

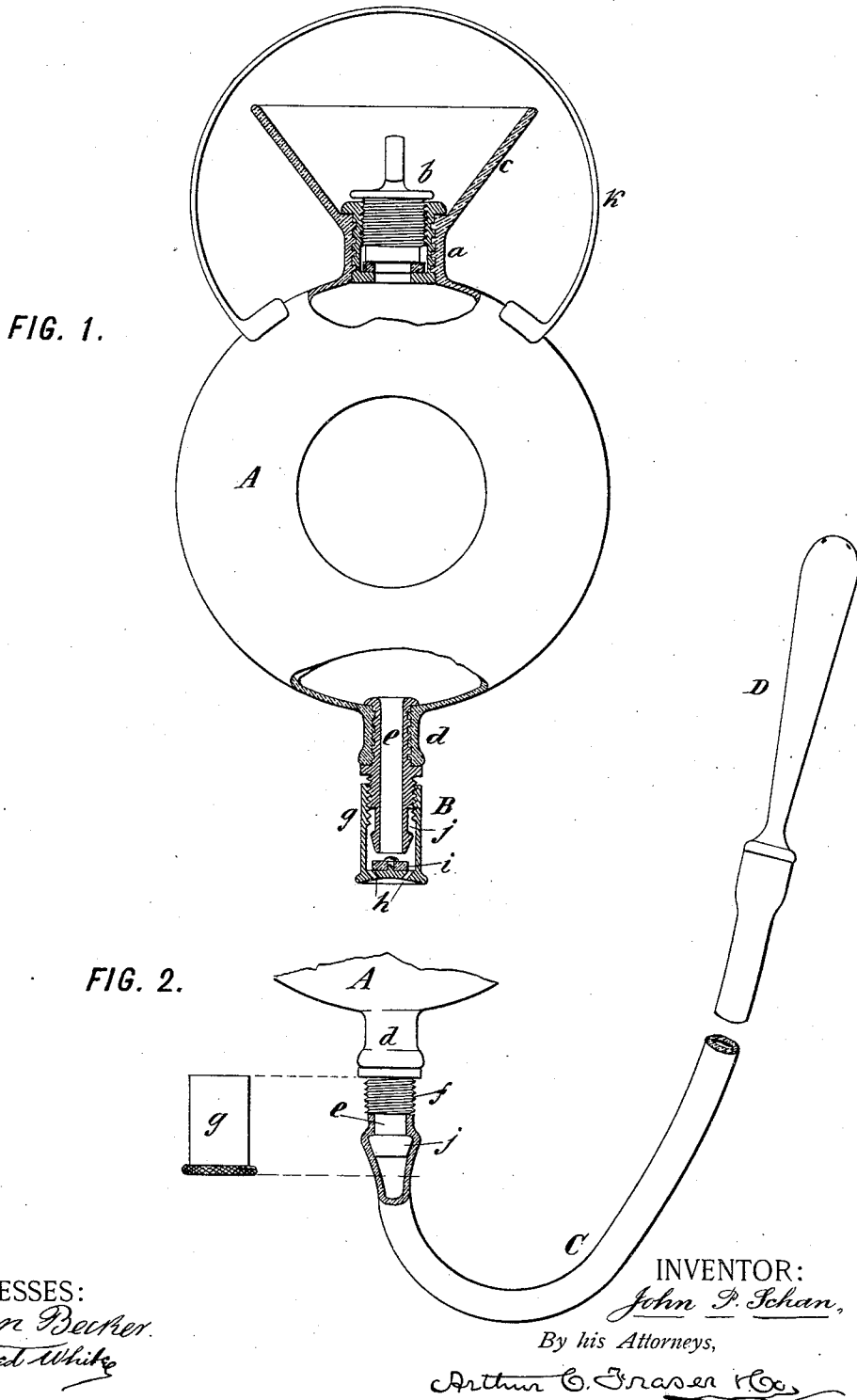
(No Model.)

J. P. SCHAN.

COMBINED FOUNTAIN SYRINGE AND AIR CUSHION.

No. 480,785.

Patented Aug. 16, 1892.



