No. 628,726. Patented July 11, 1899.

G. W. SCHULTZ.

GAS MAIN BAG.

(Application filed Apr. 1, 1899.)

(No Model.)

Fig. 2.

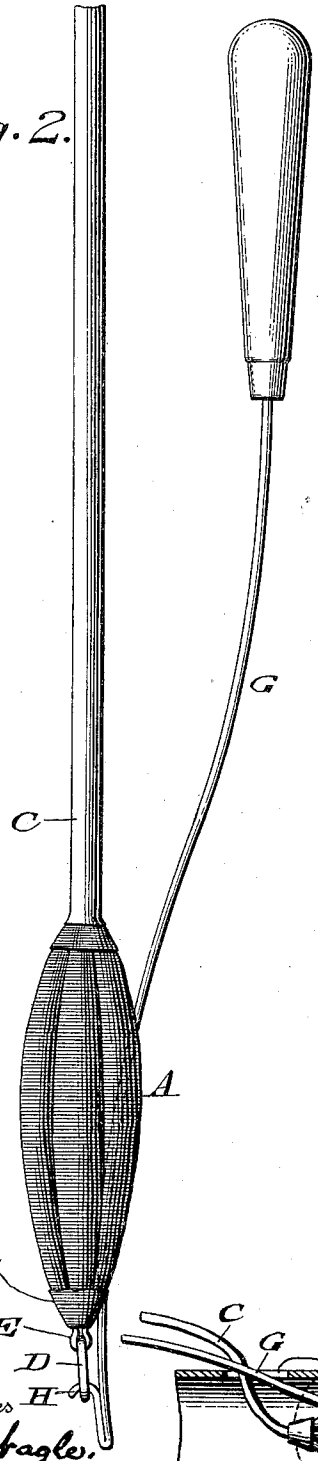


Fig. 1.

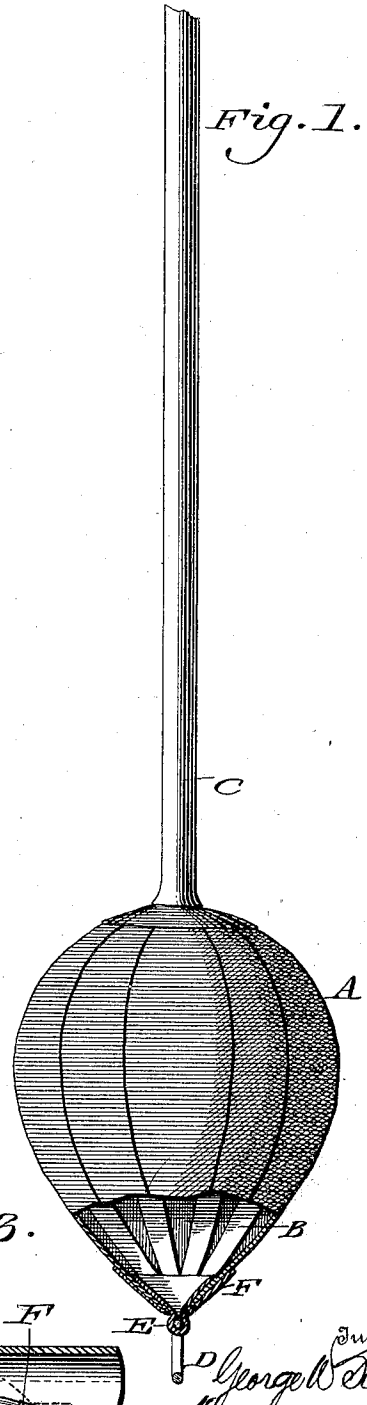
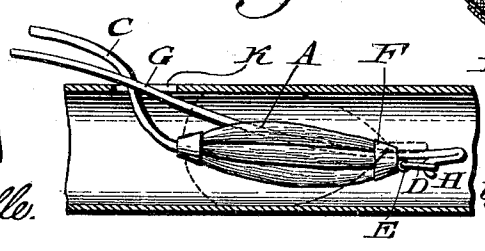


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE W. SCHULTZ, OF PHILADELPHIA, PENNSYLVANIA.

GAS-MAIN BAG.

SPECIFICATION forming part of Letters Patent No. 628,726, dated July 11, 1899.

Application filed April 1, 1899. Serial No. 711,384. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SCHULTZ, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Gas-Main Bags, which improvement is fully set forth in the following specification and accompanying drawings.

In working about gas-mains it is often necessary to attach pipes thereto or to do other work which necessitates a stoppage of the flow of gas for greater or less periods of time. This stoppage has been previously accomplished by various devices which are all of them more or less inefficient, often causing suffocation or even death of the workmen in trenches and loss of gas besides.

