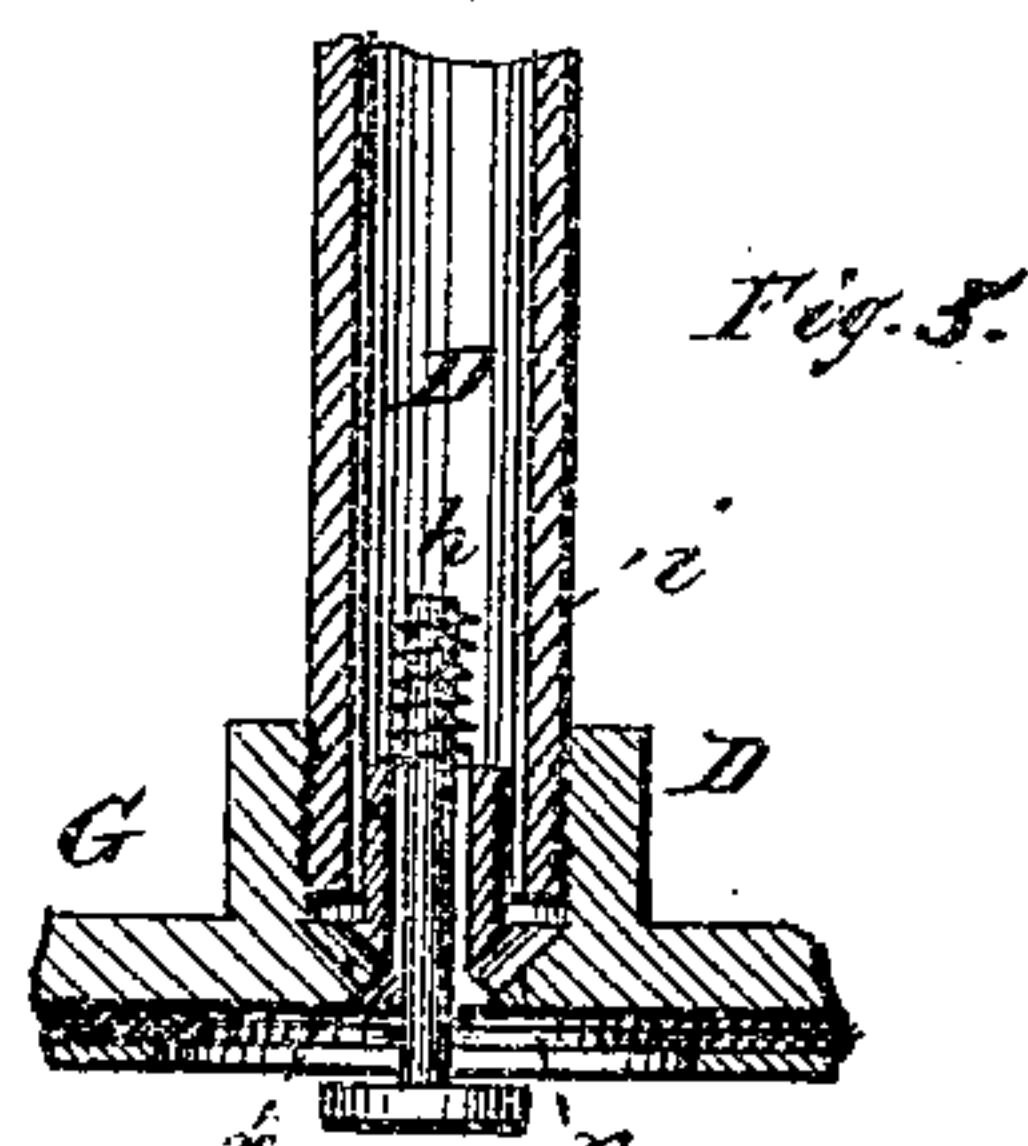
