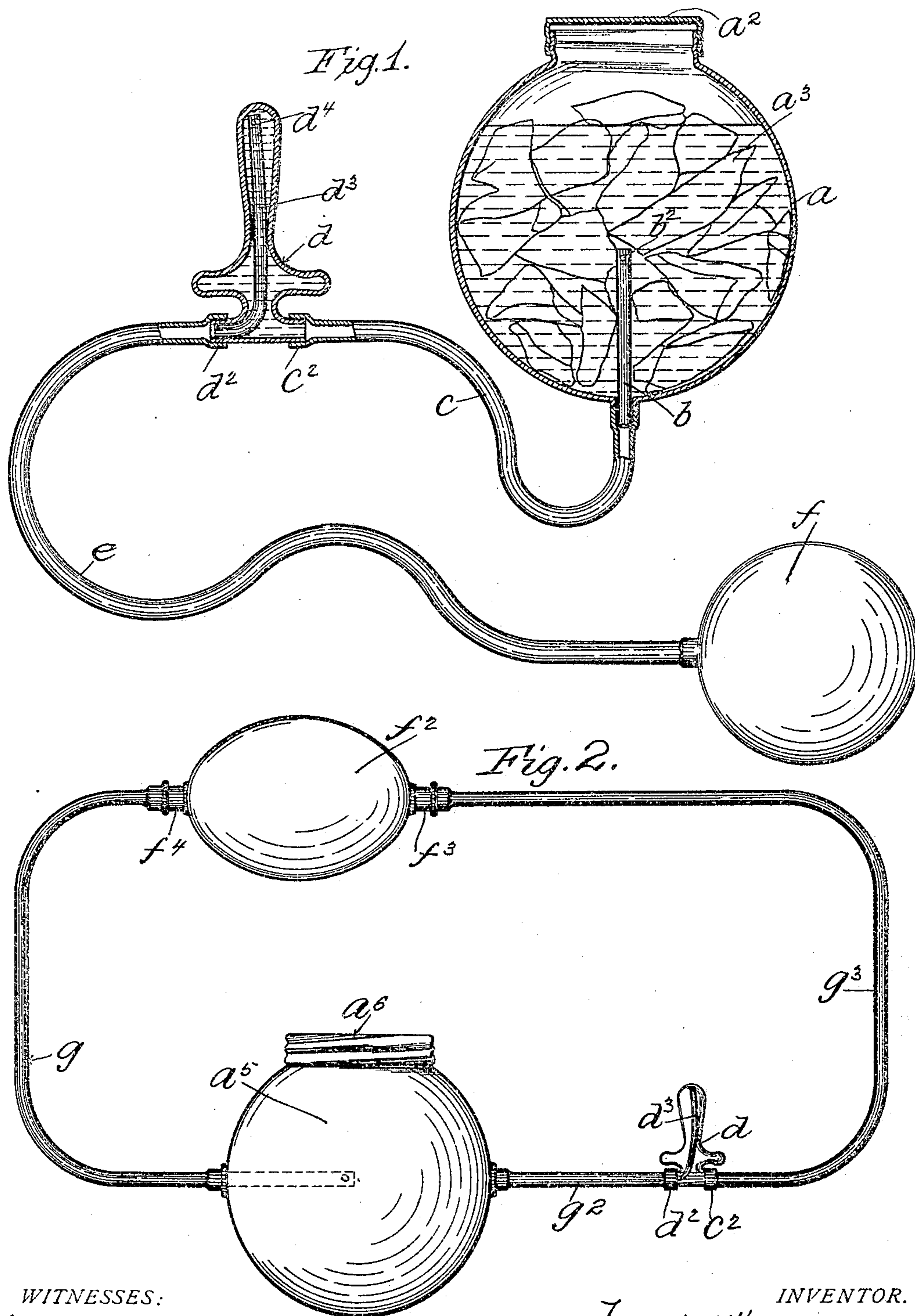


No. 787,920.

PATENTED APR. 25, 1905.

F. HOFMANN.
MEDICAL APPARATUS.
APPLICATION FILED MAR. 31, 1904.



WITNESSES:
Clarence K. Hulston
F. B. Roy.

INVENTOR.
Frederick R. Hofmann
BY
James Harold Warner
ATTORNEY.

UNITED STATES PATENT OFFICE.

FREDERICK HOFMANN, OF NEW YORK, N. Y.

MEDICAL APPARATUS.

SPECIFICATION forming part of Letters Patent No. 787,920, dated April 25, 1905.

Application filed March 31, 1904. Serial No. 200,934.

To all whom it may concern:

Be it known that I, FREDERICK HOFMANN, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Medical Apparatus, of which the following is a specification.

