

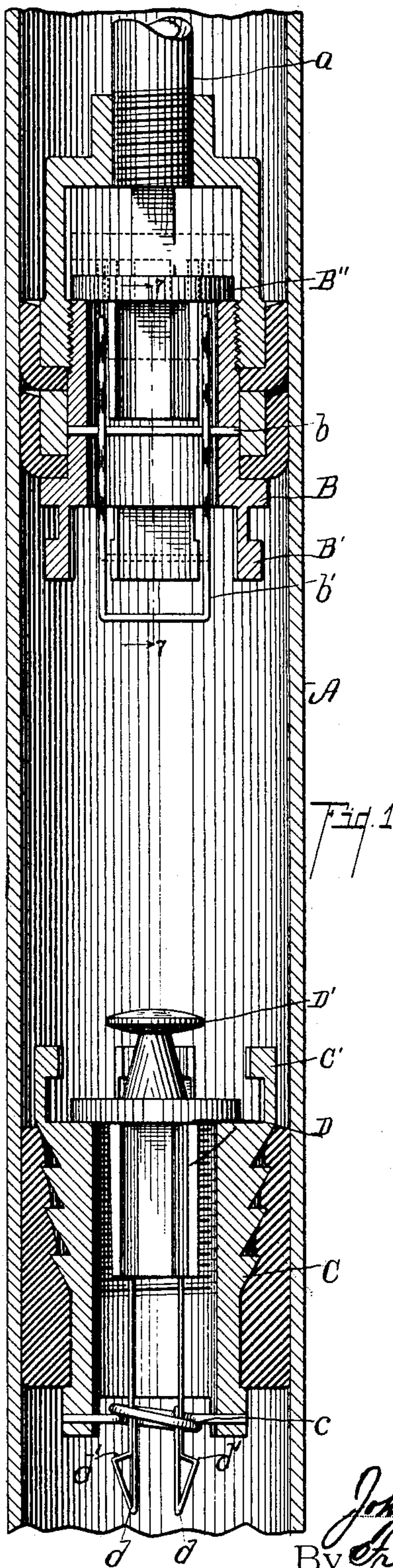
No. 785,912.

PATENTED MAR. 28, 1905.

J. W. PARK.
PUMP.

APPLICATION FILED AUG. 26, 1904.

2 SHEETS—SHEET 1.



Witnesses:

Ethel A. Miller

Otis A. Earl

Inventor,

John W. Park

By *Frederick L. Chappell*

Att'y.