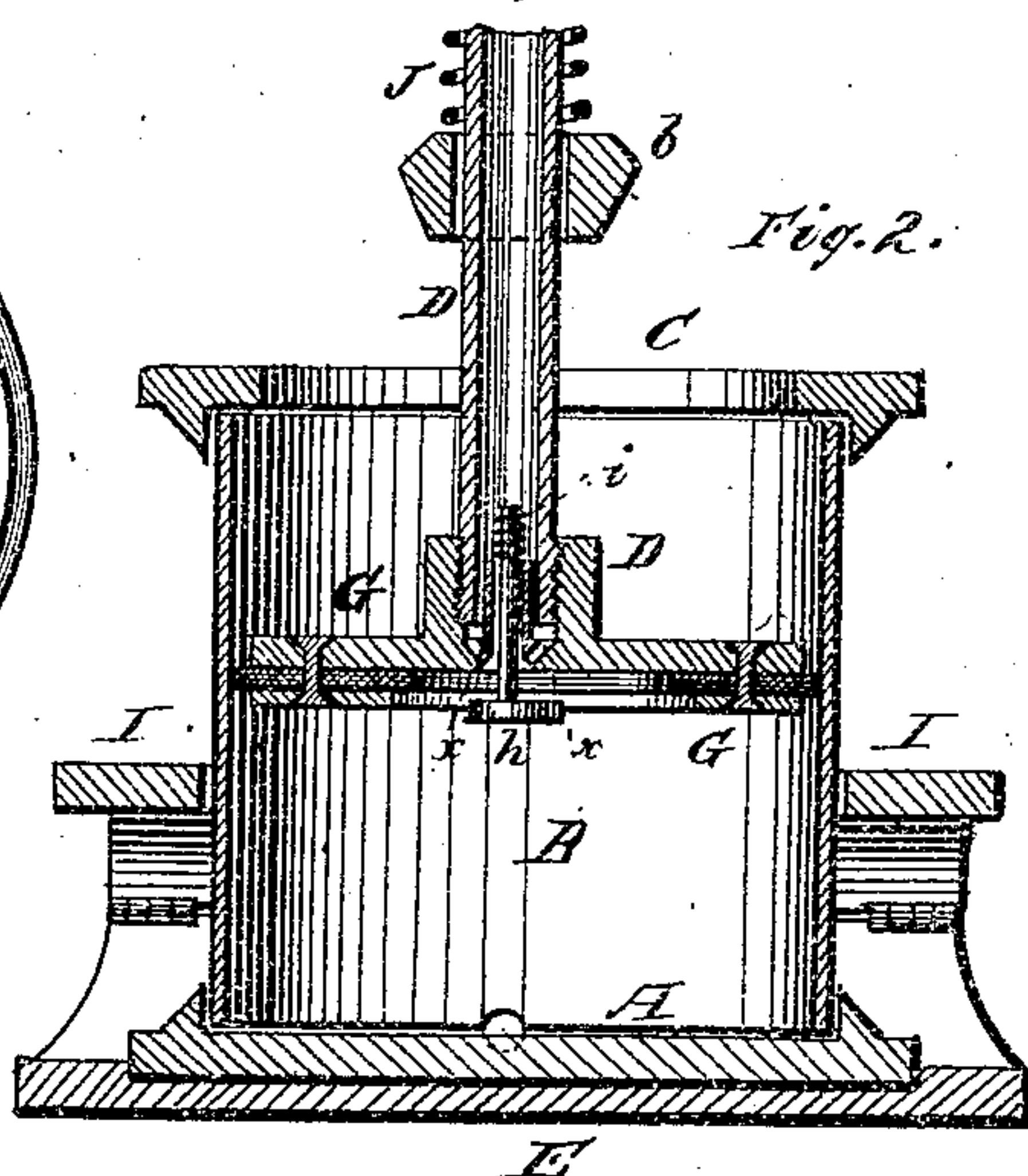
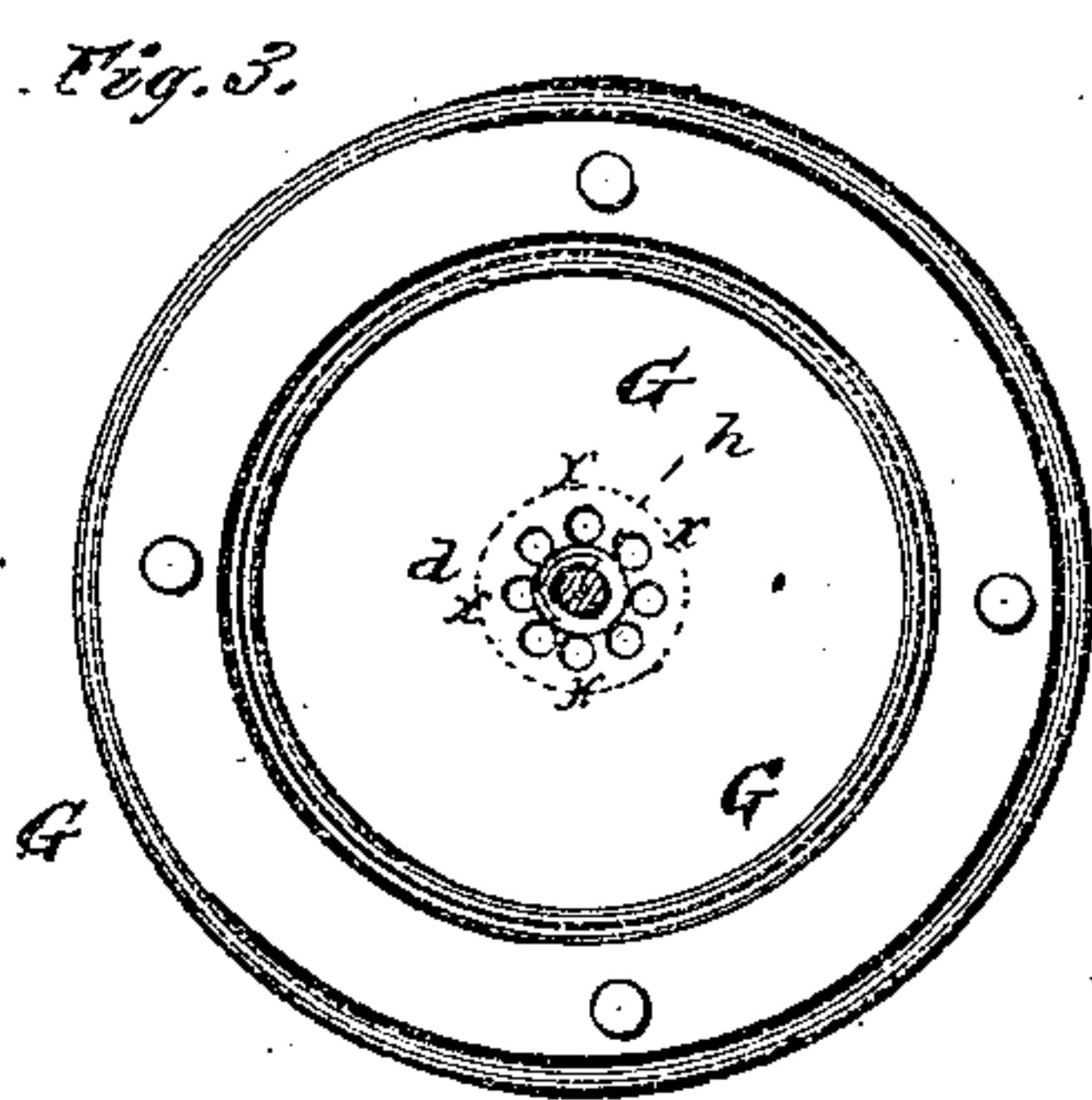