My invention relates to improvements in cooling or warming devices for medicinal uses, and is particularly adapted to be used for relieving the pain in the rectum incidental to piles and for curing that disease or for any other use where a warm or cold application may be desired.

The object of my invention is to provide a device of the character described which is simple in construction and operation and effective in use. I attain this object by the device illustrated in the accompanying drawings, in which—

Figure 1 is a general side view of my device, shown partly in section; and Fig. 2 is a view showing a slight modification, which will be hereinafter explained.

In the practice of my invention I provide a receptacle *a*, made of any suitable material, but preferably of some rigid material provided with a cap *a*² and adapted to contain iced water *a*³. The said receptacle *a* is provided with an internally-extending tube *b*, secured thereto and having perforations *b*² near its upper end. Connected to the outer extremity of the tube *b* is a tube or hose *c*, which in turn is connected at *c*² to a hollow member *d*, which may be made of any suitable material. At *d*² the hollow member *d* connects with a tube or hose *e*, which in turn connects with a bulb *f*. The tube *e* leads into a spout or nozzle *d*³, which is fastened to the hollow member *d* at *d*² and extends into the said hollow member almost to the top of same and is provided with the openings *d*⁴.

To prepare my device for use, the receptacle *a* is filled with a cooling or warming liquid to a point above the level of the end of the tube *b*. The bulb *f* is compressed to drive the air out of the hollow member *d* and its connecting-tube *c*. The bulb *f* is then allowed to expand or assume its normal form, whereupon the part of the liquid in the re-

ceptacle *a* will flow back through the outlet-tube *b* and tube *c* into the hollow member *d*. The bulb *f* has a capacity sufficient to drive the air from the hollow member *d* and its connected tube *c* and a portion of the tube *e*; but by compressing the said bulb several times and allowing it to expand fully each time the entire tube *e* and bulb *f* will be filled with the liquid. When this has been done, the level of the liquid in the receptacle *a* must be above the end of the tube *b*. The cap *a* is second in position at this stage, and the device is ready for use and may be used in the following manner: The said member *d* is inserted in the rectum or placed at any other point where application is desired, and by the constant contraction and relaxation of the bulb *f* the water in the tubes and the hollow member is driven back and forth between the said member and the receptacle, thereby constantly keeping the said member at a minimum temperature, easing the pain at the afflicted parts, and eventually effecting a cure.

In Fig. 1 I have shown a device in which the circulation established is an alternating one—that is, by contracting or compressing the bulb *f* the water is forced through the tube *e* and spout *d*³ into the hollow member *d*, along through the tube *c*, and into the receptacle *a*. When the pressure upon the bulb is relaxed, the flow of the liquid will be in the opposite direction, this action being constant as long as the bulb is continuously operated. The outer surface of the hollow member will be of a minimum or maximum degree of temperature, depending upon the temperature of the liquid in the receptacle *a*.

In Fig. 2 I show a modification wherein I provide a continuous circulation maintained in the same direction. In this form I provide a receptacle *a*⁵, having a cap *h*⁶, and which is connected, by means of the tube *g*, to the bulb *f*². The receptacle *a* is also connected, by means of the tube *g*², to the hollow member *d*, which in turn is connected, by means of the tube *g*³, to the bulb *f*². The said bulb *f*² is provided with inlet and outlet valves *f*⁴ and *f*³. By the constant compression and expansion of the bulb *f*² a continuous flow of liquid is established through the device in either

direction, depending upon the position of the valves f^3 and f^4 with respect to the tubes g^3 and g .

It is obvious that I may embody various other modifications without departing from the spirit of my invention, and I do not, therefore, wish to be understood as limiting myself to the particular construction shown.

When hot applications are desired, the receptacle a is filled with hot water instead of ice and water, and by means of the forced circulation the hollow member may be brought to the desired temperature.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a medical device, a compressible bulb, a tube leading therefrom, a hollow tip attached to said tube, an inner spout in said tip connected with said tube, a second tube leading from said tip to a receptacle, constructed to contain water and ice, the whole apparatus

adapted to maintain a flow of the liquid about the said tip in one direction and its return about the said tip in the opposite direction, without diminution of the supply of liquid used.

2. In a medical device the combination of a closed air-tight receptacle adapted to contain water and ice, a tube leading therefrom, a hollow non-flexible tip attached to said tube, a flexible bulb, and a tube leading from said bulb to said non-flexible tip, a spout leading from the bulb-tube into and up into the interior of the said hollow tip.

Signed at New York, in the county of New York and State of New York, this 30th-day of March, A. D. 1904.

FREDERICK HOFMANN.

Witnesses:

S. S. SUGAR,

WM. ROTCHFORD.