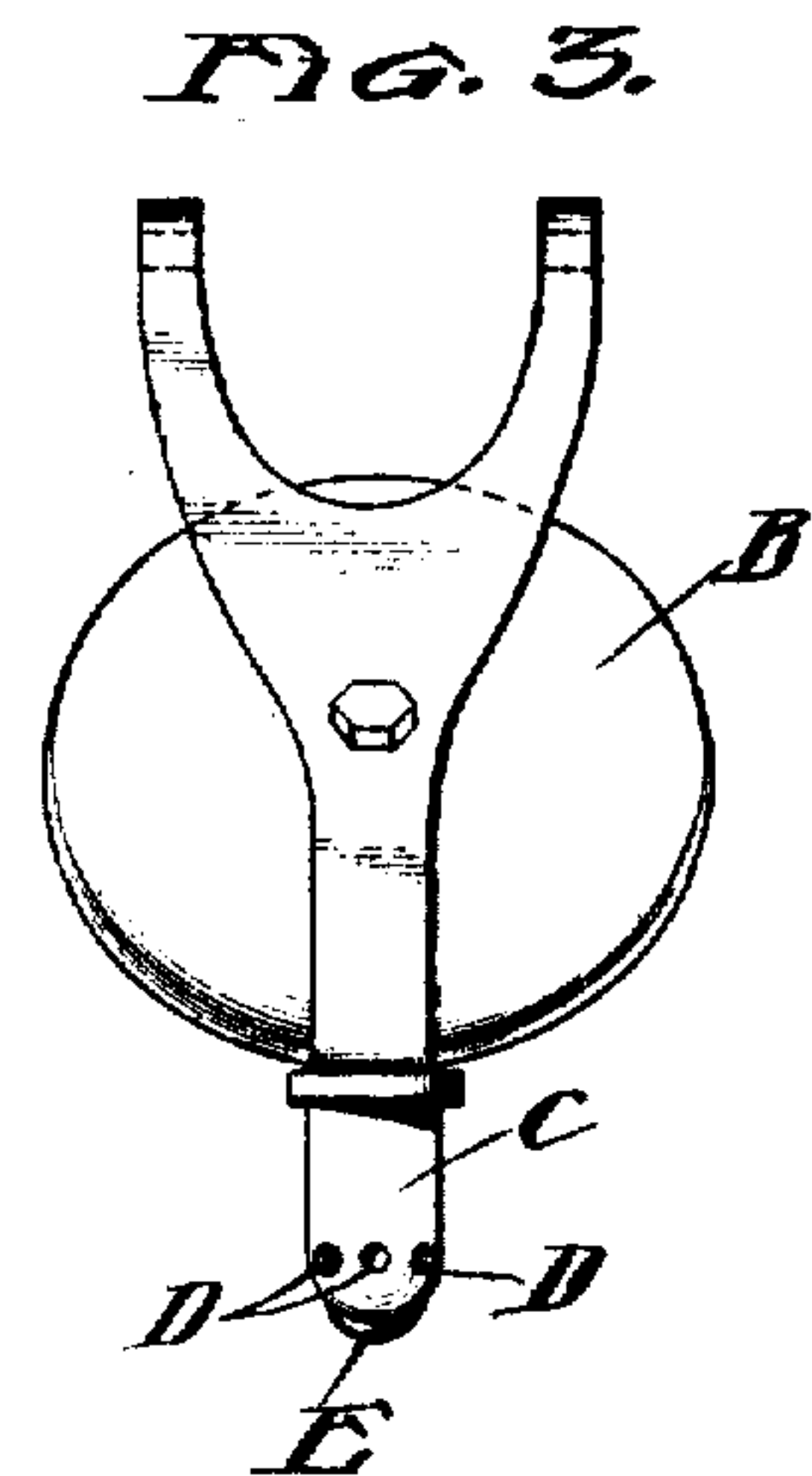
