION A. ANDREWS, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF
TO JAMES M. ANDREWS, OF SAME PLACE.

JOURNAL-BEARING.

SPECIFICATION forming part of Letters Patent No. 448,624, dated March 24, 1891.

Application filed June 19, 1890. Serial No. 356,019. (No model.)

To all whom it may concern:

Be it known that I, MARION A. ANDREWS, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and
5 useful Improvements in Journal-Bearings, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to journal-bearings
10 which are designed to reduce the friction of the axle-shaft or arbor therein, and consequently reduce the draft proportionally to the reduction of the friction.

My object is to produce an improved journal-bearing of the anti-friction species, in
15 which a geared sleeve is secured upon the axle or shaft, engaging with like gearing upon the inner wall of a ring fitting loosely over and considerably larger than the sleeve,
20 said ring being also geared upon its periphery, and in which anti-friction geared rollers engage with and support and steady the ring in its travel around the sleeve, said rollers
25 being mounted upon separate arbors mounted in annular rings and held apart from each other by their arbors, said rollers having also an exterior bearing against the inner wall of the casing.

My invention consists in the several novel
30 features of construction and operation hereinafter described, and which are specifically set forth in the claims hereto annexed.

My bearing is constructed as follows, reference being had to the accompanying drawings, in which—
35

Figure 1 is a front elevation with the cap or cover of the casing removed. Fig. 2 is a vertical transverse section. Fig. 3 is a section taken on radial lines from the center
40 outward both ways through the center of two of the friction-rollers, as on line X X in Fig. 1. Fig. 4 is a sectional detail showing the inner wall of the casing. Fig. 5 is a vertical sectional detail of the loose ring removed. Fig.
45 6 is a detail showing a geared friction-idler in gear with the inner wall of the casing.

A is the casing, constructed in sections, which together create an inner circular wall 1, and 2 is a projecting endless trackway
50 upon this wall, which is geared as shown in

Fig. 6, or is centrally geared with plain lands on each side of the gearing.

B is the loose ring, provided with gearing upon its inner wall and with gearing upon its periphery, as shown, and these inner and
55 outer gear-teeth can extend across the whole width of the ring, or only part way, in the latter case leaving a rim on each side of the gear-teeth. Between this ring and the casing I mount the idlers or wheels *a*, geared upon
60 their peripheries to mesh with the loose ring and with the casing when that is geared. These idlers may be geared clear across their peripheries or only centrally, with a plain rim
65 on each side of the teeth. They are also separately mounted upon arbors 3, which are in turn mounted or secured in annular rings 4, equidistant from each other, and which hold the rollers apart from each other.

The axle 5 is externally geared adjacent to
70 its end, or a geared sleeve is secured onto the plain end of the axle, and this gear meshes with the gearing on the inner wall of the loose ring. Then as the axle rotates it carries the gear with it. This rotates the loose
75 ring, and the ring rotates the idlers, and all being geared together their action is positive and not dependent upon friction or upon the frictional engagement of the smooth axle with the smooth inner wall of the loose ring, and
80 of the smooth periphery of the ring with smooth-faced friction-rollers. It is also apparent that only one of the idlers may be geared and the other left plain to accomplish the same joint rotation, the plain idlers being
85 grooved to fit over the gearing and bear with frictional contact upon the periphery of the ring outside of the gearing.

What I claim as my invention, and desire to secure by Letters Patent, is—
90

1. A sectional journal-casing having an endless geared trackway upon its inner wall, a loose ring geared internally and externally, and geared idlers meshing with the geared trackway within the casing and with that
95 upon the periphery of the ring, in combination with the axle and the gear thereon passing loosely through the ring and meshing with the gear upon its inner wall.

2. A sectional journal-casing having an end-
100

less geared trackway upon its inner wall, a
loose ring geared internally and externally,
geared idlers mounted upon separate arbors
and meshing with the geared trackway within
5 the casing and with that upon the periphery
of the ring, and annular rings carrying the
arbors of the idlers, in combination with the
axle and the gear thereon passing loosely

through the ring and meshing with the gear
upon its inner wall. 10

In witness whereof I have hereunto set my
hand this 29th day of May, 1890.

MARION A. ANDREWS.

In presence of—

HOWARD P. DENISON,
E. V. MACK.