

E. E. GAMON.  
WATER METER.

APPLICATION FILED FEB. 16, 1909.

953,199.

Patented Mar. 29, 1910.

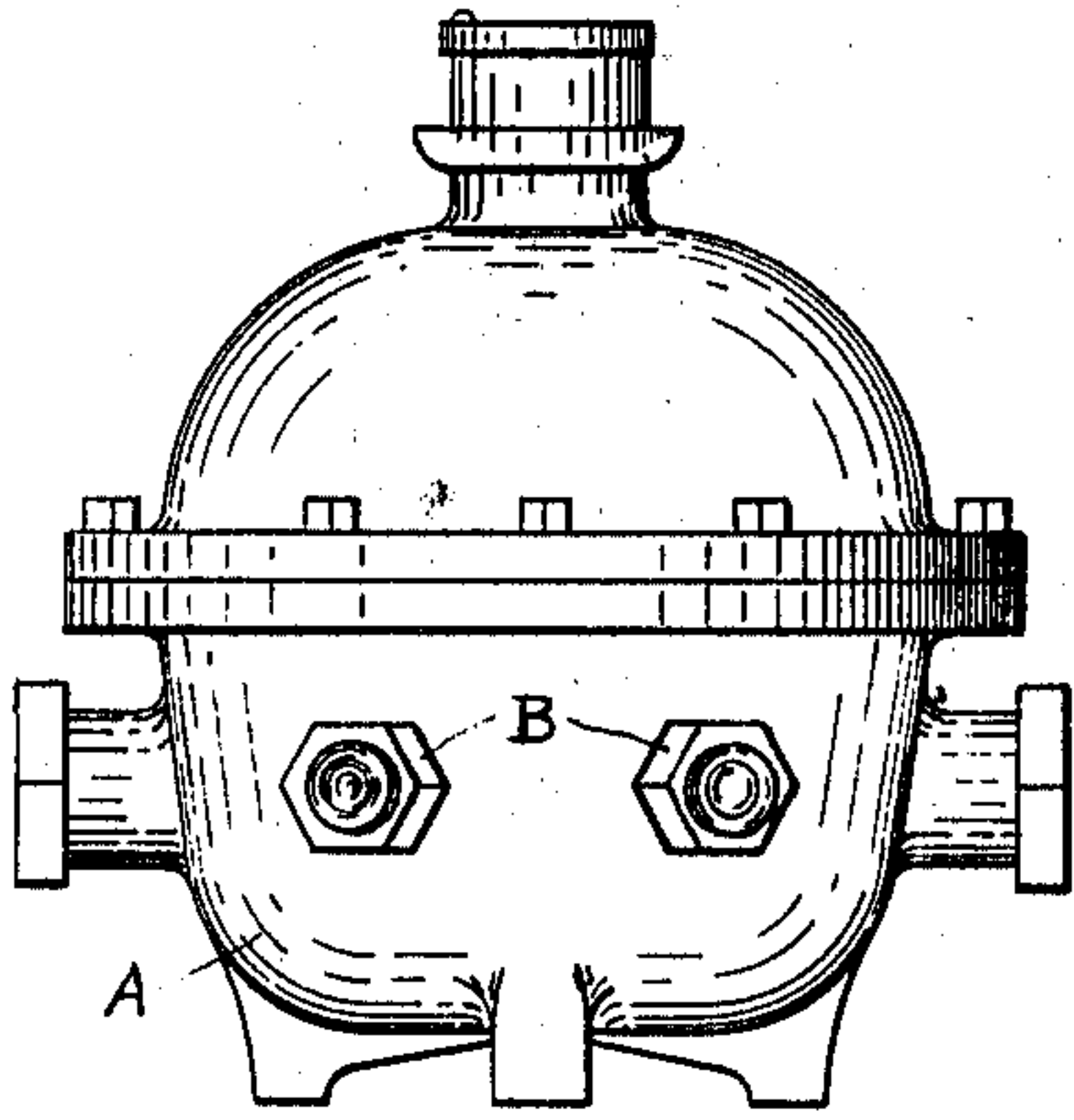


FIG. 1.

