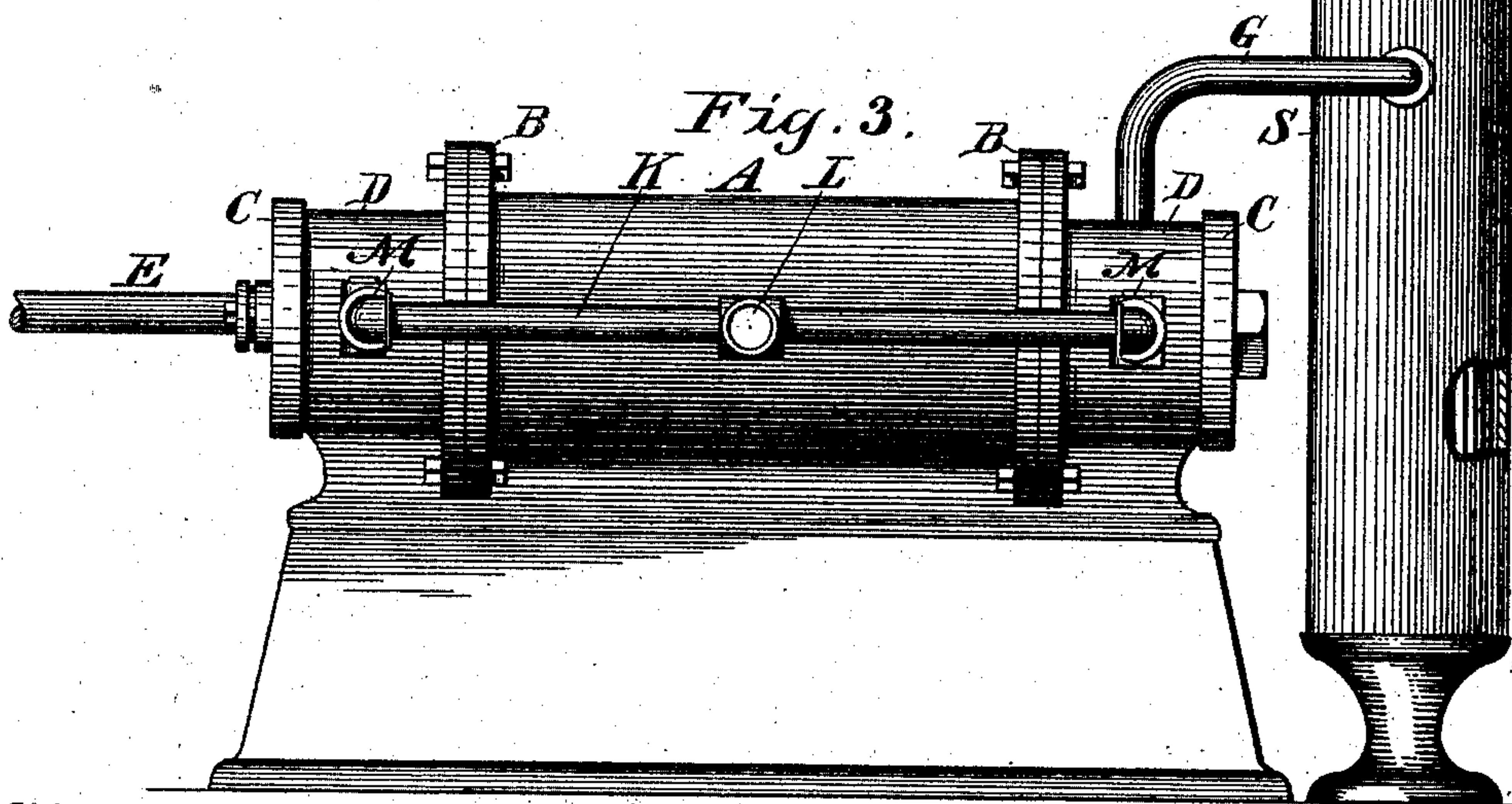