# UNITED STATES PATENT OFFICE.

JOHN P. SCHAN, OF BROOKLYN, NEW YORK.

## COMBINED FOUNTAIN-SYRINGE AND AIR-CUSHION.

SPECIFICATION forming part of Letters Patent No. 480,785, dated August 16, 1892.

Application filed November 27, 1891. Serial No. 413,182. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN P. SCHAN, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Water and Air Bags and Fountain-Syringes, of which the following is a specification.

This invention relates to certain improvements in flexible water-bottles, rubber air-cushions, &c., and in fountain-syringes.

Water bags or bottles used in sick-rooms as heretofore made consist of a bag of flexible india-rubber having at one side or end a filling-opening closed by a stopper and usually surrounded by a funnel-shaped guard to facilitate the introduction of the water into the bag through the opening. The bag is filled with hot or cold water and the filling-stopper screwed in tight, whereupon the bag is ready for use in the sick-chamber.

Air bags or cushions or so-called "invalid-rings" have been heretofore made consisting of a suitably-shaped bag of flexible india-rubber, having at one side an air inlet and outlet orifice closed by a suitable valve. By opening this valve and blowing through the orifice the bag is inflated with air, whereupon the air-valve is closed, thereby confining the air, so that the bag constitutes an elastic cushion. Such air-bags are most commonly made of annular form with a large central opening, and are commonly used as seat-cushions for the comfort of emaciated persons.

Fountain-syringes as heretofore made have consisted of a water vessel or fountain with an outlet-opening at the lower side thereof and a rubber tube applied to this opening and terminating in the nozzle of the syringe. The water-vessel is commonly made of a bag of flexible india-rubber with an open mouth at the upper side and a tab or wire ring for suspending it, and in order to control the flow a clamp is commonly applied for pinching the flexible-india-rubber tube.

Water-bags and fountain-syringes have heretofore been combined, the water-bag serving as the reservoir of the syringe.

The object of my invention is to combine an air-bag with either a hot-water bag or a fountain-syringe, or preferably with both.

According to my invention I provide a re-

ceptacle of flexible rubber, which serves as a water-bag in one instance, as an air-bag in another, and as the fountain-reservoir of a syringe in the third. To adapt it for these uses, I provide the receptacle with a filling-stopper at one side and with a loop for suspending it, and at preferably the opposite or bottom side I provide it with an outlet-opening, which is fitted with an air-valve. I also provide the nozzle and flexible tube of a syringe, the latter being adapted for connection with the said receptacle, so that on attaching it and filling the receptacle with water the device may be used as a fountain-syringe.

Figure 1 of the accompanying drawings is an elevation of the flexible-rubber receptacle or bag, its stoppered filling-orifice and air-valve being shown in section. Fig. 2 is a fragmentary elevation of the lower end of the bag, showing the syringe-tube applied thereto to adapt the device for use as a fountain-syringe.

In the drawings, let A designate the flexible-rubber receptacle or bag. This is shown smaller in proportion to the size of the other parts than is the case in practice, this proportion being adapted in the drawings in order to enable the details of the appurtenances to be more clearly shown. The bag A is preferably made annular or ring-shaped with a large central opening like the ordinary rubber air-cushion or invalid-rings. At one side it is provided with a stoppered filling-orifice *a*, having a screw-stopper *b* for closing it and preferably surrounded by a funnel *c*. These parts are of any suitable construction, those heretofore used to form the filling-stopper of water-bags being suitable. The bag is also provided with an air-valve B, preferably applied to an outlet-orifice *d*, arranged at the opposite side or bottom of the bag. Any suitable construction of air-valve may be employed which will admit of blowing through the orifice to inflate the bag and of closing the orifice for preventing the escape of the air. The construction shown, which is the one best adapted to the purpose of any of which I am aware, consists of an internal tube or thimble *e*, fixed in the orifice *d* of the bag and projecting therefrom, this projecting portion being screw-threaded at *f*, and on it screws a cap *g*, having air-holes *h h* through

its end and carrying a yielding washer or valve *z*, which when the cap is screwed up is compressed against the open end of the thimble *e* and closes it. To inflate the bag, the cap *g* is unscrewed a little ways, and by applying the mouth air is blown in through the openings *h* and enters through the thimble *e* into the bag, and when the latter is fully inflated the cap *g* is screwed up tight while maintaining the air-pressure and without removing it from the mouth. Several other constructions of air-valves are known and may be substituted in place of this without departing from my invention.

