

(No Model.)

C. W. SPURR, Jr.
HOT APPLIANCE.

No. 602,810.

Patented Apr. 19, 1898.

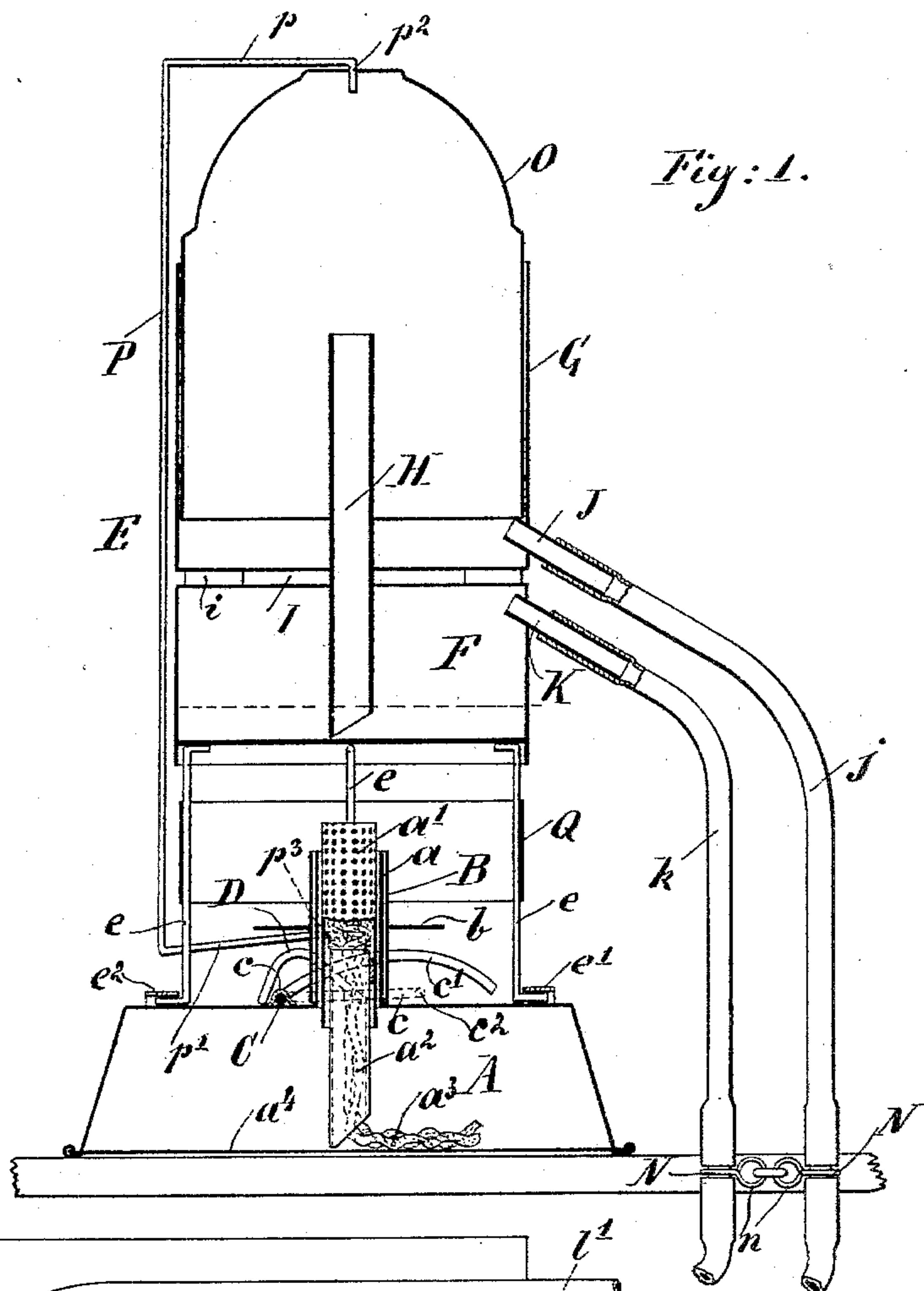
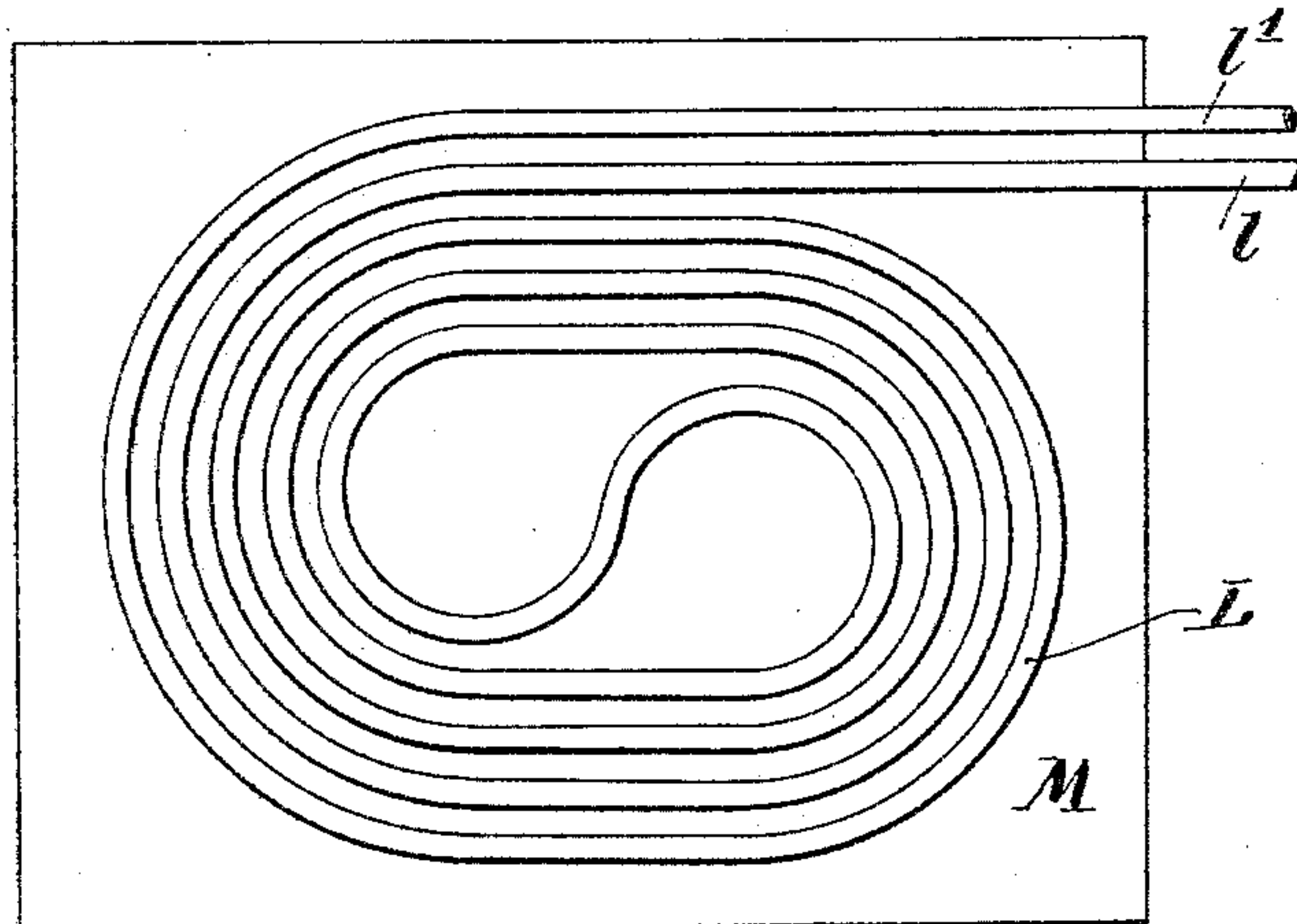