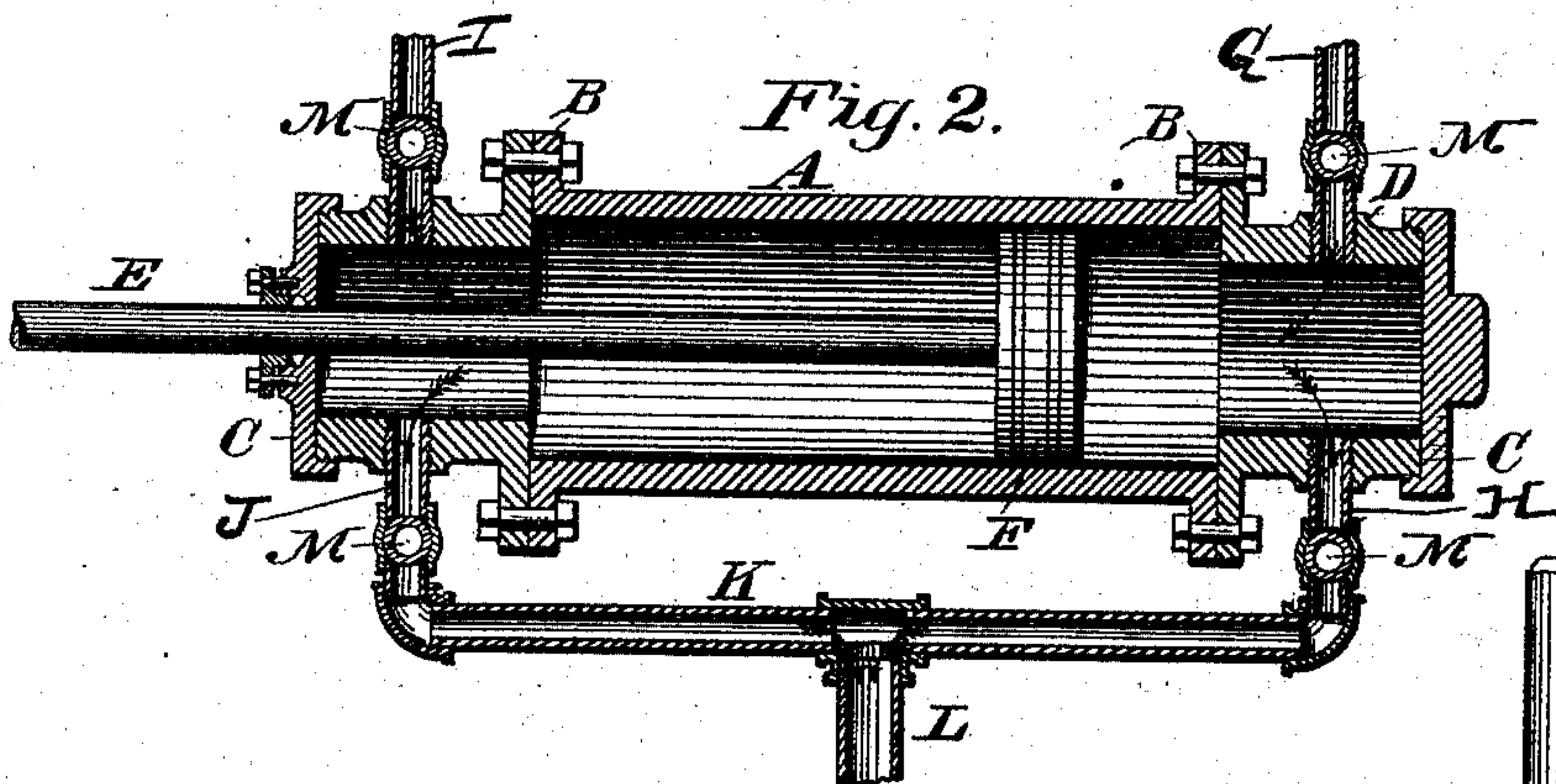
