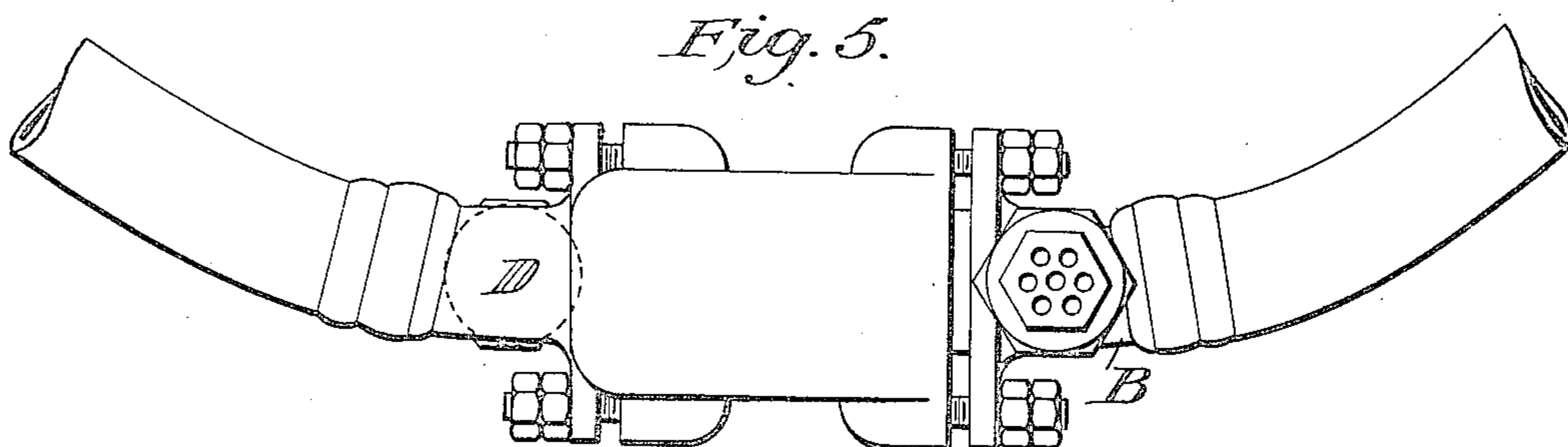
