

(Model.)

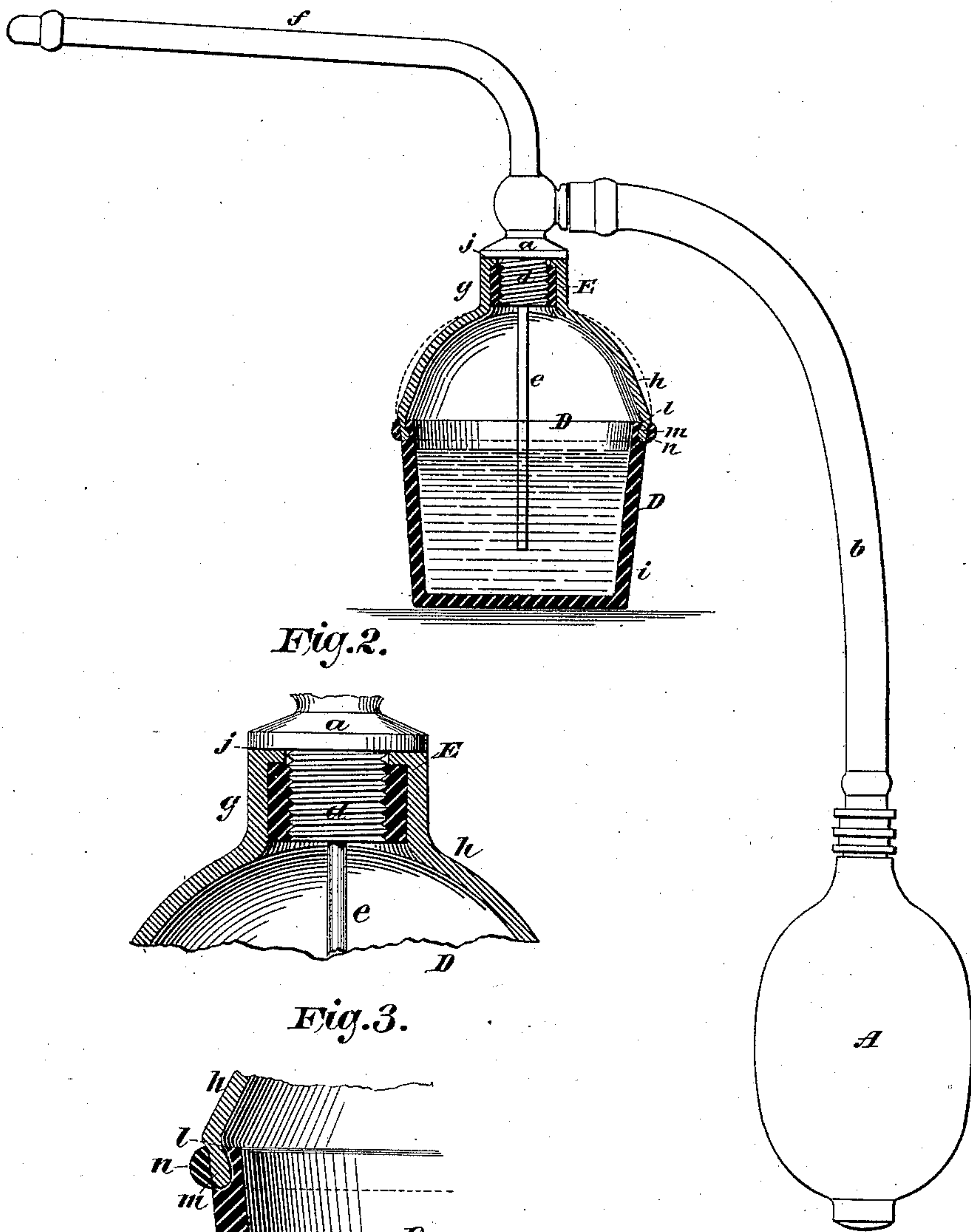
A. D. SCHLESINGER.

ATOMIZER.