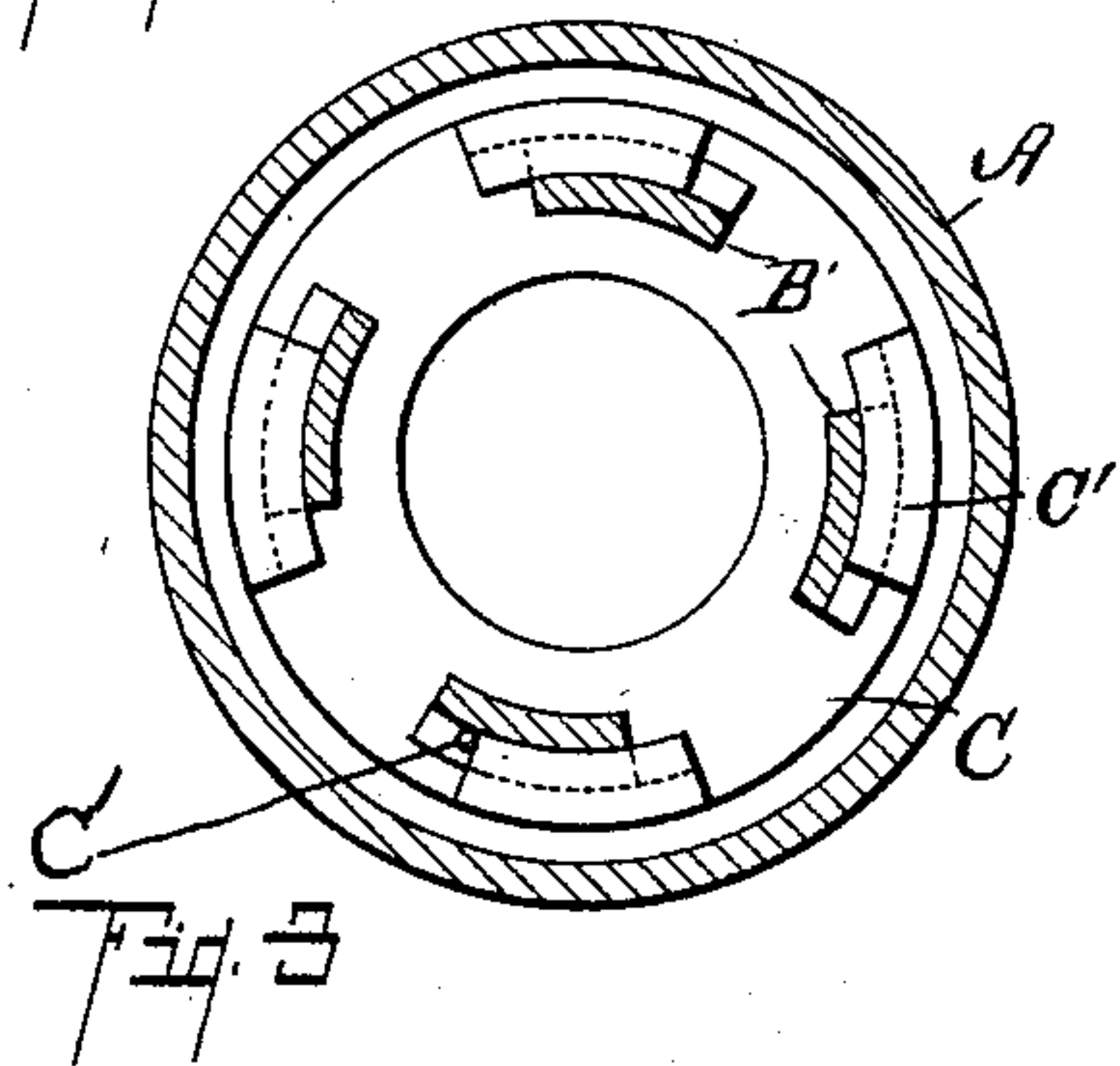
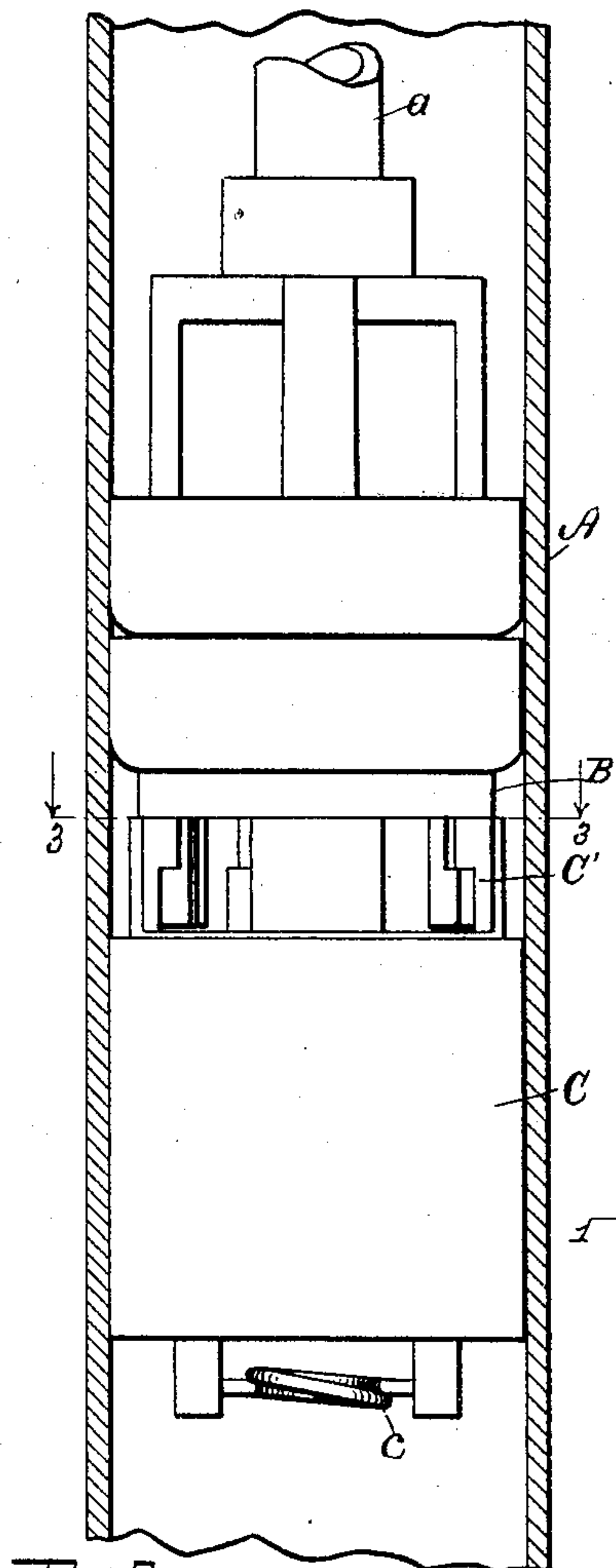
