

No. 661,103.

Patented Nov. 6, 1900.

E. M. KASTER.
ROTARY ENGINE.

(Application filed Mar. 9, 1900.)

(No Model.)

Fig. 1

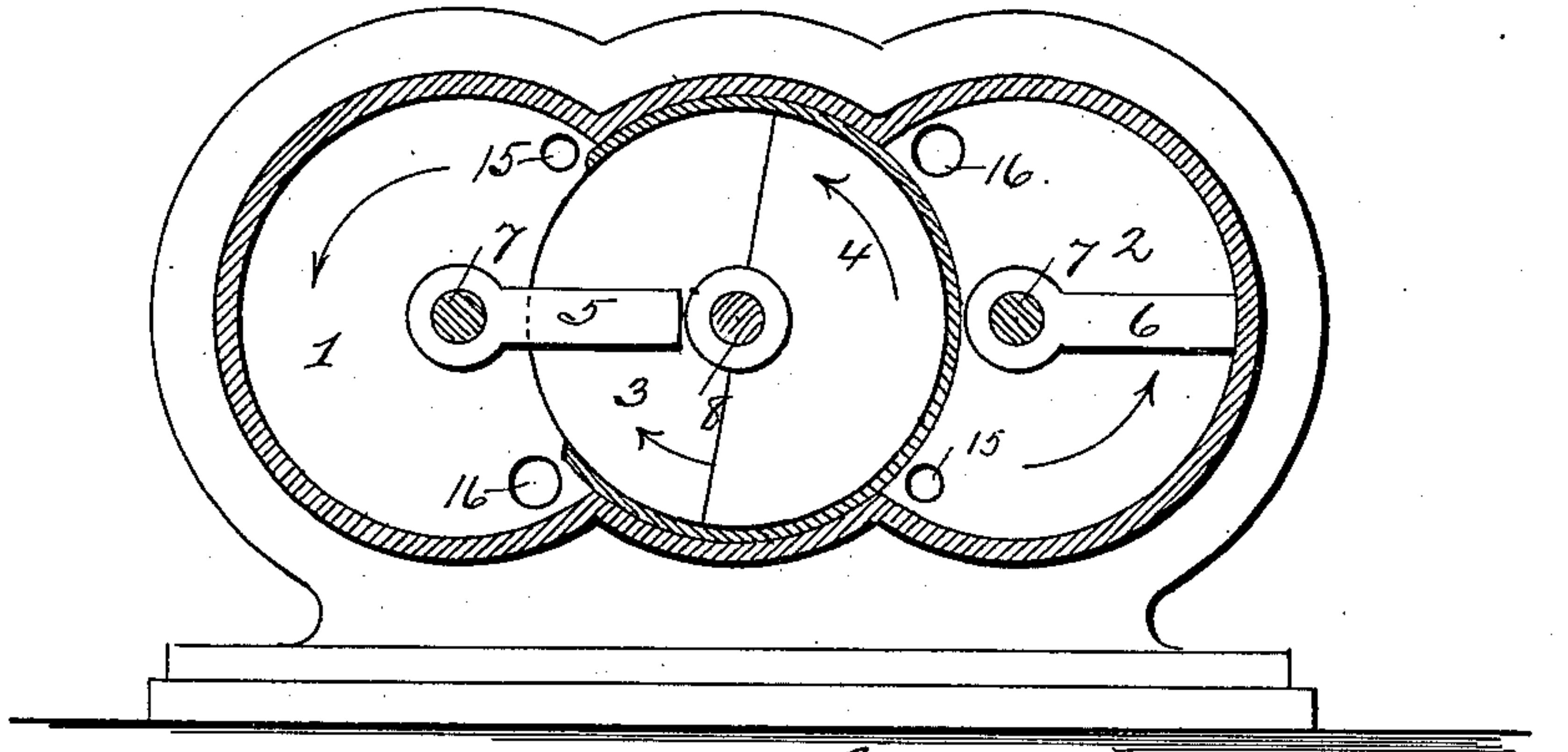


Fig. 2

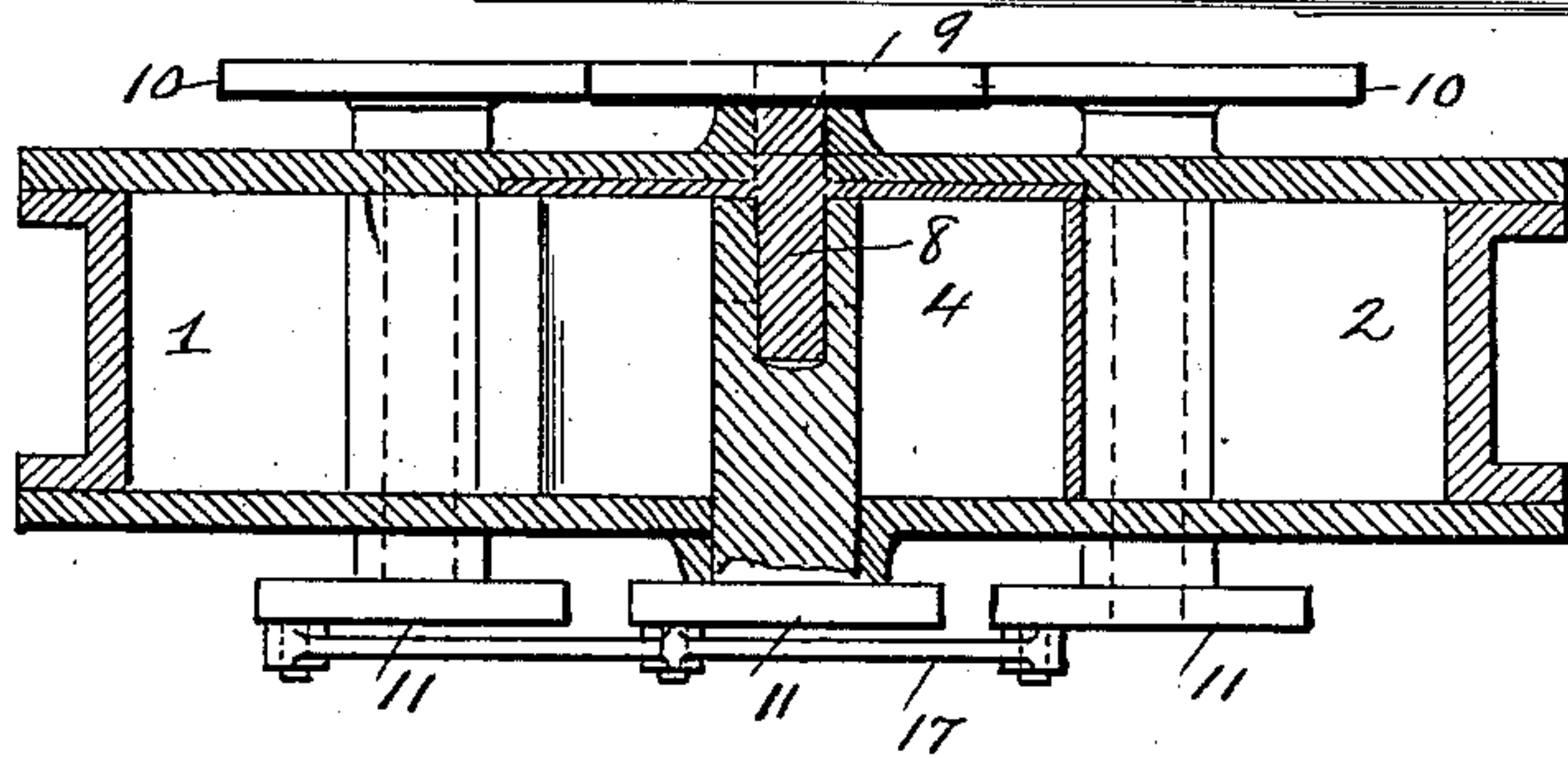


