

(No Model.)

2 Sheets—Sheet 1

J. BARKER.

MECHANISM FOR CONVERTING ROTARY INTO VIBRATING MOTION.

No. 292,461.

Patented Jan. 29, 1884.

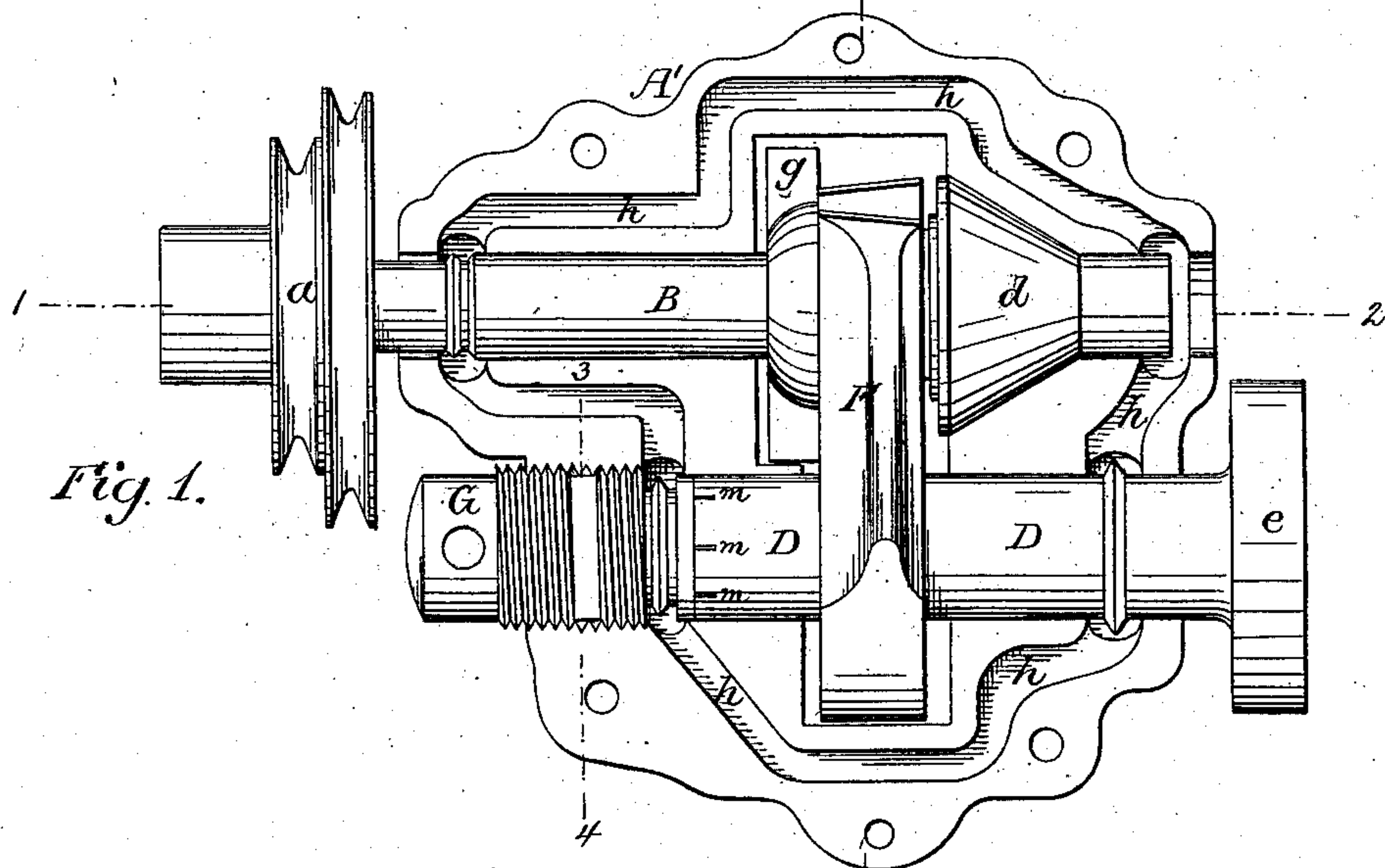


Fig. 1.