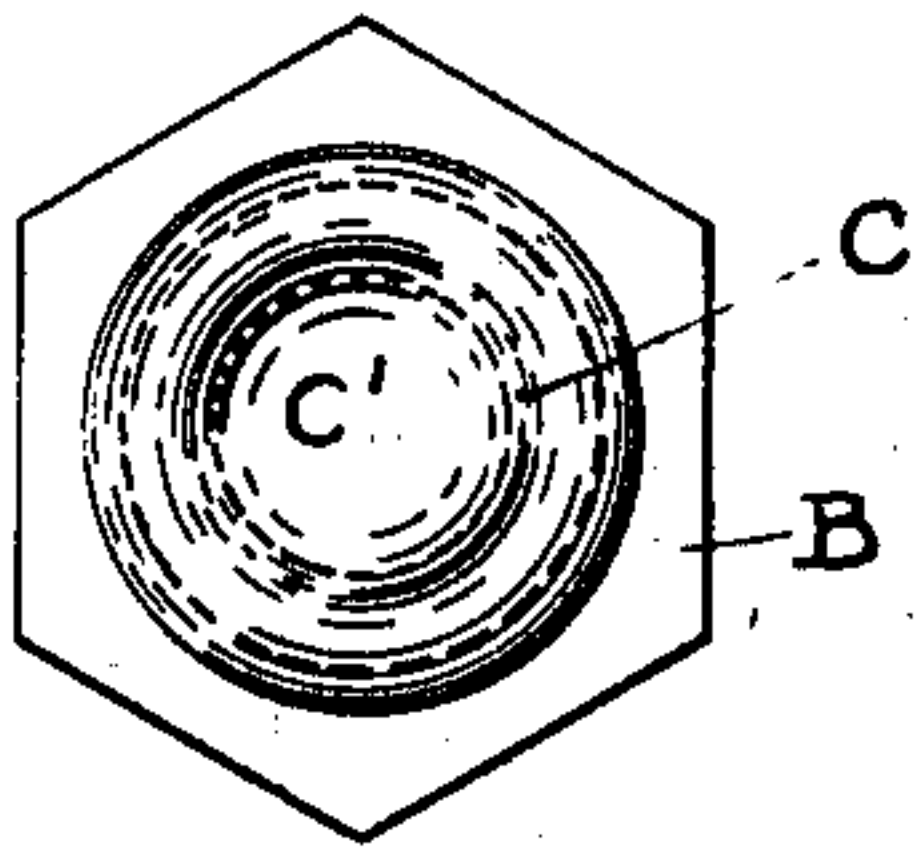


FIG. 3.

