

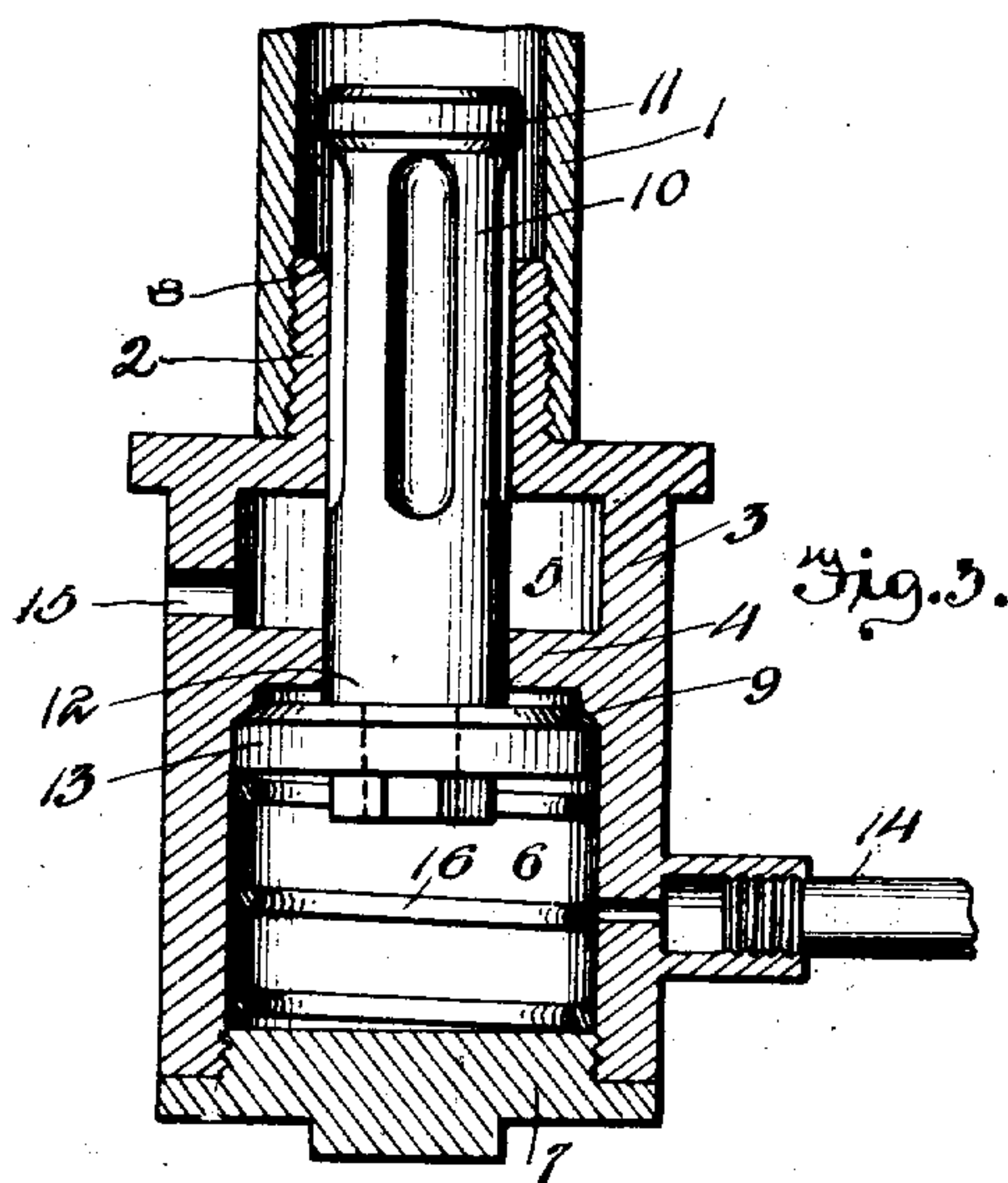
