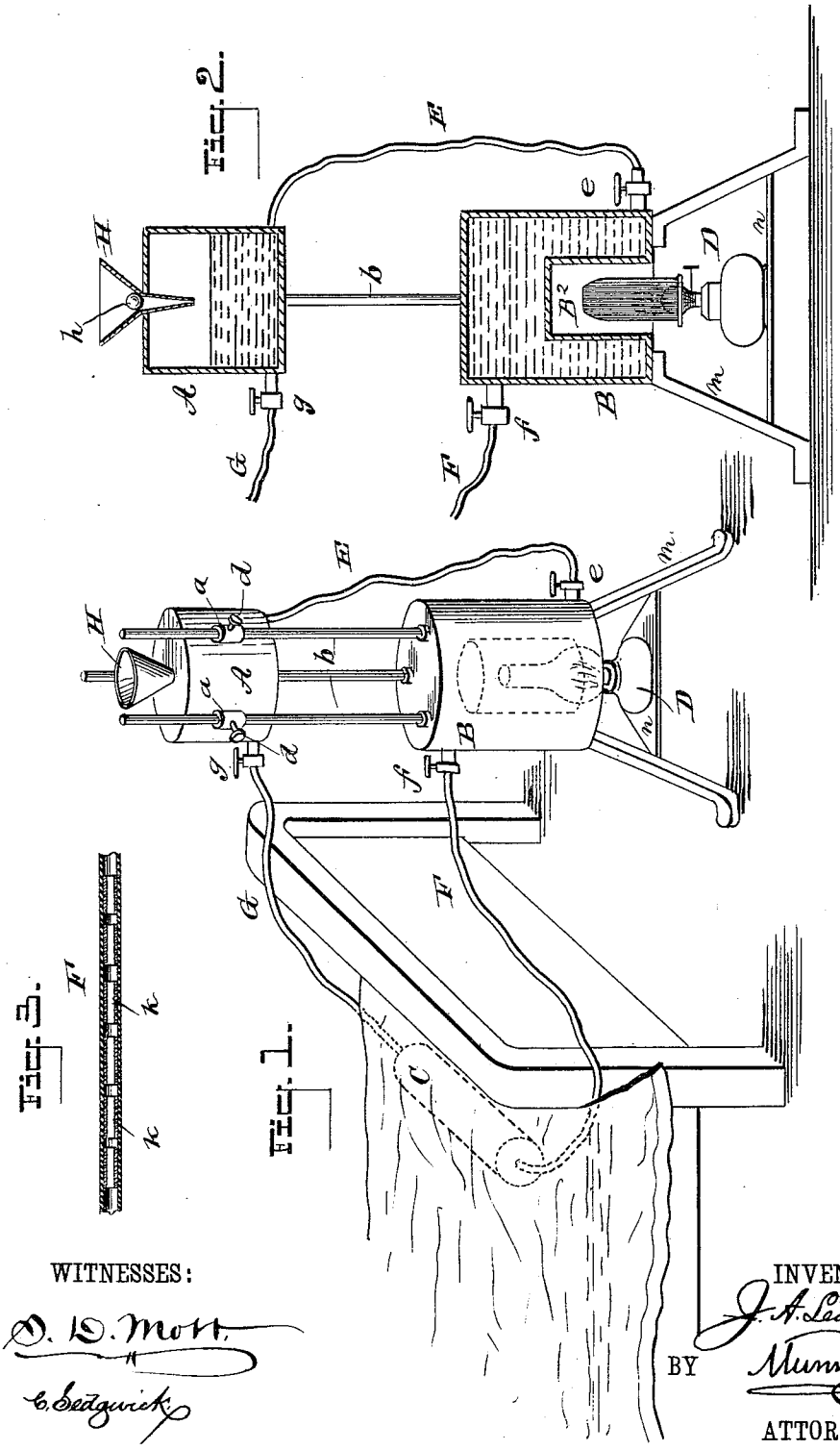
(No Model.)