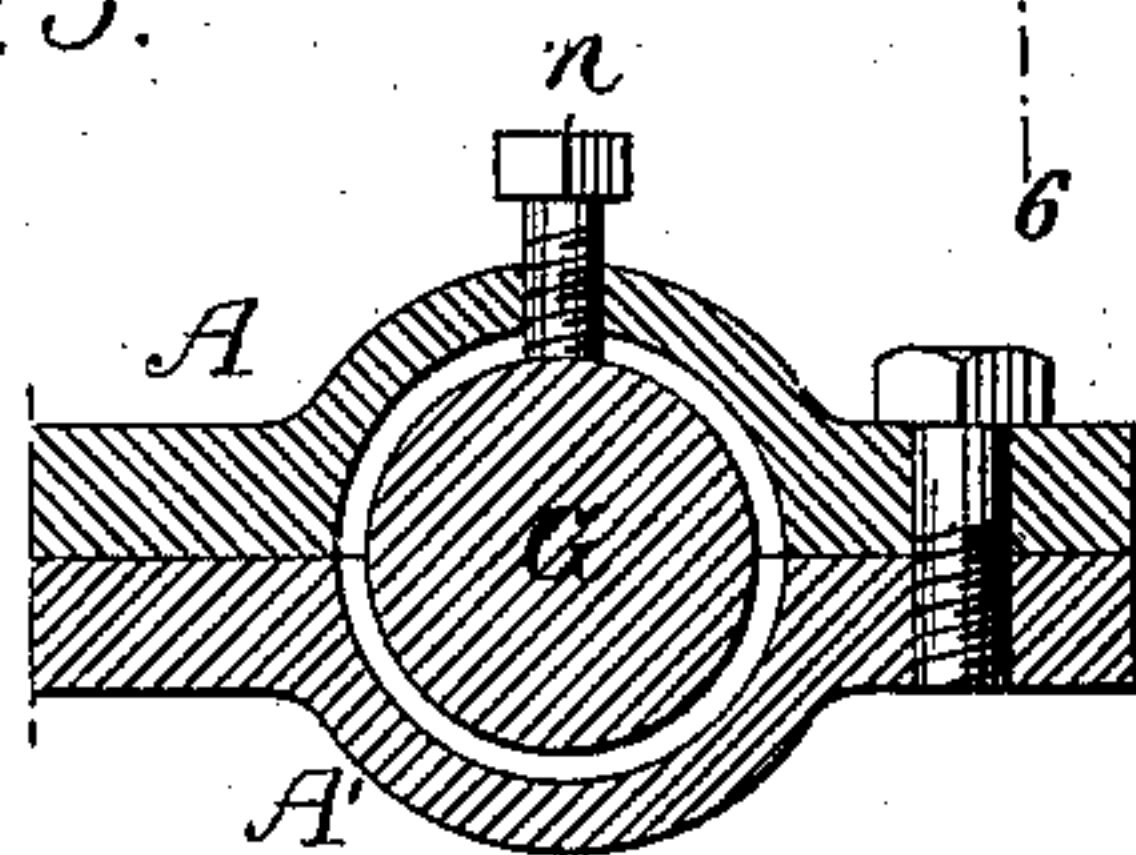