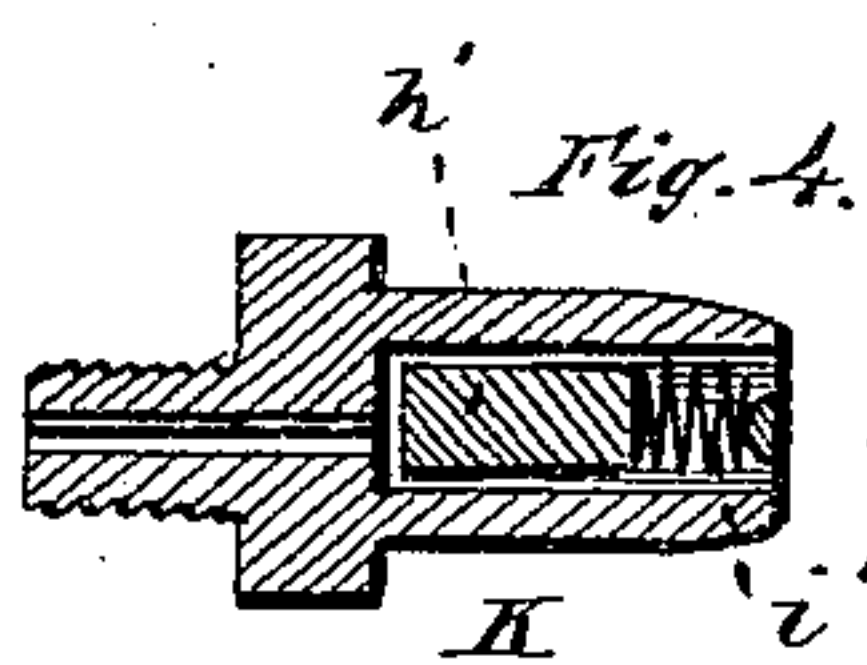