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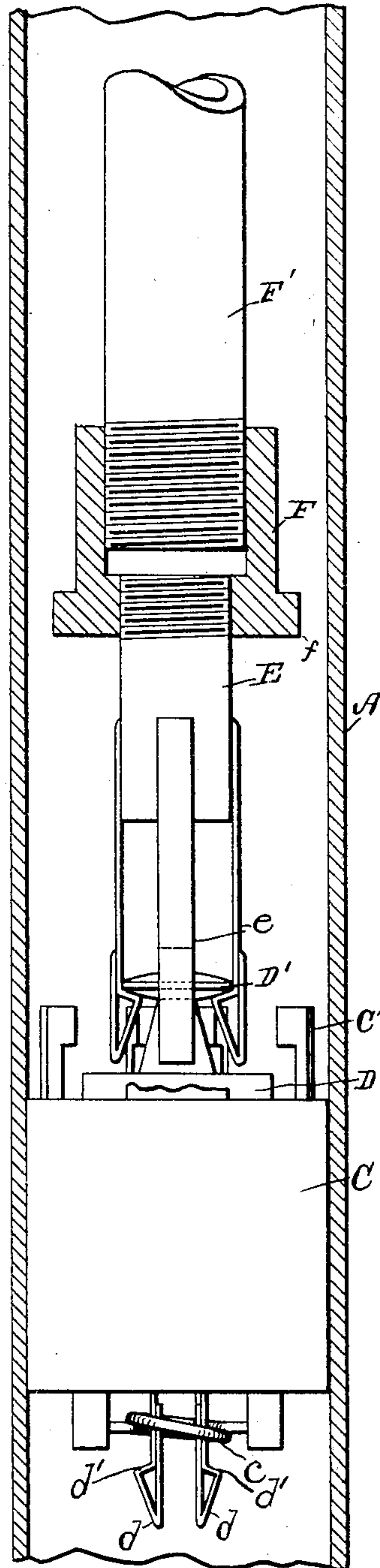
