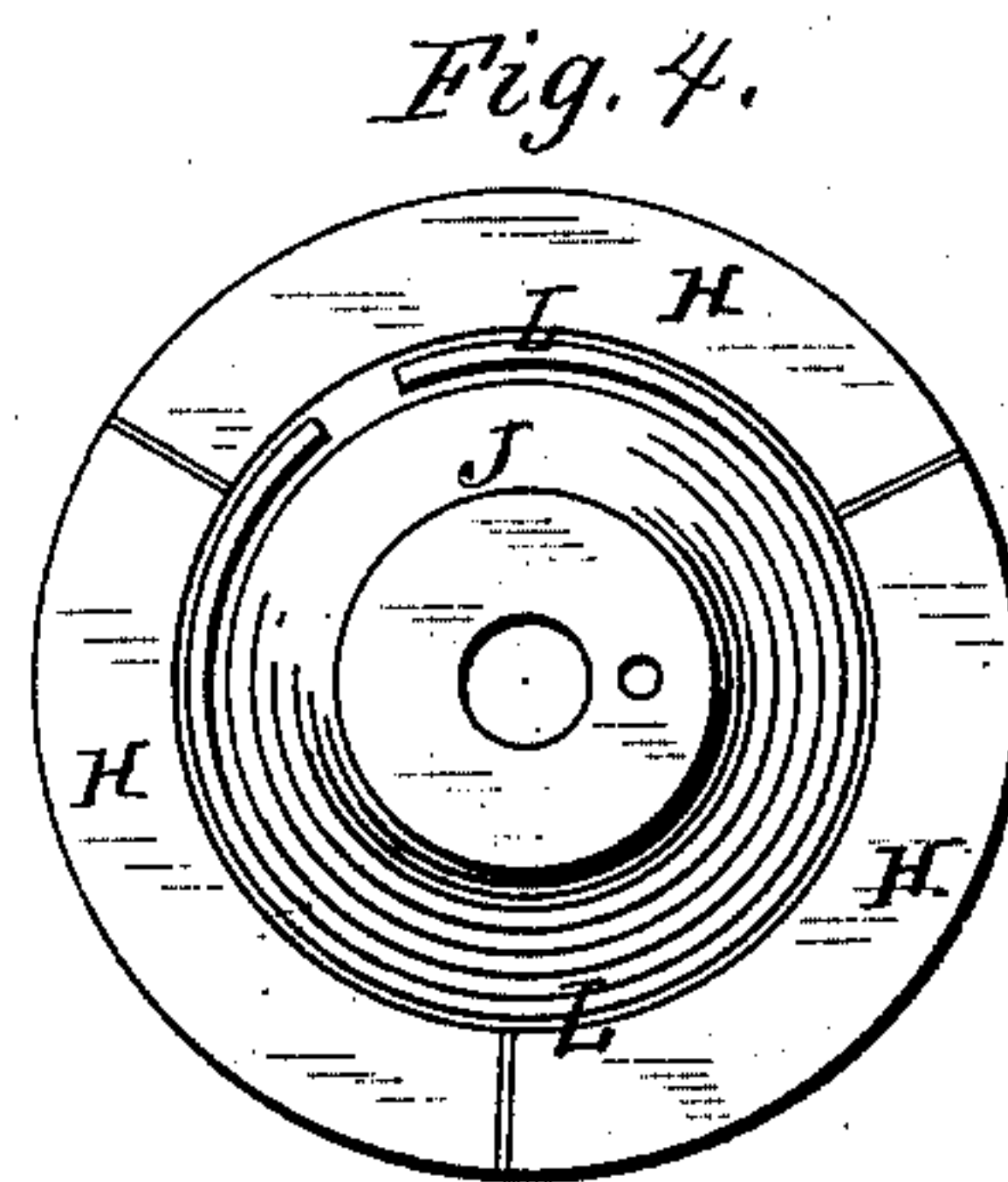
