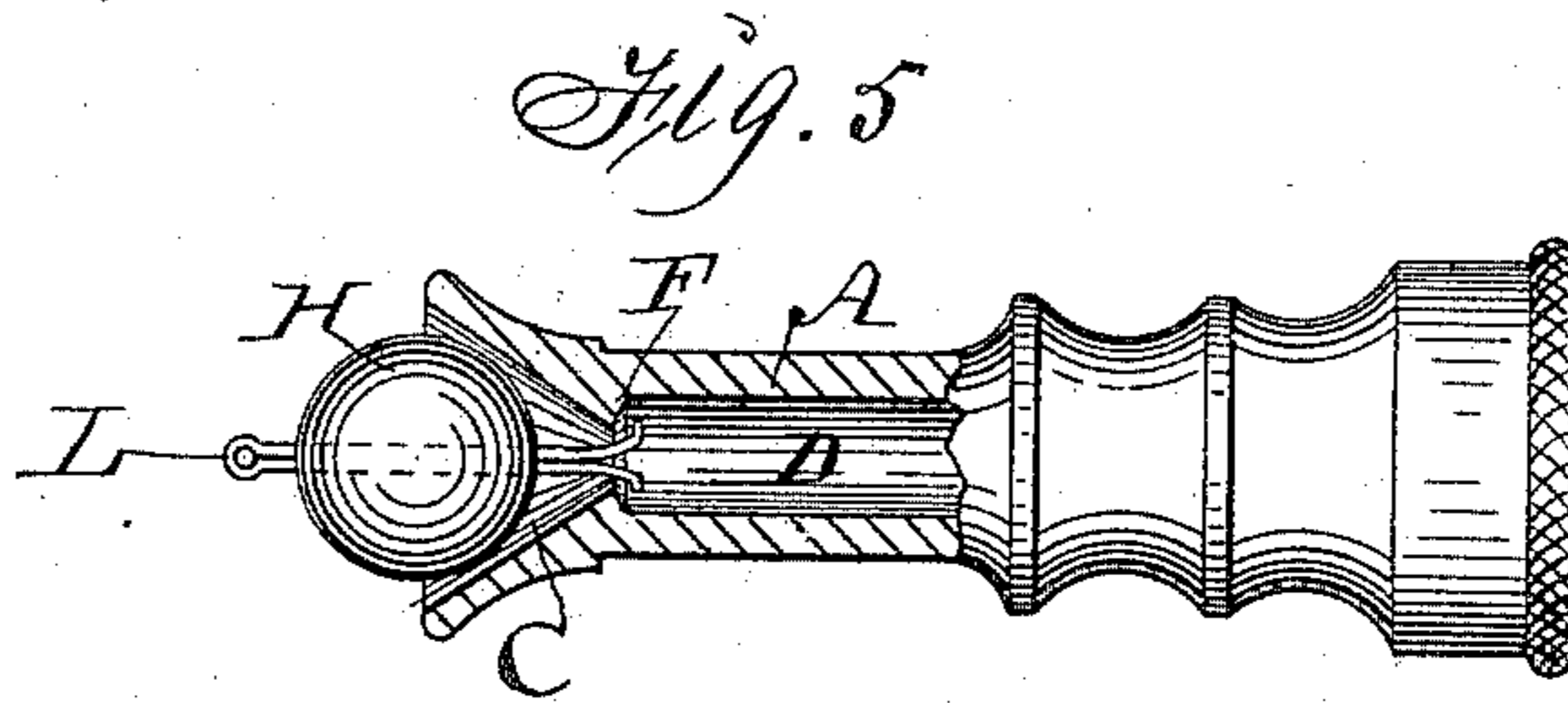
