

J. BAGULEY.

ROTARY PUMP.

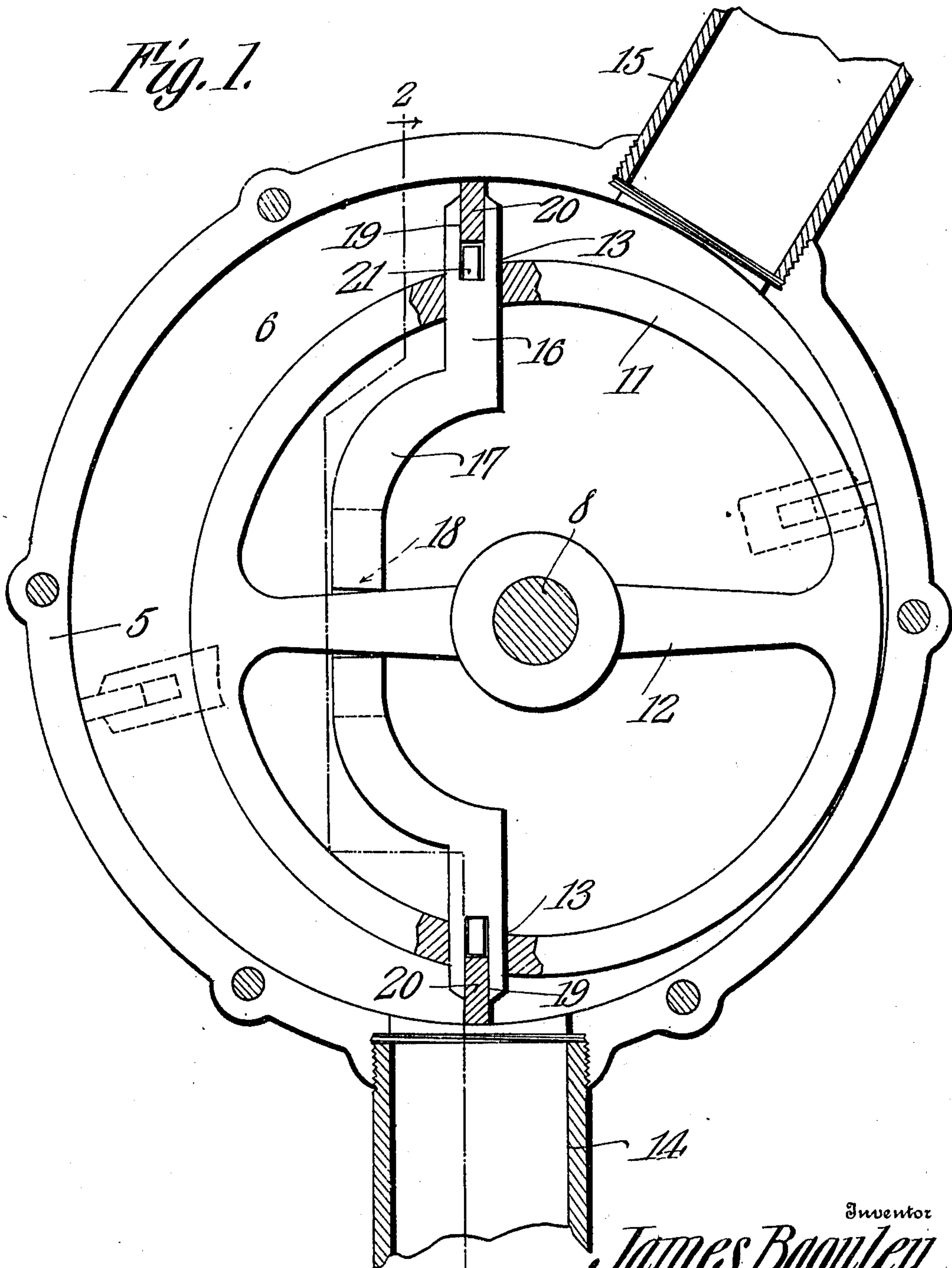
APPLICATION FILED OCT. 24, 1908.

978,350.

Patented Dec. 13, 1910.