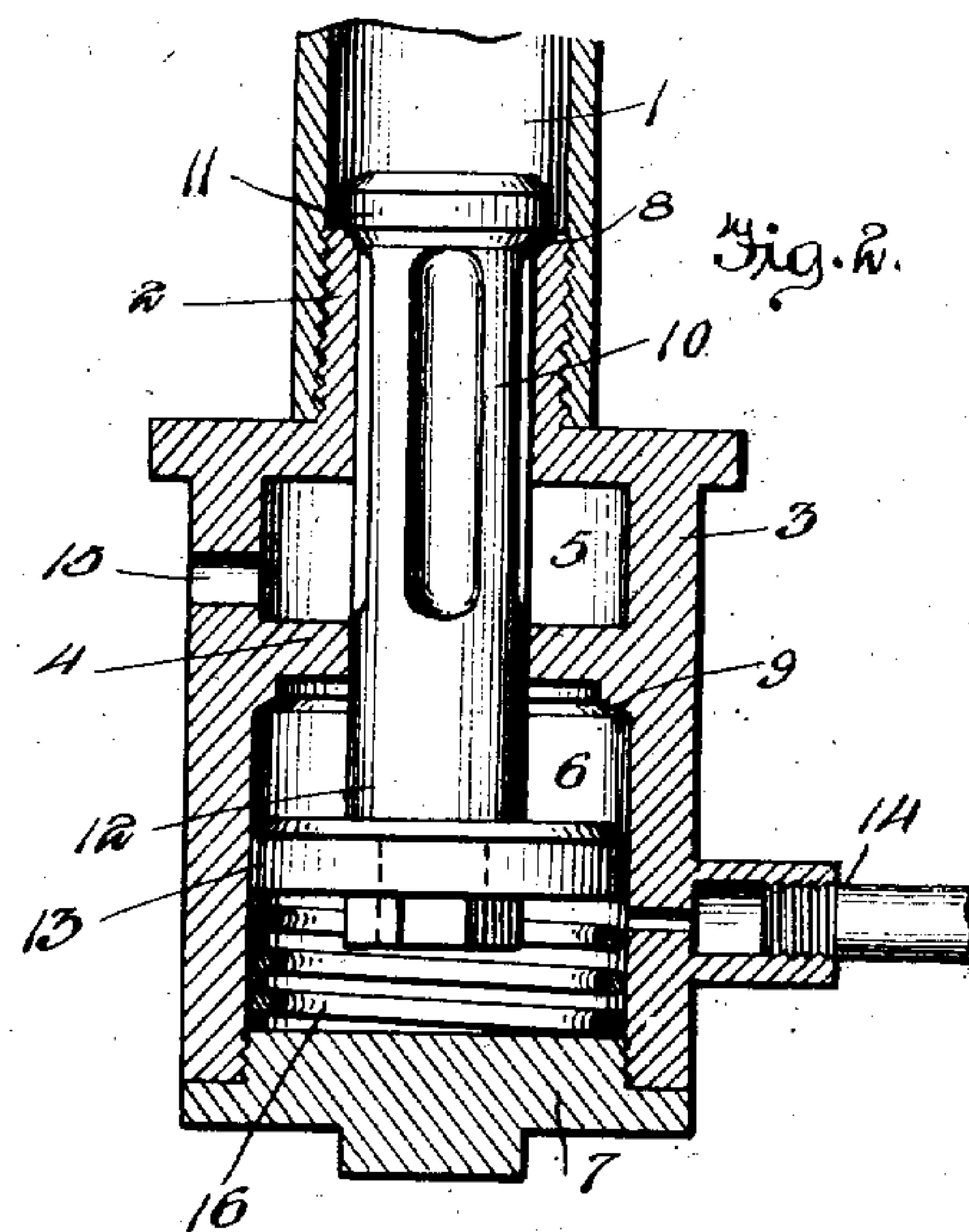