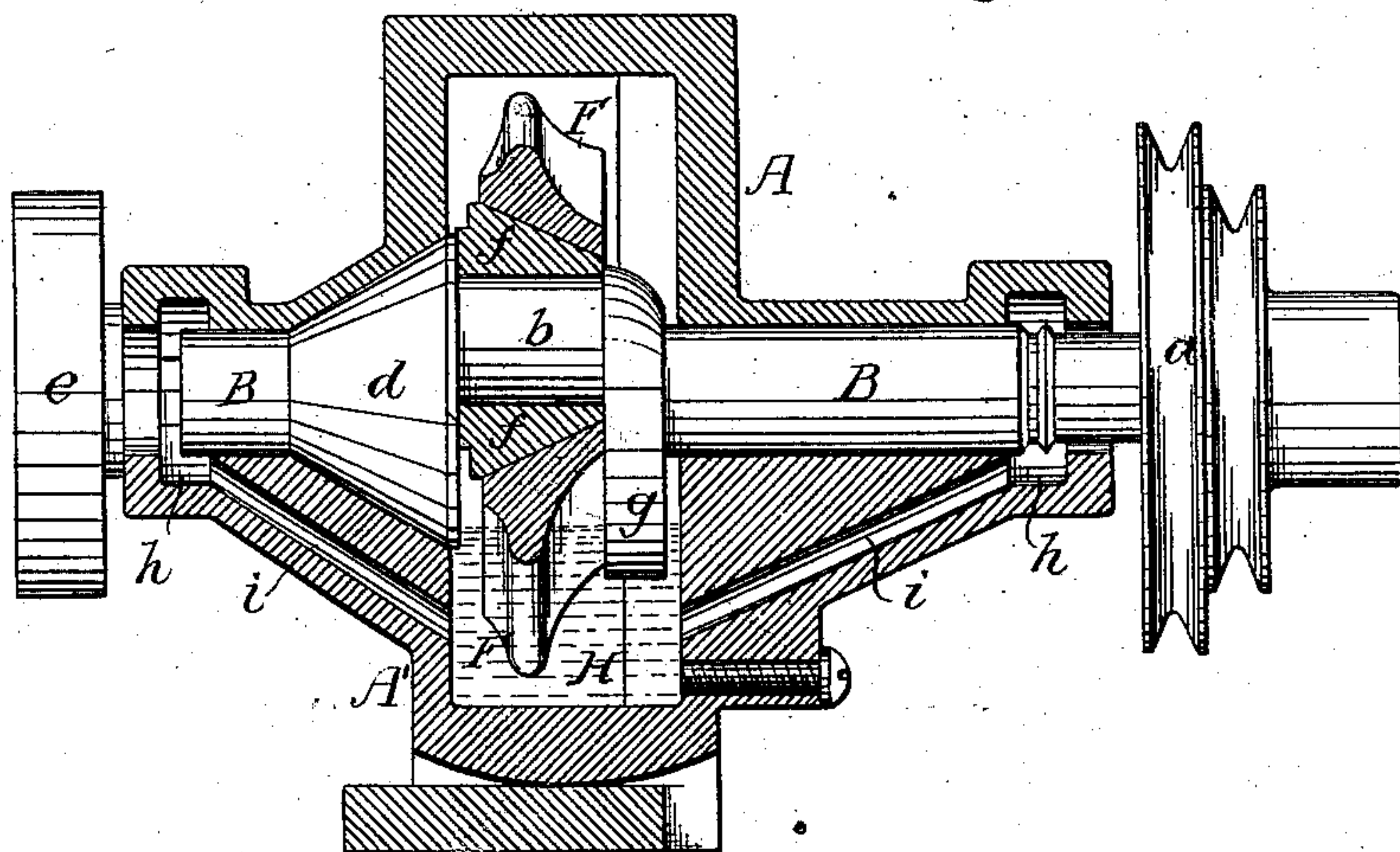


