

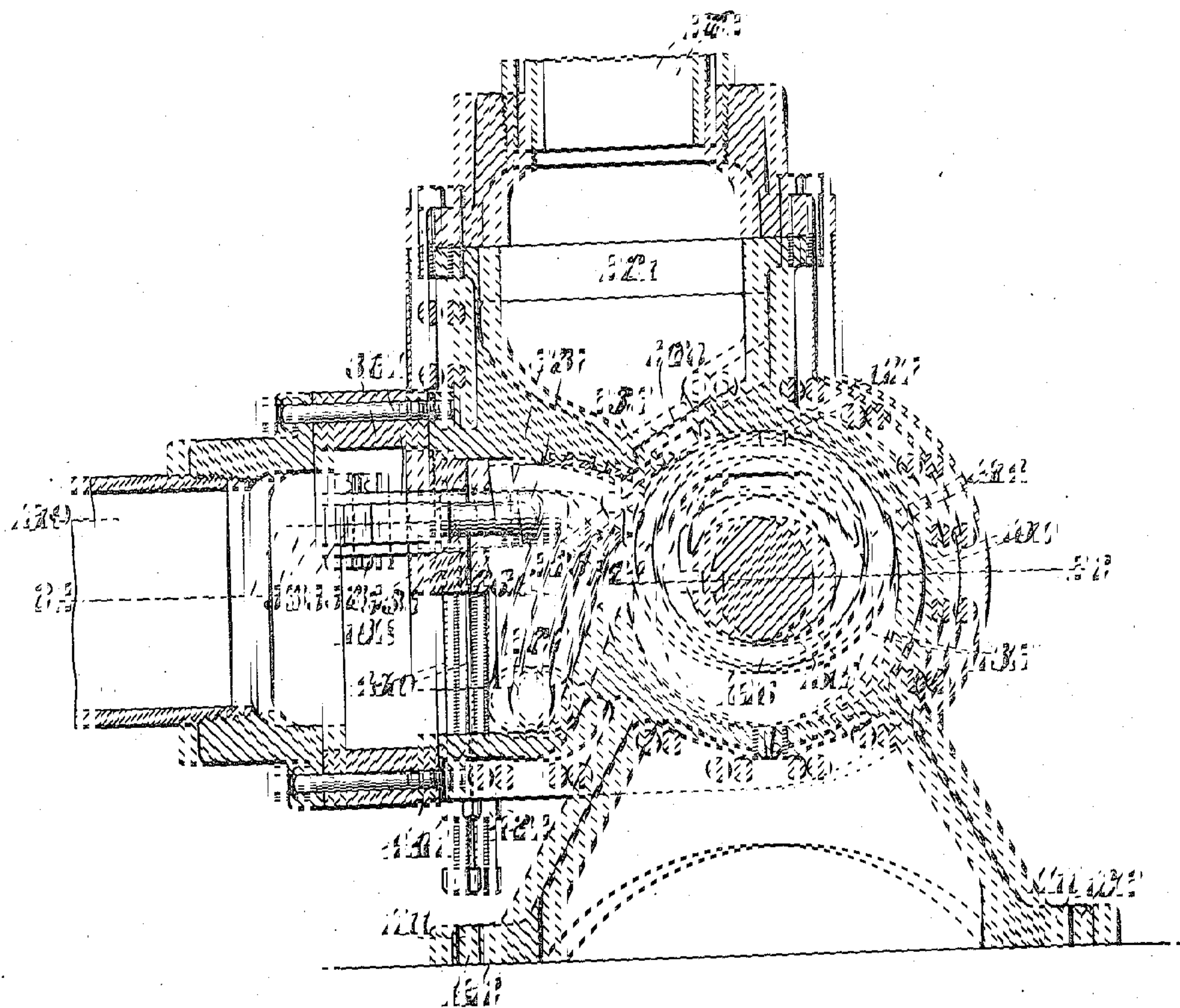
J. R. KINNEY.  
ROTARY PUMP.  
APPLICATION FILED MAY 11, 1909.

958,136.

Patented May 17, 1910.