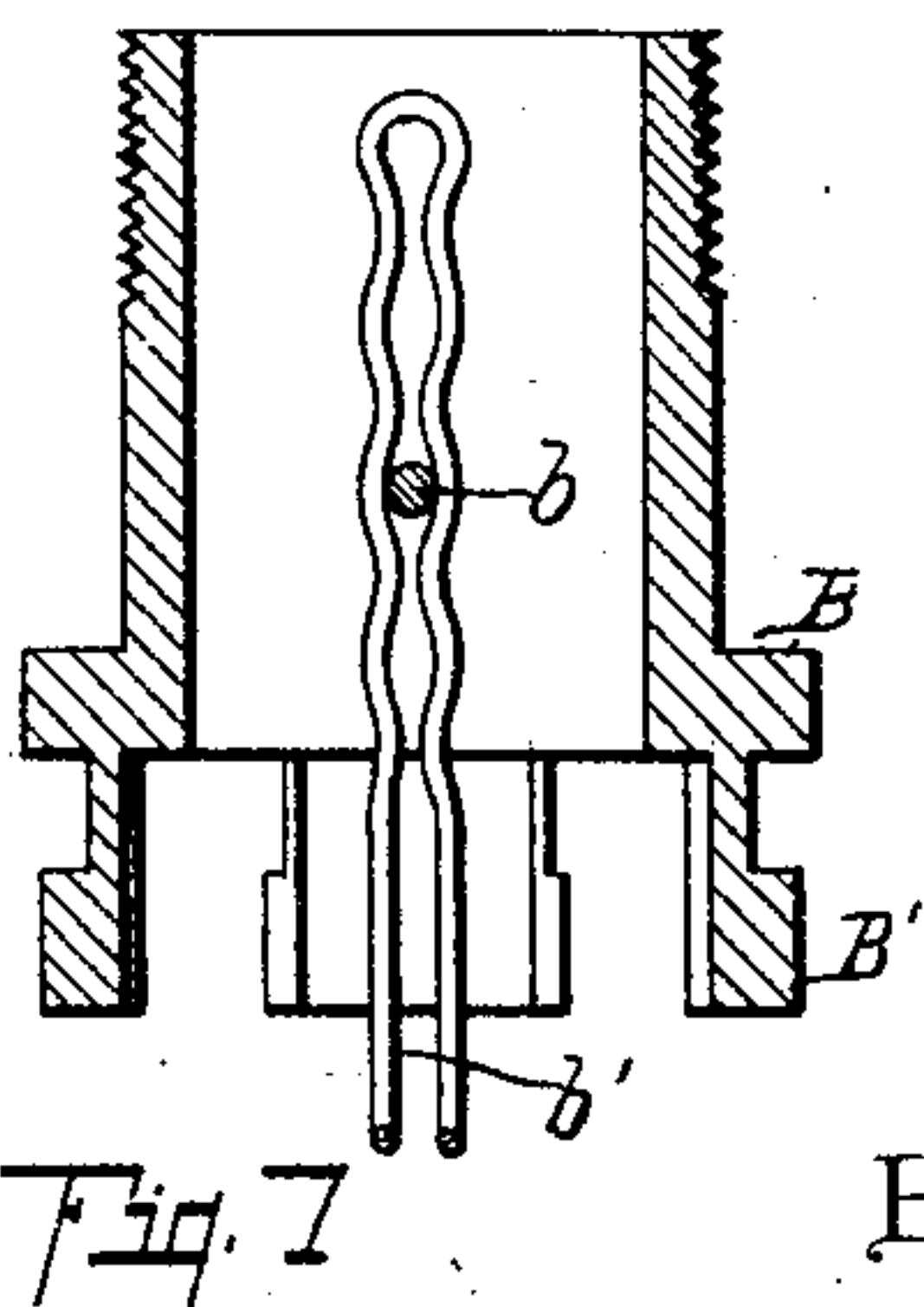
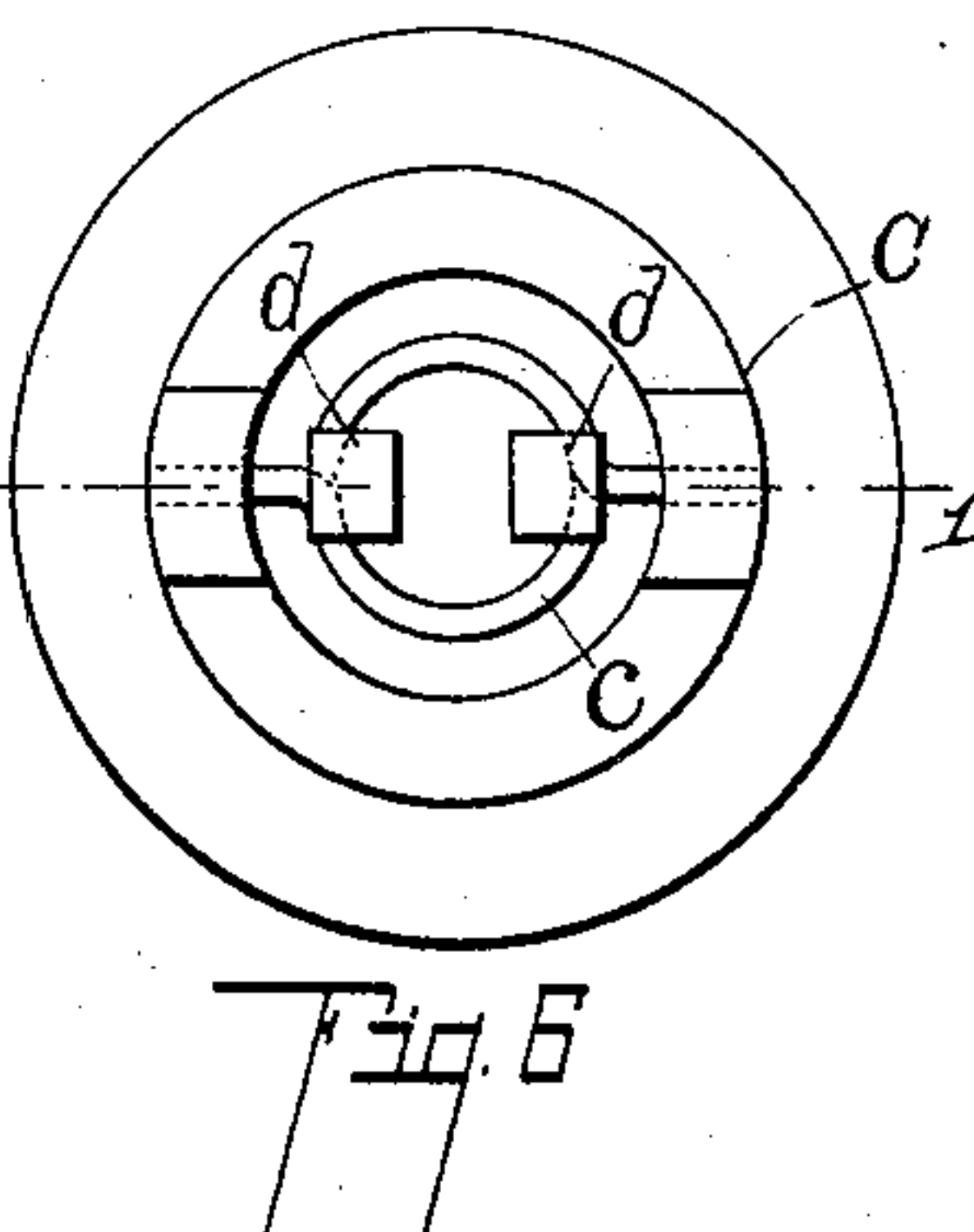