The object of my invention is to produce an inexpensive device to quickly and effectually shut off the gas and yet be simple in construction and application.

To the above ends my invention consists of a canvas-covered bag of rubber or other material attached to a tube made of suitable material, which, when inflated in a pipe, will effectively shut off the flow of gas therein, said bag having the shape of a pear and having fastened to its lower or pointed end a flap or tab holding a ring. A tool having a rod with a hook on the end thereof is employed, the bag in its deflated condition being engaged by said hook and then folded around the rod and inserted in a hole or opening in the gas-main, the rod being afterward withdrawn and the bag inflated.

It further consists of novel details of construction, all as will be hereinafter fully set forth, and particularly pointed out in the claims.

Figure 1 represents a side elevation, partly in section, of a gas-main bag embodying my invention, the same being shown in inflated condition. Fig. 2 represents a side elevation of the same, the bag being shown in deflated or collapsed condition in the act of being inserted in position in the main. Fig. 3 represents a longitudinal sectional view of a main, showing the bag or valve in position therein.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a rubber canvas-covered pear-shaped bag made with its seams or stripping B inside, the object thereof being to expose pratically no rubber on its outside surface to the injurious action of gas, coal-tar, or gas liquor, which may happen to exist in the pipes or mains. The stripping B, being interiorly located, permits of a more perfect joint when the bag is inflated, and by the pear-shaped contour of the bag I am enabled to readily insert and withdraw the same from the opening K in the main J.

C designates a tube extending from one side of the bag and by means of which the same is inflated. On the other side of the bag is a loop, ring, or analogous handling and manipulating means D. Said means conveniently consist of a ring secured to a tab E, which latter is firmly held in position by means of the lower reinforcing-strip F.

G designates a tool consisting of a rod provided with a suitable handle at one end and having at the lower extremity a hook H, bent in such a manner that it can readily engage the ring D.

The operation is as follows: When it is desired to shut off the flow of gas at a certain point in the pipe or main, the opening K, which may be screw-threaded, if desired, is formed therein, and the bag A, in the deflated condition seen in Fig. 2, is wrapped loosely around said tool, the ring D being in engagement with the hook H. The bag is quickly inserted into the pipe through the opening K. The tool is then quickly withdrawn and the bag inflated through the tube C by means of the breath of the operator or an air-pump, thus effectually closing the pipe at that point for the desired period. The air can be prevented from escaping from the tube C in any suitable manner, and when it is desired to withdraw the device from the pipe the air is allowed to escape from the bag, thus causing it to collapse, whereupon it may be easily extracted and the opening K in the pipe or main readily plugged.

The tube C and the means D for handling and manipulating the tube being on different sides of the bag, the latter can be readily drawn into the pipe from its front end by said tool, and when the inflation occurs the tube C, leading from the side of the bag adjacent the opening in the rear thereof through which

it is inserted, does not interfere therewith, nor can the bag compress or choke the tube.

My invention can be made in different sizes to fit pipes of any diameter. It is further convenient to handle, and one inserting-tool G will be sufficient for any number of bags. The ring D has an additional function, as it can be conveniently used to suspend the bags in store-rooms, thereby permitting the tube to hang downwardly, thus lengthening the life of the same.

It will be seen that by the above invention the principal objections to gas-main bags now in use are obviated, the same being as follows: first, the difficulty of inserting the bag by the fingers or sticks through the holes drilled in the mains, and, second, the ordinary bags now in use are not durable because of the action of the gas liquor or pitchy mass usually lying in the bottom of pipes or mains, which act directly on the rubber of the bags, rotting or dissolving them, thus causing leakage, whereby the bag becomes useless. My apparatus, however, can be readily inserted in position, and the life of the same is prolonged by reason of the canvas-covered surface thereof, while the manner of fastening the ring in position and the use of the latter are also important features of my device.

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

1. A gas-main bag, comprising a collapsible and inflatable bag provided at one side thereof with a tube, and means for handling and manipulating the same secured to the other side thereof.

2. A gas-main bag, comprising a collapsible and inflatable bag provided at one side thereof with a tube, and a loop, ring or analogous handling and manipulating device secured to the other side thereof.

3. The combination with a collapsible and inflatable gas-main bag provided at one side thereof with a tube, and means for handling and manipulating the same secured to the other side thereof, of a tool or implement comprising a shank provided with a hook on the end thereof for engagement with said handling and manipulating means.

4. As an improved article of manufacture, a canvas-covered, rubber, pear-shaped bag having its seams or stripping inside, a ring attached to a tab secured to one side of said bag, a reinforcing-strip surrounding said ring and secured to said bag, said ring serving to facilitate the insertion of the bag in the main and also serving as a means for suspending the bag when not in use, and a tube leading from the other side of said bag.

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