2 SHEETS—SHEET 1.

*Fig. 1.*



Witnesses:

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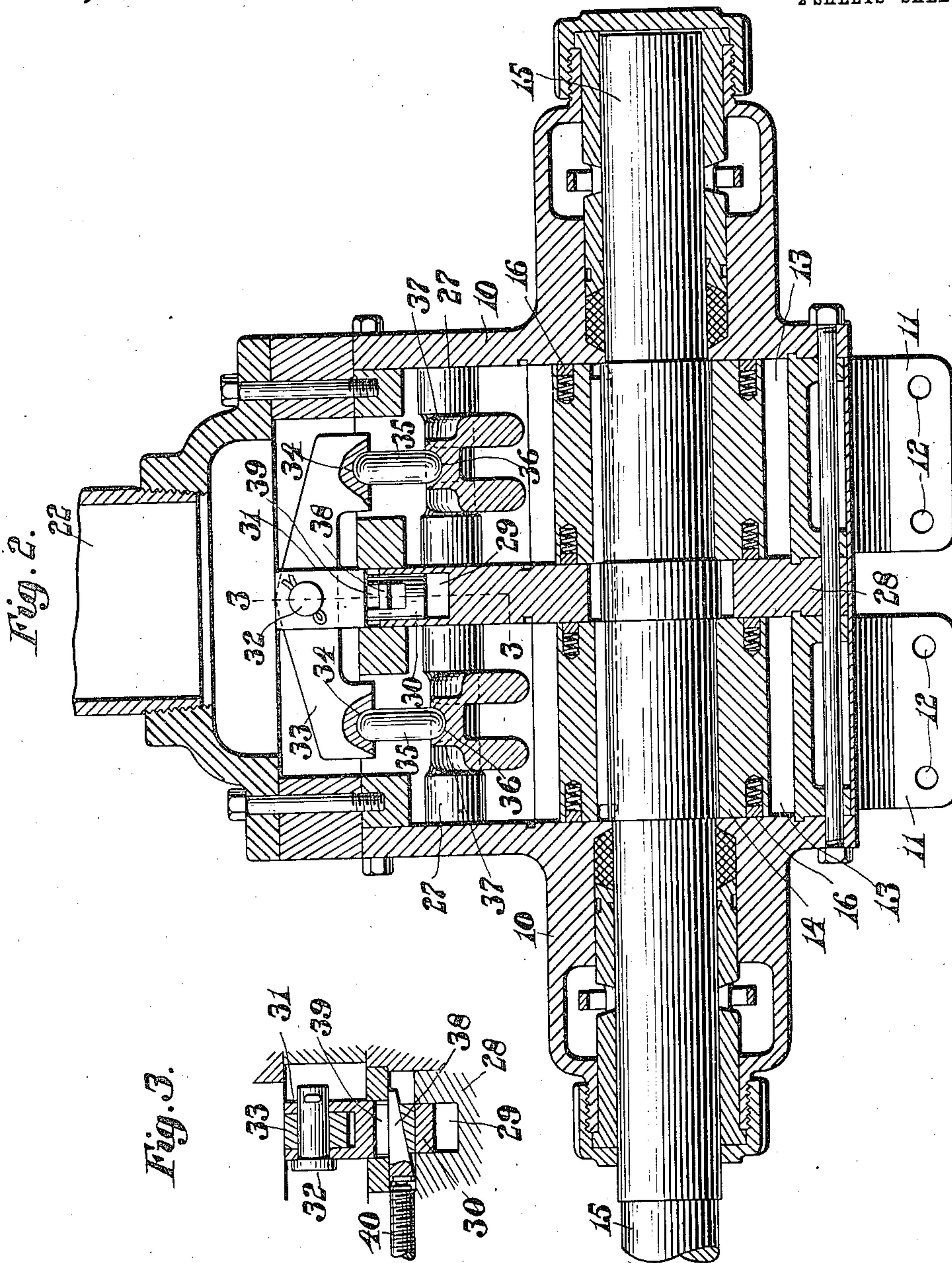
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2 SHEETS—SHEET 2.

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Witnesses:  
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Inventor:  
 Justus R. Kinney,  
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# UNITED STATES PATENT OFFICE.

JUSTUS R. KINNEY, OF DORCHESTER, MASSACHUSETTS.

## ROTARY PUMP.

958,136.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed May 11, 1909. Serial No. 495,551.

*To all whom it may concern:*

Be it known that I, JUSTUS R. KINNEY, a citizen of the United States of America, and a resident of Dorchester, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Rotary Pumps, of which the following is a specification.

This invention relates to rotary pumps and has for its object the production of a pump of this class in which two eccentric pistons are used connected together by means of a suitable device contained wholly within the pump casing whereby the movement of one piston against the pivoted blade in one direction will positively act upon the pivoted blade co-acting with the other piston to force it into firm contact therewith.

The invention consists in certain novel features of construction and arrangement of parts which will be readily understood by reference to the description of the drawings and to the claims hereinafter given.

Of the drawings: Figure 1 represents a vertical section of a pump embodying the features of this invention. Fig. 2 represents a horizontal section of the same, the cutting plane being on line 2—2 on Fig. 1, and Fig. 3 represents a detailed section, the cutting plane being on line 3—3 on Fig. 2.

Similar characters designate like parts throughout the drawings.