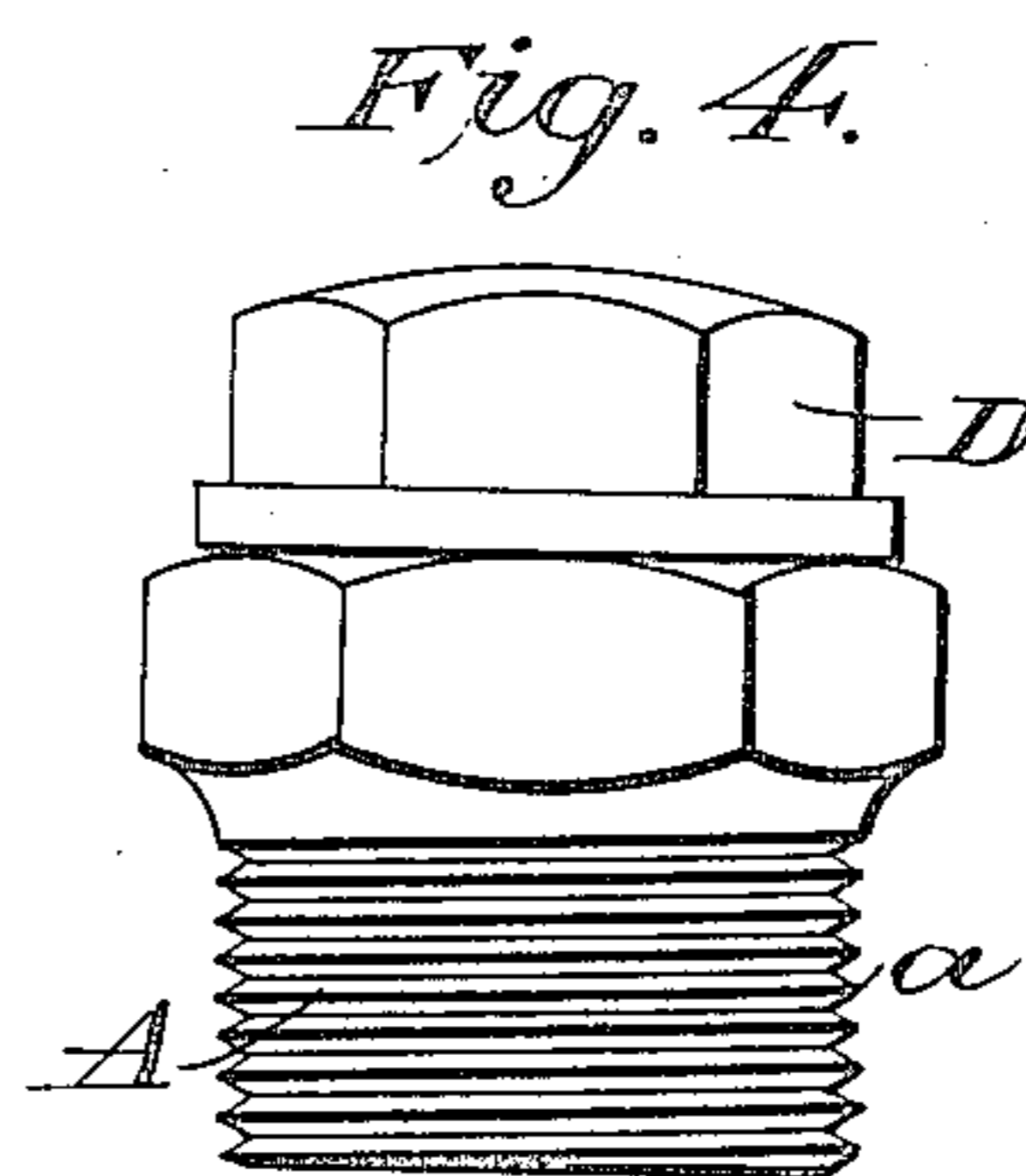
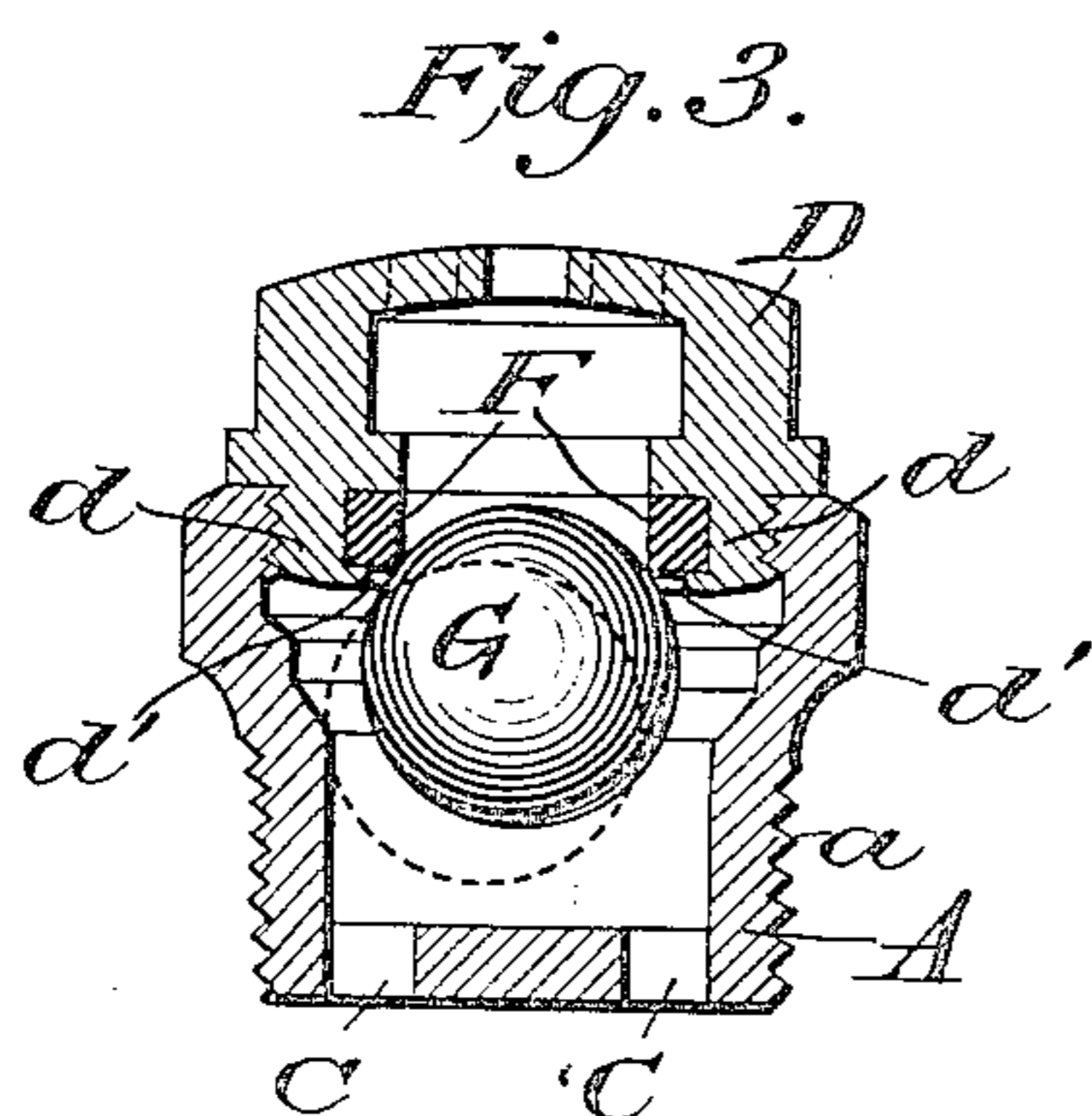
