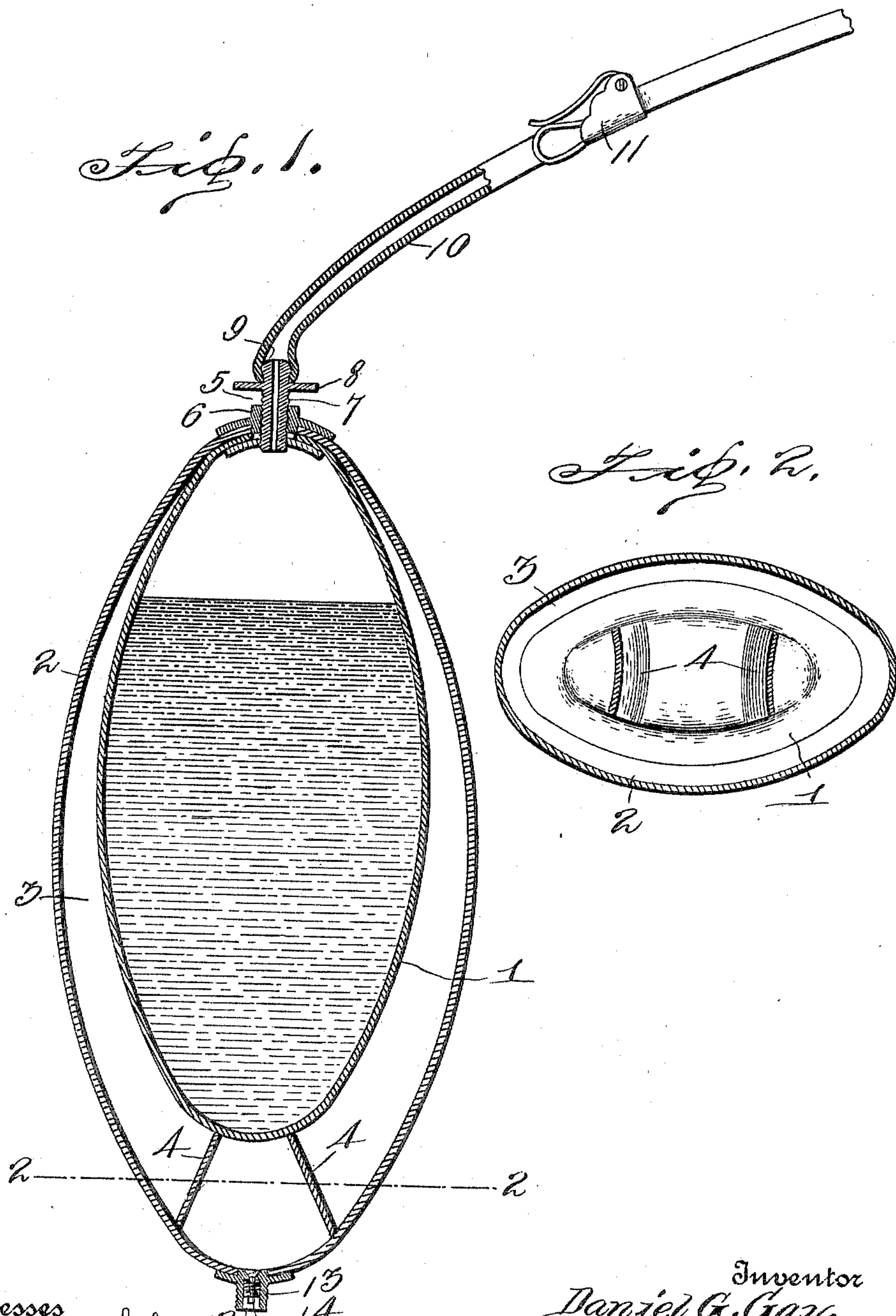


No. 817,054.

PATENTED APR. 3, 1906.

D. G. GAY.
SYRINGE.

APPLICATION FILED NOV. 10, 1904.



Witnesses
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SYRINGE.

No. 817,054.

Specification of Letters Patent.

Patented April 3, 1906.