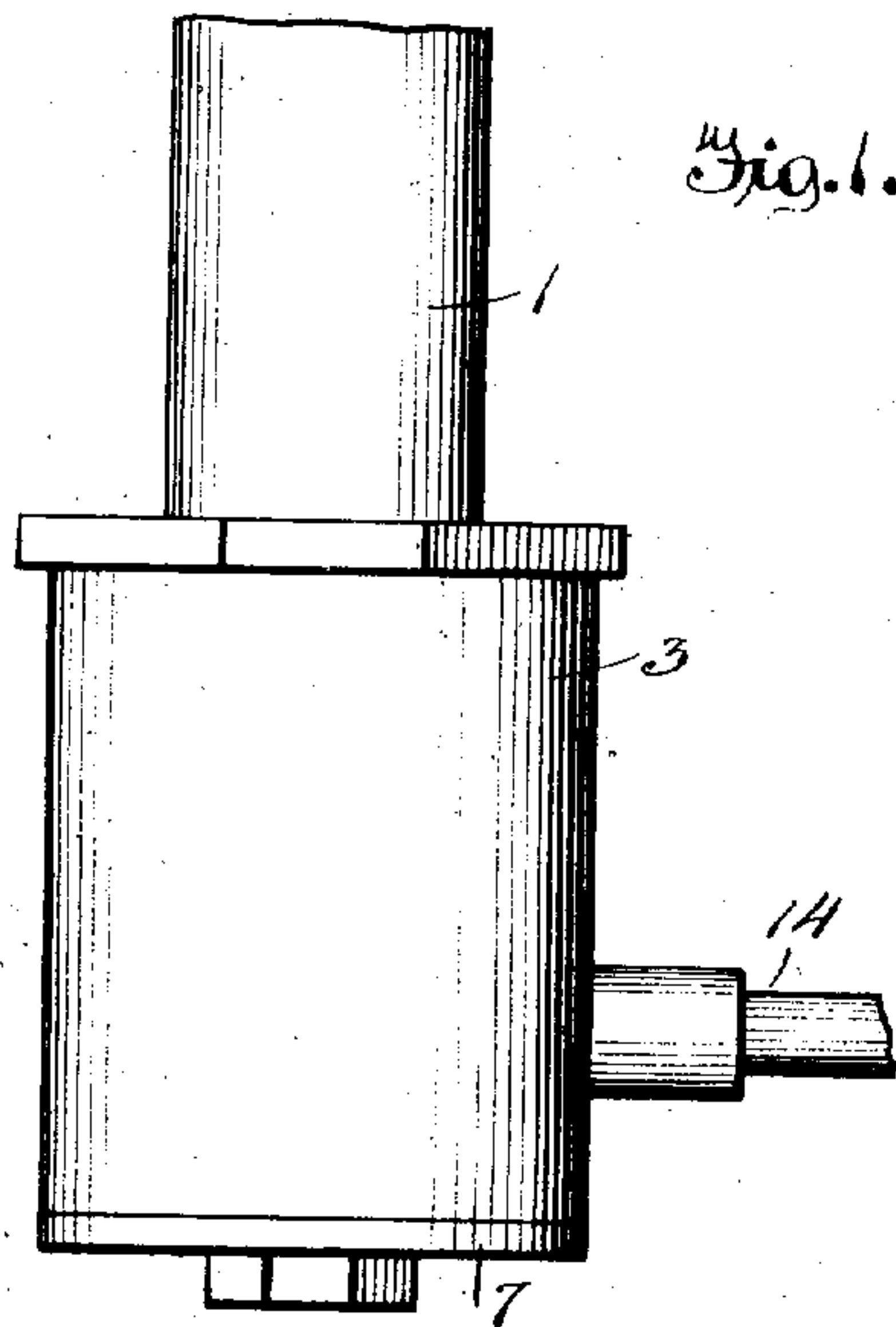
P. J. CONNORS & G. KITCH.