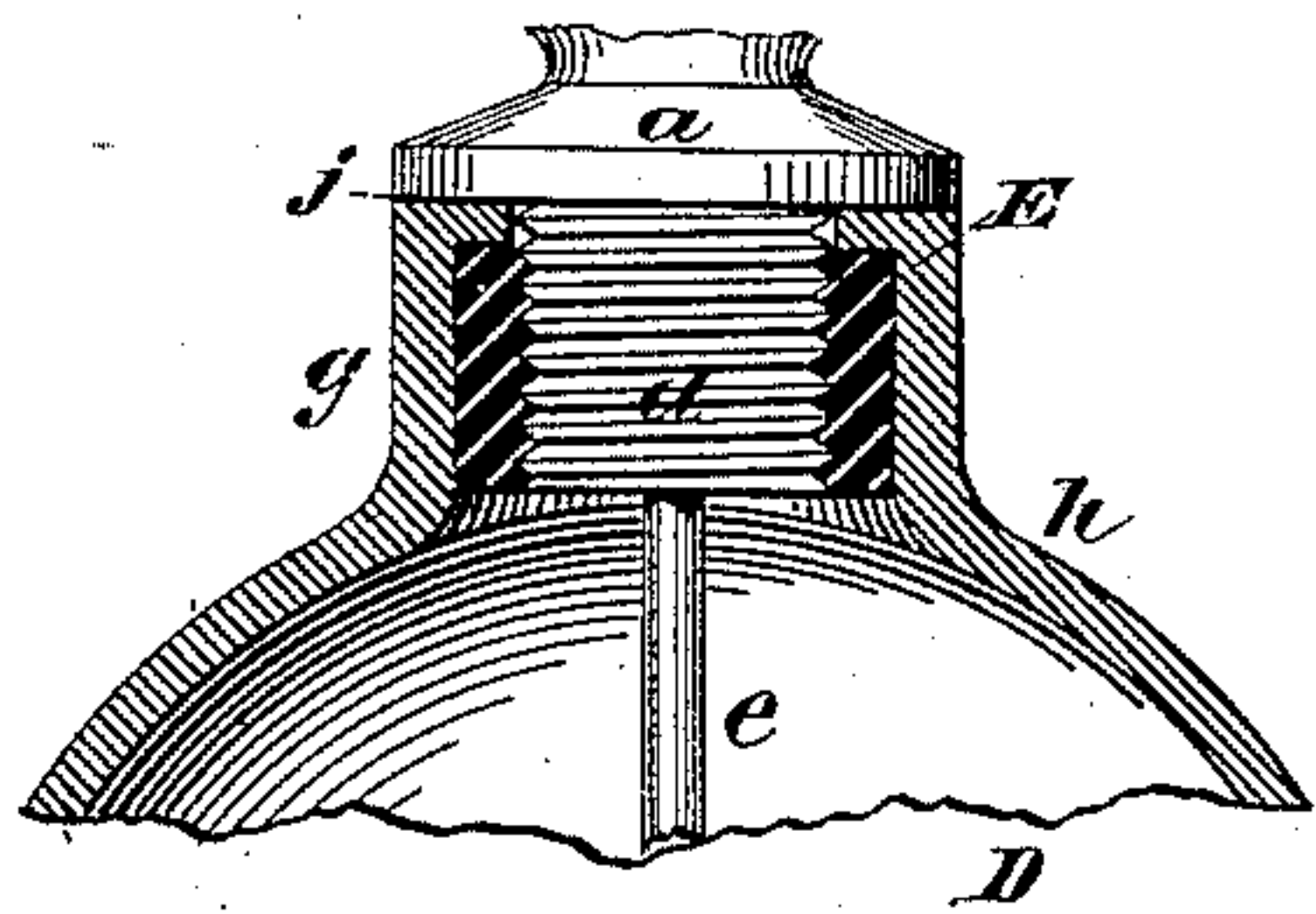
No. 387,370.

Patented Aug. 7, 1888.