Fig: 1.



Witnesses
L. P. Palumbo.
J. Kennedy.

Inventor
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By his Attorney J. W. Barker

UNITED STATES PATENT OFFICE.

CHARLES W. SPURR, JR., OF BROOKLYN, NEW YORK, ASSIGNOR TO THE
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HOT APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 602,810, dated April 19, 1898.

Application filed April 23, 1897. Serial No. 633,443. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. SPURR, Jr., a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Hot Appliances, of which the following is a full, clear, and exact specification.

My invention relates to hot-water appliances, and is more particularly adapted for local applications of heat to the human body.

The invention consists in the following construction and combination of parts, the patentable features of which are set forth in the claims.

In the drawings accompanying the application, Figure 1 represents a vertical sectional view of my apparatus, and Fig. 2 is a plan view of a coil of tubing forming a hot appliance and adapted to connect with the apparatus.

In said figures, A indicates a spirit-lamp, which also serves as a base or support for the rest of the apparatus. Said spirit-lamp has a burner-tube a , into which is loosely fitted a perforated cylinder a' , which in turn contains a tube a^2 , said tube a^2 being of a sufficient diameter to frictionally hold a wick a^3 , above which wick is placed a quantity of loose asbestos. The tube a^2 rests upon the bottom a^4 of lamp A, and its lower end is cut diagonally, as seen, or otherwise shaped to expose the wick to the spirit in the lamp.

B is a sleeve which fits loosely over burner-tube a and has a radial flange b , as seen. Said sleeve B is adapted to slide upon the burner-tube a to diminish the size of the flame.

