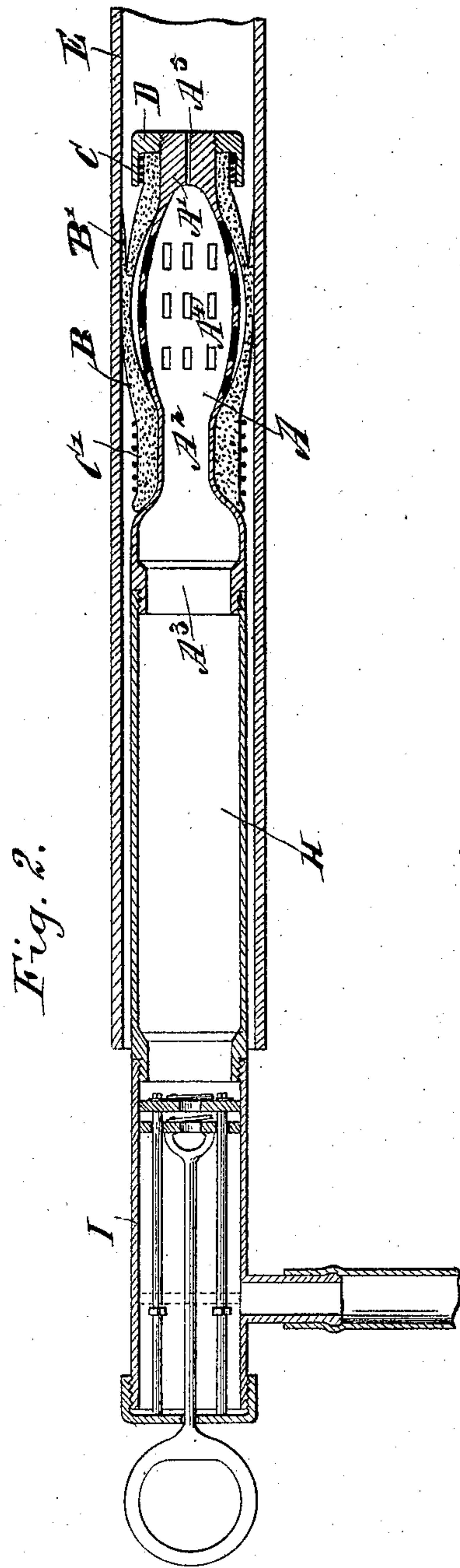
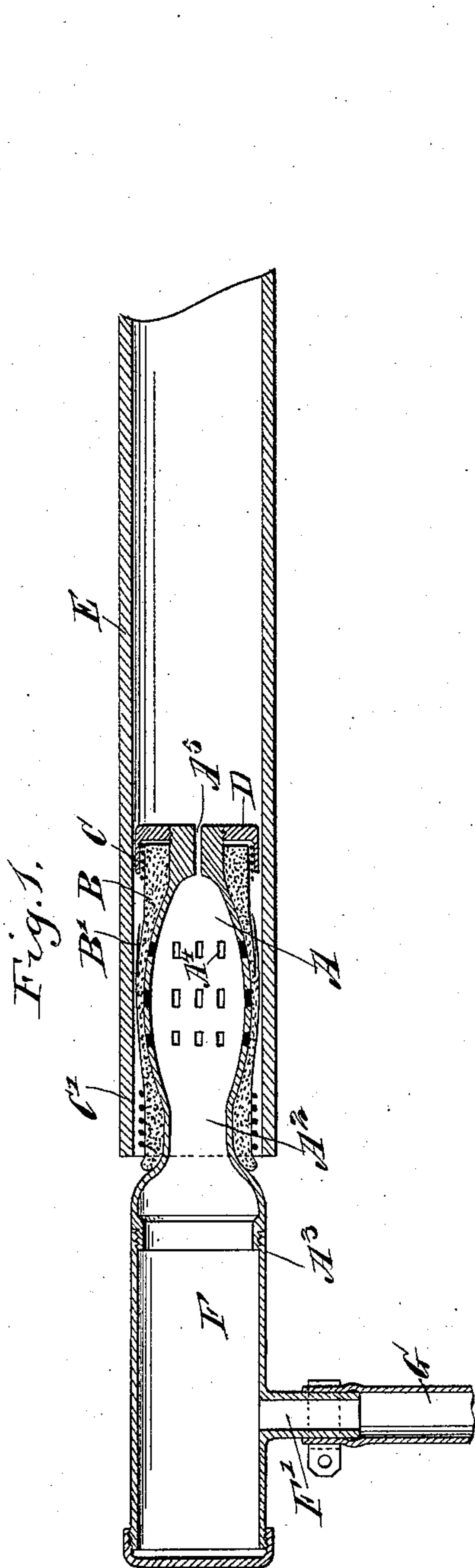


(No Model.)

C. B. BRENNEMAN.  
PIPE ATTACHMENT.

No. 576,945.

Patented Feb. 9, 1897.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CLARENCE BENJAMIN BRENNEMAN, OF MARION, IOWA.

## PIPE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 576,945, dated February 9, 1897.

Application filed July 10, 1896. Serial No. 598,681. (No model.)