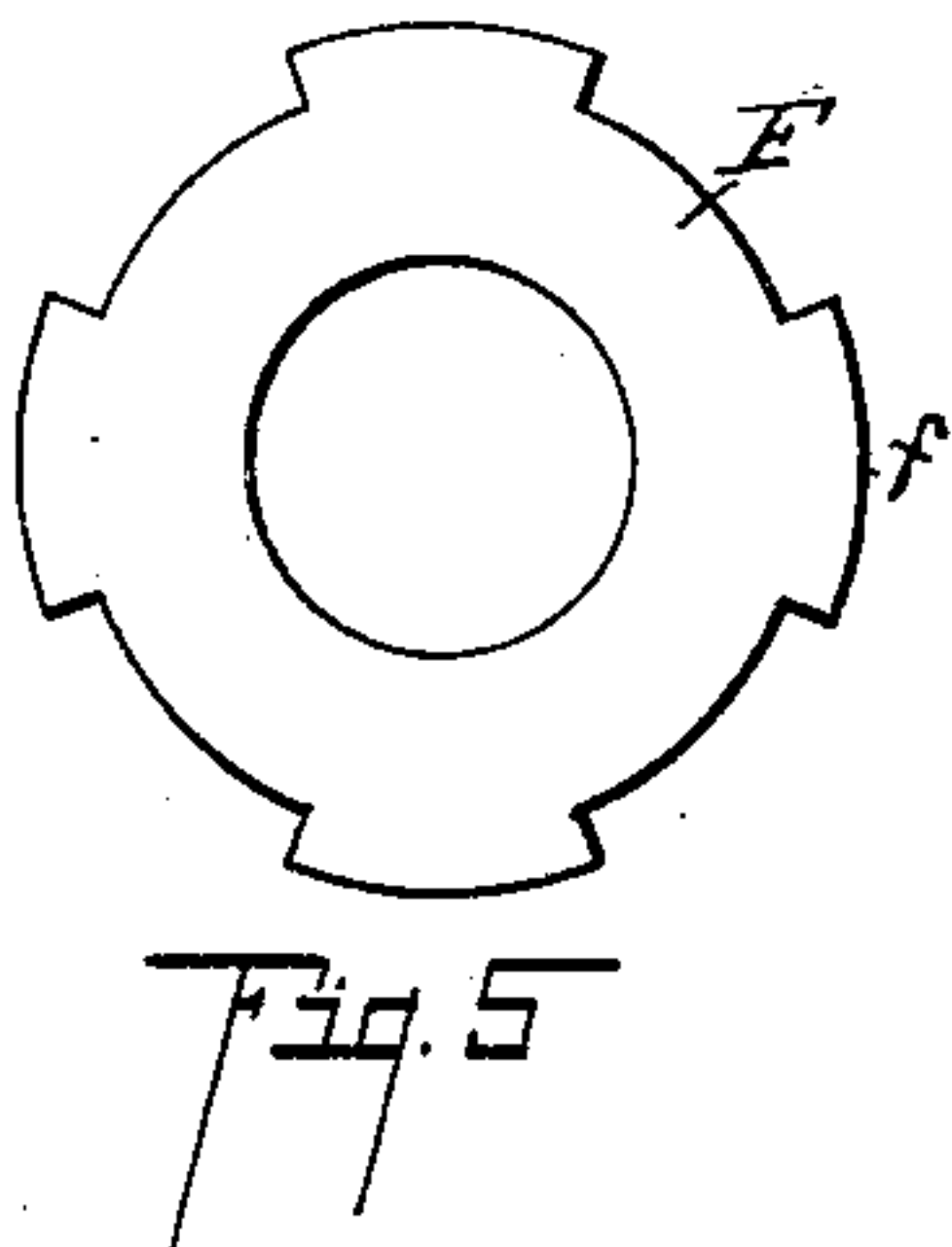
APPLICATION FILED AUG. 25, 1904.