In the drawings, 10 represents a suitable casing provided with supporting feet 11 having openings 12 therein by which the casing may be secured in position. The casing is provided with two interior cylindrical piston chambers 13 in each of which is revolubly mounted an eccentric piston 14 secured to and revoluble with the shaft 15 centrally disposed within the piston chamber 13. Each side wall of the pistons 14 is provided with a packing 16 forced outwardly by means of a plurality of springs into contact with the side walls of the piston chamber 13. That part of the periphery of the piston 14 farthest removed from the axis of the shaft 15 is provided with a packing member 17. Each piston chamber 13 communicates with a chamber 18 from which extends the inlet pipe 19. Each piston 13 is also connected by means of a passage 20 with a chamber 21 with which communicates the outlet pipe 22. The passage 20 is nor-

mally closed by means of a pivoted valve 23 of any well-known construction.

Co-acting with the periphery of each piston 14 is a shoe 24 pivotally connected at 25 to a blade 26 pivoted at 27 to the casing 10. The two pistons 14 are oppositely disposed as indicated in full and in dotted lines in Fig. 1 of the drawings.

The division member 28 interposed between the two piston chambers 13 is provided with a socket 29 into which extends the slotted cylindrical stem 30 of a forked member 31 in which is pivoted on the pin 32 the rocker member 33. Each end of the rocker member 33 is provided with a semi-spherical socket 34 in which rests the rounded end of a cylindrical strut 35, the opposite end of which is rounded and rests in a semi-spherical socket 36 formed in a boss 37 upon the pivoted blade 26.

The position of the pivot 32 relative to the axis of the revoluble shaft 15 is accurately determined so that in the rotation of the oppositely disposed pistons 14 the outward movement of one of the pivoted blades 26 will act upon the rocker beam 33 through one of the struts 35 to force the shoe 24 of the other pivoted blade 26 into engagement with the other piston 14. As the pistons 14 continue to rotate in their chambers 13 and outward movement of one of the pivoted blades 26 will always be acting through the rocker member 33 to retain the shoe 24 of the other pivoted blade 26 in engagement with the other piston throughout its rotation.

By providing the semi-spherical sockets 34 and 36 for the rounded ends of the struts 35 these struts are permitted to move in any direction to accommodate themselves to the various angular movements of the pivoted blade 26 and rocker members 33.

When any wear occurs upon the shoe 24 the wear may be taken up by means of the wedge 38 extending through a slot 39 in the stem or shank 30 of the forked member 31. This wedge 38 is adapted to be moved transversely of said slot 39 by means of the revoluble member 40 threaded to the casing at 41 and locked in adjusted position by means of the lock nut 42. It is obvious that by adjusting this member 40 the pivot pin 32 may be adjusted toward and from the revoluble shaft 15. This makes a positive



device interposed between the two opposed pistons adapted to operate in such a manner that the movement of one piston against its pivoted blade will insure the contact of the other pivoted blade against the periphery of the other piston at all times. It is also evident that the device described and shown may be used equally as well as a motor by admitting a motive agent to the piston chamber and causing a rotation of the same, power being taken from the revoluble shaft of said piston.

It is believed that the operation and many advantages of the invention will be thoroughly understood from the foregoing.

Having thus described my invention, I claim:

1. In a device of the class described, the combination of two oppositely-disposed rotary eccentric pistons; a pivoted blade for each piston; a rocker member; struts the ends of which are rounded and rest in sockets in said blades and member; a movable slotted member to which said rocker member is pivoted; and means extending through said slot for adjusting the position of said member relative to said pistons.

2. In a device of the class described, the combination of two oppositely-disposed rotary eccentric pistons; a pivoted blade for each piston; a rocker member; struts the ends of which are rounded and rest in sockets in said blades and member; a movable slotted member to which said rocker mem-

ber is pivoted; and a wedge extending through said slot for adjusting the position of said member relative to said pistons.

3. In a device of the class described, the combination of two oppositely-disposed rotary eccentric pistons; a pivoted blade for each piston; a rocker member; struts the ends of which are rounded and rest in sockets in said blades and member; a movable slotted member to which said rocker member is pivoted; a wedge extending through said slot for adjusting the position of said member relative to said pistons; and a revoluble member threaded to a fixed element for adjusting said wedge.

4. In a device of the class described, the combination of two oppositely-disposed rotary eccentric pistons; a pivoted blade for each piston; a rocker member; struts the ends of which are rounded and rest in sockets in said blades and member; a movable slotted member to which said rocker member is pivoted; a wedge extending through said slot for adjusting the position of said member relative to said pistons; a revoluble member threaded to a fixed element for adjusting said wedge; and means for locking said threaded member in adjusted position.

Signed by me at 4 Post Office Sq., Boston, Mass., this 28th day of April, 1909.

JUSTUS R. KINNEY.

Witnesses:

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