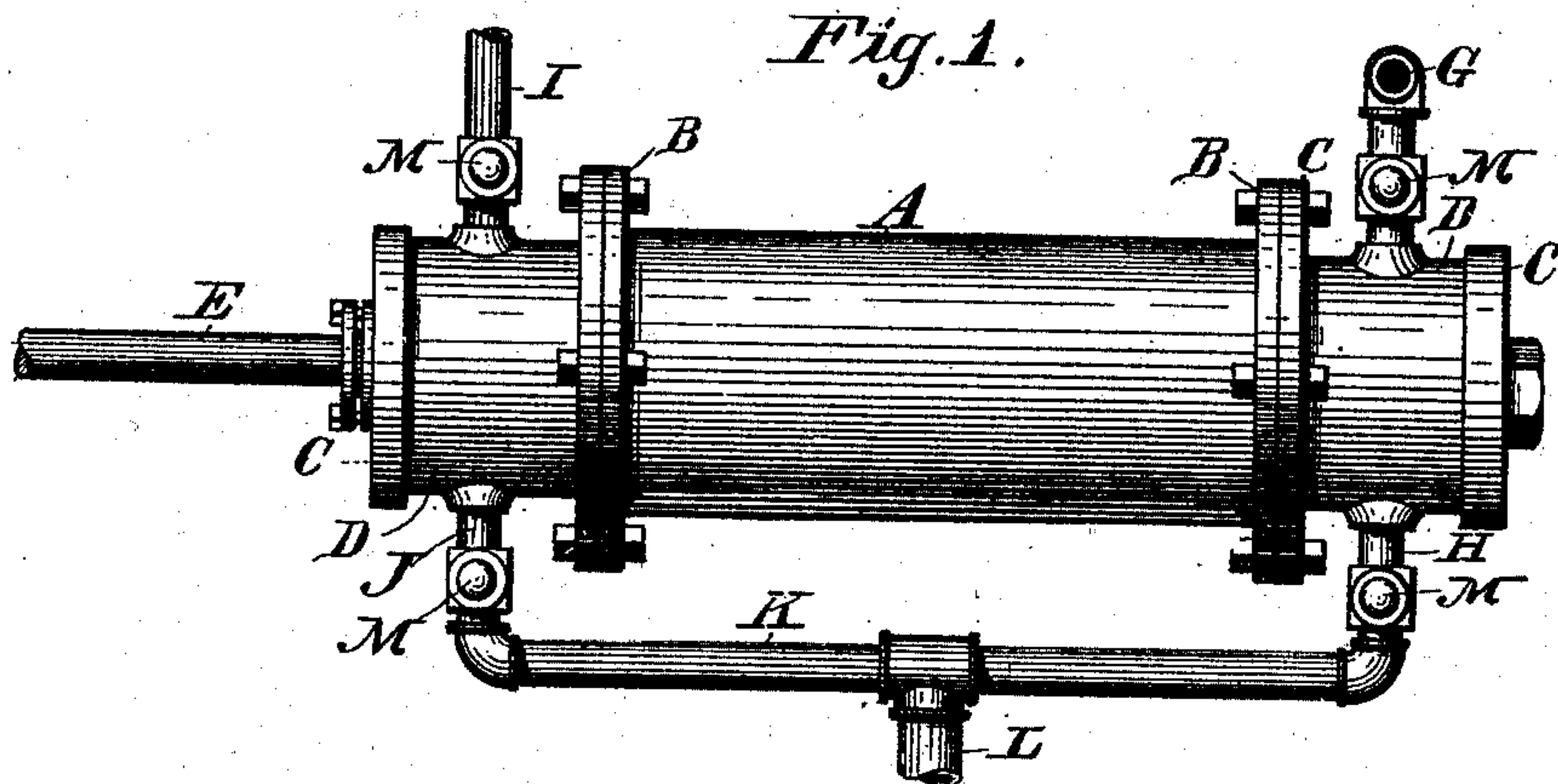