Fig. 3

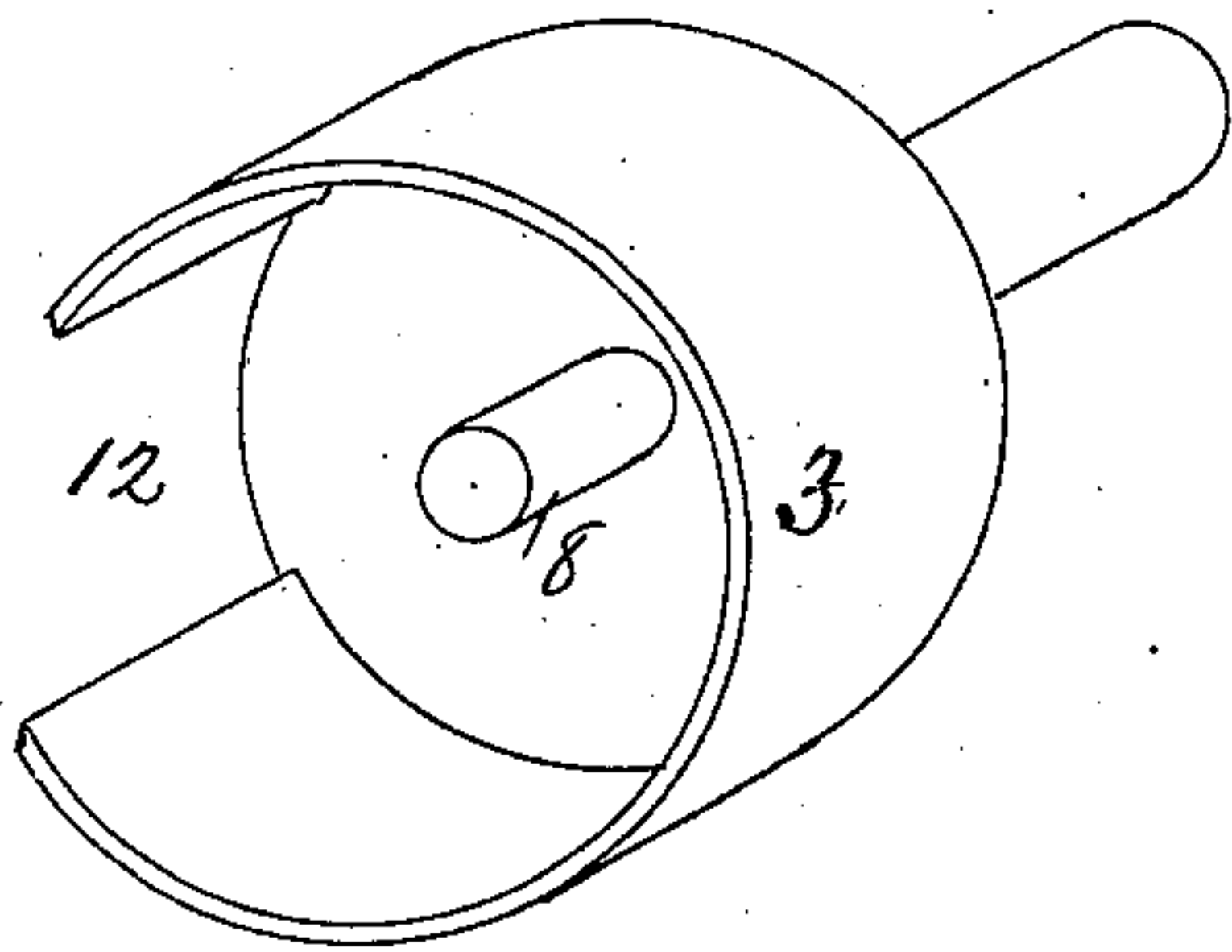
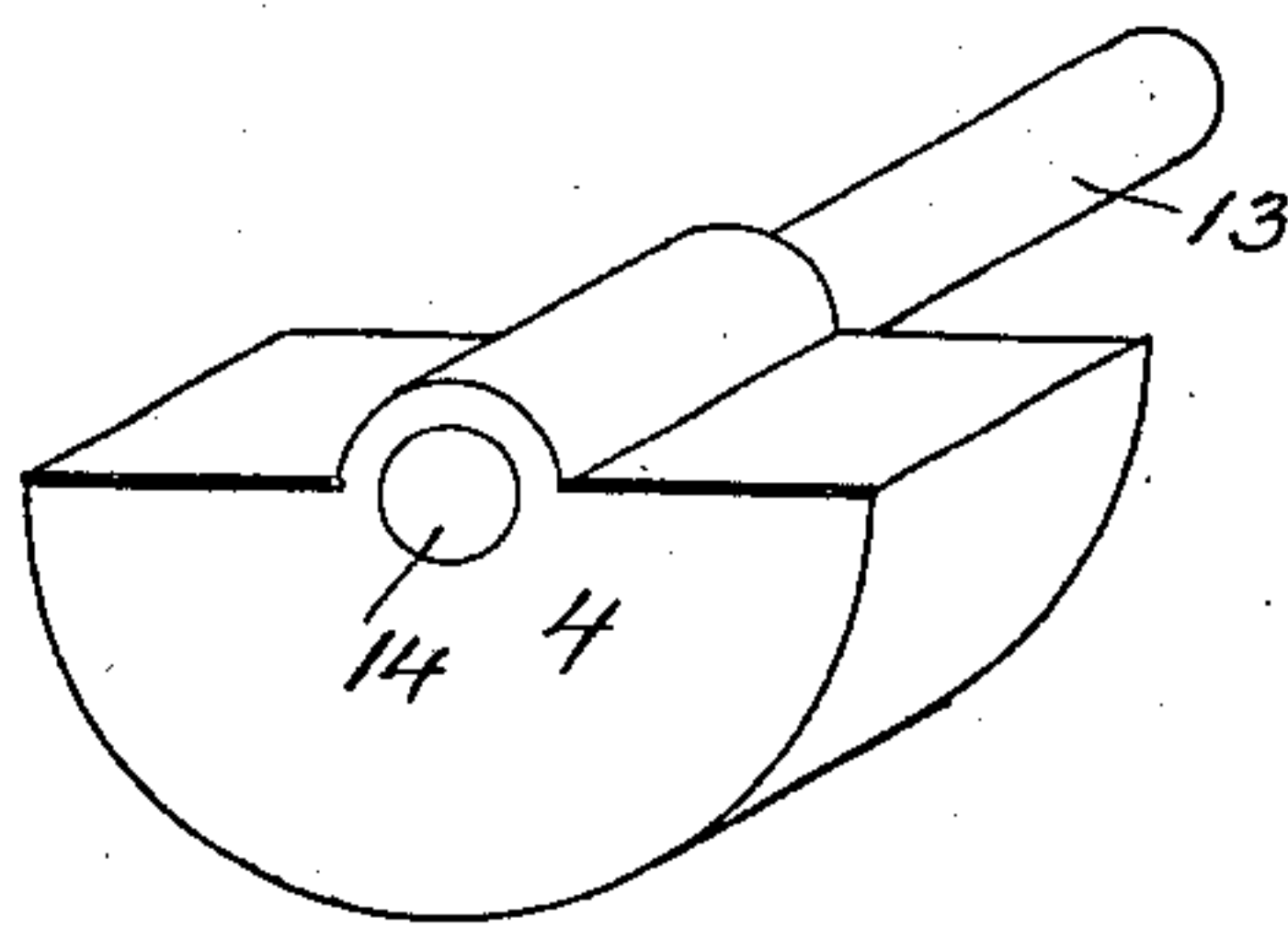


