

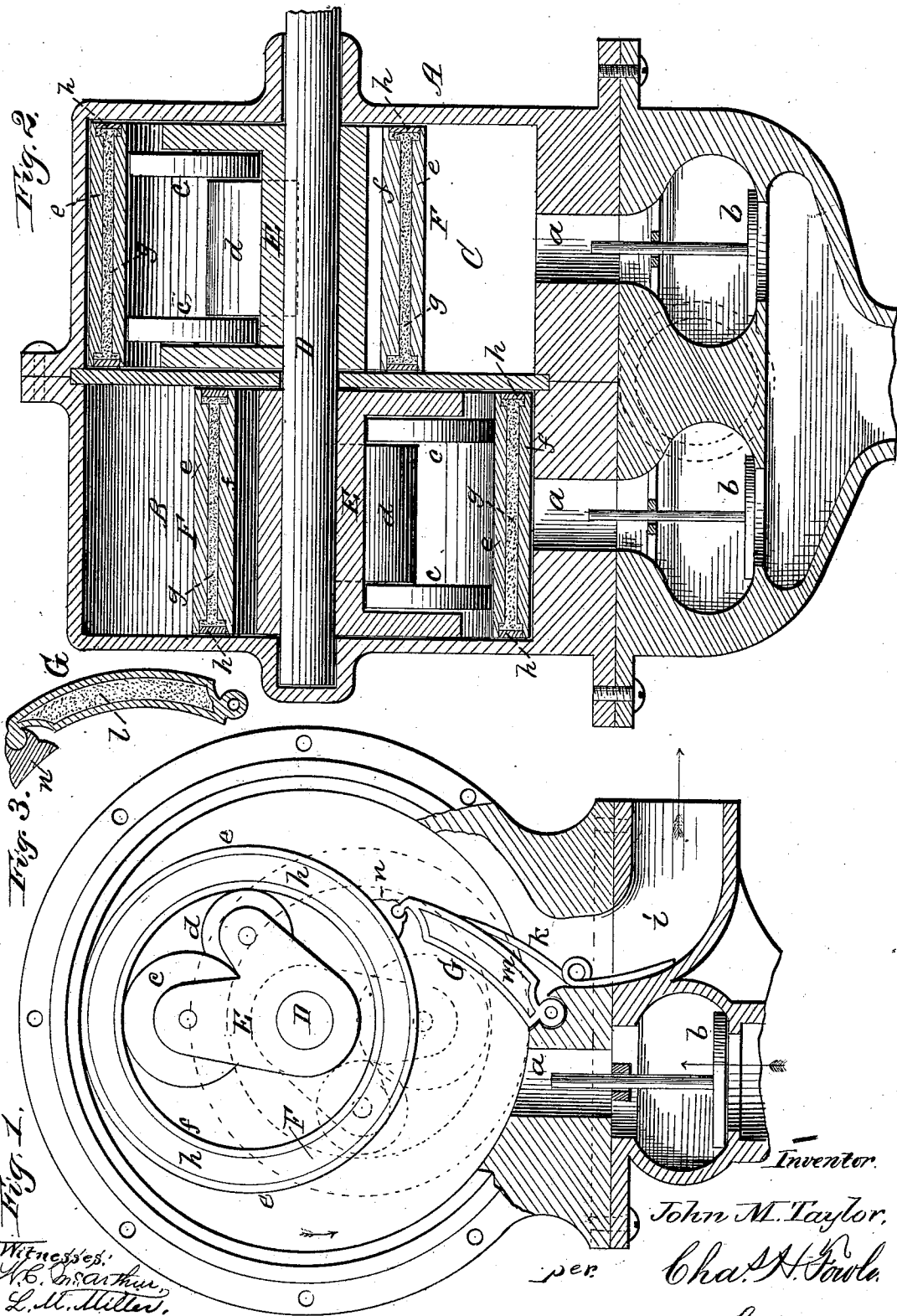
(No Model.)

J. M. TAYLOR.

ROTARY PUMP.

No. 254,069.

Patented Feb. 21, 1882.