Fig. 2.



Witnesses
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Inventor
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(No Model.)

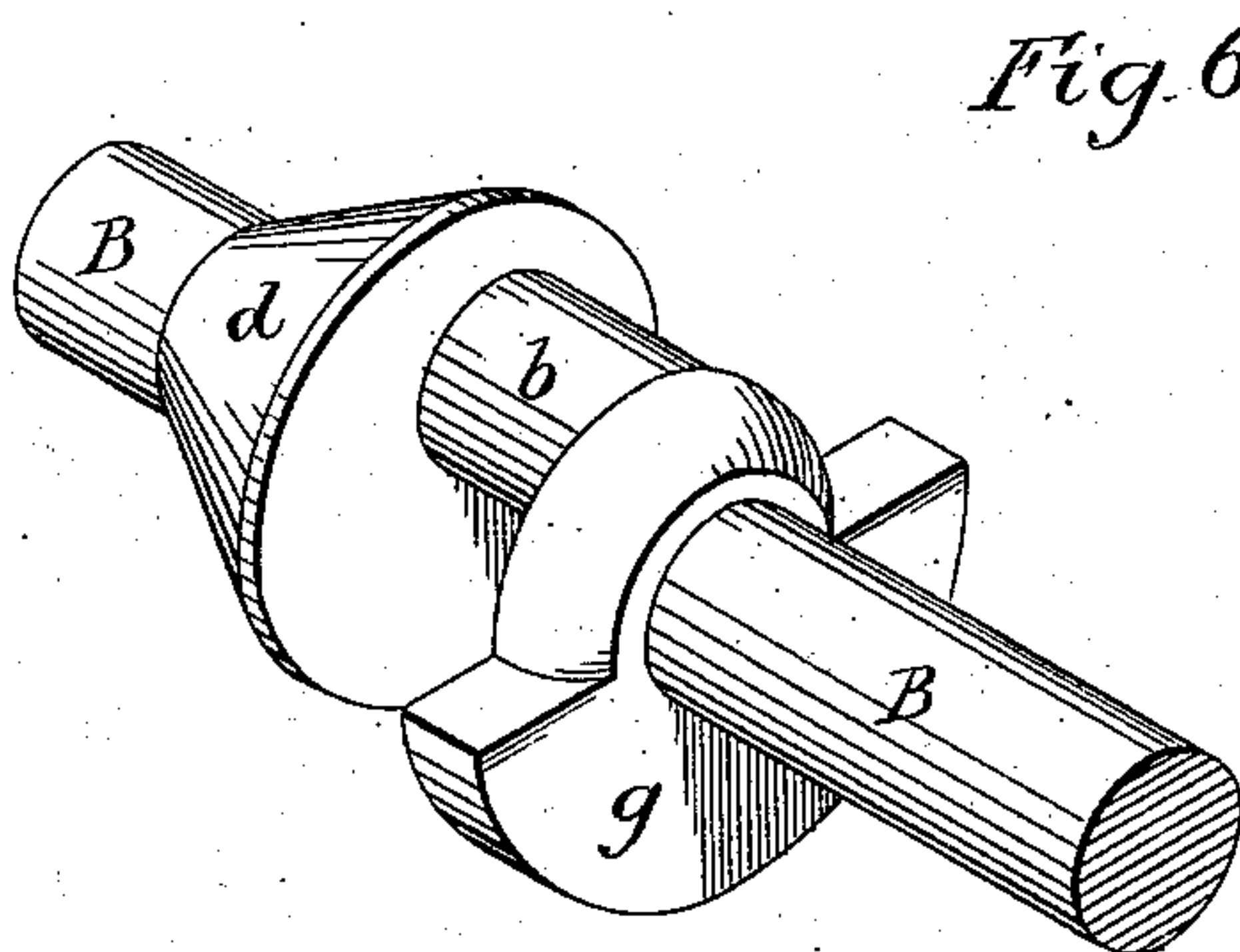
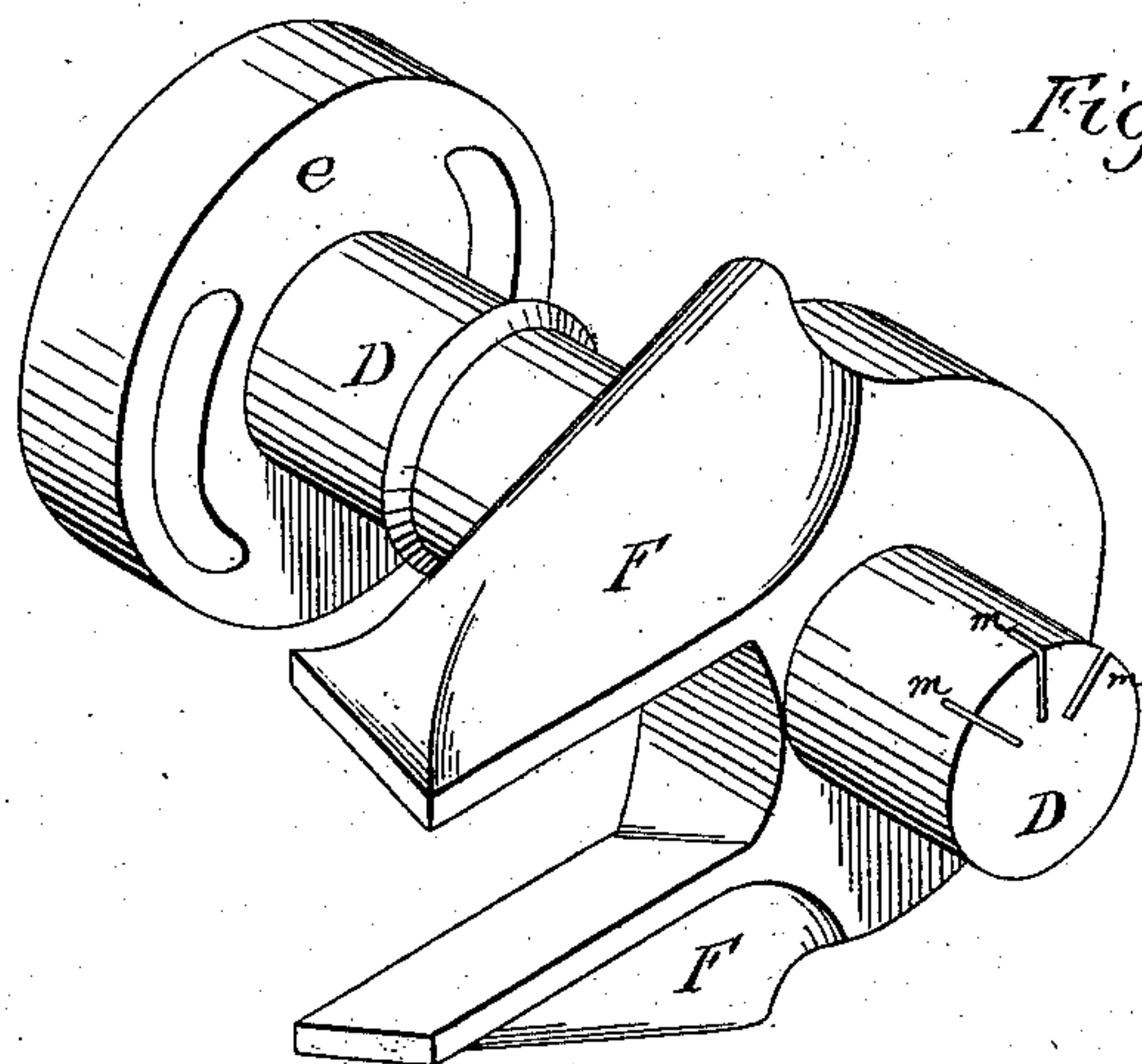
