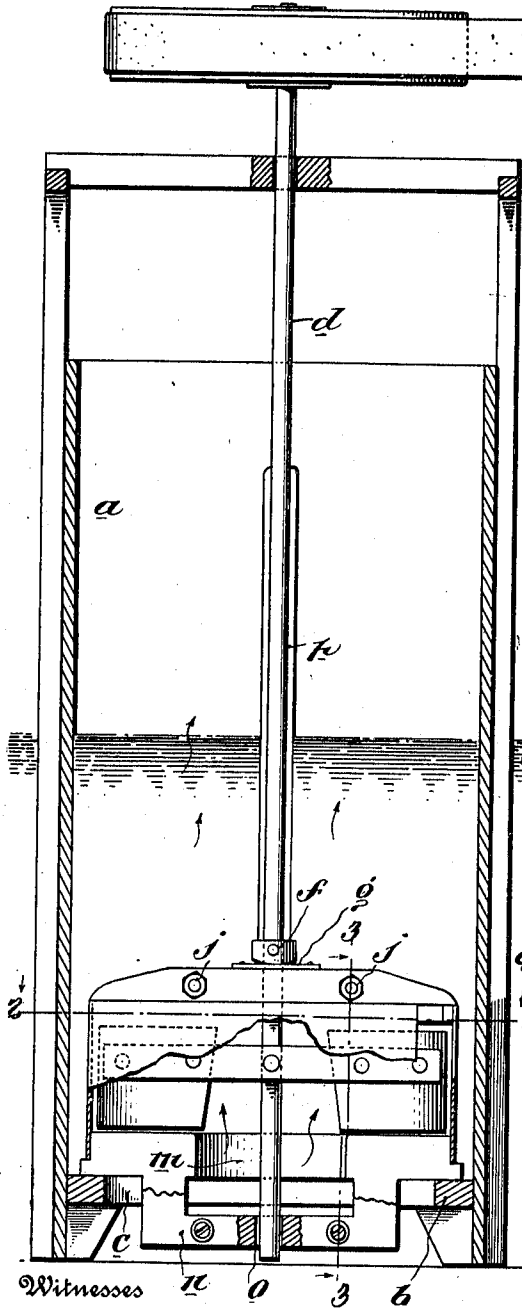


S. C. SMITH.
 ROTARY PUMP.
 APPLICATION FILED JUNE 29, 1911.

1,004,212.

Patented Sept. 26, 1911.

Fig. 1.



Witnesses

Helge Munnay.

M. Bridges

Fig. 2.

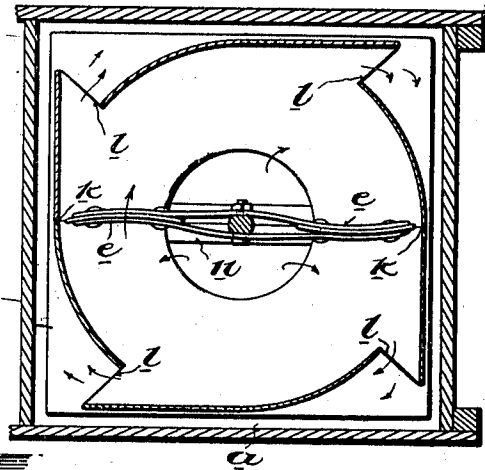
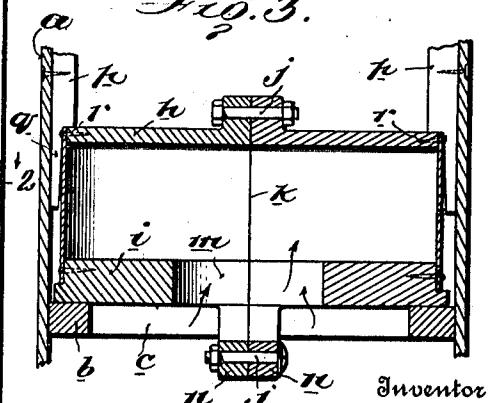


Fig. 3.



Inventor

S. C. Smith

By

Darius & Darius

Attorneys

UNITED STATES PATENT OFFICE.

SAMUEL CHARLES SMITH, OF DAISY, LOUISIANA.

ROTARY PUMP.

1,004,212.

Specification of Letters Patent. Patented Sept. 26, 1911.

Application filed June 29, 1911. Serial No. 636,049.

To all whom it may concern:

Be it known that I, SAMUEL C. SMITH, a citizen of the United States of America, and a resident of Daisy, in the parish of Plaquemines, State of Louisiana, have invented certain new and useful Improvements in Rotary Pumps, of which the following is a full and clear specification, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical sectional view of my improved pump, partly in side elevation; Fig. 2 is a horizontal sectional view on the line 2—2 of Fig. 1; and, Fig. 3 is a vertical sectional view on the line 3—3 of Fig. 1.

Referring to the drawing by reference characters, *a* designates the pump-casing whose bottom *b* is provided with a central opening *c* and whose lower end is adapted to depend into the body of water to be lifted.

Depending centrally into the pump-casing is a shaft *d* provided at its upper end with means for rotating it and carrying at its lower end a pair of oppositely projecting paddles *e*. This shaft *d* is provided with a rigid collar *f* which bears upon a plate *g* fastened to the upper side of the paddle-wheel casing and thus supports the shaft in a freely-rotatable position centrally of the pump-casing and the paddle casing.

The paddle-wheel casing consists of a top plate *h* and a bottom plate *i* both of which plates are divided transversely into halves which are bolted together by horizontal bolts *j* passing through flanges on the adjoining edges of the sections of the plates. The joints in the bottom and top plates are coincident with each other and with vertical joints *k* in the paddle-wheel chamber's vertical wall. This vertical wall of the paddle-wheel chamber has its upper and lower edges fastened rigidly to the respective top and bottom plates and at equi-distant points this wall is provided with tangential outlets *l*.

The bottom plate is provided with a central opening *m* and the flanges *n*, which carry the bolts *j*, extend across this opening and depend through the opening *c* in the bottom of the main casing. These depending flanges or brackets *n* are provided cen-

trally with a hole *o* which serves to center and steady the lower extremity of the paddle-wheel shaft.

Fastened to the inner face of the casing *a*, at opposite sides thereof, is a pair of vertical cleats *p*, whose lower ends are wedge-shaped at *q* and adapted to extend down into the space between the paddle-wheel casing and the main casing and thus center and brace the paddle-wheel casing; and to hold the paddle-wheel casing solidly down against the bottom *b* these cleats are provided with shoulders *r* which bear against the upper face of the paddle-wheel casing. By making these cleats or strips *p* removable, the entire working apparatus of the pump may be withdrawn upwardly out of the main casing for the purpose of repair, etc. And by making the paddle wheel casing vertical divisible into two sections, the entire interior of the paddle wheel casing may be readily exposed for cleaning and repairing.

The operation of this pump will be obvious upon inspection of the course of the water as indicated by the arrows on the drawings. The rapid rotation of the paddles in the direction of the arrow indicated in Fig. 2 forces the water out through the outlets *l* and up into the casing *a*, and the water may be drawn off at the upper end of the casing in any suitable manner. The rotation of the paddles tends to create a vacuum at the center and thus water is caused to flow up into the paddle chamber through the openings *c* and *m*.

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

In combination, a casing, a paddle-wheel casing removably fastened in the bottom of said casing and constructed of two vertically separable halves, a shaft depending through said casing and carrying a pair of paddles, said shaft passing through the casing at the line of separation of the casing halves.

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

SAMUEL CHARLES SMITH.

Witnesses:

MILTON HINCK,
JOSEPH AMORETTI.