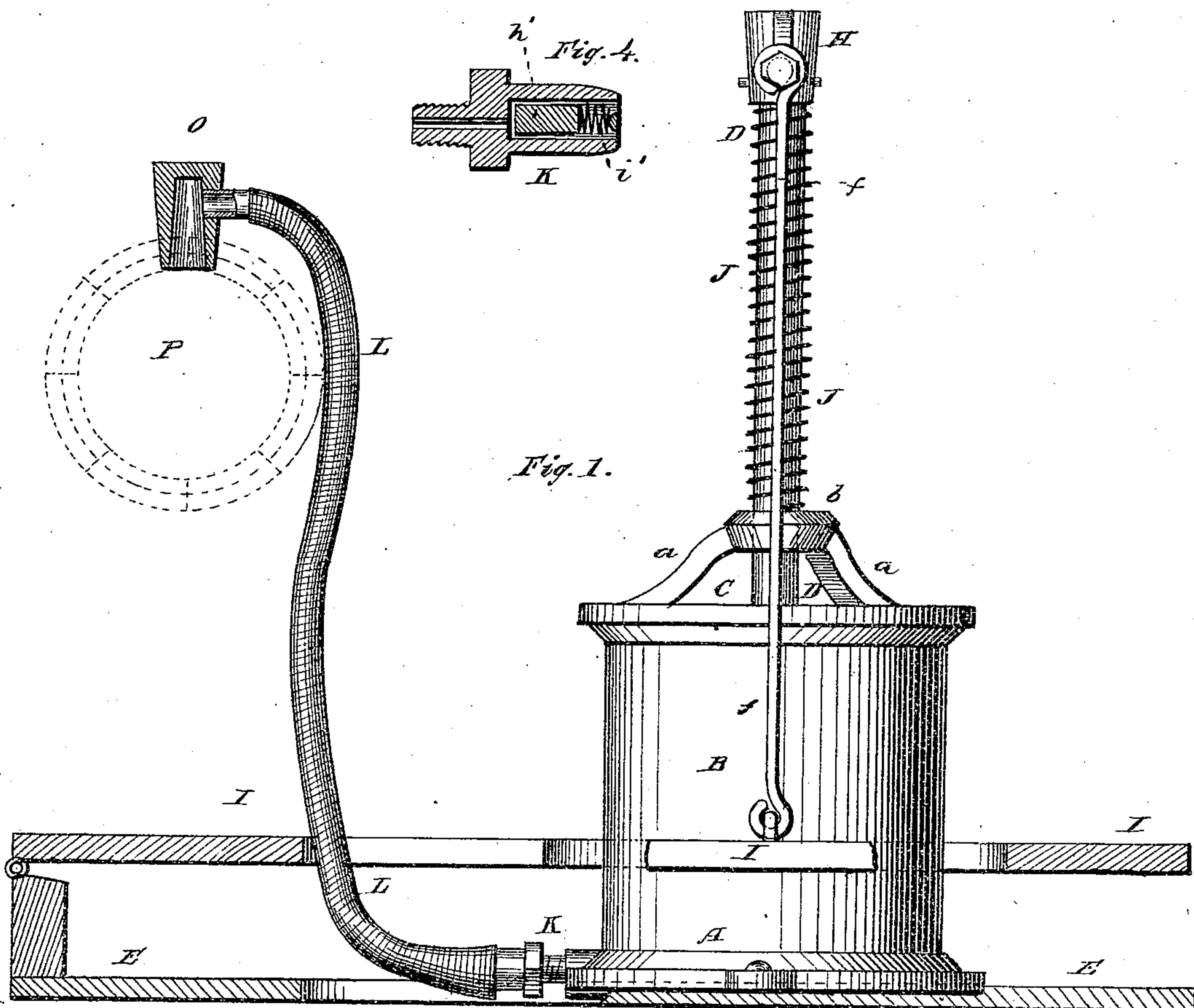