J. A. LEWIS.

FOOT WARMING APPARATUS FOR BEDS.

No. 385,865. Patented July 10, 1888.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES A. LEWIS, OF ST. CLAIRSVILLE, OHIO.

FOOT-WARMING APPARATUS FOR BEDS.

SPECIFICATION forming part of Letters Patent No. 385,865, dated July 10, 1888.

Application filed October 31, 1887. Serial No. 253,858. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. LEWIS, of St. Clairsville, in the county of Belmont and State of Ohio, have invented a new and improved Foot-Warming Apparatus for Beds, of which the following is a full, clear, and exact description.

The object of this invention is to provide an apparatus which will contain a supply of water or other suitable liquid, and permit and secure a heating of said water, &c., and a circulation thereof through an inclosed warming chamber or casing adapted to be disposed at the foot of the bed, insuring a continuous operation thereof without care or attention; and the invention consists in certain constructions and combinations of parts for operation and effect, all substantially as will hereinafter more fully appear, and be pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures—

Figure 1 being a perspective view illustrating the foot-warming apparatus in its disposition in relation to the foot of a bed. Fig. 2 is a central vertical section through the supply and heating tanks of the apparatus; and Fig. 3 is an enlarged detail view of a portion of one of the flexible liquid-conduits, to be hereinafter referred to.

In the foot-warming apparatus I employ three separate receptacles or liquid-tanks—respectively a liquid receiving or supply tank, A, a heating-vessel, B, and a foot-warming tank, C—and the tank A rests above and is adjustably supported from the tank B by means of its guide clasps *a*, embracing and sliding on the vertical guide, and support-rods *b*, projecting above and upwardly from the tank A and held in place thereon by the set-screws *d*.

The heating-tank, as shown, is of cylindrical form, and it has an inner and upwardly-extending recess, B^2, or rabbeted formation in its under side, within which a lamp, D, or other heater may be disposed, such rabbeted construction securing increased heating-surface. From the tank A a hose, E, or other flexible or suitable conduit, is passed to the heating-receptacle B, preferably entering same at its lower end, and from said heating-tank B a hose or flexible conduit, F, passes to one end of the foot-warming receptacle C, which is indicated in Fig. 1 as of an inclosed cylindrical form, intended when in use to be wrapped with a woolen or other cloth, and from the opposite end portion of said casing C another similar hose-connection, G, is employed extending to the supply-tank A, a free circulation being secured and permitted in and between said receptacles by and through said tubes E F G, such flow and circulation being regulated by suitable cocks or valves, *e f g*, provided at each hose-passage.

If desired, check-valves may be employed in any or all of the passages E F G, whereby the heated water from the heating-tank may always pass to enter the said foot-warming tank and be prevented from any return flow directly to the said heating-tank, and to freely pass from said foot-warming tank to the supply-receptacle A without any return flow to the said receptacle being permitted, and also to permit the passage of the liquid from the tank A to the tank B, preventing any passage or back-pressure of such liquid directly from the heating-receptacle to the tank C.

H represents a funnel-shaped passage leading into the receptacle C, closed by a removable ball-valve or spherical stopper, H, through which to supply the water to the apparatus, and such water when so entered then passes through the conduit E to and through the heating-tank, where it becomes sufficiently heated in the transit, and thence passes to and through the foot-warmer receptacle C, returning to the supply-receptacle A to again circulate as described, the head or water pressure securing the circulation or flow, which is further insured and accelerated by the heating thereof.

The flexible tubular conduits F G, at their portions toward their connections with the foot-warmer casing, are preferably provided with short internal re-enforcing tubular sections *k k*, as seen in Fig. 3, arranged at suitable intervals in the hose-passage, whereby any pressure upon such portions of the hose, as by the weight of the bed-clothing, will not compress the passages to prevent or retard the circulation of the heated water.

The heating-tank B is to rest upon any suitable support, as legs *m*, and a bracket, *n*, is shown as being supported by said legs on which the heating-lamp may rest, and it is preferred to provide a lamp-chimney of metal or other opaque or non-transparent material that the room may not be lighted.