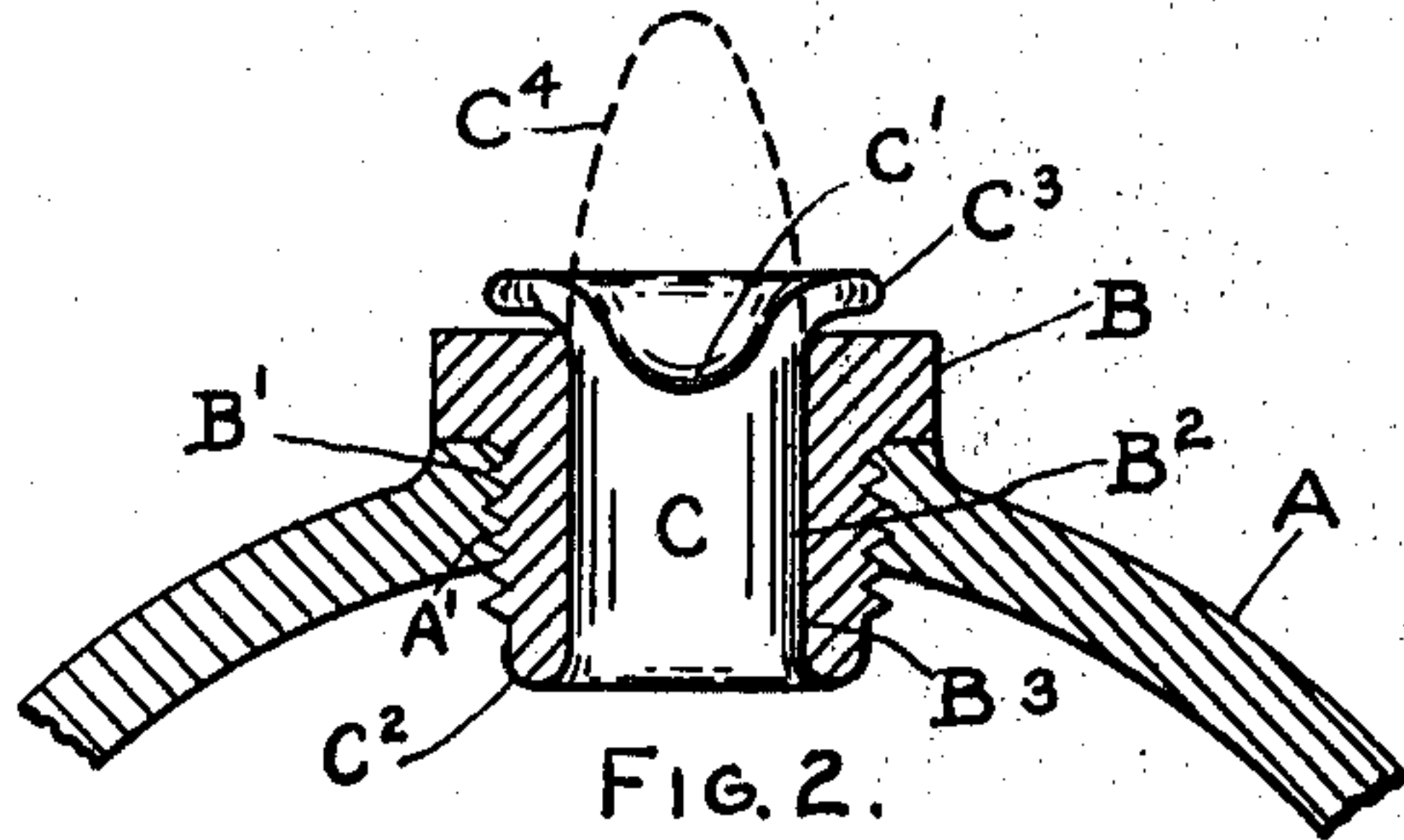


FIG. 2.

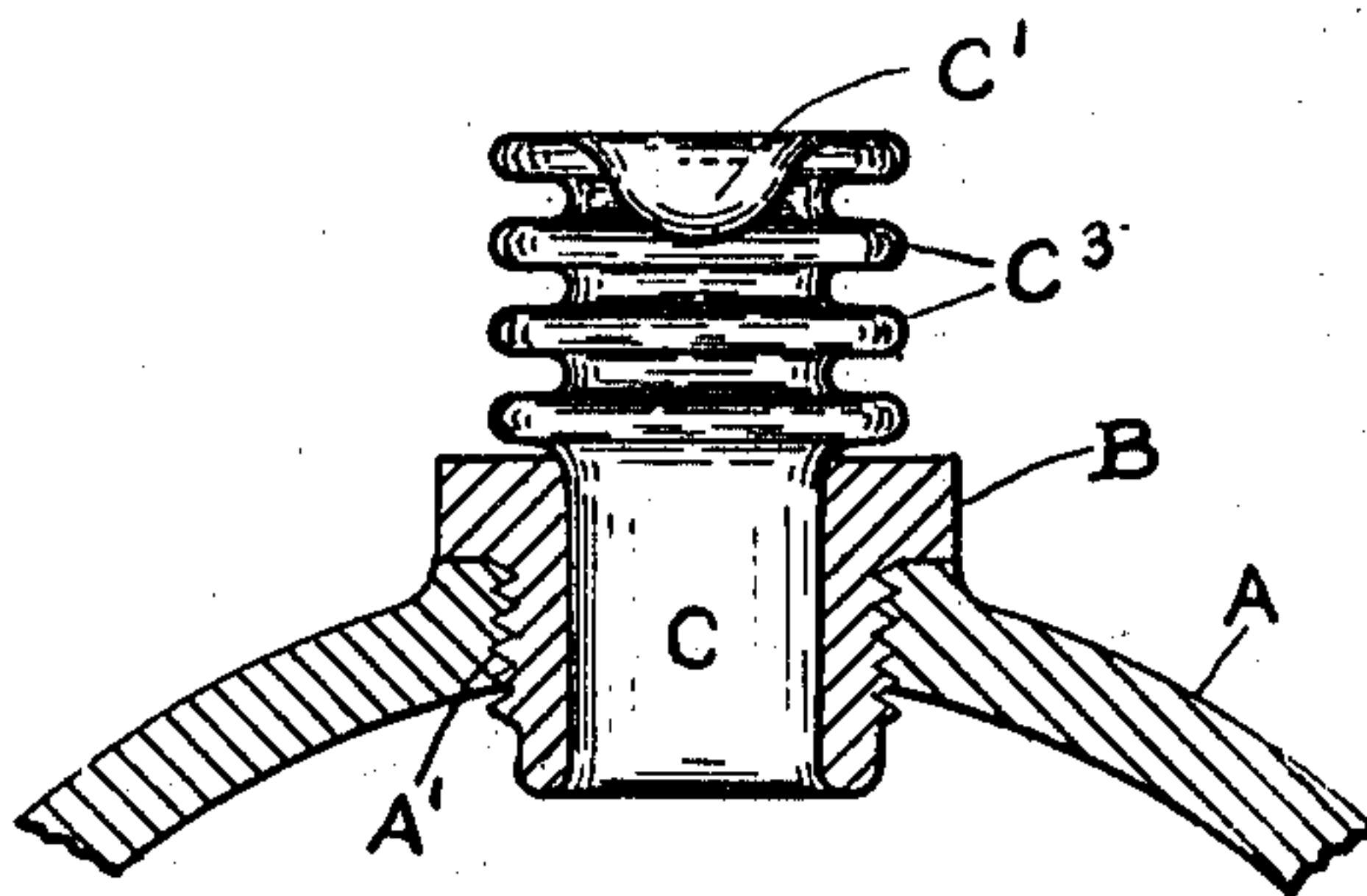


FIG. 5.