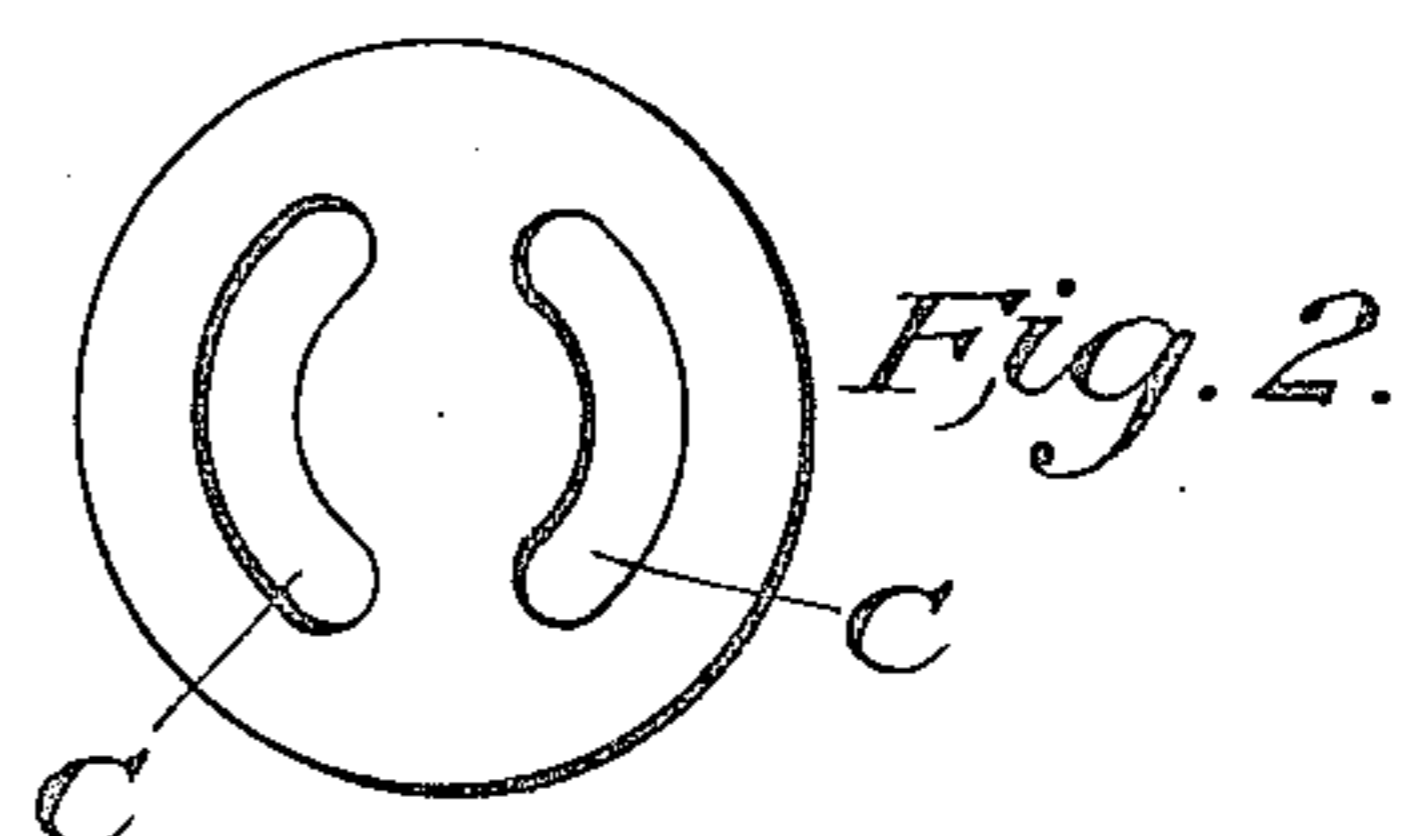
