

(No Model.)

J. HEARNE & E. E. CISCO.
PROTECTIVE BUSHING AND HOLDER FOR RUBBER GAS BAGS.
No. 580,689. Patented Apr. 13, 1897.

Fig. 1.

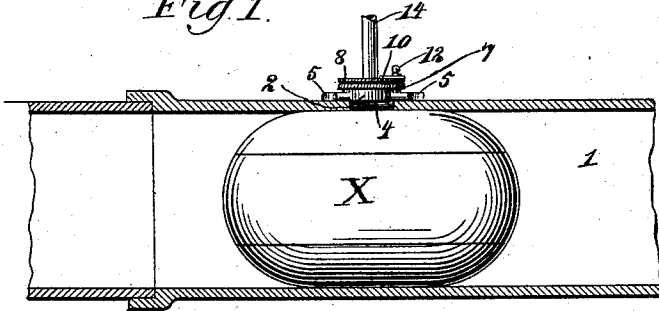


Fig. 2.

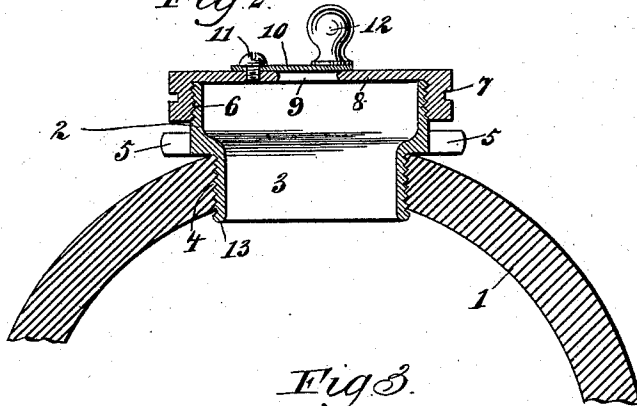


Fig. 3.

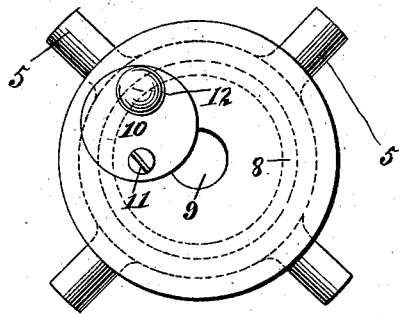
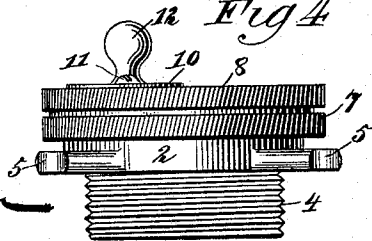


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN HEARNE AND ELMER E. CISCO, OF BROOKLYN, NEW YORK.

PROTECTIVE BUSHING AND HOLDER FOR RUBBER GAS-BAGS.

SPECIFICATION forming part of Letters Patent No. 580,689, dated April 13, 1897.

Application filed July 27, 1896. Serial No. 600,678. (No model.)

To all whom it may concern:

Be it known that we, JOHN HEARNE and ELMER E. CISCO, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Protective Bushing and Holder for Rubber Gas-Bags, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in protective bushings and holders for flexible gas-bags such as are employed for plugging gas-mains temporarily during repairs; and the object of the invention is to provide a device of this character of a simple and inexpensive nature which shall be adapted to hold a gas-bag in place when inflated in the main, and also to protect said bag against being torn and damaged by contact with the rough and sharp edges of the opening in the main whereat it is inserted or withdrawn.

The invention consists in a bushing adapted to be inserted in the opening in the main and a cap for attachment to the bushing to close the same and provided with means to hold the neck of the gas-bag.

The invention also contemplates certain novel features of the construction, combination, and arrangement of the various parts of the improved device whereby certain important advantages are attained, as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claim.

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 all the views.

Figure 1 is a sectional view taken longitudinally through a gas-main, showing a gas-bag held in place in the main by means of our improved protective bushing and holder. Fig. 2 is an enlarged fragmentary transverse section showing the device in place in the main, the opening in the cap wherein the neck of the gas-bag is received being closed. Fig. 3 is a plan view of the device constructed in accordance with our invention, the aperture in the cap wherein the neck of the gas-bag is held being shown partly opened; and Fig. 4 is a side view of the device shown in Fig. 3.

In the views, 1 indicates the main, and 2 indicates the bushing inserted in the opening

therein, the bushing being provided with a central opening 3, extending through it and having its lower portion reduced slightly and provided with an exterior screw-thread 4, adapted to screw into the walls of the opening in the main 1. The device will be usually placed in position after the opening in the main has been formed and tapped. The upper portion of the bushing is provided with projecting radial lugs 5, so that the bushing may be conveniently detached from the main when desired.

Above the lugs 5 the bushing is exteriorly screw-threaded, as indicated at 6, to receive an interiorly-threaded depending flange or skirt 7, formed around the edge of the circular body 8, which is provided with a central aperture 9 to receive the neck or stem of the gas-bag X to be employed for plugging the main.

To close the aperture 9 in the cap we employ a valve or cover 10, formed of a plate of metal or other suitable material of circular form, as shown in Fig. 3, said plate or valve being pivotally mounted at one side on a screw 11 at one side of the aperture or opening 9 in such a position that when the plate or valve is moved pivotally on said screw the aperture 9 will be closed, as indicated in Fig. 2. To permit of conveniently moving the valve or plate 10, said plate is provided with a projecting handle 12 at its side opposite the screw 11.

In using the device the bushing 2 is first secured in place; and the neck of the gas-bag X having been inserted through the aperture or opening 9 in the cap 8 said cap is screwed upon the bushing, the body portion of the gas-bag depending through the bushing inside the main. The gas-bag is thereupon inflated, as shown in Fig. 1, so as to effectually close the main to permit the same to be plugged in the ordinary way. When it is desired to remove the gas-bag from the main, it is only necessary to remove the cap 8 from the bushing, so that the gas-bag may be withdrawn, after which the neck of the gas-bag X will be withdrawn from the aperture in the cap and the cap will be replaced, the aperture being then closed by means of the valve or plate 10, so as to prevent as much as possible the escape of gas from the main.

By preference the lower threaded portion of the bushing will be of such length as to project slightly beyond the inner wall of the main, as indicated in Fig. 2, so as to form an annular shoulder or bead surrounding the opening whereat the gas-bag is inserted and withdrawn, and the lower edge of the bushing will be by preference made rounded, as indicated at 13 in Fig. 2, so as to prevent wear of the gas-bag by contact with said lower edge of the bushing.

From the above description it will be seen that the invention is of an extremely simple and inexpensive nature and permits of conveniently inserting and withdrawing the gas-bag, at the same time preventing said bag from being torn or damaged by contact with the rough edges of the main; and it will also be obvious that the invention is susceptible of some modification without material departure from its principles or spirit, and for this reason we do not wish to be understood as limiting ourselves to the precise form and arrangement of the parts herein set forth.

The inside of the bushing is perfectly smooth, thus preventing the bag from being torn although in contact with the surface.

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

A protective bushing and holder for gas-bags comprising a tubular bushing having its lower portion provided with an exterior screw-thread adapted to screw into an opening in a gas main or pipe, the said lower portion having a length slightly greater than the thickness of the main or pipe, the lower end at the inner side being rounded, a cap adapted to screw onto the upper portion of the bushing and having an aperture through its top and a valve for closing said aperture, substantially as specified.

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Witnesses:

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