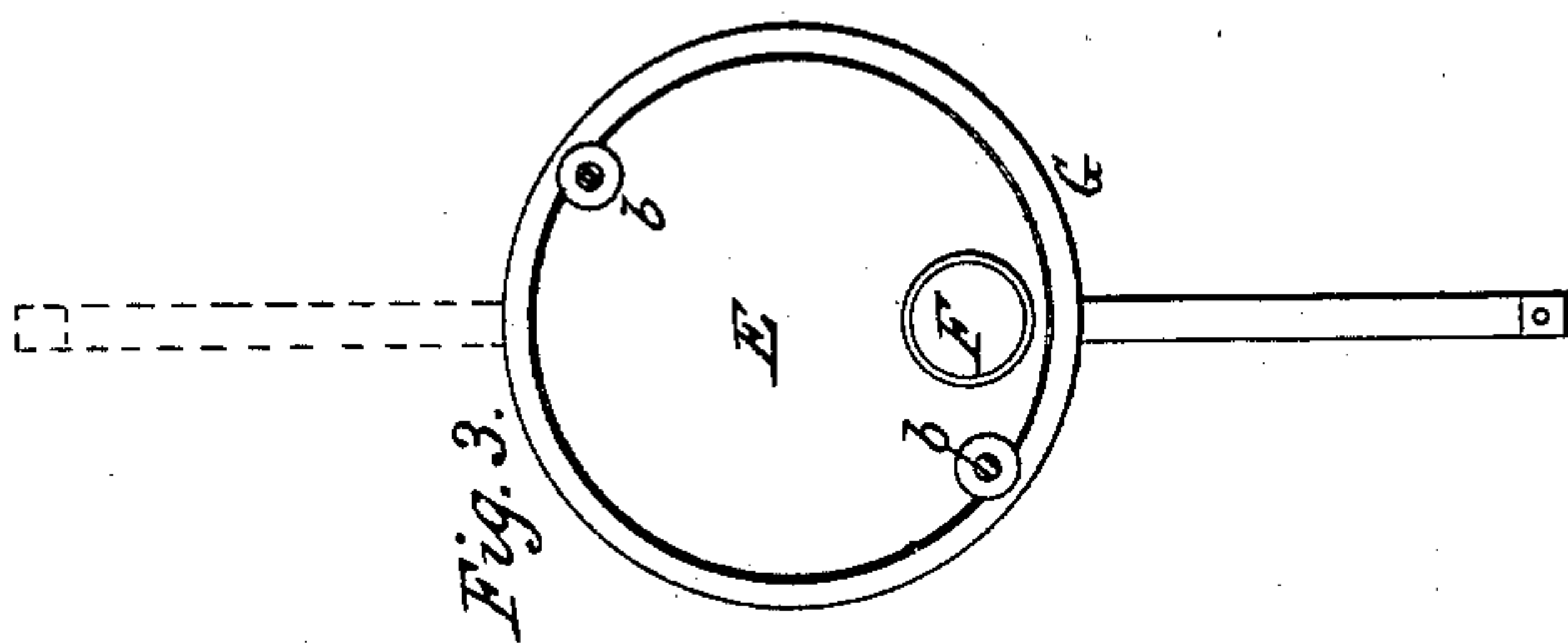
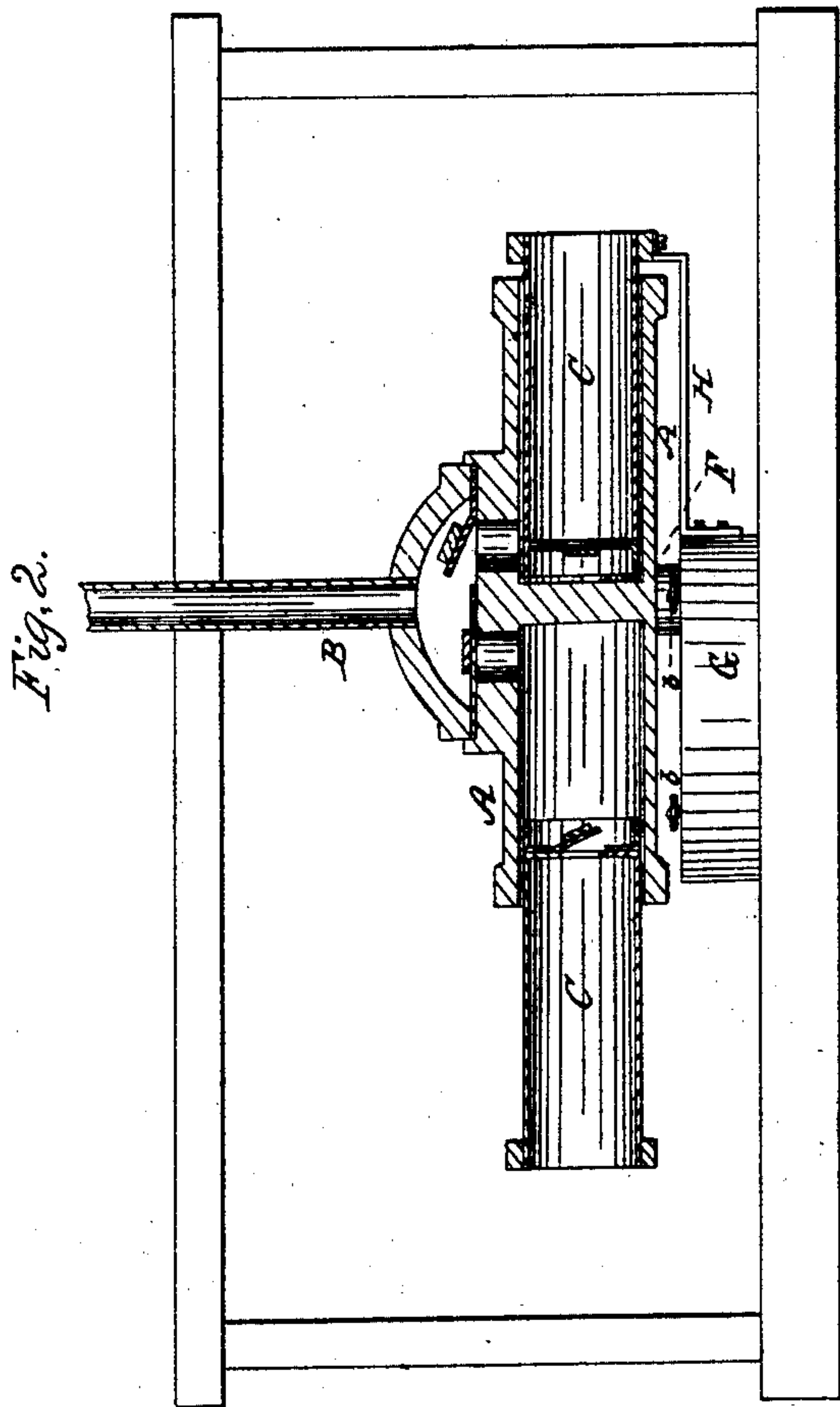