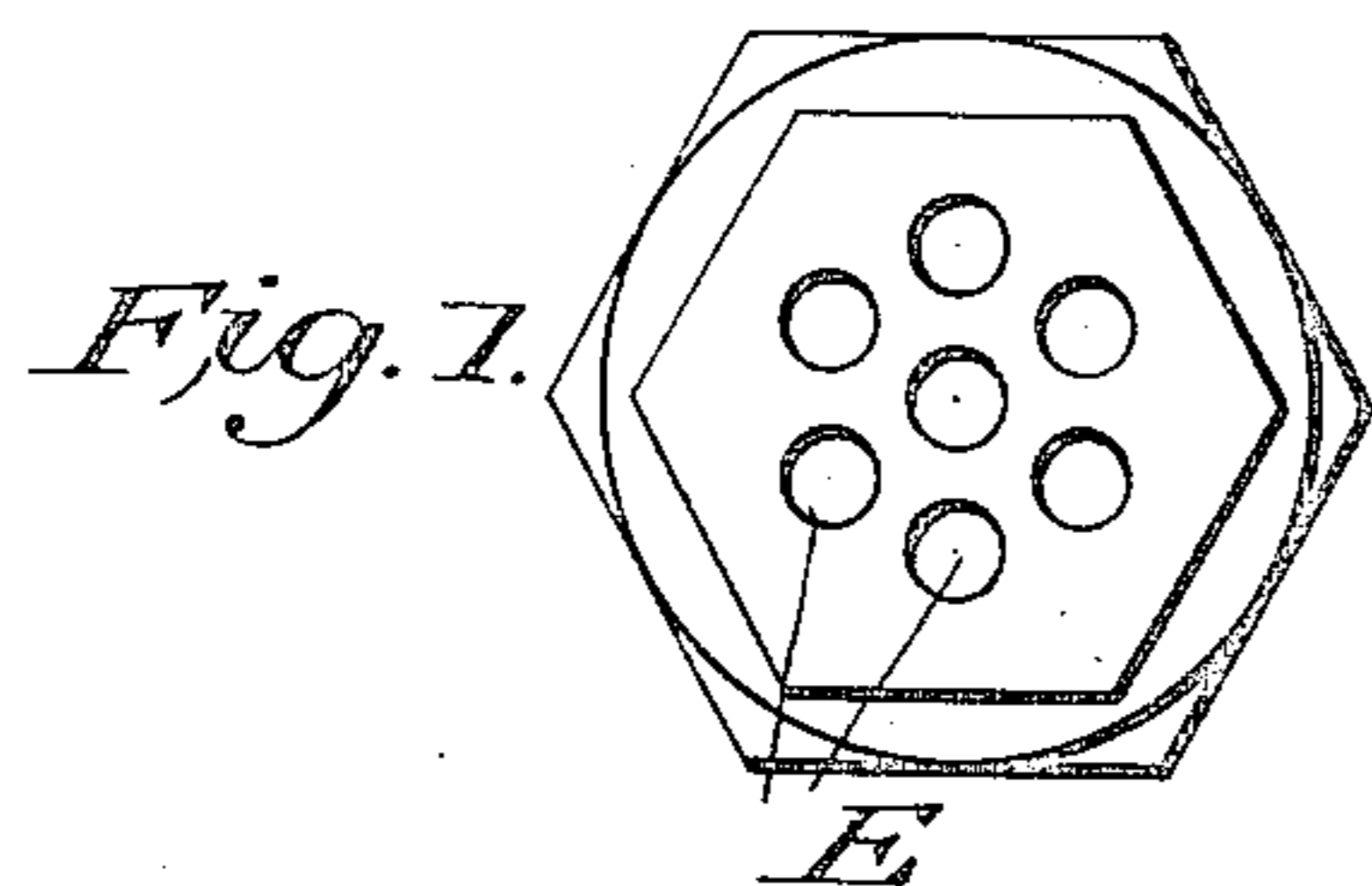


