

G. W. FLORA.  
 ROTARY MOTOR.  
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909,774.

Patented Jan. 12, 1909.

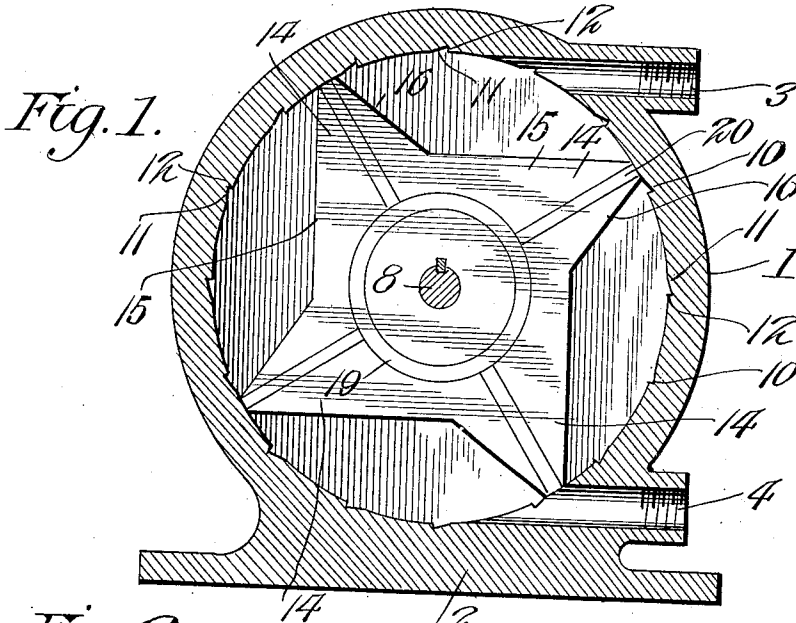


Fig. 1.

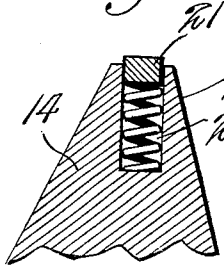


Fig. 3.

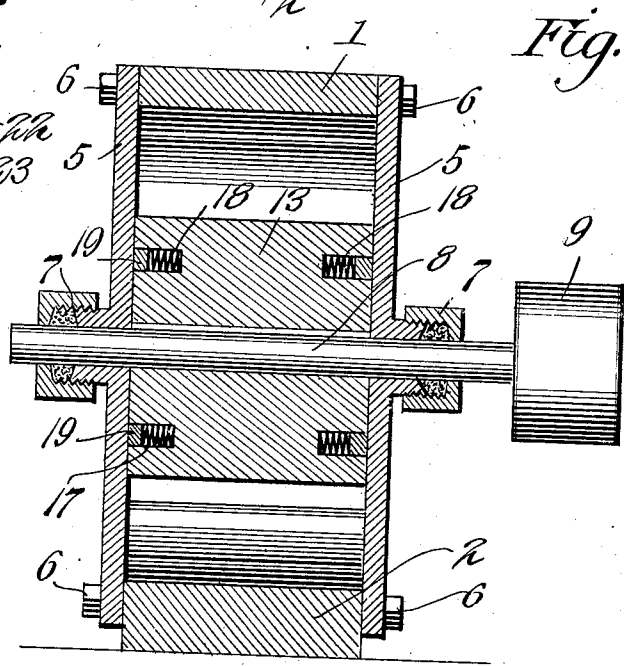


Fig. 2.

Witnesses  
*W. Adman*  
*J. P. Bump*

Inventor  
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 Attorney

# UNITED STATES PATENT OFFICE.

GEORGE W. FLORA, OF ATTICA, INDIANA.

## ROTARY MOTOR.

No. 909,774.

Specification of Letters Patent.

Patented Jan. 12, 1909.

Application filed September 15, 1908. Serial No. 453,141.

To all whom it may concern:

Be it known that I, GEORGE W. FLORA, a citizen of the United States of America, residing at Attica, in the county of Fountain and State of Indiana, have invented new and useful Improvements in Rotary Motors, of which the following is a specification.

This invention relates to rotary motors, and one of the principal objects of the same is to provide a simple motor of light weight which will develop sufficient power for driving an automobile or other vehicle and in which the motive element will have a direct action upon the rotary piston.

Another object of the invention is to provide a motor of few parts which can be quickly assembled and which will not be provided with valves or other complications and in which the action of the motive element will be applied directly to the vanes of the rotatable piston.

These and other objects may be attained by means of the construction illustrated in the accompanying drawing, in which,—

Figure 1 is a vertical section through the cylinder, showing the rotary piston in side elevation. Fig. 2 is a central vertical section of the motor taken on a line at right angles to that shown in Fig. 1. Fig. 3 is a detail section of one of the vanes of the rotary piston.

Referring to the drawing, the numeral 1 designates the body portion of the cylinder formed integral with a suitable base 2 and provided with an inlet port 3 and an exhaust port 4. The cylinder heads 5 are substantially identical in construction and are fitted to the ends of the cylinder 1 and secured in place by a series of bolts 6. Stuffing boxes 7 are provided in the cylinder heads, and extending through said stuffing boxes is the drive shaft 8 provided with a pulley 9 on one or both ends thereof. Formed on the inner wall of the cylinder 1 are the grooves 10, each groove having an inclined wall 11 and a shoulder or abutment 12. These grooves extend from one end of the cylinder to the other in parallel lines.

The piston 13 is keyed to the shaft 8, said piston being provided with a series of vanes 14, four of such vanes being shown in the

drawing. These vanes extend from one cylinder head to the other within the cylinder, and each comprises a plane wall 15 and an inclined impact surface 16. At the opposite ends of the rotary piston an annular recess 17 is formed, and seated in said recesses are spiral springs 18. Placed in the recesses upon the spiral springs 18 are annular backing rings 19. Extending from the rings 19 radially in line with the vanes 14 are packing strips 20 which are also backed up by springs to force said packing against the inner walls of the cylinder heads to prevent the escape of the motive element. Extending across the outer ends of the vanes 14 are also packing strips 21 backed up by springs 22 seated in recesses 23 in the vanes 14.

The operation of my invention may be briefly described as follows: Steam, compressed air or vaporized gasolene admitted through the inlet 3 will drive the piston toward the left in Fig. 1, and to prevent backward rotation the packing strips 21 will come in contact with the shoulders 12 of the notches 10. After the piston has made a partial rotation, the motive element is exhausted through the outlet 4.

My invention is simple, composed of few parts, cannot readily get out of order, is light in weight, is direct in action and can be produced at slight cost.

I claim:—

A rotary motor consisting of a cylinder provided with notches extending across the interior surface thereof, heads fitted to said cylinder, a shaft extending through said head and through stuffing boxes upon said heads, a piston carried by said shaft, vanes carried by said piston, annular packing rings fitted in recesses in said piston, springs in said recesses bearing on said packing rings, radial packing strips fitted in recesses in said piston, springs for forcing said strips outwardly, and packing strips extended across the ends of said vanes to bear against the inner wall of said cylinder.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE W. FLORA.

Witnesses:

WILL B. REED,  
LATHA COEN.