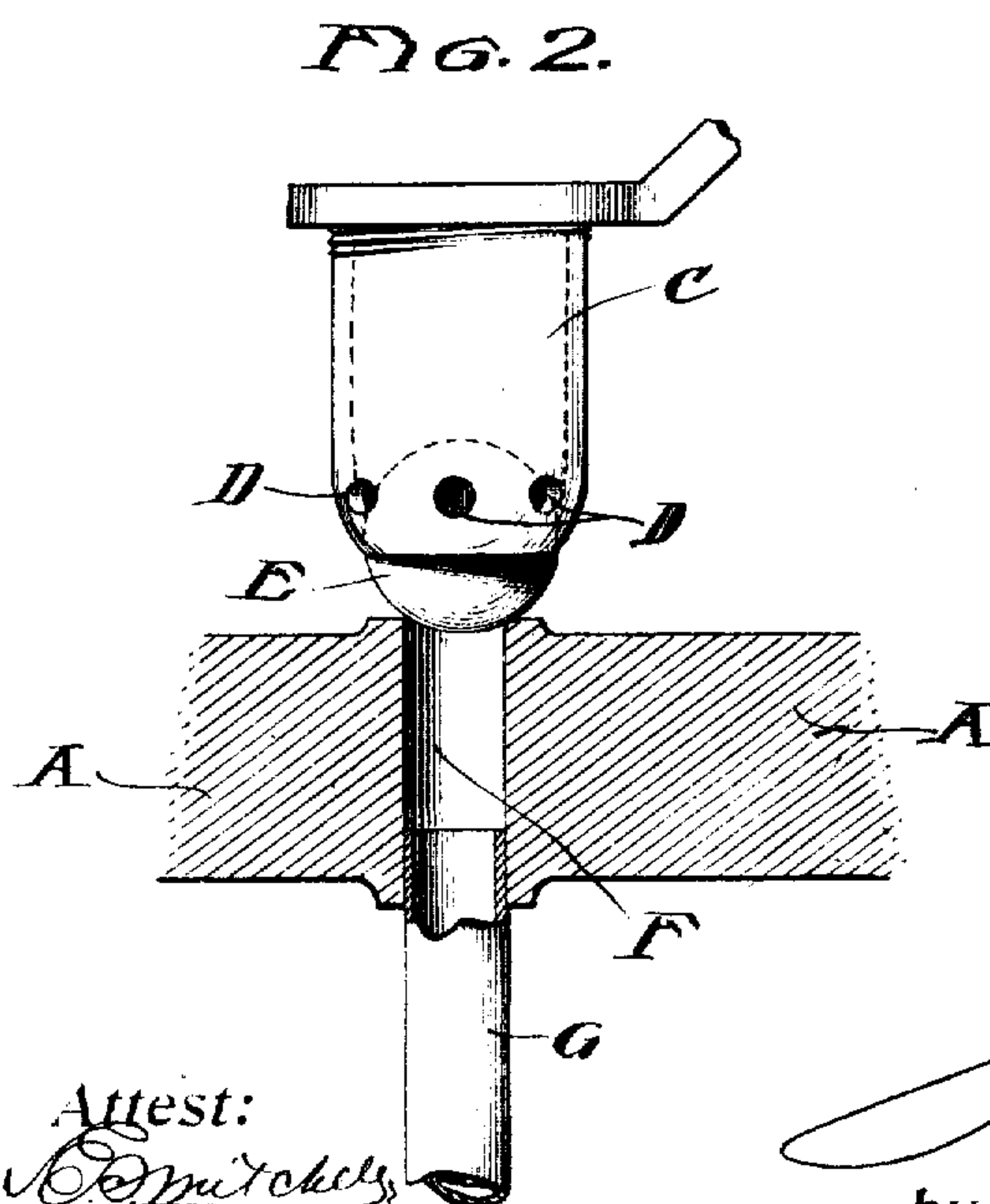