To use my invention as a water-bag, the cap *g* is first screwed up tight to close the outlet-orifice *d*, and the bag is filled with water through the neck, after which the stopper *b* is screwed in tight. To use the bag as an air bag or cushion, it is first emptied of water through the stoppered orifice and the stopper replaced and screwed tightly home, whereupon the bag is inflated by blowing through the air-valve *B*, as described. The bag consequently serves each purpose equally as well as if it were adapted for that purpose only and unadapted to the other purpose.

To constitute my invention a fountain-syringe, I provide a flexible syringe-tube *C*, having a syringe-nozzle *D* of any usual or suitable construction, and I provide means for applying the syringe-tube removably to the valve-outlet *d* of the bag. Many different constructions might be suggested for this purpose; but that which I prefer, because of its simplicity, is the one shown. By unscrewing the cap *g* the protruding end portion of the thimble *e* is exposed, and this end portion is formed beneath the screw-threads *f* with a neck *j*, having an enlarged head, over which the end of the india-rubber tube *C* may be easily drawn, as shown in Fig. 2. The removal of the cap *B* necessarily opens the outlet *d*, and by thus applying the syringe-tube the outlet is put into direct communication with the syringe. The device thus constitutes a fountain-syringe which may be used in the same manner as any other fountain-syringe. To enable the bag *A*, which constitutes the fountain of the syringe, to be suspended, I provide it with a loop *k*. The stopper *b* may be removed and by pinching or otherwise choking the outlet through the tube *C* water may be poured into the bag *A* through the filling-opening *a*, and upon releasing the compression of the rubber tube the water will flow out through the syringe; or the bag *A* may be filled and the stopper screwed home, whereupon by holding the bag in the hand, placing the hand through the central opening thereof, and elevating the bag more or less the water will be caused to flow out through the syringe, as desired. The annular construction of the bag *A* thus greatly

facilitates its use as the fountain of a fountain-syringe, since it may be slung over the arm or held in the hand, and by compressing it the water may be forced out of it through the syringe under any desired pressure. The annular form also has the further advantages when used as a water-bag that a patient may sit upon it when at stool, the excrement being discharged through the central opening, while the rectum is maintained under the influence of the hot or cold water in the bag; also, for sore throat the ring-shaped bag, being partly filled with hot or cold water, may be doubled in the middle, whereby its central opening is presented as a half-round portion, which may be fitted against the throat.

My invention is not limited to the construction of filling-stopper shown, nor to the construction of air-valve shown, nor to the construction shown for providing for the attachment of the syringe-tube to the outlet from the water-bag; nor is my invention limited to the particular location of the filling-stopper and outlet-opening or air-valve, although it is preferable for the sake of convenience to arrange the filling-opening at the upper side and the outlet-opening or air-valve at the opposite or lower side of the bag. They might, however, be otherwise located, and both the filling-stopper and air-valve might be applied to the same orifice in the bag, if desired.

I claim as my invention the following-defined novel features, substantially as hereinbefore specified, namely:

1. A combined water and air bag consisting of a receptacle of flexible rubber having a stoppered filling-orifice and a separate opening provided with an air-valve, whereby by closing the air-valve the bag may be filled with water as a water-bag or by closing the stopper it may be inflated with air through said air-valve as an air-bag, substantially as specified.

2. A combined water-bag, air-bag, and fountain-syringe reservoir consisting of a receptacle of flexible rubber, a filling-stopper applied thereto, and an outlet therefrom fitted with an air-valve consisting of a thimble, a screw-cap applied thereto, and a flap-valve in said cap, whereby by closing said valved outlet the receptacle may be used as a water-bag, by closing the stopper it may be inflated with air through said air-valve, or by removing said cap and attaching a syringe-tube to the thimble it may be used as the fountain of a syringe.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN P. SCHAN.

Witnesses:

GEORGE H. FRASER,  
FRED WHITE.