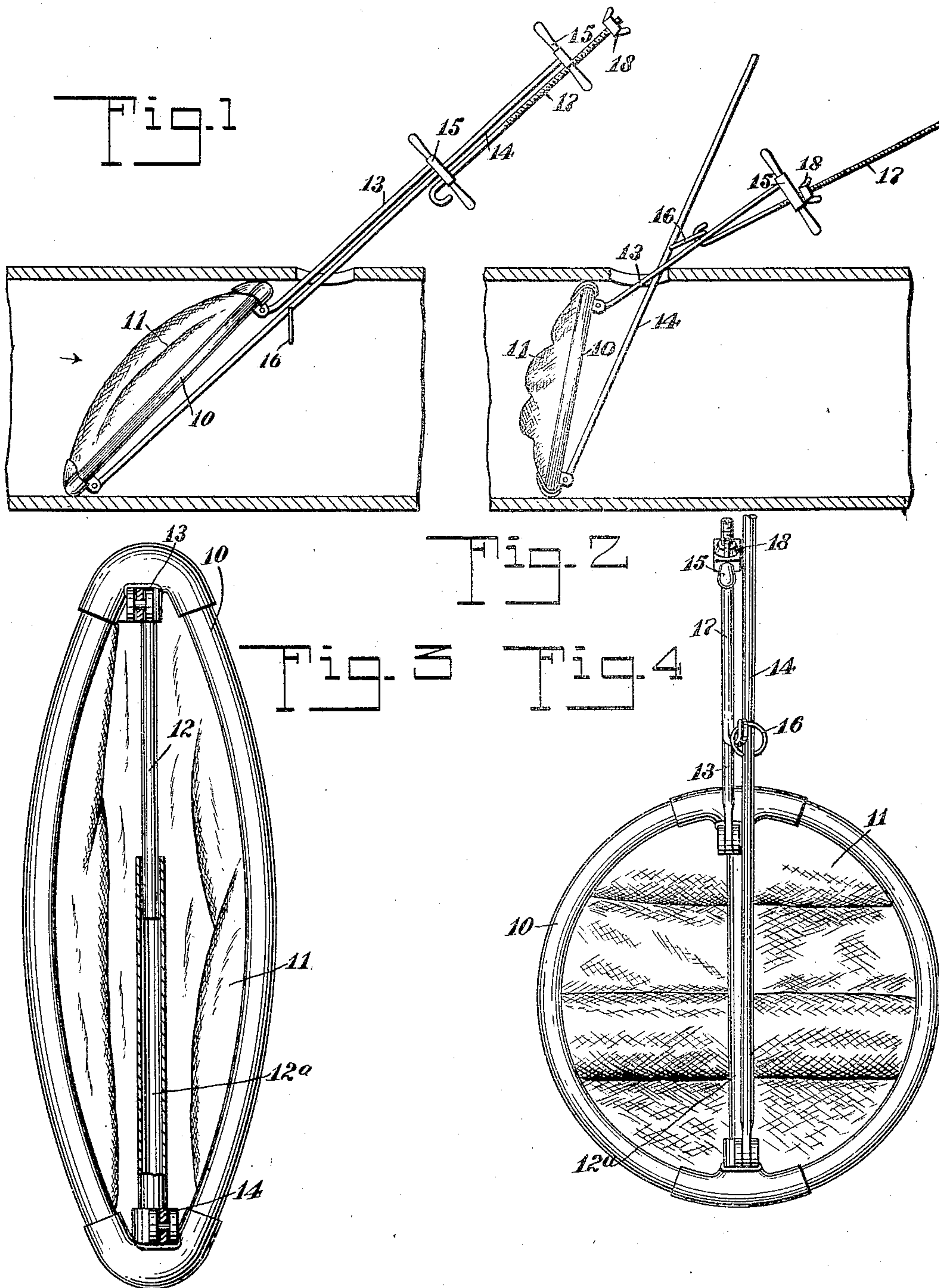


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GAS MAIN STOPPER.
APPLICATION FILED MAY 14, 1909.

940,458.

Patented Nov. 16, 1909.



WITNESSES
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PATRICK GOODMAN, OF NEW YORK, N. Y.