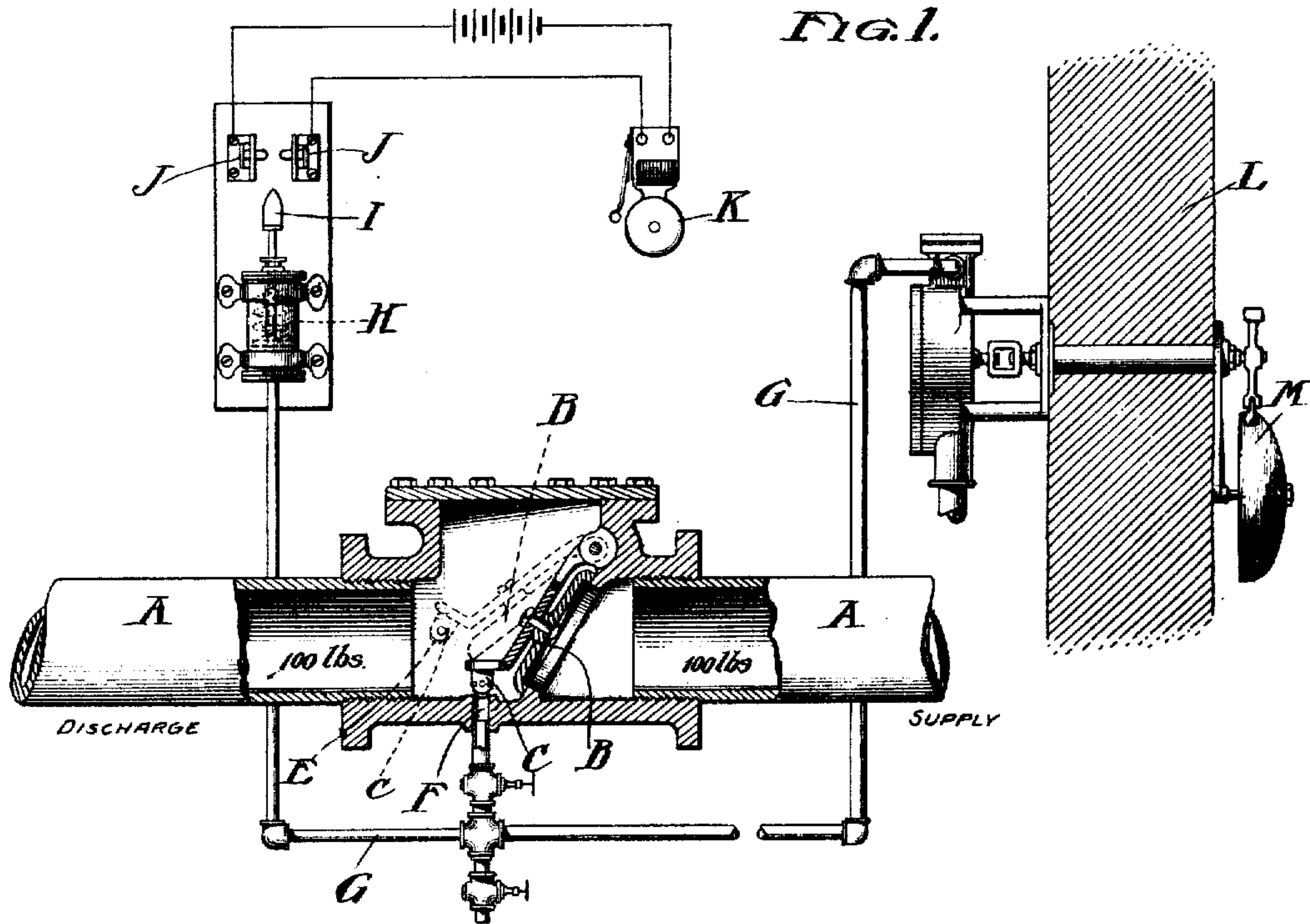


