H. A. MYERS.

COMPRESSION BULB.

APPLICATION FILED OCT. 10, 1914.

1,184,371. Patented May 23, 1916.

Fig. 1.

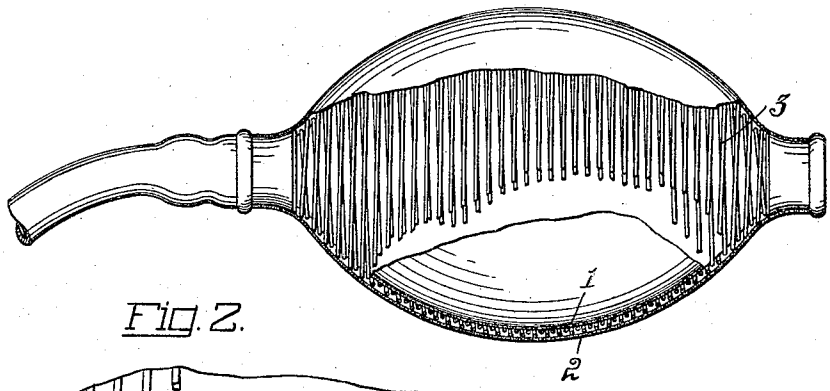


Fig. 2.

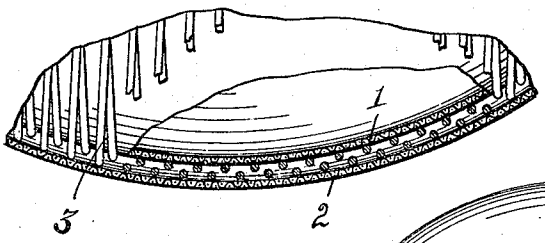
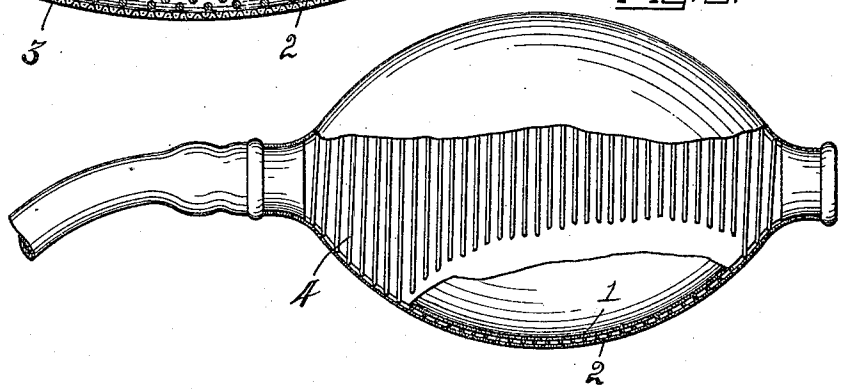


Fig. 3.



WITNESSES:—

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UNITED STATES PATENT OFFICE.

HUBERT A. MYERS, OF TOLEDO, OHIO, ASSIGNOR OF ONE-HALF TO ARTHUR S. HICKOK, OF TOLEDO, OHIO.

COMPRESSION-BULB.

1,184,371. Specification of Letters Patent. Patented May 23, 1916.

Application filed October 10, 1914. Serial No. 865,976.

To all whom it may concern:

Be it known that I, HUBERT A. MYERS, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Compression-Bulb; and I do hereby 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, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to compression bulbs for use in connection with atomizers, syringes, and the like, but is not restricted to such use as it may be used in any connection for which it may be adapted or appropriate.

The object of my invention is to provide a bulb of this character which is long lived, and capable of being easily compressed, and which does not become dead or slow to return to its normal shape after being compressed, but is lively in its action and such action is of a substantially permanent nature.

The invention is fully described in the following specification, and while, in its broader aspect, it is capable of embodiment in numerous forms, a preferred embodiment thereof is illustrated in the accompanying drawings, in which,—

Figure 1 is a side view of a bulb embodying my invention with parts broken away. Fig. 2 is an enlarged sectional detail of a portion of a bulb embodying the invention, and Fig. 3 is an elevation of a bulb embodying a modified form of the spring frame shown in Fig. 1 and with parts broken away.

Referring to the drawings, 1 and 2 designate inner and outer layers of an air and liquid proof material, and preferably comprising silk or other suitable fabric of a light nature, which is treated to render it air and water proof. The layers 1 and 2 are spaced apart and interposed therebetween is a coiled wire frame work 3, which conforms in shape to the desired normal form of the bulb and has its convolutions extending around the bulb transversely thereof and continuing from one of its ends to the other.

In Figs. 1 and 2 the frame work 3 is shown as comprising two layers or sets of coils which are disposed one within the other, with the coils of one set crossing the coils of the other set to approximate a fabric-like formation.

In Fig. 3 the frame work, which is designated 4 therein, is shown as comprising a single layer or set of coils. The number of sets of coils employed and the size and stiffness of the wire to be used is determined very largely by the nature of the bulb in which the wire frame work is employed and the use to which it is to be put, as in some cases a strong stiff frame work may be desired while in others a very light frame work of a freely flexible nature may be desired. It is preferable to employ a light spring wire, which, while being of sufficient stiffness to normally maintain the bulb in shape, will permit an easy compressing of the bulb.

It is evident that I have provided a simple and efficient construction of compression bulb which is capable of being easily compressed, and which, when the compressing force is released therefrom, quickly returns to its normal shape due to the spring tendency of the wire work which is disposed between the layers of the air and moisture proof fabric employed. The use of this frame insures against the loss of the life of a bulb by reason of oils or other elements of a deteriorating nature coming in contact with the material forming the bulb.

I wish it understood that my invention is not limited to any specific construction, arrangement or form of the parts or materials employed except in so far as such limitations are specified in the claims.

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

1. A compression bulb having a fluid inlet opening at one end and a fluid outlet opening at the opposite end thereof, and having a pliant body portion formed of a plurality of layers of air and moisture proof material, and a coiled spring frame work disposed between the inner and outer layers of said body portion and conforming to the shape of the bulb with the axes of the coils registering with the inlet and outlet openings of the bulb.

2. A compression bulb having its ends gradually restricted to form fluid inlet and

outlet openings respectively, the body of said bulb being formed of a moisture and air proof material and having a coiled spring wire frame work interposed within said material and serving to yieldingly retain the bulb in its normal expanded shape, the coils of said frame work extending in successive order from end to end of the bulb and forming restricted openings at the ends of the frame work in register with the respective inlet and outlet openings of the bulb, said spring frame work permitting a transverse compression of the bulb.

3. A compression bulb comprising a coiled spring wire frame work, the coils successively extending from end to end of the bulb and being gradually restricted in diameter from the center of the bulb toward each end thereof, and an air and moisture proof silk fabric forming an inclosing case for said frame work and coöperating therewith to form fluid inlet and outlet openings at respective ends of the bulb, said bulb being compressible transversely of its axis.

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

HUBERT A. MYERS.

Witnesses:
S. T. KLOTZ,
F. E. AUL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."