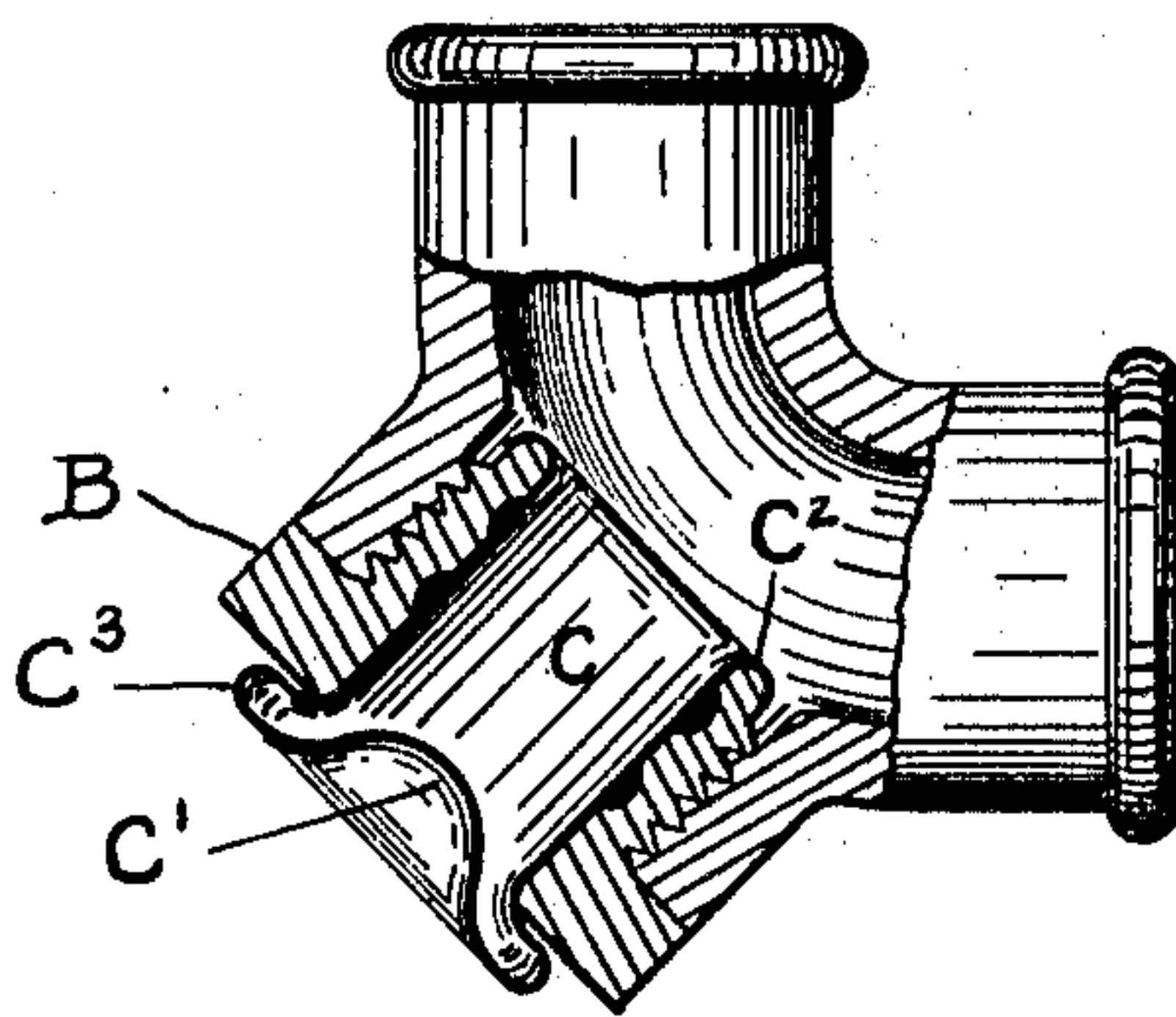


FIG. 4.