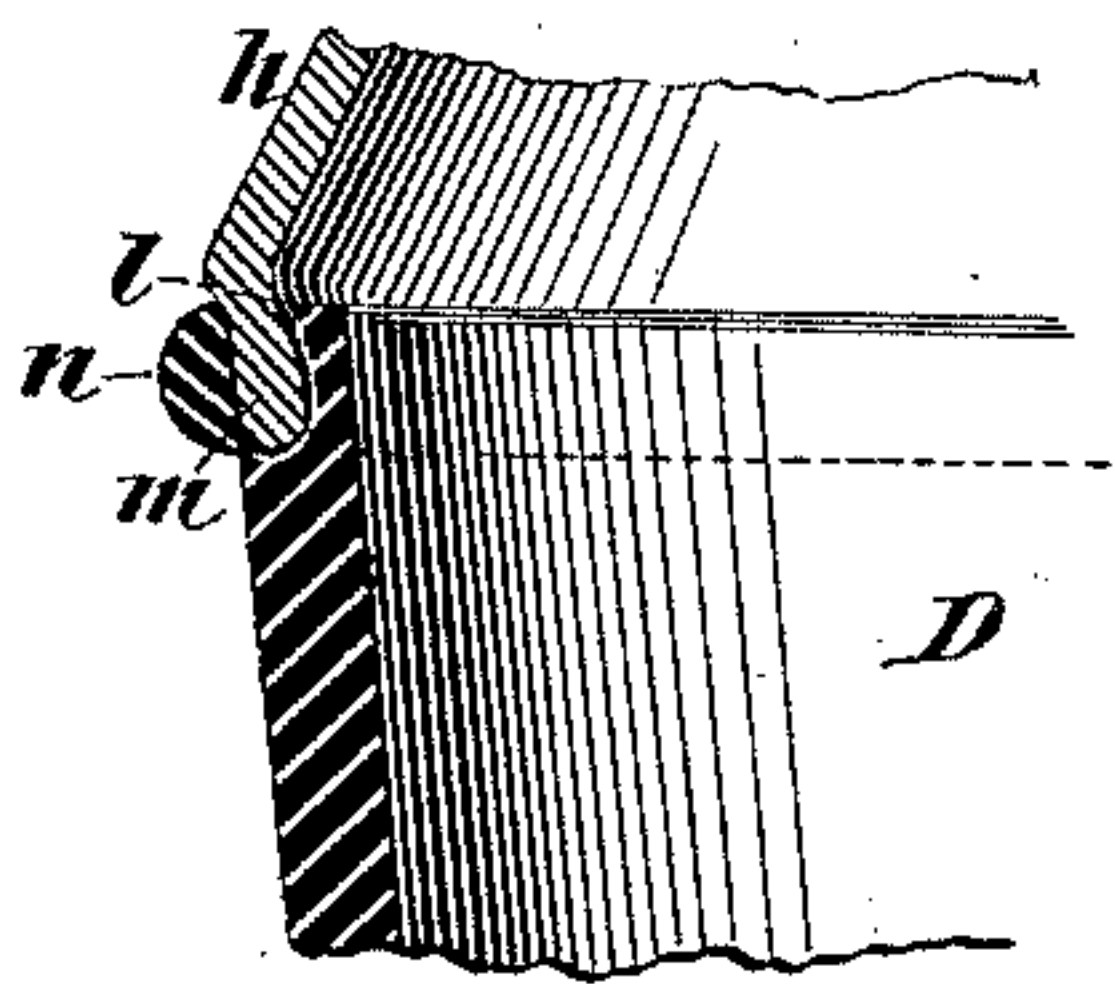
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

AUGUSTUS D. SCHLESINGER, OF COLLEGE POINT, ASSIGNOR TO THE INDIA RUBBER COMB COMPANY, OF NEW YORK, N. Y.

## ATOMIZER.

SPECIFICATION forming part of Letters Patent No. 387,370, dated August 7, 1888.

Application filed January 31, 1888. Serial No. 262,568. (Model.)

*To all whom it may concern:*

Be it known that I, AUGUSTUS D. SCHLESINGER, a resident of College Point, Queens county, New York, have invented an Improved Atomizer, of which the following is a specification.

The object of my invention is to provide an atomizer that shall give a continuous stream of spray; also, to provide certain new and useful improvements in the construction of atomizers.

The invention consists in the details of improvement, that are more fully hereinafter set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical cross-section through my improved liquid-reservoir, showing the compression-bulb and pipes in elevation. Fig. 2 is a vertical cross-section, enlarged, of the upper portion of my improved liquid-reservoir, containing a stopper; and Fig. 3 is an enlarged detail section of a portion of my improved reservoir.