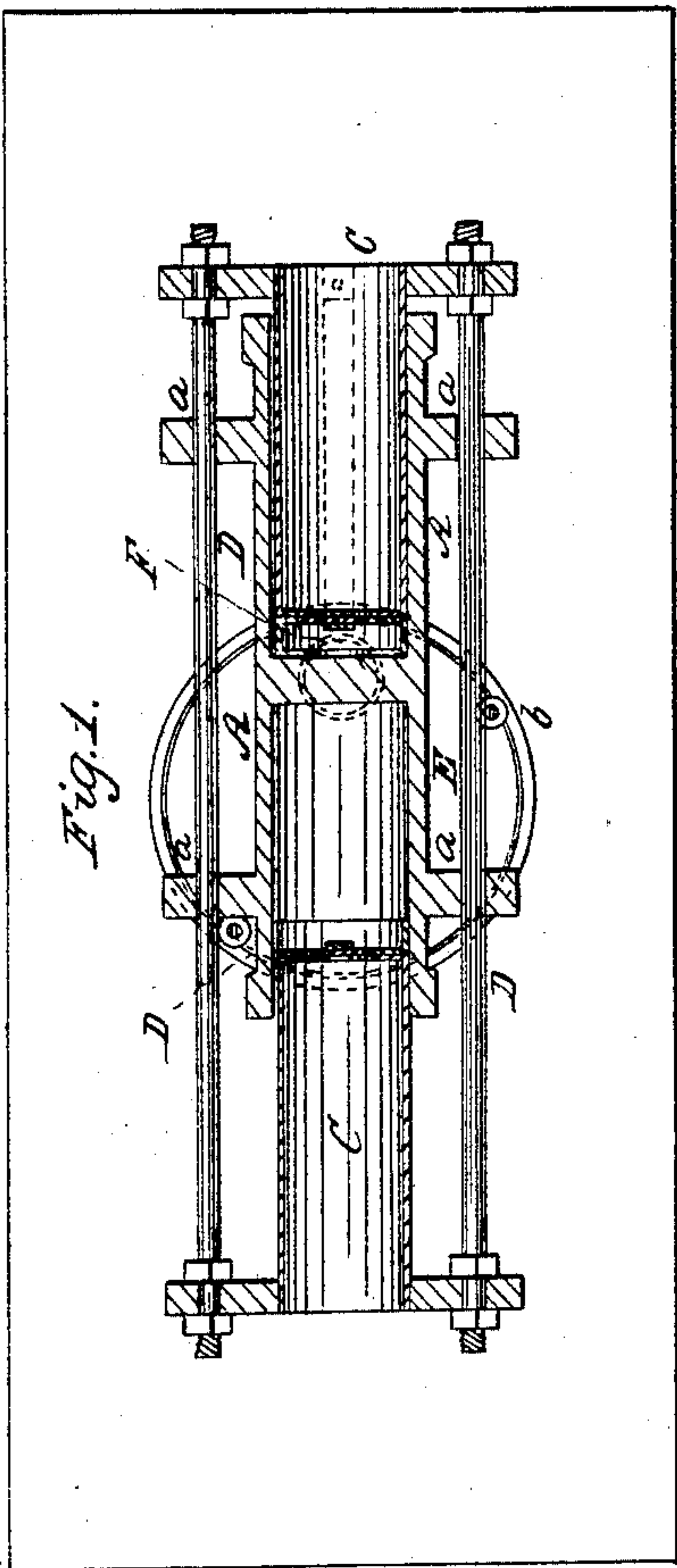