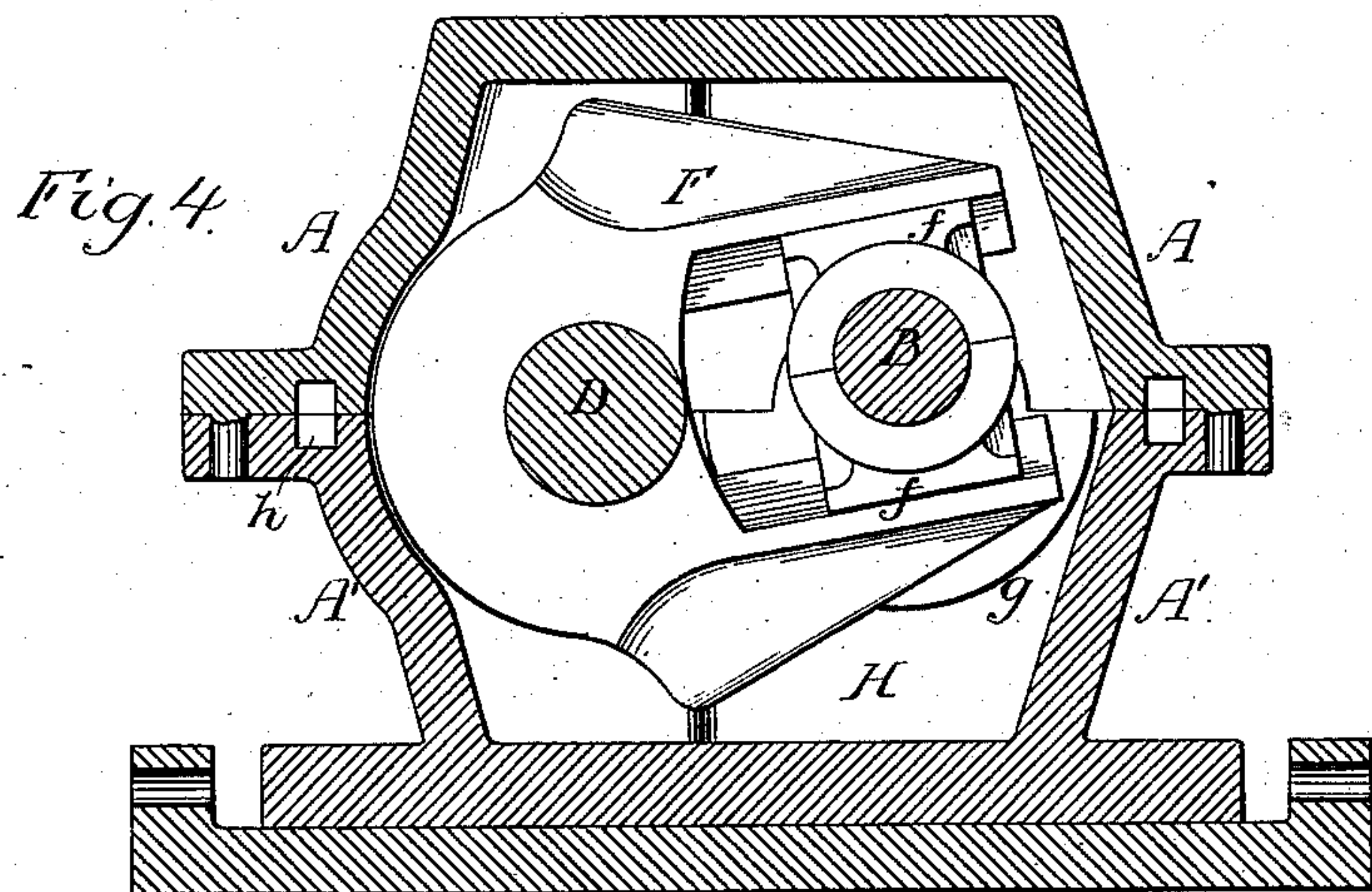
2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