In the accompanying drawings, the letter D represents the liquid-reservoir of an atomizer. Into this reservoir dips the pipe *e* of the ordinary or suitable contrivance for producing the spray and for ejecting the same. The pipe *e*, for connection with the vessel D, carries a threaded or tapering stopper, *d*, which is externally flanged, as at *a*. The bulb A, pipe *b*, nozzle *f*, stopper *d*, flange *a*, and pipe *e* are all of well-known or suitable construction, and not part of my invention. The reservoir D, I prefer to construct with an expansive upper portion, *h*, and a rigid base portion, *i*; but, if desired, the upper portion may be rigid and the lower or any other portion elastic. The expansive upper portion, *h*, I make of quite elastic rubber or analogous substance, while the rigid base I prefer to construct of glass, so that the quantity of liquid contained in the reservoir can readily be seen; but for some purposes the base *i* may be made of hard rubber, or the like. By making the reservoir D expansive I cause it to be distended whenever the bulb A is compressed, and to thereupon contract and help eject the spray, thus securing a continuous flow of spray.

I will now describe how I adapt the flexible

part of the vessel for connection with the stopper *d*.

In the rubber neck *g* of the vessel D, before it is vulcanized, I place a hard-rubber socket, E, and I cover the outer end of this socket E also with unvulcanized rubber, as at *j*. I then vulcanize the rubber, which sets the neck *g* to the socket, the parts thereby becoming connected in a substantially homogeneous mass. The portion *j* of the neck *g* is now in the form of a washer or flange over the outer end of the socket E. When the stopper *d* is screwed into the socket E, the flange *a* will be pressed against the flange or washer *j* over the socket E, thereby forming a tight joint.

By the above construction I produce an expansible liquid-reservoir that has but one opening for the ingress and egress of the liquid, thereby making a compact reservoir. By merely removing the stopper *d* and pipe *e* the reservoir may be readily filled.

I have this day made application for a patent for the process herein shown of securing sockets in rubber pipes or necks, Serial No. 262,518.

I will now describe how I connect the upper expansive portion, *h*, of the reservoir D to the rigid base *i*. For this purpose I provide the upper part of said base *i* with an annular groove or recess, *l*. The lower edge, *m*, of the upper expansive portion, *h*, of the reservoir is now drawn over the upper part of the base *i*, so as to enter the annular groove *l*. Suitable cement may be placed in the groove *l*, if preferred, to cause the rubber part *h* to adhere to the base.

*n* is a hard-rubber ring placed over the lower part, *m*, of the expansive portion *h* of the reservoir to hold the part *m* firmly in the groove *l*. This ring, before placing in position, I heat to cause it to expand. I now place it over the lower part of the soft-rubber portion *h* and allow it to cool thereon. As the ring cools, it will shrink and force the part *m* of the flexible portion *h* of the reservoir tightly into the groove *l*. By this means I make a firm and lasting connection of the parts and one of pleasing appearance. Instead of the groove *l*, a rib may be used.

Having now described my invention, what I claim is—



1. The liquid-reservoir D, consisting of the  
expansible top *h*, having a single neck, *g*, for  
the ingress and egress of liquid to the reser-  
voir, and the rigid base *i*, for containing the  
5 liquid, and to which the expansible top *h* is  
immovably secured, combined with the rigid  
ring E in said neck *g*, substantially as herein  
shown and described.

2. In an atomizer, the rigid base *i* and ex-  
10 pansible top *h*, immovably secured thereto,  
said parts forming a liquid-reservoir, said ex-  
pansible top *h* having a single neck, *g*, for the  
ingress and egress of liquid to the reservoir,  
and a rigid ring, E, in said neck *g*, combined  
15 with the pipe *f*, having the enlargement *d*, that  
fits the ring E securely, pipe *b*, and bulb A,  
all arranged substantially as herein shown and  
described.

3. The soft-rubber neck or pipe *g*, having in-  
wardly extending flange *j*, combined and in- 20  
timately united into a substantially homoge-  
neous mass with the hard-rubber socket E, sub-  
stantially as described.

4. In an expansible liquid-reservoir, the  
rigid vessel *i*, combined with the expansive 25  
top *h* and hard-rubber ring *n*, that is shrunk  
upon the part *i*, to hold said parts together and  
form them into a single vessel, substantially  
as herein shown and described.

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Witnesses:

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