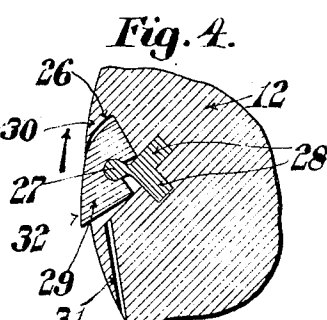
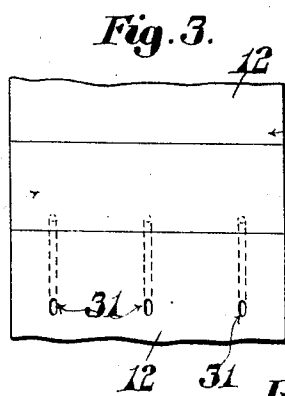
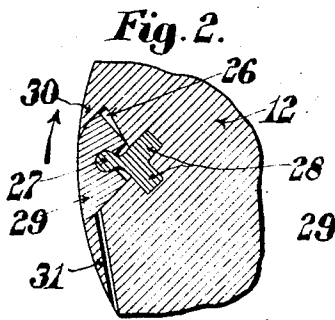
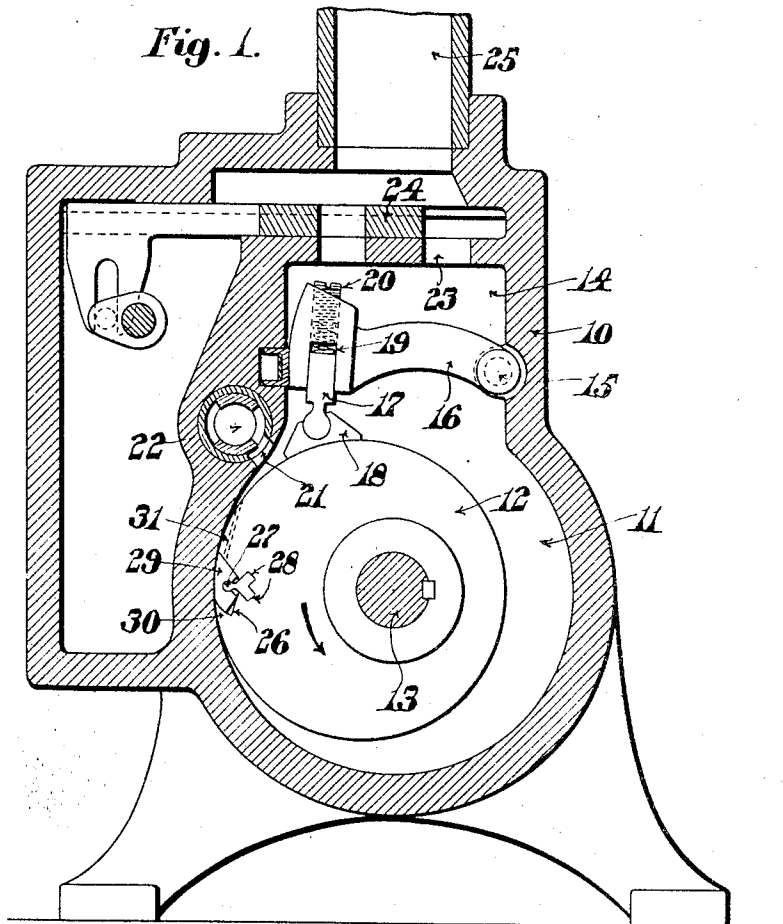


J. R. KINNEY.
 ROTARY ENGINE.
 APPLICATION FILED DEC. 21, 1908.

936,543.

Patented Oct. 12, 1909.



Witnesses:
 Nathan C. Lombard
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UNITED STATES PATENT OFFICE.

JUSTUS E. KINNEY, OF DORCHESTER, MASSACHUSETTS.

ROTARY ENGINE.

936,543.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed December 21, 1908. Serial No. 469,659.

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 Engines, of which the following is a specification.

This invention relates to rotary motors and has for its object the production of a device of this class in which the rotary piston is provided with a peripheral depression in which is pivoted a member adapted to be moved about said pivot by the motive agent to project one end thereof into firm contact with the inner cylindrical wall of the piston chamber.

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 rotary motor embodying the features of this invention. Fig. 2 represents a detail of a portion of the rotary piston showing the pivoted member therein. Fig. 3 represents an elevation of the same, and Fig. 4 represents a section similar to Fig. 2 showing the pivoted member moved about its pivot so that one end extends beyond the periphery of the piston.

Similar characters designate like parts throughout the several figures of the drawings.

In the drawings, 10 represents a casing member provided with a cylindrical chamber 11 in which is mounted a rotary eccentric piston 12 keyed to and revoluble with the shaft 13. The chamber 11 has an extension 14 at the upper end thereof in which is pivoted at 15 the arm 16, the movable end of which has slidably mounted therein a blade 17, to the inner end of which is pivoted a shoe 18 in any well-known manner.

The shoe 18 on the blade 17 is held in contact with the periphery of the piston by means of the spring 19, the tension of which is adjusted by means of the adjustable member 20. The motive agent for operating the device is admitted to the chamber 11 through a port 21 and it passes from the extension 14 of the chamber 11 through an exhaust port 23 adapted to be closed by the valve 24 operated in any well-known manner.

