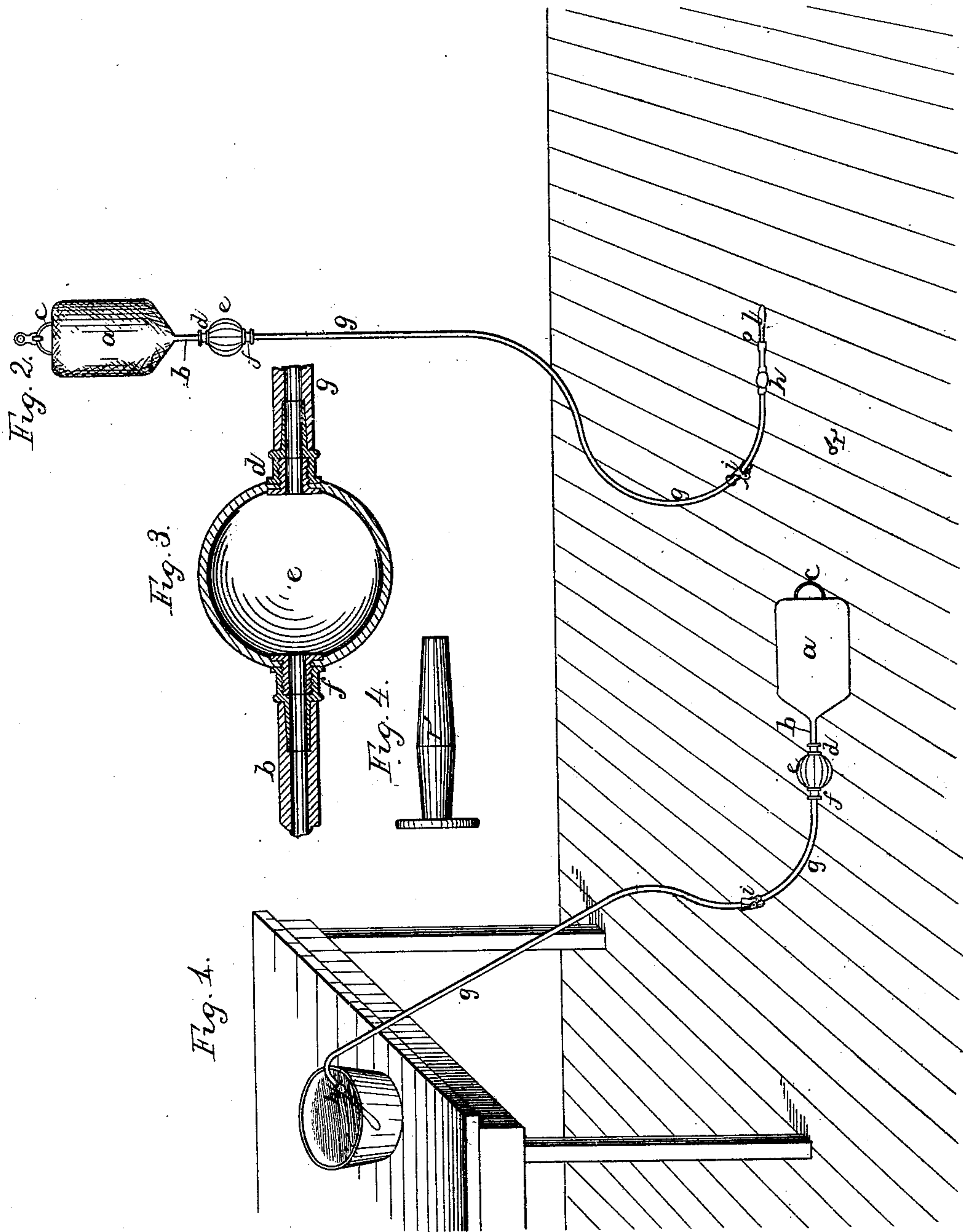


M. MATTSON.
Water-Bag Syringe.

No. 218,449.

Patented Aug. 12, 1879.



Witnesses:

J. W. Garner
W. S. D. Haines

Inventor:
Morris Mattson,
per
F. A. Lehmann,
att'y.

UNITED STATES PATENT OFFICE.