2 SHEETS—SHEET 2.



Witnesses:

Ernest A. Teller
Otis A. East



Inventor,

John W. Park
By *Frederick L. Chappell*
Att'y.

UNITED STATES PATENT OFFICE.

JOHN W. PARK, OF KENDALLVILLE, INDIANA.

PUMP.

SPECIFICATION forming part of Letters Patent No. 785,912, dated March 28, 1905.

Application filed August 25, 1904. Serial No. 222,123.

To all whom it may concern:

Be it known that I, JOHN W. PARK, a citizen of the United States, and a resident of the city of Kendallville, Noble county, Indiana, have invented certain new and useful Improvements in Pumps, of which the following is a specification.

This invention relates to improvements in pumps.

The main object of this invention is to provide an improved pump in which the valve parts may be readily assembled and also easily and quickly disassembled for purposes of repairing, cleaning, and the like.

Further objects and objects relating to structural details will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a detail vertical sectional view through a structure embodying the features of my invention, taken on a line corresponding to line 1 1 of Fig. 6, the puppet B'' of the piston or plunger and D of the check-valve and the trip b' for the puppet B'' being shown in full lines. Fig. 2 is a detail vertical sectional view, the plunger and check-valve casing being shown in full lines in their engaged position for removing the check-valve from the cylinder, the puppets B'' and D' having been removed. Fig. 3 is a transverse sectional view taken on a line corresponding to line 3 3 of Fig. 2. Fig. 4 is a detail vertical sectional view showing the grappling device for removing the puppet D in engagement therewith, the check-valve casing and parts of the grappling device being shown in full lines. Fig. 5 is an inverted plan view of grappling device F for the check-valve casing, which may be used instead of the plunger for removing the same. Fig. 6 is an inverted plan view of the check-valve. Fig. 7 is a longitudinal sectional view through a portion of

the plunger, showing the means of tripping the valves thereof.