Fig. 4



Witnesses:
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UNITED STATES PATENT OFFICE.

EDWIN M. KASTER, OF RIMERSBURG, PENNSYLVANIA.

ROTARY ENGINE.

SPECIFICATION forming part of Letters Patent No. 661,103, dated November 6, 1900.

Application filed March 9, 1900. Serial No. 8,094. (No model.)

To all whom it may concern:

Be it known that I, EDWIN M. KASTER, a citizen of the United States of America, residing at Rimersburg P. O., in the county of Clarion and State of Pennsylvania, have invented certain new and useful Improvements in Rotary Engines; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improved rotary engine; and it consists in certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a central side sectional elevation of my improved rotary engine, which is constructed and arranged in accordance with my invention. Fig. 2 is a sectional plan view of the same. Fig. 3 is a perspective view of the outer rotatable valve, operating between the two cylinders. Fig. 4 is a perspective view of the inner rotatable valve, adapted to rotate within the outer valve above mentioned.

To put my invention into practice, and thereby form a high-speed rotary engine, I form from cast-iron two annular cylinders 1 and 2, the one located opposite the other and each fitted with a piston 5 and 6, mounted upon suitable shafts 7, projecting through the shell or casing and having attached thereto gear-wheels 10, connected the one with the other by an intermediate gear 9 in a manner that the two pistons 6 will rotate in unison. Intermediate of these two cylinders 1 and 2 and connected to and given a rotary movement by the gear-wheel 9 is a valve 3, consisting of a peripheral shell having an opening 12, (see Fig. 3,) through which the pistons 5 and 6 pass, and a closed side countersunk in the side wall of the shell. Operating within this valve 3 and rotated in an opposite direction is a segmental valve 4, having an opening 14 for the valve-shaft 8 and formed with a shaft 13, which projects through the casing and is fitted with a disk 11 to give the said valve 4 the proper rotary movement. Each of the cylinders 1 and 2 is formed with a steam-

inlet port 15 and an exhaust-port 16, and the two pistons 5 and 6 and the two valves 3 and 4 are geared together to rotate in unison. This movement of the valves 3 and 4 is accomplished by the gear-wheels 9 and 10, above mentioned, and by disks 11, connected to the valve 4 and to the two pistons 5 and 6. These disks 11 are connected the one with the other by a connecting-rod 17, as shown at Fig. 2 of the drawings.

In operation steam or other motive power is admitted into the cylinders 1 and 2 through the ports 15, and the two valves 3 and 4 are arranged to form a backing between the said pistons and to permit the same to pass through.

This engine may be operated as a high and low pressure engine by exhausting the steam from the one cylinder into the other, as is obvious.

The pistons, valves, and other parts are suitably packed to prevent leakage between the joints.

Various slight modifications and changes may be made in the details of construction without departing from the spirit of the invention. Therefore I do not confine myself to the exact construction shown and described.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The herein-described rotary engine, consisting of the two cylinders 1 and 2, located the one opposite the other, the pistons 5 and 6, operating within the said cylinders, and the two intermediate valves 3 and 4, constructed and arranged as described, and a means whereby the said pistons and valves may be rotated in unison, all arranged and combined for service substantially as described.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

EDWIN M. KASTER.

Witnesses:

M. E. HARRISON,
OTTO A. HENSEL.