MORRIS MATTSON, OF NEW YORK, N. Y.

IMPROVEMENT IN WATER-BAG SYRINGES.

Specification forming part of Letters Patent No. **218,449**, dated August 12, 1879; application filed April 10, 1879.

To all whom it may concern:

Be it known that I, MORRIS MATTSON, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Water-Bags; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in water-bags for foot-warmers and syringes; and it consists in attaching to the water-bag, made of any suitable material, a compressible bulb and long rubber tube, as will be more fully described hereinafter, whereby the bag is filled to its utmost capacity or any desired degree with hot or cold water entirely by atmospheric pressure, and in a very short time.

By this means the trouble, time, and danger of filling a bag with hot water are done away with, as it is only necessary to have the hot water in any convenient vessel, into which the end of the tube is dropped, and then, after the air has been expelled from the bulb and tube, the water is at once forced by atmospheric pressure into the bag.

The accompanying drawings represent my invention.

a represents the water-bag, which is provided with the tube *b* at one end, and the handle *c* at the other, for carrying the bag or suspending it from a nail or hook. The bag *a* may be made of cloth coated with rubber, or of sheets of rubber without the presence of the cloth; but the rubber alone is much to be preferred, for the bag is then distensible, and will yield to the pressure of the atmosphere in the process of being filled. A rubber bag of a given size will hold much more water, either hot or cold, than a larger bag made of cloth and covered with rubber, for the latter is not distensible, and hence not so desirable.

Connected to the bag *a* by means of the tube *b* and a rigid hollow plug, *d*, is an expandible bulb, *e*, of any desired size. At the opposite end of this bulb there is another rigid plug, *f*, which connects the bulb to the rubber tube *g*. This tube *g* may be of any length desired, and is provided with a metallic sinker,

h, near its outer end, so as to hold this end down in the water in the vessel from which the bag is being filled. In order to regulate the passage of water through this tube, either to or from the bag, a suitable cut-off or tube-compressor, *i*, is passed over the tube, by means of which the flow of water can be instantly stopped whenever so desired. An injecting-tube, *l*, may be connected to the end of the tube *g* at *o*, when so desired. When the bag has been filled, and it is desired to disconnect the bulb and tube *g*, the tube *b* may be closed by the metal plug *r*.

The operation is as follows: The bag *a* is connected to the bulb *e* and tube *g*, and the outer end of the tube is placed in a vessel of hot or cold water on a table or other elevated place. The tube *b* is compressed between the fingers of one hand, so as to prevent the passage of air into the bag, and the bulb is compressed between the fingers of the other hand, so as to expel the air from both bulb and tube *g*. Through the partial vacuum thus produced in the tube, the water will instantly flow through it into the bag, filling it to distension in about a minute. As soon as the bag is filled to any desired extent the tube-compressor *i* is closed, and then the water cannot make its escape.

When filled with warm water, the bag may be used as a foot-warmer by placing it under the bed-clothes at the foot of the bed, the long tube, *g*, being dropped down on the floor out of the way. Should the tube be objected to, it may be disconnected, and the tube *b* closed by the metal plug *r*, when the bag may be applied to the feet or any part of the body.

To use the bag as a syringe, it is filled with water through the tube and bulb, and then the compressor *i* is closed. The injecting-tube *l* is inserted in the outer end of the tube *g*, and then the bag *a* is suspended by its handle *c* from a nail or hook, when it is ready for the injection as soon as the tube-compressor is opened.

I am aware that it is not new to start a siphonic flow by means of a bulb; and that it is not new to empty a water-bag by starting an outward flow from it by means of a bulb.

I am also aware that water-bags have been filled by a siphonic flow, the flow being started

by pulling the sides of the bag apart, so as to produce a partial vacuum.

Having thus described my invention, I claim—

The combination of a water-bag, *a*, having the tube *b* at one end, with the valveless bulb *e*, located near the bag, and connected to the tube *b* at one end and the tube *g* at the other, and a tube-clamp to stop the flow of the water from the bag, the bulb serving to exhaust the

air and start a siphonic flow into the bag, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of April, 1879.

MORRIS MATTSON.

Witnesses:

W. S. D. HAINES,

J. W. GARNER.