In the drawings the sectional views are taken looking in the direction of the little arrows at the ends of the section-lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the drawings, A represents a pump-cylinder. This cylinder may be of any desired construction or may be the well-pipe itself, as is the common practice in tubular well-pumps.

a is the pump-rod, and B is the plunger. A puppet-valve B'' is provided for the plunger. Within the piston or plunger below the valve B'' is a transversely-arranged rod b. In order to facilitate the removal of the plunger from the cylinder, I provide a trip for tripping the puppet B'' and to hold it in its open position. This trip has a pair of upwardly-projecting corrugated spring-arms which engage the transverse rod b in the plunger. These spring-arms gripping upon the rod hold the trip in its adjusted position. The lower end of the trip projects below the plunger when it is out of engagement with the puppet. When it is desired to remove the plunger from the cylinder, it is forced downwardly until the trip b' is engaged by the knob-like projection D' of the puppet D of the check and forced upwardly thereby. This lifts the puppet from its seat, so that the plunger can be withdrawn without any suction. It also allows the water above the plunger to pass freely therethrough as the plunger is elevated, thus avoiding the necessity of lifting the column of water in withdrawing the plunger. The plunger B is also provided with downwardly-projecting arms B', having outwardly-projecting engaging lugs thereon.

The check-valve casing C is retained in the cylinder in the usual or any desired manner. The check-valve casing is provided with upwardly-projecting arms C', having inwardly-engaging arms thereon, which are adapted to be engaged by the arms B' on the plunger.

In removing the check-valve casing the plunger B is dropped down upon the same and rotated slightly until the arms B' and C' engage, when the check-valve casing may be

withdrawn with the plunger. (See Figs. 2 and 3.) A stop, as c' , is provided, so that a twisting movement may be imparted to the check-valve casing in removing it from its
 5 seat. Within the check-valve casing is a transversely-arranged ring c , through which the downwardly-extending spring-arms d are arranged when the puppet-valve is in position. The spring-arms d have cam-like pro-
 10 jections d' at their lower end, which retain the puppet normally in position; but at the same time the spring-arms d yield to permit it to be withdrawn.

In removing the check-valve from the cyl-
 15 inder I first remove the puppet D. For this purpose I provide a grappling device E, having downwardly-projecting spring-arms e thereon, with hook-like projections on their lower ends, adapted to engage the knob-like
 20 projection D' of the valve. After the plunger is removed the grappling device E is inserted, and by pushing downwardly the spring-arms e snap over the knob D' , so that the puppet can be readily withdrawn. The
 25 plunger is then inserted and engaged with the check-valve and it is withdrawn, or, if desired, the grappling device F, having lug-like projections f corresponding to the lugs on the arms of the plunger, may be used.
 30 This grappling device is secured to a suitable rod, as F' . The lower end of the grappling device F is threaded to receive the grappling device E for the puppet D.

With the parts constructed and assembled
 35 as I have described they may be readily as-

sembled or disassembled for purposes of repair, cleaning, or the like. They are also very economical to produce and durable in use.

I have illustrated and described my improved pump in the form preferred by me on
 40 account of its structural simplicity and economy. I am, however, aware that it may be varied considerably in structural details without departing from my invention.

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

1. The combination with a cylinder of a check-valve casing having a ring transversely arranged therein; a puppet-valve therefor
 50 having depending spring-arms adapted to extend through said ring, said arms having projecting portions at their lower ends whereby said puppet is held normally in position; and a grappling device for said puppet and cas-
 55 ing, coacting for the purpose specified.

2. In a pump, the combination of a piston or plunger; a puppet-valve for said plunger; a rod transversely arranged in said plunger; and a trip for said valve having upwardly-
 60 projecting corrugated spring-arms engaging said rod, for the purpose specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

JOHN W. PARK. [L. s.]

Witnesses:

W. E. TEMPLETON,
 R. M. WILSON.