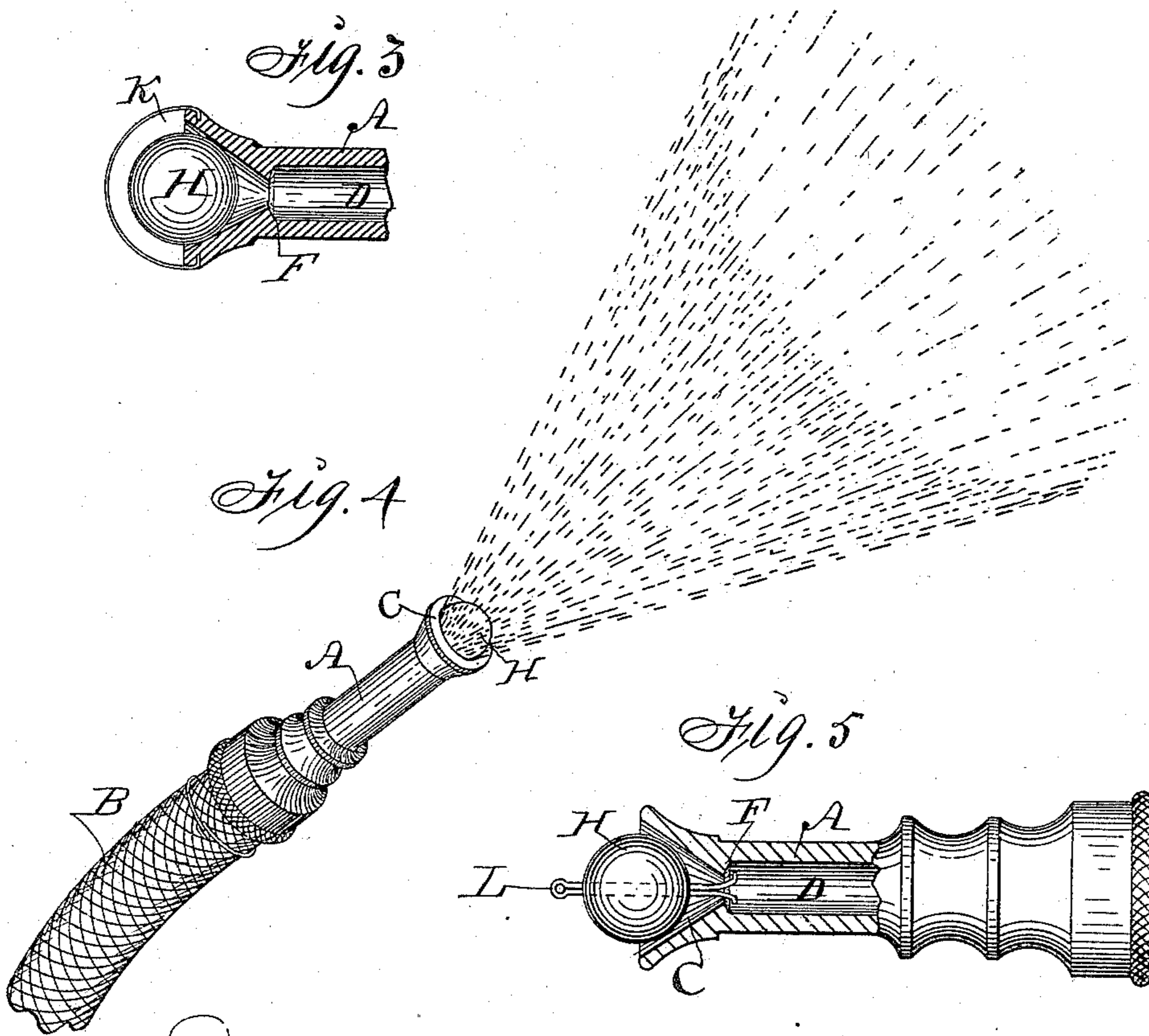
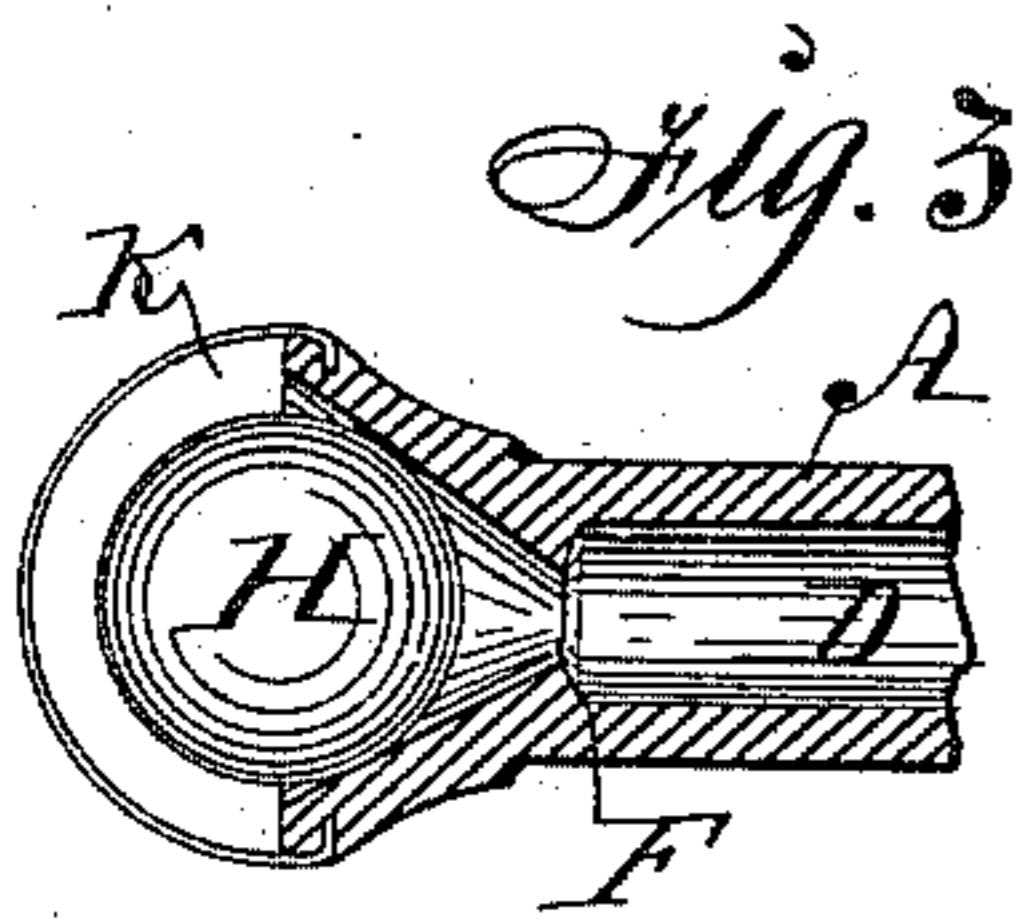