2 SHEETS—SHEET 1.

*Fig. 1.*



Witnesses

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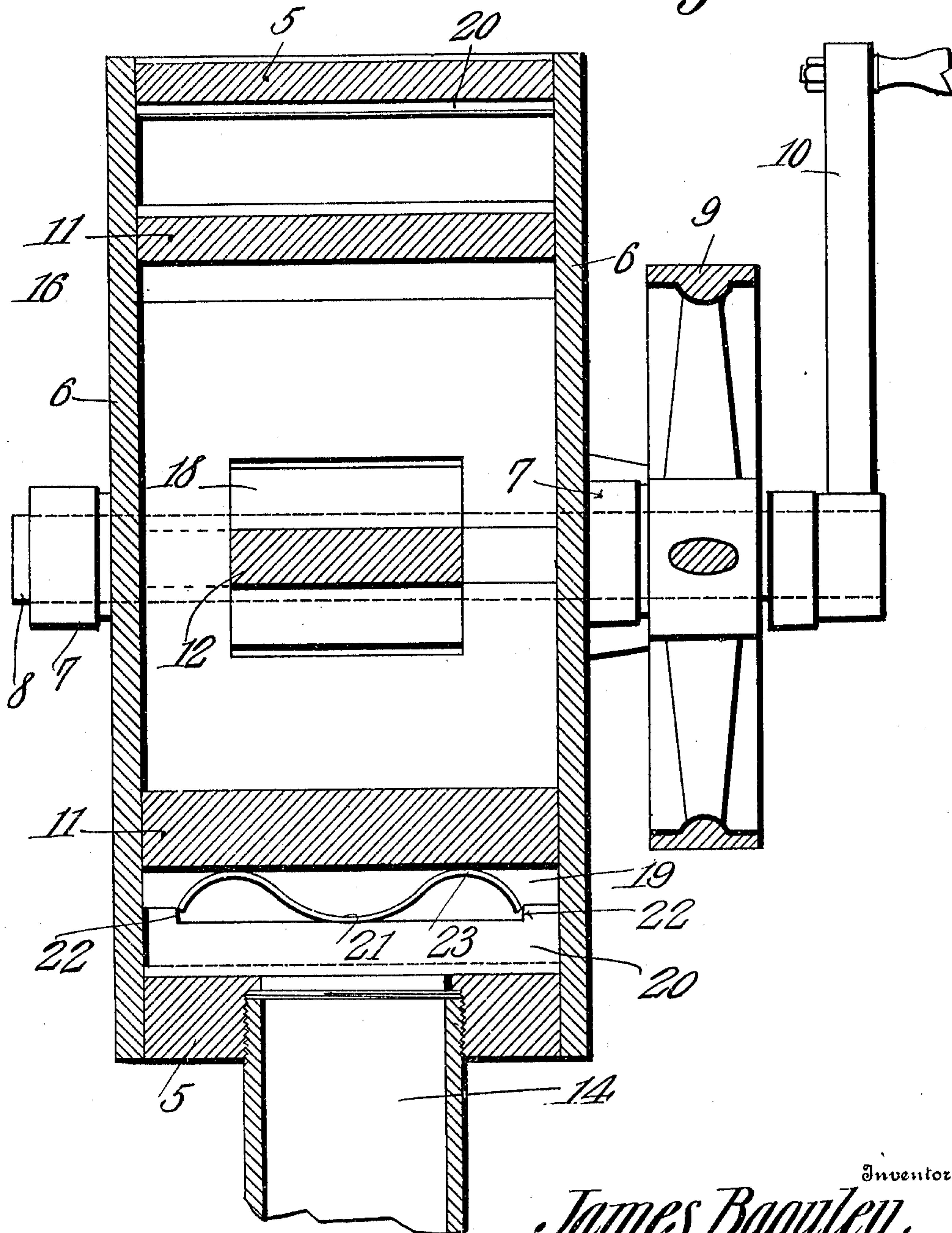
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2 SHEETS—SHEET 2.

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*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

JAMES BAGULEY, OF EVANSTON, WYOMING.

## ROTARY PUMP.

978,350.

Specification of Letters Patent.

Patented Dec. 13, 1910.

Application filed October 24, 1908. Serial No. 459,376.

*To all whom it may concern:*

Be it known that I, JAMES BAGULEY, a citizen of the United States, residing at Evanston, in the county of Uinta and State of Wyoming, have invented a new and useful Rotary Pump, of which the following is a specification.

It is the primary object of my invention to provide a construction of rotary pump which will operate to lift a maximum volume of water at each revolution and in which there will be a minimum amount of friction.