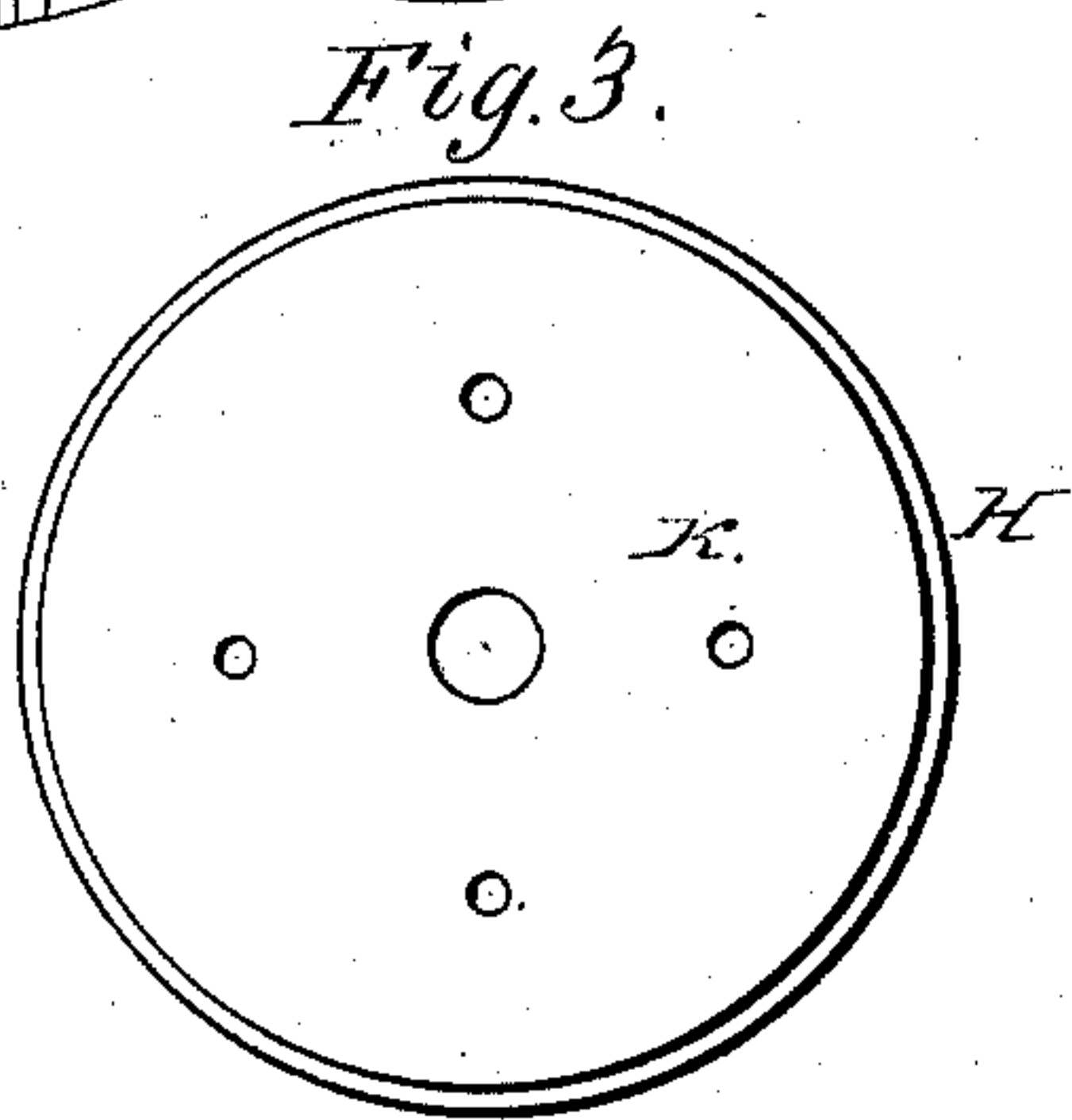
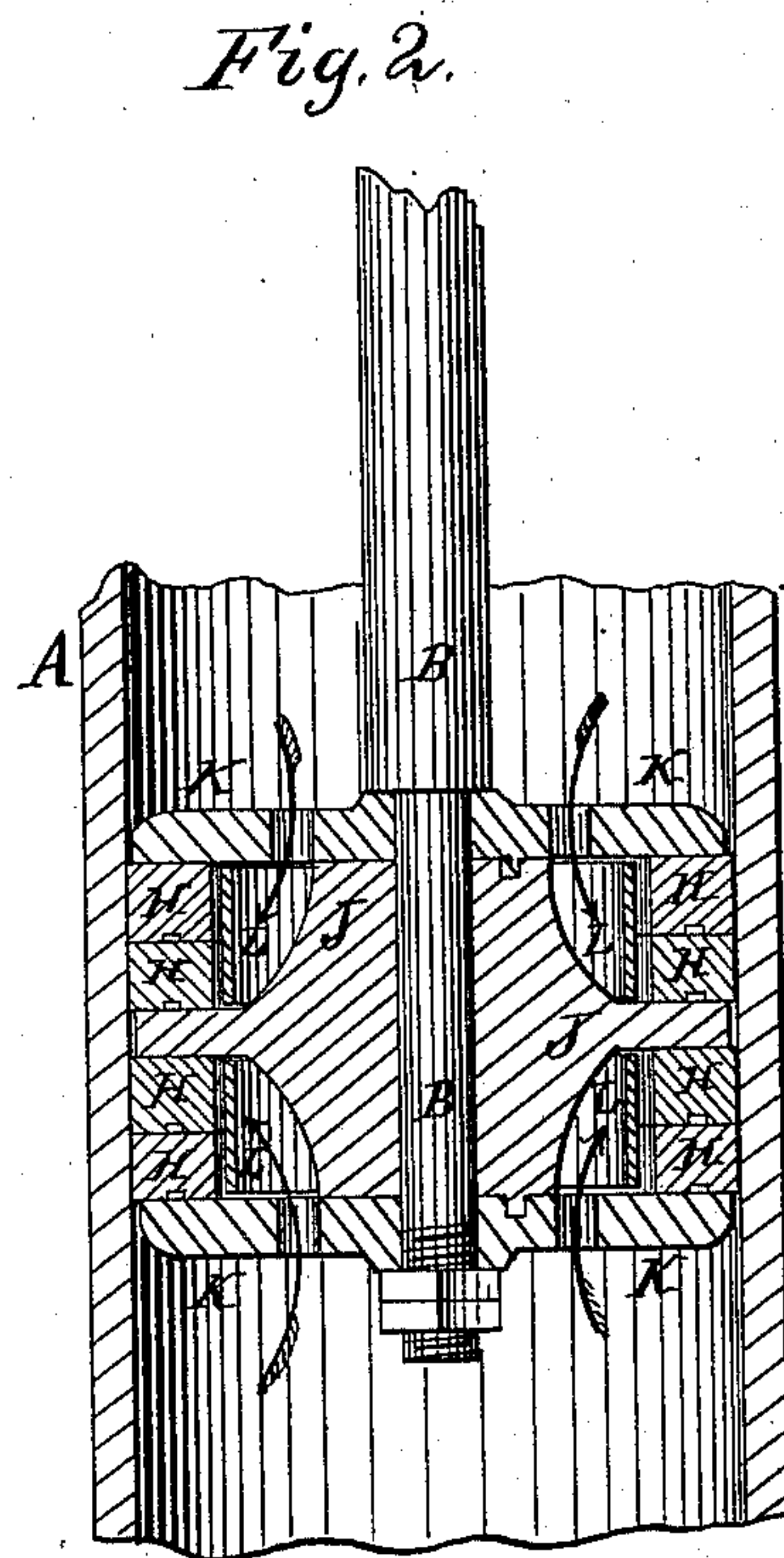