VALVE OR COCK.

APPLICATION FILED AUG. 31, 1908.

952,605.

Patented Mar. 22, 1910



Witnesses
G. M. Spring.
C. R. Gantz.

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UNITED STATES PATENT OFFICE.

PATRICK J. GONNORS AND GEORGE KITCH, OF GREENVILLE, PENNSYLVANIA.

VALVE OR COCK.

952,605.

Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed August 31, 1908. Serial No. 451,100.

To all whom it may concern:

Be it known that we, PATRICK J. GONNORS and GEORGE KITCH, citizens of the United States, residing at Greenville, in the county of Mercer and State of Pennsylvania, have invented certain new and useful Improvements in Valves or Cocks, of which the following is a specification, reference being had therein to the accompanying drawing.

Our present invention relates to an improved valve, and has special reference to an air or steam cylinder cock, the valve being so constructed that the casing is provided with an upper and a lower chamber, in which is slidably mounted a valve stem carrying two valves, one of which controls the admission of steam into the upper chamber, while the other is operated upon by either steam or air pressure to control the first mentioned valve.

To more clearly illustrate our invention, attention is invited to the accompanying drawings, in which:—

Figure 1 is a side elevation of the complete valve or cock. Fig. 2 is a vertical central section with the steam inlet opened. Fig. 3 is a similar view closed.

Referring to the drawings:—The numeral 1 designates the main steam pipe, which is connected to the exteriorly threaded and reduced inlet 2, which forms the upper end of the casing 3. The casing is divided by means of the internal ring or partition 4, into an upper chamber 5, and a lower chamber 6, the lower chamber 6, being closed by means of the cap or cover 7. Formed in the upper end of the inlet 2, is a valve seat 8, while formed just below the partition or ring 4, is another valve seat 9. Slidably mounted in the casing and extending from the inlet 2 into the chamber 6, is a valve stem 10, which carries upon its upper end the integral valve 11, which normally seats upon the valve seat 8, thus preventing the admission of steam into the chamber 5, while upon its lower end 12, is removably carried the large disk or piston 13. This piston 13 is adapted to be forced into engagement with the valve seat 9, when air or steam to operate the same is admitted through the inlet port 14. An outlet port 15 is provided in the upper chamber 5, whereby when the valve 13 is operated to unseat the valve 11, steam admitted thereby into the upper

chamber is exhausted. The admission of the operating fluid, either air or steam, into the chamber 6, is or may be controlled by means of a three-way cock, as may be desired.

The spring 16 is mounted in the lower chamber and is adapted to be acted upon by the cap or cover 7, to exert a tension toward the closing of the piston 13, thereby when there is no steam pressure upon the integral valve 11, the spring normally holds the valve 11 unseated, and valve 13 seated, or in other words when the engine is stopped.

From the foregoing description taken in connection with the drawings, the operation of our air or steam cylinder valve or cock is clearly understood, but briefly stated it is as follows:—When the engine, not shown, is started, the pressure of steam in the main steam pipe 1 seats the valve 11, compressing the spring 16 and opening the disk valve 13. Should it be desired to open the valve 11, air or steam is admitted into chamber 6, and as the valve 13 is of greater area than the valve 11, and thereby has a greater force exerted thereon, the stem is raised, and the valve 11 unseated, thereby allowing steam to enter the upper chamber 5, and exhaust through its outlet.

What we claim, as new, is:—

In combination with a pressure pipe, and an inlet pipe for operating a cylinder cock, of a cock or valve, comprising a casing provided with an open interiorly threaded lower end and a reduced exteriorly threaded inlet, said inlet being connected to the pressure pipe, and provided with a valve seat upon its extreme end and within said pipe, a cap or plug for the lower end of the casing, said casing being provided with a central partition, which divides the casing into an upper compartment with an exhaust outlet and a lower compartment communicating with the inlet pipe, a valve stem slidably mounted in the partition and in the reduced exterior threaded inlet, said stem carrying a valve upon its upper end movable within the pressure pipe and adapted to be seated upon the first mentioned valve seat, and also further provided with a series of grooves in the body of the stem adjacent to the upper compartment of the inlet, whereby as the valve is unseated pressure is admitted into the upper compartment and exhausted therefrom, a piston slidably mounted in the lower com-

partment of the casing and connected to the lower end of the valve stem, the lowermost point of said piston being above the communication with the inlet pipe, a spring between the piston and the plug, and coacting valve face and seat between the upper face of the piston and the partition, as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

PATRICK J. CONNORS.
GEORGE KITCH.

Witnesses:

E. W. BISHOP,
S. B. PATTERSON

Corrections in Letters Patent No. 952,605.

It is hereby certified that in Letters Patent No. 952,605, granted March 22, 1910, upon the application of Patrick J. Connors and George Kitch, of Greenville, Pennsylvania, for an improvement in "Valves or Cocks," errors appear in the printed specification requiring correction as follows: Page 1, line 27, the word "opened" should read *closed*, and same page, line 28, the word "closed" should read *opened*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 12th day of April, A. D., 1910.

[SEAL.]

C. C. BILLINGS,
Acting Commissioner of Patents.

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