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

1. The combination, with a supply-tank and a heating-tank having a liquid-conduit between them, of an inclosed foot-warmer tank, and a liquid-conduit leading from said heater-tank to said foot-warmer tank, and a liquid-conduit leading from said foot-warmer tank to said supply-tank, substantially as and for the purpose described.

2. The combination, with a supply-tank and a heater-tank having a liquid-conduit between them, of an inclosed foot-warmer tank, and a flexible liquid conduit leading from said heater-tank to said foot-warmer tank, and a flexible liquid-conduit leading from said foot-warmer tank to said supply-tank, substantially as and for the purpose described.

3. The combination, with a supply-tank and a heater-tank having a liquid-conduit, E, between them, of an inclosed foot-warmer tank, and a flexible liquid-conduit, F, leading from said heater-tank to said foot-warmer tank, and a flexible liquid-conduit, G, leading from said foot-warmer tank to said supply-tank, one or more of said liquid-conduits being provided with a regulating-valve, substantially as and for the purpose described.

4. The combination, with a supply-tank and a heater-tank having a liquid-conduit, E, between them, of an inclosed foot-warmer tank and flexible liquid-conduits F G, provided with the rigid tubular sections *k*, leading from said heater to said warmer and from said warmer to said supply-tank, substantially as and for the purpose described.

5. The combination, with a heater-tank, B, having vertical supporting-rods *b*, and a supply-tank, A, having guide clasps *a* and set-screws *d*, and a flexible liquid-conduit, E, between said tanks, of an inclosed foot-warmer tank, C, and liquid-conduits F G, leading from said heater to said warmer and from said warmer to said supply-tank, substantially as and for the purpose described.

6. The combination, with a supply-tank, A, and a heater-tank, B, having a recessed bottom, B^2, and a liquid-conduit between said tanks, of an inclosed foot-warmer tank, C, and liquid-conduits F G, leading from said heater to said warmer and from said warmer to said supply-tank, substantially as and for the purpose described.

7. The combination, with a supply-tank, A, having a funnel-shaped inlet, H, the heater-tank B, and a liquid-conduit between said tanks, of an inclosed foot-warmer tank, C, and liquid-conduits F G, leading from said heater to said warmer and from said warmer to said supply-tank, substantially as and for the purpose described.

8. The combination, with a supply-tank, A, having a funnel-shaped inlet, H, and a spherical stopper, *h*, and the heater-tank, and a liquid-conduit between said tanks, of an inclosed foot-warmer tank, C, and liquid-conduits F G, leading from said heater to said warmer and from said warmer to said supply-tank, substantially as and for the purpose described.

9. The combination, with a supply-tank, A, a heater-tank, B, and a foot-warmer tank, C, a liquid-conduit between said supply-tank and heater-tank, a liquid-conduit between said heater and foot-warmer tanks, and a liquid-conduit between said warmer-tank and supply-tank, of a lamp located under said heater-tank, substantially as and for the purpose described.

10. The combination, with a supply-tank, A, a heater-tank, B, a foot-warmer tank, C, and a liquid-conduit between said supply and heater tanks, a liquid-conduit between said heater and foot-warmer tanks, and a liquid-conduit between said foot-warmer and supply tanks, of a lamp provided with a non-transparent chimney located under said heater-tank, substantially as and for the purpose described.

11. The combination, with a heater-tank, B, having vertical supporting-rods *b*, a supply-tank, A, having guide-clasps *a*, and set-screws *d*, the funnel-shaped inlet H, and spherical stopper *h*, the foot-warmer tank C, and the flexible conduits E F G, respectively leading from said supply-tank to the heater-tank, from the heater-tank to the foot-warmer tank, and from the foot-warmer tank to the supply-tank, each conduit being provided with a valve, and the said conduits F and G provided with the rigid tubular sections *k k*, of a lamp located under said heater-tank, substantially as and for the purposes described.

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Witnesses:
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