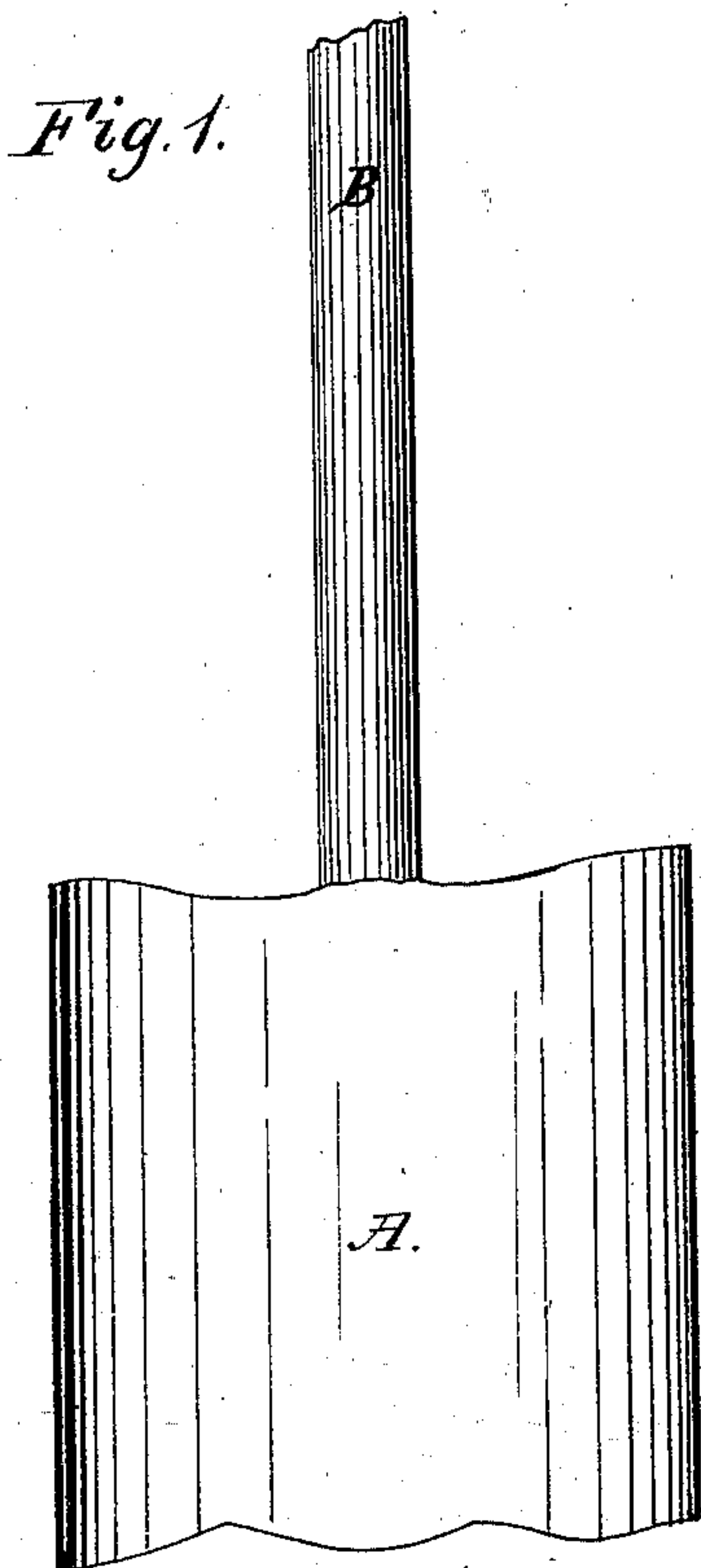