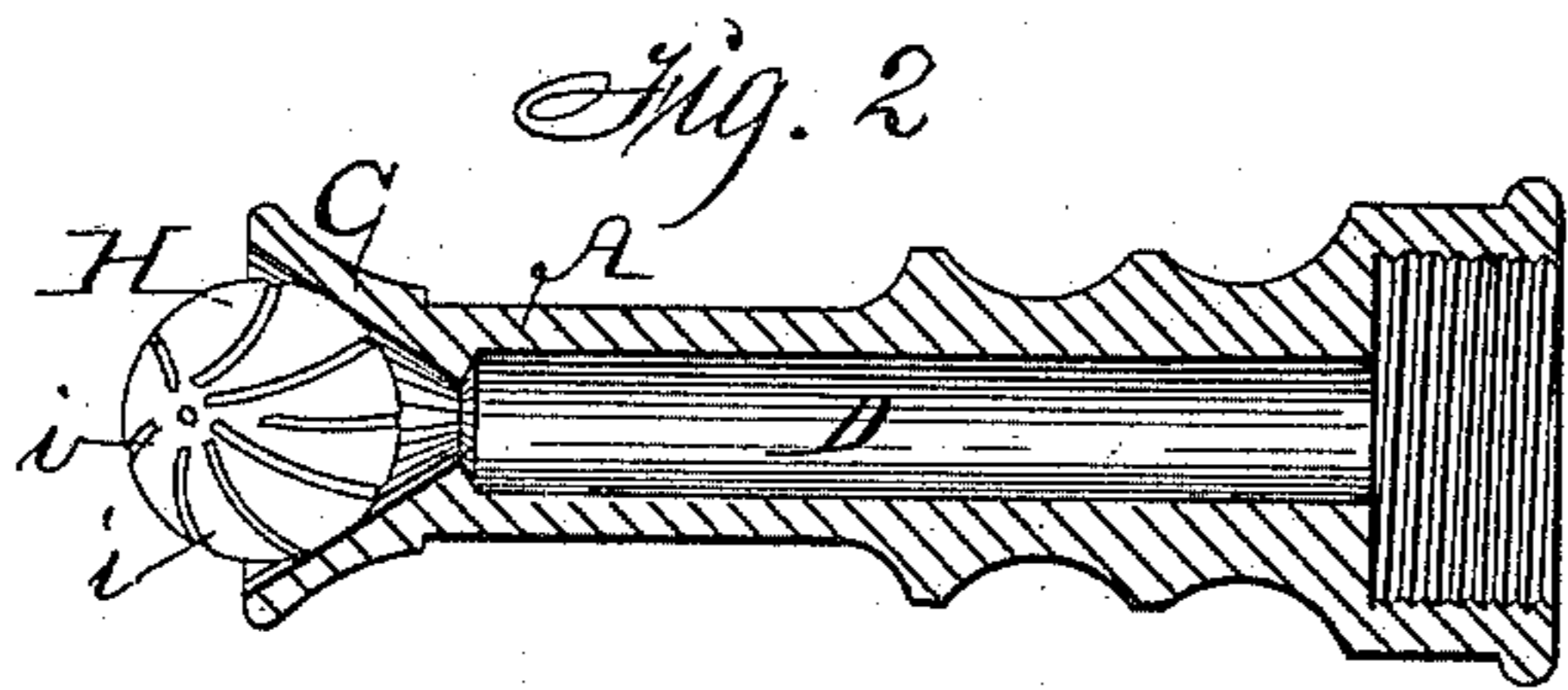