No. 816,245.

PATENTED MAR. 27, 1906.

J. F. McELROY.
DYNAMIC TRAP OR DRAIN VALVE.

APPLICATION FILED MAR. 31, 1900.



Witnesses:
H. S. Morrison
Edwin Wilson.

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UNITED STATES PATENT OFFICE.

JAMES F. McELROY, OF ALBANY, NEW YORK, ASSIGNOR TO CONSOLIDATED CAR-HEATING COMPANY, OF ALBANY, NEW YORK.

DYNAMIC TRAP OR DRAIN VALVE.

No. 816,245.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed March 31, 1900. Serial No. 10,909.

To all whom it may concern:

Be it known that I, JAMES F. McELROY, a citizen of the United States of America, and a resident of Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Dynamic Traps or Drain-Valves, of which the following is a specification.

My invention relates to dynamic traps or drain-valves; and the object of my invention is to provide an automatic check-valve adapted for use in steam-heating apparatus, and especially applicable for use in couplings arranged to connect pipes carrying steam between railway-cars and so constructed that the water of condensation will be allowed to escape without the leakage of any appreciable amount of steam. I attain this object by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view. Fig. 2 is a bottom plan view; Fig. 3, a longitudinal section; Fig. 4, a side elevation; Fig. 5, an outline view of a pair of couplers, showing a trap in each. Similar letters refer to similar parts throughout the several views.

For the purpose of permitting the water of condensation to be readily excluded from a pocket or lowest portion of a steam-heating apparatus or from a steam-coupler, I arrange a metallic casting A, preferably provided with a threaded portion *a*, adapted to engage with threads in the steam pipe or coupler B and permitting the contents of the steam pipe or coupler B to enter the casting A by means of suitable openings C. I also connect with the casting A a perforated nut D, the perforations E being arranged in the head thereof, communicating with the interior of the casting A. The nut D is preferably provided with a threaded flange *d*, which meshes with threads on the interior of the casting A. I arrange a suitable gasket F in the nut D, adjacent to the flange *d*, which may be secured in position by burring the lower edge of the flange *d*, as at *d'*, as shown in Fig. 3, or in any other suitable manner, thus making a restricted opening in the nut as compared with the interior of the casting A. Within the casting A, I place a sphere G, adapted to engage with the gasket F when

steam is forced into the casting A through the openings C, preventing the discharge of steam from the casting A through the openings E. When steam ceases to enter the casting A, the sphere G will by gravity remove from contact with the gasket F and allow an uninterrupted passage through the casting A and nut D and perforations E, which will allow water of condensation entering the casting A from the openings C to escape through the perforations E.

When I use my drain-valve on a steam hose-coupler, as shown in Fig. 5, I preferably arrange the same on the side thereof at the lowest portion, which will allow the water to enter the valve and to be discharged therefrom in the manner already described.

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

1. In a drainage-valve, a casting provided with a chamber having its sides flaring outwardly at near one end forming a side pocket, with a passage-way at one end through which the fluid may enter the casting; a hollow nut provided with restricted openings adapted to be secured to the other end of said casting; a sphere placed in said chamber adapted to close the opening leading from said chamber to said nut when forced into position by fluid entering said casting and when the pressure is removed, said sphere arranged to fall into said side pocket, substantially as described.

2. A drainage-valve consisting of a casting and a sphere, said casting provided with a chamber of considerably larger diameter than said sphere, said casting provided with interior walls flaring outwardly and forming a side pocket at one end of said chamber, said sphere adapted to normally occupy said side pocket; a nut provided with restricted openings attached to one end of said casting; a gasket in said nut arranged to form a valve-seat in said chamber for said sphere, said casting provided with an opening at the end thereof opposite said nut so arranged that said sphere cannot close said opening.

3. In a drainage-valve a casting; a coupler; means for connecting said casting with said coupler; a nut provided with restricted openings adapted to engage one end of said casting; a gasket in said nut forming a valve-seat

in said casting; a side pocket in said casting
adjacent to said nut; a sphere in said casting
normally occupying said side pocket, said
casting provided with an uncontrolled and
5 unobstructed passage-way leading from said
casting to said coupler, substantially as de-
scribed.

Signed by me at Albany, New York, this
29th day of March, 1900.

JAMES F. McELROY.

Witnesses:

EDWIN WILSON,
HARRY J. WELSH.