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To all whom it may concern:

Be it known that I, DANIEL G. GAY, a citizen of the United States, residing at Freewater, in the county of Umatilla and State of Oregon, have invented certain new and useful Improvements in Syringes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in syringes; and its object is to provide a simple and efficient water-syringe or the like which may be used with ease and convenience in any desired position.

My invention consists in a collapsible container for water or other liquids provided with a suitable outlet and inclosed within an air-tight container into which air or other fluid may be forced to collapse said liquid-container, and thereby expel its contents through said outlet.

In the embodiment of my invention disclosed in the accompanying drawings, Figure 1 is a vertical sectional view through a syringe constructed in accordance with my invention, and Fig. 2 is a transverse sectional view taken on the line 2 2 in Fig. 1.

Referring to the drawings by numeral, 1 denotes a collapsible liquid-container, here shown in the form of a bag or pouch made of flexible material, but which may be of any suitable form and construction so that it may be collapsed to cause its contents to be forced out through a suitable outlet. Surrounding this collapsible liquid-container, or that portion of it which is collapsible, is an air-container 2, which is here shown in the form of a bag or sack of flexible material, but which may be of any other suitable form or construction. Said bag or casing 2, which incloses the pouch or sack 1, is of slightly-greater size than the latter, so that a space 3 is provided between the two, in which space air or other fluid may be introduced to compress the pouch 1, and thereby expel its contents. The pouch 1 is preferably centered in and spaced from the interior of the bag 2 by flexible connecting-stays 4.

Any suitable inlet and outlet means may be provided for the liquid-container or pouch 1. As shown, a combined inlet and outlet connection 5 is provided and secured in the adjacent ends of the two containers 1 and 2.

Said connection 5 comprises a screw-nipple 6 and a screw-plug 7, in which latter is formed a central bore. The outer end of said plug is formed with an annular flange 8, by means of which said plug may be readily screwed into or out of said nipple, and with a head or nipple 9, which is adapted to receive one end of a flexible rubber hose or similar connection 10, as shown. Any suitable nozzle attachment (not shown) may be provided at the other end of said hose 10, and upon its intermediate portion is provided a clamping device 11 of any desired form for controlling the flow of liquid through said hose. If desired, a turning-plug valve may be provided in the connection 5 for controlling the outlet of liquid from the container 1, as will be readily understood. In filling the container 1 the plug 7 is removed from the nipple 6 and the liquid is introduced through the latter.

Any suitable inlet and outlet means may be provided for the air or fluid container 2. As shown, a check-valve 12, of well-known form, is provided. Said valve coacts with a valve-seat formed in a screw-nipple 13, located at a suitable point in said bag 2. The spring-actuated stem 14 of said valve projects through the bore in said nipple, so that it may be readily depressed to open said valve to permit the air in the bag to escape. Air or other fluid may be forced through said valve and into said container 2 by means of a pump or compressor of any desired form, which is connected up with said nipple. For this purpose the common rubber hand-bulb is well adapted; but any device of this character may be employed.

By the use of my syringe the contents of the container 1 may be forcibly ejected through the tube 10. In ordinary fountain-syringes the weight of the liquid in the suspended bag is depended upon to force the liquid out of the bag, and this construction operates well when a large quantity of liquid is placed in the bag; but should it be required to use but a small quantity of medicated liquid the force at the outlet end of the syringe would be slight. By means of my construction force may be exerted upon a small quantity of material in the container.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the inven-

tion will be readily understood without requiring a more extended explanation.

While I have shown and described one embodiment of my invention, it will be understood that I do not wish to be limited to the same.

Various changes in the form, proportion, and minor details of construction may also be made within the scope of the appended claims without departing from the principle or sacrificing any of the advantages of this invention.

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

The herein-described syringe consisting of an inner flexible liquid-container and a cas-

ing surrounding said container and provided with a nipple and plug passing through the container and casing and connected to a tube, a valve or air-inlet whereby when air is forced into said casing said liquid-container will be compressed to cause its contents to be expelled through said plug and tube, and a plurality of flexible stays connecting the liquid-container to the air-casing, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DANIEL G. GAY.

Witnesses:

A. S. PEARSON,
JNO. P. WINTER.