Witnesses:
H. B. Ingraham,
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UNITED STATES PATENT OFFICE.

JOHN MITCHELL TAYLOR, OF HARTFORD, CONNECTICUT.

ROTARY PUMP.

SPECIFICATION forming part of Letters Patent No. 254,069, dated February 21, 1882.

Application filed August 18, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN MITCHELL TAYLOR, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Rotary Pumps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side elevation of my invention, partly in section, with one side of the outer casing removed. Fig. 2 is a cross-section of the same, and Fig. 3 is a detailed view, in section, of the cut-off valve.

The present invention has relation to certain new and useful improvements in that class of rotary pumps in which an eccentrically-mounted piston revolves upon its shaft within a cylindrical case, and is designed as an improvement upon my former patent, granted January 20, 1880, No. 223,684.

The invention consists in the details of construction substantially as shown in the drawings and hereinafter described.

In the accompanying drawings, A represents the outer casing or shell of the pump, having a cylindrical interior chamber.

I have shown in the drawings my invention as applied to a double-acting pump, the chambers being double, as shown at B C, each of which chambers is provided with the usual feed-pipe, *a*, containing check-valve *b*. A shaft, D, passes horizontally through the chambers B C, and has its bearings in the sides of the shell or outer casing, A.

A rotary motion may be imparted to the shaft D by a suitable crank-handle connected thereto, or by other desirable means, such as belts and pulleys, or suitable gearing.

To the shaft D may be keyed or otherwise rigidly connected cranks E, which carry rollers *c d*, of different diameters, as more fully shown in Fig. 1. The peripheries of the rollers *c d* bear against the interior face of a ring, F, revolving eccentrically within the chambers B C. Each ring F is composed of two sections, *e f*, which form respectively the outer and inner peripheries thereof. Between the

sections *e f* is placed a packing, *g*, of india-rubber or other like material, and against or over the edges of the packing are flat metal rings or bands *h*, which are kept in contact with the interior sides of the chambers B C by the elastic packing *g*, thereby taking up the frictional wear of the metal rings or bands. A discharge, *i*, communicates with each of the chambers B C, over which is located or placed a cut-off valve, G, held open by a suitable spring, *k*. The lower end of the valve G is pivoted to the casing A, and is formed hollow, so as to contain a filling or packing, *l*, of rubber or other like material, and over the edges of this packing are placed metal plates *m*. These plates, as they wear from frictional contact with the interior sides of the casing or chambers, are forced up in contact therewith at all times by the elasticity of the packing, thereby acting, the same as the metal rings or bands *h* and packing *g*, for taking up the wear.

Attached to the free end of the valve G is a shoe, *n*, concave upon its face to fit or correspond with the convexity of the ring F.

When the shaft D is revolved each crank E moves with it, and by frictional contact of the rollers *c d* with the interior of the ring F, and frictional contact with the outer periphery of the ring with the interior of the chamber of the pump, said ring is carried around with the crank, and at the same time revolves upon its own axis, thereby bringing the entire periphery of the ring in contact with the interior of the pump-chamber during a complete revolution, and thus preventing wear on one portion of the ring more than another. The water is drawn up and discharged in the same manner as in all rotary pumps of this class, the ring F, as it moves around the interior of the pump-chamber with a rolling contact, drawing the water up through the feed-pipe *a* and driving it around and out through the discharge *i*, the valve G being closed when the ring F is in the position as represented in dotted lines.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a rotary pump, the shaft D, having connected thereto crank E, carrying rollers *c d*, in combination with the rings F, consisting of

the sections *cf*, packing *g*, and bands *h*, substantially as and for the purpose set forth.

2. In a rotary pump, the combination, with the crank *E*, carrying rollers *c d*, and ring *F*,
5 of the cut-off valve *G*, containing packing *l* and plates *m*, substantially as and for the purpose set forth.

In testimony that I claim the above I have

hereunto subscribed my name in the presence of two witnesses.

JOHN MITCHELL TAYLOR.

Witnesses:

FRANK E. HYDE,
SAML. O. CHURCH.