25 is an outlet pipe for the exhaust when it passes outwardly from the extension 14 of the chamber 11.

Cut into the periphery of the piston 12 at the point of contact with the cylindrical bore of the chamber 11 is an annular depression 26 and mounted therein midway of the inclined walls of said depression 26 is a pivot member 27 provided with two angular extensions 28 embedded in diverging slots in said piston.

Mounted upon the pivot member 26 is a member 29, the rear face of which normally conforms to one of the inclined walls of the angular depression 26, while between the opposite inclined face thereof and the other wall of said angular depression is a slight space permitting the member 29 to be moved about the pivot 27 to extend the rear end of said angular member beyond the periphery of the piston 12.

The outer wall of the member 29 normally conforms to the periphery of the piston 12. The front wall of the pivot member 29 does not extend to the periphery of the piston 12 but passes beneath an overhanging lip or extension 30 formed upon the piston 12 and extending over a portion of the angular depression 26 so that during the rotation of the piston 12, no matter what position the angular member 29 assumes, its front end is always protected by this overhanging extension or lip 30 so that it would be impossible for any shoulder on said member to project beyond the periphery of the piston and come into contact with the shoe 18 or any other member to its manifest injury.

Passages 31 extend from the rear end of the depression 26 to the periphery of the piston 12 and as the motive agent passes into the chamber 11 from the inlet 21 some of the same will pass through said passages to move the pivoted member 29 about the pivot 27 into the position shown in Fig. 4, thus projecting the corner 32 of said pivoted member into firm contact with the inner cylindrical wall of the chamber 11, thus making an effective packing which will effectually prevent any of the motive agent passing this point. This pivoted member is maintained in contact with the inner cylindrical wall of the chamber 11 wholly by means of pressure thereon of the motive agent operating the engine, but should the pivoted member come into contact with the shoe 18 or any other

obstruction, it is free to move against the pressure of this motive agent into the normal position, as shown in Fig. 2, and pass this obstruction without injury to any of the working parts of the engine.

It is obvious that the projecting lip or extension 30 insures that no obstructing shoulder on the pivoted member may ever project beyond the periphery of the piston and engage with a shoulder on the peripheral wall of said piston chamber during the rotation of said piston.

It is believed that the operation of the invention and its many advantages will be thoroughly understood without further description.

Having thus described my invention, I claim:

1. In a rotary engine, the combination of a cylindrical piston chamber; a revoluble shaft centrally positioned therein; a piston eccentrically mounted thereon and having a transverse depression in that portion of its periphery farthest removed from the axis of said shaft; a blade mounted on the chamber casing and co-acting with the periphery of said piston; a packing member pivotally mounted in said depression and having an outer face conforming to the periphery of said piston; and means for admitting a live motive agent into said peripheral depression to act upon a face of said packing member to retain it in contact with the cylindrical wall of said chamber.

2. In a rotary engine, the combination of a cylindrical piston chamber; a revoluble shaft centrally positioned therein; a piston eccentrically mounted thereon and having a transverse depression in that portion of its periphery farthest removed from the axis of said shaft; a blade mounted on the chamber casing and co-acting with the periphery of said piston; a packing member pivotally mounted in said depression and having an outer face conforming to the periphery of said piston; and a passage extending through said piston from its periphery to said depression and terminating opposite the rear wall of said packing member for admitting a live motive agent into said peripheral depression to act upon a face of said packing

member to retain it in contact with the cylindrical wall of said chamber.

3. In a rotary engine, the combination of a cylindrical piston chamber; a revoluble shaft centrally positioned therein; a piston eccentrically mounted thereon and having a transverse depression in that portion of its periphery farthest removed from the axis of said shaft; a blade mounted on the chamber casing and co-acting with the periphery of said piston; a fixed pivot extending into said depression; and a packing member mounted on said pivot, the outer face of which normally conforms to the periphery of said piston and is adapted to be moved slightly about said pivot to normally retain a portion of the outer face in contact with the cylindrical wall of said piston chamber.

4. In a rotary engine, the combination of a cylindrical piston chamber; a revoluble shaft centrally positioned therein; a piston eccentrically mounted thereon and having a transverse depression in that portion of its periphery farthest removed from the axis of said shaft; a blade pivotally mounted on the chamber casing and co-acting with the periphery of said piston; a packing member pivotally mounted in said depression and having an outer face conforming to the periphery of said piston; and means for admitting a live motive agent into said peripheral depression to act upon a face of said packing member to retain it in contact with the cylindrical wall of said chamber.

5. In a rotary engine, the combination of a piston chamber; a revoluble piston therein; a movable blade mounted in the chamber casing and co-acting with the periphery of said piston; and a pivoted packing member on the piston adapted to be retained in contact with the cylindrical wall of said chamber by the motive agent during the rotation of said piston and to be moved about its pivot with said motive agent as a cushion when passing said blade.

Signed by me at 4 Post Office Sq., Boston, Mass., this 14th day of December, 1908.

JUSTUS R. KINNEY.

Witnesses:

EDNA C. CLEVELAND,
WALTER E. LOMBARD.