*To all whom it may concern:*

Be it known that I, CLARENCE BENJAMIN BRENNEMAN, of Marion, in the county of Linn and State of Iowa, have invented a new and Improved Pipe Attachment, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved device designed for use in sewer and other pipes and arranged to serve as a means for flushing or plugging the pipe.

The invention consists of a hollow core having contracted ends and formed with openings in its walls and at its forward end with an outlet and a bulb of flexible material secured to the exterior of the core and arranged to be inflated by fluid passing through the apertures.

It further consists in forming the aforesaid bulb with an annular flange arranged to be pressed in contact with the walls of the pipe in which the bulb is inserted by the pressure of the liquid contained in the same.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is a sectional side elevation of the improvement as applied and with the bulb deflated, and Fig. 2 is a like view of the improvement with the bulb distended.

The improved device is provided with a hollow metallic core A, preferably made in bulb shape and formed with contracted ends A' and A<sup>2</sup>, adapted to be engaged on the outside by a bulb B, made of rubber or other suitable flexible material, the ends of the bulb being secured by walls C and C' to the said contracted ends A' and A<sup>2</sup> of the core, as plainly shown in the drawings.

One end A<sup>3</sup> of the core A is connected with a suitable source of fluid-supply, so that a fluid under pressure can force into the core A and through a series of openings A<sup>4</sup> in the wall of the core into the interior of the bulb B, so as to distend the latter, as plainly indicated in Fig. 2.

In the outer end of the core A is formed an outlet-opening A<sup>5</sup> for discharging the fluid under pressure into the sewer-pipe, but this outlet-opening A<sup>5</sup> is considerably less in area than the apertures A<sup>4</sup>, so that the fluid under pressure will always first expand or inflate

the bulb B before a complete escape of the said fluid takes place through the opening A<sup>5</sup>.

The fastening-walls C are provided with a cap D, secured or otherwise fastened on the outer end of the core, the said cap being, however, considerably less in diameter than the sewer-pipe E, in which the device is to be used.

On the outside of the bulb B is formed an annular flange B', extending from the top of the bulb forwardly, as plainly shown in the drawings, so that when the bulb is inflated and rests tightly against the inner surface of the pipe E then the pressure of the fluid within the pipe E in front of the device acts on the inner surface of the said flange B' to securely hold the latter in contact with the inner surface of the pipe E. Thus a very secure joint is made between the device and the pipe E to prevent the escape of the fluid forced through the opening A<sup>5</sup> into the pipe E and to insure a dislodging of any matter which may have clogged up the sewer-pipe E and which it is desired to remove from the pipe.

If it is desired to use the device merely as a plug to seal one end of the pipe E, then the opening A<sup>5</sup> is closed by suitable means previous to insertion of the device in the pipe E, and when the fluid under pressure passes into the core and through the openings A<sup>4</sup> into the bulb it inflates the latter and finally plugs the pipe E, so as to prevent escape of matter from the pipe.

Connection with the end A<sup>3</sup> may be made in various ways. For instance, as shown in Fig. 1, a tube F is screwed on the end A<sup>3</sup> and is provided with a nipple F', connected with a supply-hose G, through which passes the fluid used for expanding the bulb B and for forcing the material out of the pipe E.

As illustrated in Fig. 2, the end A<sup>3</sup> is connected by a pipe or hose H with a pump I of any approved construction to permit the operator to force the fluid through the connecting-pipe H into the core A to inflate the bulb B, as previously described, and also to force part of the fluid through the opening A<sup>5</sup> into the pipe E. The escaping air will readily stir up matter to be dislodged.

It will be seen that the device can be used for various other purposes besides the one mentioned; for instance, for closing and sealing bottles and other receptacles.



Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A device of the class described, comprising a hollow core provided with a forward contracted end and connected with a fluid-pressure supply, and formed in its wall with apertures and at said contracted end with an outlet-opening less in area than the apertures, and a bulb of a flexible material and secured at its ends to the exterior of the said core, the said bulb being adapted to be inflated by the fluid passing through the said apertures, substantially as shown and described.
2. A device of the class described, comprising a hollow core connected with a fluid-pressure supply, and formed in its wall with apertures and at its forward end with an outlet, and a bulb of a flexible material and secured at its end to the exterior of the said core, the said bulb being adapted to be inflated by the fluid passing through the said apertures, and an annular flange formed on the said bulb and extending forwardly, to be pressed in contact with the pipe by the pres-

sure within the latter, substantially as shown and described.

3. A device of the class described, provided with an inflatable bulb formed with an external annular flange, adapted to engage the inner surface of the pipe and adapted to be pressed in contact therewith by the pressure inside the said pipe, substantially as shown and described.

4. A device of the class described, comprising the core having a forward contracted end and the bulb on the exterior thereof the said core having communication with said bulb and an outlet-opening in said end, as shown and described.

5. A device of the class described, comprising the core, and the bulb surrounding the walls of the same and provided with an annular flange, said core having openings leading into said bulb and an outlet at its forward end, substantially as shown and described.

CLARENCE BENJAMIN BRENNEMAN.

Witnesses:

J. C. LAAS,  
L. J. BRENNEMAN.