WITNESSES:

Chas. P. Day.  
W. H. Lockwood

INVENTOR

Ernest E. Gamon  
BY  
Fischer & Saunders  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

ERNEST E. GAMON, OF LONG ISLAND CITY, NEW YORK.

WATER-METER.

953,199.

Specification of Letters Patent.

Patented Mar. 29, 1910.

Application filed February 16, 1909. Serial No. 478,304.

*To all whom it may concern:*

Be it known that I, ERNEST E. GAMON, a citizen of the United States, residing at Long Island City, in the county of Queens and State of New York, have invented certain new and useful Improvements in Frost-Plugs for Water-Meters or the Like, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improved means to protect water meters from injury, due to freezing, whereby, the internal pressure is increased above a predetermined safe maximum. I am aware that many appliances for this purpose have been made and used embodying weakened sections or resilient piston sections, but these are objectionable, first, because of the likelihood of flooding when the weakened section ruptures, and second, because of the unreliability of the springs.

I propose to overcome the above objections by having a deformed or indented section or cap designed to readily assume its original shape when the pressure passes the safe maximum, but does not rupture. In the deformed plug style, the mere fact that the original form is resumed would indicate that the pressure had gone above the maximum, either from freezing or other cause.

In the accompanying drawings forming a part of this specification, Figure 1 is a plan view of a water meter with frost plug attached. Fig. 2 is a section of my preferred form of plug, shown inserted in the meter case. Fig. 3 shows a plan view of the plug. Fig. 4 shows a frost plug inserted in an elbow, and Fig. 5 shows a modification of the deformed plug.

Similar letters of reference refer to like parts throughout the specification and drawings.

In the drawings, A represents a water meter of any usual type, provided with threaded holes or ports A' in which my improved frost plugs B may be inserted, the shank B' being provided with screw-threads for the purpose. The head of the plug B is shown hexagonal, so that a wrench may be used thereon. The plug B is shown hollow or tubular, as at B<sup>2</sup>, but is closed by a spun cup-shaped lining C, having the outwardly extending bottom C' deformed by being

flared out or bellows-like at C<sup>3</sup> and pressed back into the cup so as to reduce the cubical contents thereof. The deformed cup-shaped section C is made of metal sufficiently rigid to withstand the predetermined maximum safe pressure for the appliance to which it is attached, and yet soft enough to assume the original form, as indicated by dotted lines in Fig. 2, when the pressure exceeds this maximum without bursting the bottom C'. The deformed cup-shaped member C may be secured to the inside of the plug B by soldering or other suitable means, but I prefer spinning the rim C<sup>2</sup> back over the inwardly projecting flange B<sup>3</sup> of the plug B, as shown in Fig. 2, and thus form a water-tight and pressure-resisting joint.

When the meter or other appliance provided with my improved plug has been subjected to abnormal pressure by freezing or from other causes, the bottom C' of the cup-shaped plug head will be forced out, and ultimately assume approximately the shape indicated by the dotted lines C<sup>4</sup> in Fig. 2. When the meter has been frozen, the bulged-out bottom C<sup>4</sup> of the cup-like head indicates it, and the water should be turned off and a new deformed plug inserted.

A modified form of the deformed cup-shaped section C of the plug B is shown in Fig. 5, in which several folds C<sup>3</sup> are shown. This form can be used if more capacity is desired.

I claim:

1. An attachment for water meters capable of permitting a permanent increase in volume of said water meter under excessive pressure, comprising a hollow insertible plug, and a non-elastic cup-like member having the bottom infolded to reduce the volume of said member but capable of being restored to its original volume, said cup-like member extending outwardly from said plug and being sealed therein by turning the rim of the cup-like member over one end of said plug.

2. An attachment for water meters capable of permitting a permanent increase in volume of said water meter under excessive pressure, comprising a hollow insertible plug, and a corrugated non-elastic cup-like member having the bottom infolded to reduce the volume of said member but capable of being restored to its original volume, said corrugated cup-like member extending out-



wardly from said plug and being sealed therein by turning the rim of the cup-like member over one end of said plug.

3. An attachment for water meters capable of permitting a permanent increase in volume of said water meter under excessive pressure, comprising a screw-threaded hollow insertible plug and a non-elastic collapsed metallic member having the bottom and outside infolded to reduce the volume of said member, but capable of being re-

stored to its original volume, said member extending outwardly from said plug and being sealed therein by turning the rim of the cup-like member over one end of said plug. 15

This specification signed and witnessed this 11th day of Feb. 1909.

ERNEST E. GAMON.

Witnesses:

M. H. LOCKWOOD,  
C. A. ALLISTON.