(No Model.)

C. H. CARY.

ROTARY PUMP.

No. 346,722. Patented Aug. 3, 1886.

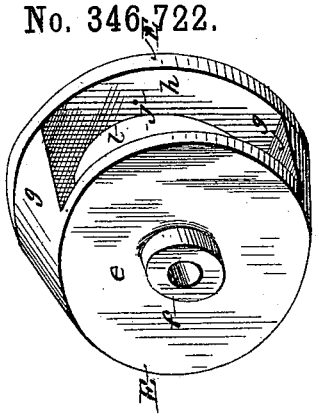

FIG. 4.

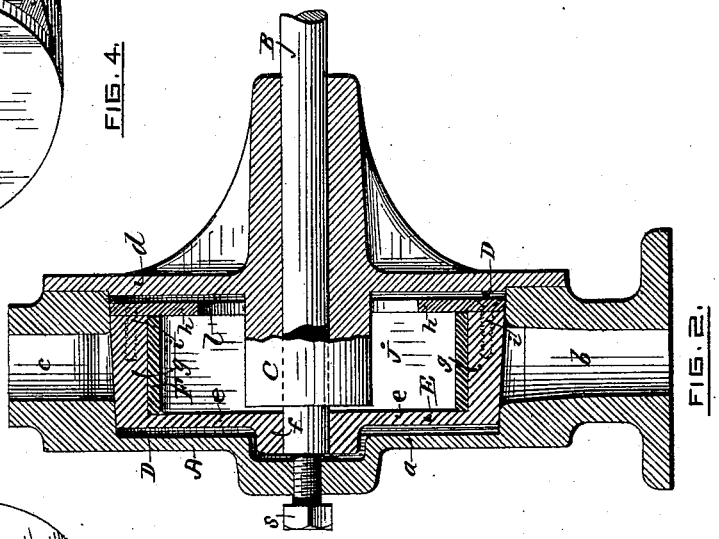

FIG. 2.

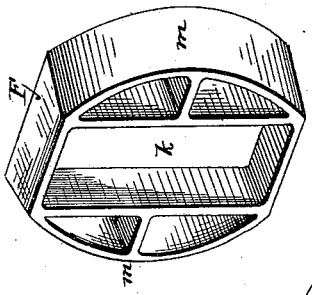

FIG. 3.

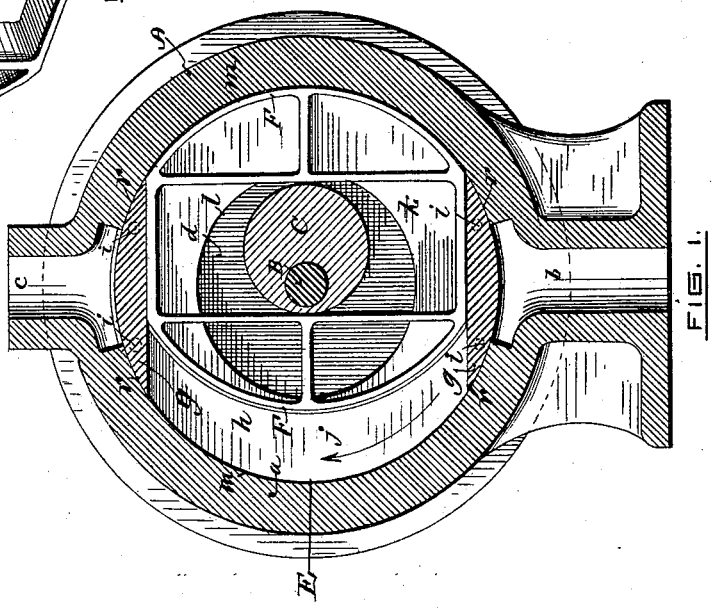

FIG. 1.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES H. CARY, OF BRISTOL, RHODE ISLAND.

ROTARY PUMP.

SPECIFICATION forming part of Letters Patent No. 346,722, dated August 3, 1886.

Application filed September 14, 1885. Serial No. 177,122. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. CARY, of Bristol, in the county of Bristol and State of Rhode Island, have invented a new and useful Improvement in Rotary Pumps, of which the following is a specification.

My invention relates to that class of rotary pumps in which a chambered head provided with one or more reciprocated pistons is made to revolve between two opposite abutments; and it consists in the improved construction of the rotary head and its reciprocated pistons, as hereinafter fully set forth.

Figure 1 is a transverse vertical section of my improved pump. Fig. 2 is an axial vertical section of the same. Fig. 3 is a separate perspective view of the piston. Fig. 4 is a separate perspective view of the rotary head of the pump.

In the accompanying drawings, A is the outer case, which consists of the chambered or recessed portion *a*, provided with the inlet-opening *b* and the outlet-opening *c*, and also with the removable head *d*, which is centrally bored, to form a bearing for the operating-shaft B of the pump. The inner side of the head *d* is provided with the stationary eccentric C, and the chamber D of the recessed portion *a* of the case A is conically beveled, so as to fit the conical form of the chamber D, thus securing an adjustable joint between the periphery of the rotary head and the circumferential portion of the said chamber.

The revolving head E is formed in two parts, (shown in perspective in Fig. 4,) the portion *e* of which is provided at one side with a hub, *f*, and upon the opposite side with the conically-enlarged segment-formed projections *g g*, to the outer ends of which is secured the ring *h* by means of screws *i*, as shown in Fig. 2.

Within the chamber *j*, formed between the parts *e* and *h*, is placed the double-ended piston F, which is provided with a centrally-arranged slot-opening, *k*, adapted to receive the stationary eccentric C, which projects inward from the head *d*. The hub *f* of the rotary head E is securely fastened to the driving-shaft B, and the opening *i* in the ring *h* is made sufficiently large to embrace the eccentric C, as shown in Fig. 1. The shaft B may be driven either by hand or by power, and upon the proper revolution of the shaft B and the head E in the direction of the arrow, the piston F, which is provided with opposite conically-beveled protuberant faces *m m*, may be made to revolve between the abutments *r r* without clearance-waste, the water being drawn into the pump through the opening *b*, and being discharged at the opening *c*.

The screw *s*, inserted at the axis of the case A, serves to regulate the position of the head F with regard to the proper working contact of the conical surfaces of the rotary head and the outer case, so as to produce a tight joint; but I do not in this application make special claim to the conically-inclined contact-surfaces of the outer case and the revolving piston-head, with means for adjusting the relative position of the parts to make a tight joint and to compensate for wear, since I have claimed the same in application Serial No. 175,601, filed August 28, 1885. Neither do I claim in this application the protuberant form of the reciprocated pistons for preventing clearance-waste at the adjacent abutment, as the same has also been set forth in my application Serial No. 151,232, filed December 26, 1884.

I claim as my invention—

1. The combination of the outer case, the rotary head provided with a fluid-receiving piston-chamber, the transversely-slotted piston having protuberant opposite faces and adapted to reciprocate within the fluid-receiving chamber of the rotary head, and the stationary eccentric for imparting the required reciprocating movement to the piston from the rotary movement of the head, substantially as described.

2. The combination of the conically-beveled outer case, conically-beveled rotary head provided with a fluid-receiving piston-chamber, conically-beveled piston adapted to reciprocate within the fluid-receiving chamber of the rotary head, the stationary eccentric, and the adjusting-screw, all arranged substantially as described.

CHARLES H. CARY.

Witnesses:

SOCRATES SCHOLFIELD,

JOSEPH J. SCHOLFIELD.