GAS-MAIN STOPPER.

940,458.

Specification of Letters Patent.

Patented Nov. 16, 1909.

Application filed May 14, 1909. Serial No. 495,981.

To all whom it may concern:

Be it known that I, PATRICK GOODMAN, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Gas-Main Stopper, of which the following is a full, clear, and exact description.

The invention is an improvement in gas main stoppers of the character for which Letters Patent Number 591,271 were granted to me October 5, 1897, the same embodying a collapsible spring frame having a flexible diaphragm which is expanded by exerting pressure at diametrically opposite points, and having handle-bars pivotally connected at or near said points to control the position of the diaphragm in the main.

The present invention contemplates means to simultaneously force one of the handle-bars inwardly and draw the other handle-bar outwardly to lock the stopper crosswise of the gas main.

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 central longitudinal section through a gas main, showing a stopper embodying my improvements in a position preparatory to expanding it; Fig. 2 is a similar view showing the stopper fully expanded and locked in position; Fig. 3 is an inner face view of the stopper partly in central vertical section; and Fig. 4 is an inner face view of the stopper when fully expanded.

The stopper embodies in its construction a collapsible spring frame 10 covered by a yielding packing and having a flexible diaphragm 11, the diaphragm being stretched across the frame in circular form by exerting pressure on the frame at diametrically opposite points. At these points the frame is provided with pivotally-connected telescoping members 12 and 12^a, bridging the diaphragm, and pivotally-connected handle-bars 13 and 14, each bar being provided with a suitable hand-grip 15.

The construction thus far described is of that substance shown in my patent above referred to.

My improvement specifically described in its preferred form consists of a ring 16 swiveled intermediate the length of one of

the handle bars, and a hook 17 adapted to be engaged with and disengaged from the ring and having a threaded shank passing through the hand-grip of the other handle-bar 13, where it is provided with a nut 18, arranged to draw the hook outwardly.

In using the stopper having my improvement, the body of the stopper, fully collapsed, is passed through an opening in the top or side of the main and is placed at an inclination at that side of the main from which the gas is flowing, as illustrated in Fig. 1. The handle bar having the ring and which is connected to the bottom of the stopper, is then drawn outwardly, to position the stopper crosswise of the main. The hook is then engaged in the ring, and on tightening the nut on the shank of the hook, the handle-bar at the top is forced inwardly, and the inwardly-extending handle-bar is pulled outwardly, thus tending to turn the body of the stopper farther crosswise of the main and locking it in place and effectually stopping the flow of gas.

I am aware that prior to my invention, devices have been constructed engaging one side wall of the pipe, for exerting pressure on one of the handle-bars of a stopper of this general character, to vary the inclination of the stopper in the main; but I believe it to be broadly new to provide such a device with means to simultaneously exert forces on the handle-bars in opposite directions and locking the said bars together.

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

1. The combination of a gas main stopper having handle-bars connected thereto at approximately diametrically opposite points, and means to simultaneously force one of the handle-bars inwardly and draw the other handle-bar outwardly to lock the stopper in the gas main.

2. The combination of a gas main stopper having handle-bars connected thereto, a ring connected intermediate the length of one of the handle-bars, and a hook adapted to be engaged and disengaged with and from the ring and having a threaded shank adjustable on the other handle-bar.

3. The combination of a gas main stopper having handle-bars connected thereto, the handles movable relatively to each other in the direction of their lengths, and means

carried by the handle-bars to simultaneously exert forces thereon in opposite directions, said means being detachably engaged.

4. The combination of a gas main stopper
5 having handle-bars pivotally connected thereto at approximately diametrically opposite points, each bar having a hand-grip and a hook having a threaded shank passing through the hand-grip of one of the
10 handle-bars, and a nut threaded on the shank of the hook and bearing on said grip.

5. The combination of an expansible gas main stopper having handle-bars connected thereto at approximately diametrically

opposite points, a device carried intermediate the length of one of the handle-bars, and a member adjustable on the other handle-bar, having means to engage said device and force the handle-bars in opposite directions. 15 20

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

PATRICK GOODMAN.

Witnesses:

GRACE OSBORN,
MAY M. MANUS.