J. G. BEATTIE.
AUTOMATIC ALARM VALVE.
APPLICATION FILED JUNE 15, 1907.

906,678.

Patented Dec. 15, 1908.



Attest:
Wm. C. Beattie
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UNITED STATES PATENT OFFICE.

JAMES G. BEATTIE, OF BROOKLYN, NEW YORK.

AUTOMATIC ALARM-VALVE.

No. 906,678.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed June 15, 1907. Serial No. 379,193.

To all whom it may concern:

Be it known that I, JAMES G. BEATTIE, a citizen of the United States, residing at Brooklyn, in the State of New York, have invented a new and useful Automatic Alarm-Valve.

This alarm valve is designed principally for use in factories and large buildings where a supply of water is kept for the purpose of extinguishing fires. As is well known, most large factories, buildings and department stores have a large water tank or tanks on the roof of the building or some other source of water supply, in which large quantities of water are stored and there are pipes running from them usually on the ceiling of the rooms in which it is desired to prevent fire and these pipes have fusible metal or some similar device so that when a fire is started the heat of the fire will melt the fusible metal in the water pipe and the water will be sprinkled on the goods and in the room where the fire starts. At times these fusible plugs or similar device give way and the water will sometimes run out and spoil a lot of goods before it can be shut off.

The purpose of my invention is to have an instantaneous method of detecting any change in the pressure of water in the pipes running to the various parts of the building.

My invention consists of a device, the several parts constructed and arranged as will be hereinafter more fully described and claimed.

Reference is had to the accompanying drawing in which the same parts are designated by the same letters and manner of reference throughout the several views.

Figure 1 represents a main water pipe in a building showing the pressure of water from the street or other source into the building and this pipe also leads off into various parts of the building into other pipes of the same or a smaller size as may be desired. This figure also shows the ordinary valve with a clapper and my improved automatic alarm valve attached thereto. It also shows the device for making the circuit and ringing the electric bell, and also the motor alarm gong fastened on the outside of the wall of the building. Fig. 2 shows a detailed view of my invention. Fig. 3 shows the clapper of an ordinary valve with my invention attached thereto.

In the accompanying drawing A repre-

sents the main pipe. The portion of pipe on the right hand side of the drawing is the portion leading to the street or other source from which the water supply is obtained. In the drawing, my device is in its normal position with an equal pressure on each side of an ordinary valve clapper. For the sake of illustration one hundred pounds of pressure is shown in the drawing. This clapper is designated by the letter B. Of course as long as the pressure remains the same on each side of the clapper B the clapper will remain in its normal shut position shown in the drawing. The moment however the pressure in the pipe on the left hand side of Fig. 1 is decreased to any extent whatsoever, the pressure of water on the right hand side will cause the clapper B to rise to the position shown by the dotted lines in Fig. 1. The clapper B will also rise higher and thus permit a free flow of water through the pipe. The dotted line position indicated in Fig. 1 shows it only partly raised.

My device consists of an acorn shaped metal auxiliary valve C attached to the clapper B of the large valve. This auxiliary acorn shaped metal valve C has a number of holes D for equalizing the pressure of water, and inside of the acorn shaped valve C is a loose movable metal ball E, somewhat larger than the bottom opening D. This ball E when in its normal position and when the pressure is the same on both sides of the valve rests tightly over the valve seat of opening F in the pipe A. In this escape opening F is inserted a connecting pipe G. This escape pipe G connects with an ordinary piston H, having a plunger I. When the pressure in the pipe to the left, which leads to the tank or portions of the building desired to be protected by water becomes less than pressure on the right either by reason of a fire or a break in the pipe, the water running in from the street or source of supply raises the clapper B of the valve into the position shown by the dotted lines in Fig. 1, or higher according to the pressure, and the auxiliary valve C with the ball E inside of it is forced away from the escape opening in the pipe A and the water runs through the opening F into the pipe G and forces the plunger I of the piston H upward until it strikes against two contact points J of an electrical connection making the circuit and ringing the bell K. There is a helical spring around the plunger in the

piston (shown in the drawing by dotted lines), which forces the plunger of the piston back after the alarm has been given. The valve clapper B and the pipe G before mentioned also is constructed to run and operate a rotary gong M on the outside of the building as shown in Fig. 1, or to any other desired place.

While the accompanying drawing shows one form of my device and one use of it, I do not wish to be restricted to this, but lay claim broadly to an automatic valve consisting of a metal frame having holes therein and a metal ball slightly larger than the hole in the bottom of the valve.

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

1. An automatic alarm valve consisting of a hollow metal body, holes in said body, a

loose metal ball in said body larger than the bottom hole.

2. An automatic alarm valve consisting of a hollow metal body, holes in said body, a loose freely moving stopper for one or more of said holes larger than the largest or bottom hole.

3. In combination an automatic alarm valve, clapper of a valve and a hollow metal attachment for said clapper, holes in said metal attachment, and a metal ball freely moving in said attachment larger than the holes.

In testimony whereof, I have hereunto affixed my name to this specification in the presence of two subscribing witnesses.

JAMES G. BEATTIE.

Witnesses:

WILLIAM HAUSER,
JOHN HARPER.