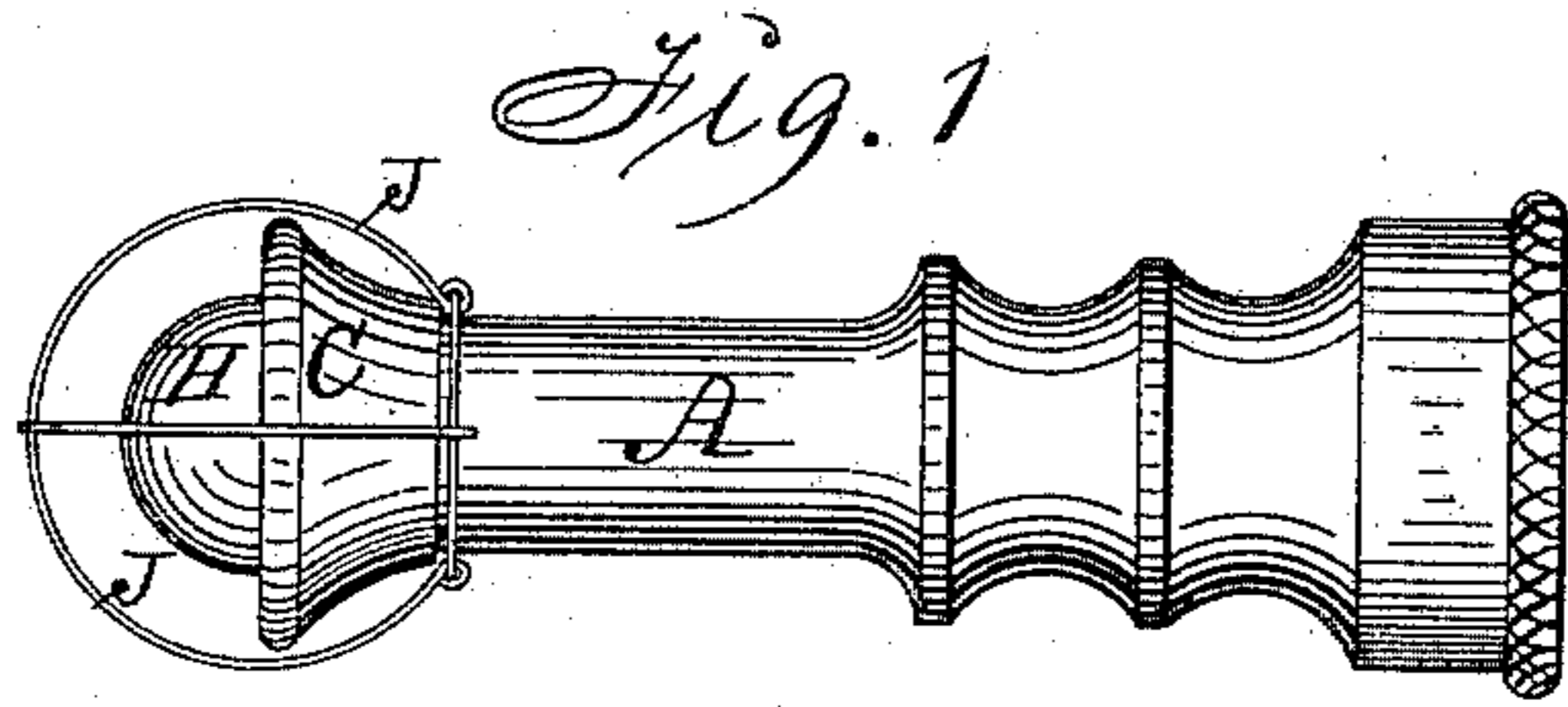