C. E. DRAKE.  
Pump.

No. 216,384.

Patented June 10, 1879.



WITNESSES:

*Henry N. Miller*  
*C. Sedgwick*

INVENTOR:

*C. E. Drake*  
BY *Mum & Co*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

CORNELIUS E. DRAKE, OF AVOCA, IOWA, ASSIGNOR TO HIMSELF AND  
GEORGE PAHL, OF SAME PLACE.

## IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **216,384**, dated June 10, 1879; application filed  
February 11, 1879.

*To all whom it may concern:*

Be it known that I, CORNELIUS EDWIN DRAKE, of Avoca, in the county of Pottawattamie and State of Iowa, have invented a new and useful Improvement in Pumps, of which the following is a specification.

Figure 1 of drawings is a side elevation; Fig. 2, a vertical diametrical section; Fig. 3, a plan view of the piston with the cap on, and Fig. 4 a plan view with the cap off.

Similar letters of reference indicate corresponding parts.

The object of this invention is to improve the construction of the suckers and plungers of pumps in such a way that the pressure of the water may force out the packing-rings against the pump-barrel when they are moving in one direction, and may allow them to move inward when they are moving in the other direction, and which shall be simple in construction and not liable to get out of order.

The invention consists in the combination of the cylinder, having its edges recessed to receive the sectional packing-rings, the two plates having openings formed through them, and the open sheet-metal tubes, with each other and the stem, as hereinafter fully described.

The cylinder J and the two plates K are placed upon the stem B, and are secured to it by a nut. The cylinder J has its edges cut out or recessed to form water-spaces, and is placed between the two plates K, and the said plates K have holes or openings formed through them to allow water to pass into the said spaces.

H are the packing-rings, which are made in sections, and are placed between the plates K

and the shoulders formed around the middle part of the cylinder J by cutting away its edges.

In the spaces in the cylinder J, at the inner sides of the packing-rings H, are placed short open tubes L of sheet metal, which are pressed outward by the water, and cause the sections of the packing-rings to be pressed outward equally.

With this construction, as the plunger moves upward, the water enters the plunger in the direction of the upper arrows, and forces the upper sets of rings outward, packing the plunger, the pressure at the same time being removed from the lower sets of rings. When the plunger moves downward, the lower sets of packing-rings H are forced outward against the barrel and the upper sets are left free.

One of the sections of each ring is connected with a section of the adjacent ring of the same set by a dowel-pin, to prevent the rings from sliding upon each other longitudinally, and bringing the joints of the said adjacent rings opposite each other.

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

The combination of the cylinder J, having its edges recessed to receive the sectional packing-rings H, the two plates K, having openings formed through them, and the open sheet-metal tubes L, with each other and the stem B, substantially as herein shown and described.

CORNELIUS EDWIN DRAKE.

Witnesses:

C. C. SMITH,

A. C. COOPER.