C is a rod pivotally held upon the upper surface of lamp A by lug c , its inner end c' being bent, as seen, to bear against the under surface of flange b , so that when said rod C is turned by its handle c^2 the end portion c' serves to raise the sleeve B to the desired extent.

D indicates a piece of wire secured upon the lamp-surface and arranged to be in frictional contact with the bent end c' of rod C and serving to retain the rod C in the position to which it is turned.

E indicates a double-chambered vessel

mounted by legs e upon the lamp A, said legs being secured in the following manner, to wit: One of said legs, having a foot portion bent at right angles thereto, is engaged thereby in a lug e' , the opposite leg, which is similarly bent, being adapted to slip under and be held by a spring-clip e^2 , which is secured upon the lamp.

F G indicate, respectively, the lower and upper chambers of the vessel E. The chambers F G are connected together by tube H, which tube extends to the base of chamber F, where it is cut diagonally, as seen, to expose its interior, the upper end of said tube extending to within a short distance from the upper end of tube G. An air-space I exists between the chambers F and G, said chambers being more rigidly united by connecting-pieces i , which are secured against the upper surface of chamber F and the lower surface of chamber G.

J indicates an outlet-nozzle leading from chamber G, and K indicates an inlet-nozzle connected to chamber F. Short lengths of tubing $j k$ are connected, respectively, to the nozzles J K. L indicates a coil of tubing which is superimposed upon and secured to one side of a sheet of rubber M. The ends ll' of said tubing, which ends are of any suitable length, are arranged to be connected, respectively, with the pieces of tubing $j k$ by means of union N. Said unions consist of short lengths of rigid tubing having the loops n , whereby they may be secured by pinning, stitching, or otherwise to a table, bed-cloth, a table-cloth, or some other article adjacent to the user, the object of such connection being to prevent the movement of the user from operating to turn over the lamp and vessel.

O indicates a dome which is fitted loosely within the chamber G from its upper end, the said dome being arranged to rise with the accumulation of heated air therein.

P indicates a strip of wire bent right angularly at both ends to form the arms $p p'$. The end of the arm p is bent, as seen, to engage in a small aperture p^2 at the top of the dome O, and the end of the arm p' is formed into a yoke p^3 , which straddles the sleeve B beneath the flange b . By this arrangement as the

dome rises by the accumulation of hot air within the vessel the yoke p^3 is caused to move upwardly the sleeve B, thus diminishing the flame of the lamp and reducing the temperature. By this means vaporization is prevented and a uniform degree of temperature is maintained for any length of time.

Q indicates a band which is placed around the legs e in a plane with the flame of the lamp, thereby protecting said flame, but permitting the access of air thereto both below and above said band.

In the operation of my invention I first remove the dome O and then pour water into the chamber G, not permitting the water to enter the tube H. The water passes through outlet J and thence through the tubing, traversing the entire coil, and returning passes from the other end of the tubing through nozzle K and into the chamber F. The water within chamber F rises to approximately the point indicated by the dotted line, when the air-outlet is shut off by the closure of the lower end of tube H. The lamp should now be ignited, when the heat from the flame will expand the air in chamber F, and thus force the water in said chamber through tube H into chamber G, whereby the pressure is relieved in chamber F and a partial vacuum created, causing a fresh quota of air to enter chamber F through inlet K. This at once starts the circulation of hot water, which is maintained so long as heat is applied against chamber F. As before explained, if the heat should be too intense, so as to create an excessive pressure, the dome O will be raised thereby and the upward movement of the dome communicated through rod P and yoke p^3 to a flange b and sleeve B will raise the latter and thus diminish the flame.

Although I have described the special construction which I prefer to use in forming my said apparatus, I am aware that said construction may be modified in various details without departing from the spirit of my invention, and I do not wish to be limited by such special construction.

Having now described my invention, I declare that what I claim is—

1. In a hot-water appliance, the combination of an expansible water-chamber having an opening in its top, a burner beneath the same, a burner-regulator, a vertical connecting-rod having a lateral arm with a downward portion socketed in the expansion-chamber, and a lower arm engaging the burner-regulator.

2. In a hot-water appliance, the combination of a burner, a flanged burner-regulator adapted to slide vertically upon the burner, a frictional contact-piece located near the burner, and a regulator-rod journaled near the burner having an arm or end portion rigid therewith to engage both the regulator-flange and the frictional contact-piece.

3. In a hot-water appliance, the combination of an expansible water-chamber, a burner beneath the same, a flanged burner-regulator adapted to slide vertically upon the burner, a vertical connecting-rod socketed in the expansion-chamber at the top, and having a yoke at the bottom which straddles the burner-regulator beneath its flange.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of April, 1897.

CHAS. W. SPURR, JR.

Witnesses:

JNO. KING,

JEAN KENNEDY.