D. ADAMS & W. L. ADAMS.

Apparatus for Supplying Air to Beer-Barrels, &c.

No. 153,512.

Patented July 28, 1874.



WITNESSES:

P. C. Dieterich  
H. C. Scott

INVENTORS:  
Daniel Adams  
Wm. L. Adams

per. C. H. Watson & Co.  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

DANIEL ADAMS AND WILLIAM L. ADAMS, OF PORT CARBON, PA.

IMPROVEMENT IN APPARATUS FOR SUPPLYING AIR TO BEER-BARRELS, &c.

Specification forming part of Letters Patent No. **153,512**, dated July 28, 1874; application filed July 6, 1874.

*To all whom it may concern:*

Be it known that we, DANIEL ADAMS and WILLIAM L. ADAMS, of Port Carbon, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Device for Putting Pressure on Beer, Porter, Ale, &c.; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

Our invention has for its object to preserve beer, ale, and other similar liquids; and to put a pressure on the same in the barrel or other vessel containing such liquid; and to this end the nature of our invention consists in the construction and arrangement of an air-cylinder with a piston operated by a treadle, and having a hollow piston-rod, the cylinder being connected with the barrel by a flexible hose, and the piston and hose provided with self-acting valves, all as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a side elevation of our machine. Fig. 2 is a vertical section through the air-cylinder. Fig. 3 is a bottom view of the piston, and Fig. 4 shows the connection between the cylinder and flexible hose.

The air-cylinder consists of a bottom head, A, body B, and top rim C, provided with curved radial arms *a*, connecting with a central collar or hub, *b*. The bottom head A is secured to a suitable base or support, E. Through the hub or collar *b* is passed a hollow stem or piston-rod, D, the lower end of which is screwed into a hub, *d*, in the center of the piston G. This piston may be constructed in any suitable manner, and provided with packing around its edges. On the upper end of the piston-rod D is secured a cross-bar, H, connected by rods *f f* with a treadle, I, pivoted or hinged to the support E in any desired manner. Between the cross-bar H and the hub or collar *b*, around the hollow piston-rod D, is placed a spiral spring, J, to

raise the piston in the air-cylinder. In the center of the piston G are suitable air-passages *x* communicating with the hollow piston-rod D, as shown in Fig. 2. *h* is a valve to close the passages *x*. The stem of this valve passes up into the end of the hollow rod D, and a spring, *i*, on top of said stem, keeps the valve open. In the bottom A of the cylinder is made an outlet, into which is screwed a coupling, K, and to the other end of this coupling is attached a flexible hose, L, connecting with the plug or bung O of the barrel P, said plug having an interior passage leading into the barrel. In the coupling K is a valve, *h'*, closed by means of a spring, *i'*.

The operation of this machine is as follows: By pressing down the treadle I the piston G is forced downward into the cylinder, which closes the valve *h* and opens the valve *h'*, so that the air in the cylinder will be forced through the flexible hose L into the barrel. As soon as the pressure is removed from the treadle the spring J moves the piston upward to fill the cylinder with air again. The instant the pressure is removed from the treadle the valve *h'* closes by the combined action of the spring *i'* and the pressure in the barrel, and the valve *h* opens by the action of its spring *i*, so that as the piston ascends the outside air will at once rush in through the hollow piston-rod and fill the cylinder.

By this device any desired pressure may be easily maintained on the liquid in the barrel, thereby preserving it and preventing it from getting flat and stale.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the cylinder A B C, open at one end, and provided with arms *a* and hub *b*, the piston G, and hollow piston-rod D, substantially as and for the purposes herein set forth.

2. The combination of the cylinder A B C, hollow piston-rod D, piston G, spring J, cross-bar H, rods *f f*, and treadle I, as and for the purposes herein set forth.

3. The combination of the air-cylinder A B

C with reciprocating piston G, the coupling K, flexible hose L, hollow plug O, and barrel P, for the purposes herein set forth.

4. The self-acting valves *h h'*, in combination with the cylinder A B C, hollow piston-rod D, piston G, coupling K, and hose L, all substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

DANIEL ADAMS.

WILLIAM L. ADAMS.

Witnesses:

DANIEL W. MIESSE,  
MORGAN REED.