JAMES BARKER, OF PHILADELPHIA, PENNSYLVANIA.

MECHANISM FOR CONVERTING ROTARY INTO VIBRATING MOTION.

SPECIFICATION forming part of Letters Patent No. 292,461, dated January 29, 1884.

Application filed June 25, 1883.. (No model.)

To all whom it may concern:

Be it known that I, JAMES BARKER, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain
5 Improvements in Mechanism for Converting Rotary into Vibrating Motion, of which the following is a specification.

The main object of my invention is to so construct a device for converting rotary motion
10 into vibrating motion that the same can be thoroughly lubricated and the parts readily adjusted, so as to compensate for wear, a further object being to permit the casting of a forked arm on the vibrating shaft, instead of
15 making the same separate therefrom, as usual.

In the accompanying drawings, Figure 1, Sheet 1, is a plan view of mechanism constructed in accordance with my invention, the upper half of the inclosing box or casing being
20 removed. Fig. 2 is a transverse section on the line 1 2, Fig. 1; Fig. 3, a longitudinal section on the line 3 4, Fig. 1; Fig. 4, Sheet 2, a longitudinal section on the line 5 6, Fig. 1, and Figs. 5 and 6, detached perspective views of
25 the two shafts.

A A' represent the upper and lower halves of a box or casing, having bearings for the two shafts B and D, the shaft B having a rotating movement and the shaft D a vibrating move-
30 ment, derived from the shaft B through the medium of mechanism forming the subject of my invention. The shaft B is provided with a pulley, *a*, for receiving a belt from any adjacent driving-shaft, and said shaft B has a
35 crank, *b*, and a conical collar, *d*. The shaft D projects beyond the casing at one end, and this projecting end of the shaft has a disk, *e*, to which may be connected the doffer-comb of a carding-machine, the cutter-bar of a mow-
40 ing-machine, the shaking-table of a thrashing-machine, or any other device which has to receive motion from a rapidly-vibrated shaft.

On the shaft D is a forked arm, F, and to the forked portion of the arm is snugly fitted
45 the two-part box *f*, which is carried by the crank *b*, the box being tapered in a direction the reverse of the conical collar *d* of the shaft, and the forked portion of the arm being beveled for the reception of said tapered box, as
50 shown in Fig. 2, so that wear of both the box *f* and collar *d* is compensated for by setting up the shaft D endwise. This adjustment of the

shaft D is effected by a set-screw, G, which is adapted to a threaded opening in the casing A A' and bears against the end of said shaft
55 D, as shown in Fig. 1. The crank *b* and forked arm F are contained within a chamber, H, in the casing A A', and a supply of oil is deposited in said chamber for the lubrication of the various parts of the device, this oil be-
60 ing violently agitated by the vibrating arm and rotating crank and by the counter-weight *g* on the crank-shaft, the oil thus finding its way to the bearings of both shafts B and D and serving to keep the same constantly and
65 thoroughly lubricated. Any oil which may find its way through the bearings or through the joint between the two halves of the casing is caught in a groove, *h*, and returns to the chamber H through passages *i*. In order to
70 lubricate the bearing between the set-screw G and the end of the shaft D, radial notches *m* are formed in the end of said shaft, as shown in Figs. 1 and 5. Owing to these provisions for thorough lubrication and to the simple
75 means employed for compensating for wear and keeping the bearings tight, the device can be run at a very high rate of speed without noise or jar, and the parts can be adjusted readily and without the exercise of any special
80 skill.

A portion of the thread of the screw G is cut away, in order to provide a bearing for a set-screw, *n*, which prevents the loosening of the said screw G after it has been properly ad-
85 justed.

By providing the shaft B with a single cone, *d*, and taking up wear by the adjustment of the shaft D, I dispense with the stuffing-boxes usually employed in devices of the class to
90 which my invention relates; and by dividing the casing or box horizontally through the shaft-bearings I am enabled to use a forked arm cast on the shaft D, instead of a separate arm secured thereto by a set-screw.
95

I claim as my invention—

1. The combination of the shaft B, having a crank, *b*, and conical collar *d*, with the adjustable shaft D, having a forked arm, F, beveled as described, and a box, *f*, tapered in a
100 direction the reverse of the collar *d*, and adapted to the crank *b* and to the forked and beveled arm F, as set forth.

2. The combination of the cranked shaft B,

the shaft D, having a forked arm, F, and the adjusting-screw G, bearing against the end of the shaft D, and adapted to a threaded opening in the casing, as set forth.

5 3. The combination of the casing A A', having a chamber, H, with the shaft D and its forked arm F, and the shaft B with its crank and counter-weight *g*, as set forth.

10 4. The combination of the casing A A', part-
cd horizontally through the shaft-bearings,

with the shafts B and D, the latter having the forked arm F cast therewith, as set forth.

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

JAMES BARKER.

Witnesses:

HARRY L. ASHENFELTER,

HARRY SMITH.