It is a further object of the invention to provide a pump including a cylinder, a rotatable head journaled eccentrically within the cylinder, and a reciprocating piston carried by the head and transecting the head, with its ends projecting beyond the periphery thereof. Heretofore, it has been customary, in similar constructions, to slot the shaft upon which the head is fixed, and to mount the piston through the shaft but owing to the peculiar form of piston employed by me, this slotting of the shaft is avoided and as the consequence, a much more durable pump is produced.

In the accompanying drawings, Figure 1 is a side elevation of the pump embodying my invention, the near cylinder head being removed, and parts being shown in section, and Fig. 2 is a vertical sectional view through the pump on the line 2—2 of Fig. 1.

As shown in the drawings, the pump is comprised in part of a cylinder 5 having a head 6 secured to the ends thereof and provided with suitable bearings 7 through which bearings is journaled a shaft 8 which, at one end, outwardly of the cylinder, has fixed upon it a belt pulley 9 and a crank handle 10 either of which may be employed in rotating the shaft to operate the pumping mechanism within the cylinder as will be presently fully explained.

Fixed upon the shaft 8 and rotating between the cylinder heads 6 is a piston carrying head including a rim 11 of a width equal to the distance between the two heads 6, and spokes 12 of which there are a pair. The rim 11 is divided at two points which are in a plane to one side of the axis of the heads, as indicated by the numeral 13, and one of the spokes 12 supports one section of the rim and the other spoke the other section, the opposing edges of the ends of the sections of the rims, forming in effect a

slot through which the piston of the pump is worked.

As clearly shown in Fig. 1 of the drawings, the head rotates eccentrically within the cylinder and against the inner surface of the cylinder wall 5 at one point and spaced therefrom at all other points.

Leading into the cylinder through the under side thereof is a water inlet pipe 14 and leading from the cylinder at a point approximately 130° from the inlet pipe 13 is an outlet pipe 15.

The piston of the pump is comprised, in part, of a plate 16 having its intermediate portion off-set as at 17, the intermediate portion of the plate, or in other words the off-set portion 17, being provided with a slot 18 through which the spoke for supporting the minor section of the head 11 is received it being understood that this slot 18 is of sufficient length to permit proper reciprocation of the piston. The end portion of the plate 16 extends between the opposing end edges of the section of the head 11 and works therebetween when the piston reciprocates. As clearly shown in the drawings, said end portions of the plate 16 extend in a line intersecting the axis of the cylinder, the plate 16 being of a width equal to the distance between the two heads 6 of the cylinder. At each end, the plate 16 is formed with a groove or seat 19 in which is slidably received a metal packing strip 20, the said strip being held firmly against the inner surface of the wall 5 of the cylinder, by means of a spring having an intermediate portion 21 bearing against the inner edge of the said strip and at a point midway between shoulders 22 formed upon the said edge of the strip, and with end bowed portions 23 which bear against the bottom of the groove. The extremities of the spring rest against the shoulders 22.

From the foregoing description of my invention, it will be understood that as the shaft 8 is rotated, the head 11 will also rotate and as the ends of the piston 16 bear against the inner surface of the wall 5 of the cylinder, the piston will be reciprocated in a line intersecting the axis of the cylinder. As each end of the piston passes the inlet port 14, the suction produced will draw water into the cylinder through this port and after the other end of the piston passes the said port, the water gathers between the two ends of the piston, the wall 5 of the cyl-



inder and the opposing portion of the rim of the head 11, and is forced out through the discharge pipe.

From the foregoing and an inspection of  
5 Fig. 1 of the drawings it will be observed that as the piston rotates, the points of contact of its ends with the cylinder wall approach each other so that as the said piston  
10 assumes the dotted line position or approximately this position, and that end thereof to the left in Fig. 1 swings up, the endwise compression of the piston between the cylinder walls increases with the increase in  
15 volume of water being lifted by the said end of the piston so that there is little or no possibility of the water receding due to poor contact of the piston ends with the cylinder wall. The performance of this function results from the mounting of the piston to one  
20 side of the shaft 8.

What is claimed is:—

In a rotary pump, a cylinder, a head mounted eccentrically within the cylinder for rotation, and a piston slidably mounted in the head and transecting the same, said 25 piston projecting at both ends beyond the periphery of the head, and a spring pressed packing strip mounted at each end of the piston, the said ends of the piston being located in a plane to one side of the axis of 30 the head and said plane being coincident with the axis of the cylinder in one position of the rotation of said piston.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature 35 in the presence of two witnesses.

JAMES BAGULEY.

Witnesses:

R. S. SPENCE,  
G. A. SOLOMON.