H. LINDSEY.  
Force Pump.

No. 18,916.

Patented Dec. 22, 1857.



# UNITED STATES PATENT OFFICE.

HOSEA LINDSEY, OF ASHEVILLE, NORTH CAROLINA.

## PUMP.

Specification of Letters Patent No. 18,916, dated December 22, 1857.

*To all whom it may concern:*

Be it known that I, HOSEA LINDSEY, of Asheville, in the county of Buncombe and State of North Carolina, have invented a new and useful Improvement in Operating the Pistons of Rotary Double-Acting Force-Pumps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a horizontal section of my patented submerged rotary double acting force pump with my improvement for operating its pistons applied to it. Fig. 2, is a vertical central section of the same. Fig. 3, is a horizontal detached section in the line *x, x*.

Similar letters of reference in each of the several figures indicate corresponding parts.

My improvement is particularly designed for operating the pistons of the rotary submerged double acting force pump patented to me Dec. 4, 1855, and its object is to overcome the great friction experienced from the operating of the pistons by means of the stationary inclines described and represented in said patent.

The nature of my invention consists in the attaching of the axis of the pump cylinder eccentrically to a stationary circle plate, in combination with the attaching of the pistons of said cylinder to said circle plate by means of a loose circular ring or collar, connecting strap, and vibrating sliding frame, as hereinafter specified. Whereby, as the pump performs a rotary motion on its axis or pin, the pistons alternately move in and out in a free and easy manner, owing to the loose collar moving eccentrically to the axis of the pump around the circle plate. By using a moving eccentric instead of a stationary cam, or incline plane, the friction surface becomes a rolling one and perfectly regular and unchanging in its bearing except in the distance from the axis of the pump, and consequently the power required to operate the pump does not require to be greater at one stage of the operation than at another, therefore a boy twelve years of age can operate the pump, when their pistons are at their greatest movement, just as easily as when they are at their shortest movement, whereas when inclined planes are

employed the power of a man is absolutely required to operate the pump when the pistons are at their greatest movement as has been proved by practical experiment.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A, is the pump barrel placed horizontally at the bottom of the well, and made to revolve by means of the hollow water conducting shaft B.

C, C, are pistons made tubular, and open at their outer end, and furnished with a valve at their inner end. D, D, are screw rods connecting the pistons together. The rods slide through guides *a, a, a, a*, of the barrel A.

E, is the stationary eccentric set horizontally below the barrel A.

F, is the pin of the same; it serves as the axis for the barrel to turn on.

G, is the turning ring or collar fitted loosely around the eccentric and confined by means of friction wheels *b, b*.

H, is the strap connecting this ring to one of the pistons, as shown.

This arrangement for operating the piston is very simple and compact, and renders the operation of the pump described, much easier and more regular than what it is when operated according to my patent granted in 1855.

Having thus described my invention I wish it to be distinctly understood that I do not claim in this application the operating of the pistons of a pump arranged at the bottom of a well, by means of a double inclined plane as the same was shown in my patent of 1855, but

What I do claim as my invention and desire to secure by Letters Patent, is—

The attaching of the axis F, of the pump cylinder A, eccentrically to a stationary circle plate E, in combination with the attaching of the pistons C, C, of said cylinder to said circle plate by means of a loose ring or collar G, connecting rod or strap H, and sliding frame D, D, substantially as and for the purposes set forth.

H. LINDSEY.

Witnesses:

G. YORKE ATLEE,  
ROBT. W. FENWICK.