(No Model.)

H. CARSE.
PUMPING APPARATUS FOR THE MANUFACTURE OF
CARBONIZED WATERS.

No. 505,090.

Patented Sept. 19, 1893.



Witnesses:
Steele M. Wright.
Charles R. Strong.

Inventor:
Henry Carse.
by G. L. Chapin Atty.

UNITED STATES PATENT OFFICE.

HENRY CARSE, OF ROCK ISLAND, ILLINOIS.

PUMPING APPARATUS FOR THE MANUFACTURE OF CARBONIZED WATERS.

SPECIFICATION forming part of Letters Patent No. 505,090, dated September 19, 1893.

Application filed May 23, 1893. Serial No. 475,398. (No model.)

To all whom it may concern:

Be it known that I, HENRY CARSE, a citizen of the United States, and a resident of Rock Island, county of Rock Island, and State of Illinois, have invented new and useful Improvements in Pumping Apparatus for Manufacturing Carbonized Water, of which the following is a specification, reference being had to the accompanying drawings, illustrating the invention, in which—

Figure 1, is a plan view of my invention with the pump and so much of the pipe connections as are necessary to illustrate the construction and operation of the devices. Fig. 2, is a horizontal section of Fig. 1, showing the pump rod, piston, induction and discharge pipes and check valves; Fig. 3, a side elevation of Fig. 1 showing also the pump support and the gas-tank in the background.

My invention relates to means by which carbonic acid gas and water are more speedily and thoroughly incorporated and at the same time the temperature throughout the pump is kept at a substantially uniform temperature and thereby serious results from expansion and contraction are avoided.

In the patent to me, No. 467,916, dated February 2, 1892, a continuous system for making carbonated beverages is set forth, and this present invention I consider an improvement to be employed to advantage in the said patented apparatus by substituting the present compound pumping apparatus for the pumping devices shown in said patent; and also an improvement to be used in all instances where water is to be carbonized.

I construct my pump with a central double flanged cylinder A, B, B, and two hollow heads C D, C D also flanged; and the flanges of the central cylinder removably united with the flanges of the heads D C; as shown at Figs. 1, 2, and 3.

The piston rod is shown at E and the piston at F, but the means for giving a reciprocating movement to the rod, being of common knowledge, are not required to be shown. The length of the piston stroke is no longer than the central cylinder; and as shown the bore of the heads D C are not as large as that of the central cylinder; the heads being employed for the connections of the gas and water induction and exit pipes. And for this purpose they form a distinct and novel feature of the invention, in that their periphery walls are very thick by reason of their small

bore, and thereby provide strong supports to the connecting pipes; and one head provides a bearing for the piston rod some distance from the stroke of the piston in the main cylinder; and by less leverage the piston is kept in a true working position.

The induction gas pipe is shown at G and the exit pipe at H.

The induction water pipe is shown at I and the exit pipe at J. Both exit pipes connect and communicate with an exterior pipe K, which is provided with a single exit pipe L, which conveys the carbonized liquid to a suitable storage tank or the bottling receiver desired.

M, represent valves, the puppet valve being preferred, which at each stroke of the piston open and close to permit the fluid and gas to pass but not return; as is the custom in the construction in pumps and conducting pipes.

In practice, if desirable, two pumps may be operated in combination, by the use of a single long piston rod operating a piston in each pump and by the attachment of duplicate pipes. The operation is simple, requiring only that the pump be put in motion in the ordinary manner and the gas let into pipe G and water into pipe I.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

In a pumping apparatus for manufacturing carbonized water, a central pump cylinder in combination with an extension hollow head detachably secured to each end thereof and of less bore than the cylinder, and forming altogether a single compartment divided by a piston, the rod of which operates through one hollow head which is distant from the piston stroke, a gas supply pipe and exit pipe secured to and communicating with one hollow head, and a water supply pipe and water exit pipe attached to and communicating with the other head, in combination with an exterior exit pipe communicating with two exit pipes and having communicating therewith a single discharge pipe for conducting the carbonized water, and suitable supply cocks and check valves; as and for the purpose specified.

HENRY CARSE.

Witnesses:

MICHAEL DOUGHERTY,
GEORGE DOUGHERTY.