(No Model.)

C. V. POLLOCK.  
NOZZLE.

No. 488,220.

Patented Dec. 20, 1892.



Witnesses:

W. J. Sautkey.  
R. H. Orwig

Inventor: Charles V. Pollock,

By Thomas G. Orwig, Atty.

# UNITED STATES PATENT OFFICE.

CHARLES V. POLLOCK, OF DES MOINES, IOWA.

## NOZZLE.

SPECIFICATION forming part of Letters Patent No. 488,220, dated December 20, 1892.

Application filed August 24, 1891. Serial No. 403,543. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES V. POLLOCK, a citizen of the United States of America, residing at Des Moines, in the county of Polk and State of Iowa, have invented a Nozzle for Spraying Water, Air, Chemical, and the Like, of which the following is a specification.

Heretofore adjustable valves have been combined with nozzles to regulate the volume of water allowed to pass through the nozzle and also to spread and spray and atomize the water as it escapes from the end of the nozzle. A perforated cap or rose has also been combined with a nozzle to separate the water as it was forced through a hose and nozzle. But when water under pressure in a nozzle is forced through a valve or rose that resists the pressure the hose through which the water passes is subjected to strain and frequently bursted. My object is to prevent damages incident to hose through such resistance to the pressure of water in a nozzle and to simplify the construction, application and operation of means for spraying water through a nozzle.

My invention consists in a nozzle, a round ball, and means for retaining the ball connected with the nozzle when not in use, constructed and combined and operated as hereinafter set forth, pointed out in my claims and illustrated in the accompanying drawings in which—

Figure 1 is a side view and Fig. 2 a longitudinal sectional view of one of my spraying nozzles. Fig. 3 is a detail view of the end of the nozzle showing a wire fender pivotally and detachably connected with the bell-shaped mouth as required to prevent the ball in the mouth from dropping out when the nozzle is not in use. Fig. 4 is a perspective view illustrating the operation of the nozzle. Fig. 5 is a side view of the nozzle, partly in section, showing a modified means for retaining the ball connected with the nozzle.

A represents a nozzle adapted to be attached to a hose B, or to a fountain. It may vary in size and outside configuration as desired. It has a bell-shaped mouth C and a central bore D that has a larger diameter than the throat or contracted end of the mouth. An annular

shoulder F is thus produced at the outer end of the bore.

H is a round ball, preferably made of rubber and adapted in size to enter about half-way into the cup. Grooves *i* in the surface of the ball, as shown in Fig. 2, aid in spraying and throwing water a greater distance than when the surface of the ball is smooth.

J in Fig. 1 represents a wire cage detachably connected with the nozzle to retain the ball connected with the bell-shaped mouth and in readiness for use.

K, shown in Fig. 3, is a semicircular spring wire that has its ends bent inward and toward each other and adapted to enter perforations in the bell-shaped end of the nozzle as required to produce a detachable fender adapted to be adjusted relative to the bell-shaped mouth so that it can be turned to one side of the mouth to allow the ball to be placed in or taken out, and also turned so as to remain arched over the ball and to prevent the ball from dropping from the nozzle.

L shown in Fig. 5 is a spring key passed through a perforation in the ball and its ends bent out to engage the annular shoulder F in the nozzle for the purpose of retaining the ball connected with the nozzle.

In the practical use of my spraying nozzle the ball can be placed in the bell-shaped mouth and the device successfully operated without a fender, or other means for retaining the ball in its place. But to prevent the ball from dropping out when not subjected to water pressure the fender or other means is essential. When the nozzle is attached to a hose and the hose connected with a hydrant and water supply from which water is forced by pressure, the ball in the bell-shaped mouth will allow the water to escape in a circular radiating jet and spray, as illustrated in Fig. 4, and the co-action of the water and air will cause the ball to rotate and remain within the bell-shaped mouth. The ball does not resist the escape of the water that passes through the contracted end of the mouth and never needs adjustment to regulate the passage of the water, or the division of the water, and consequently is always in readiness and will never be in position to restrict the water so

as to subject the hose to undue pressure and damage.

Although I have described my nozzle as used in spraying water, it is evident that it may  
5 also be used without departing from the spirit of the invention for spraying air, chemicals and the like.

I claim as my invention—

1. A nozzle having a longitudinal bore, a  
10 bell-shaped mouth at the end of the bore, an annular shoulder at the junction of the mouth and bore, and a round ball placed in said mouth, substantially as described.

2. A nozzle having a longitudinal bore, a  
15 bell-shaped mouth at the end of the bore and an annular shoulder at the junction of the

mouth and bore, and a round ball having grooves in its surface, placed loosely in the mouth, as and for the purposes stated.

3. A spraying nozzle adapted to be connected  
20 with a suitable source of supply, comprising a body having a longitudinal bore, a bell shaped mouth at the end of the bore, an annular shoulder at the junction of the mouth and bore, a round ball, and means for retaining  
25 the ball connected with the bell-shaped mouth, to operate in the manner set forth.

CHARLES V. POLLOCK.

Witnesses:

WEBSTER BISHOP,  
THOMAS G. ORWIG.