

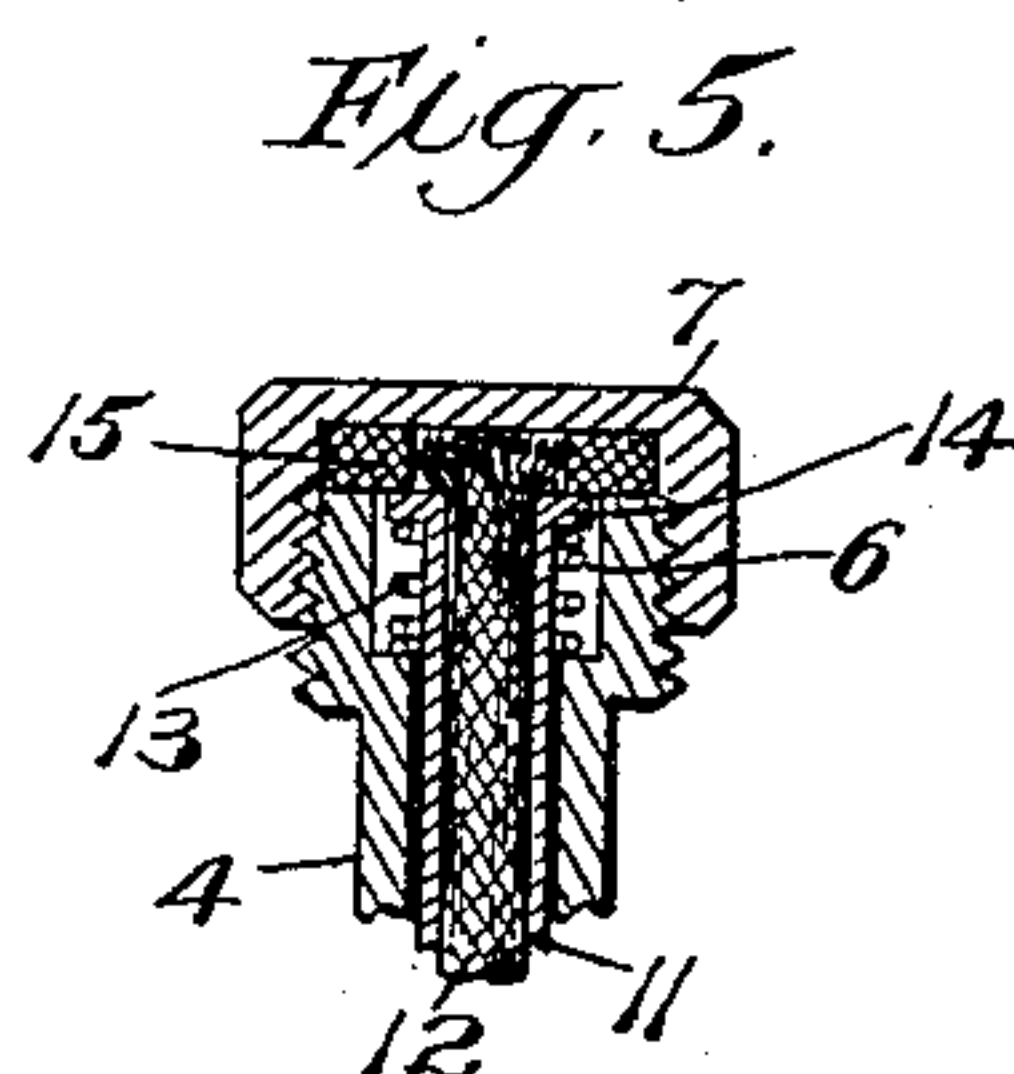
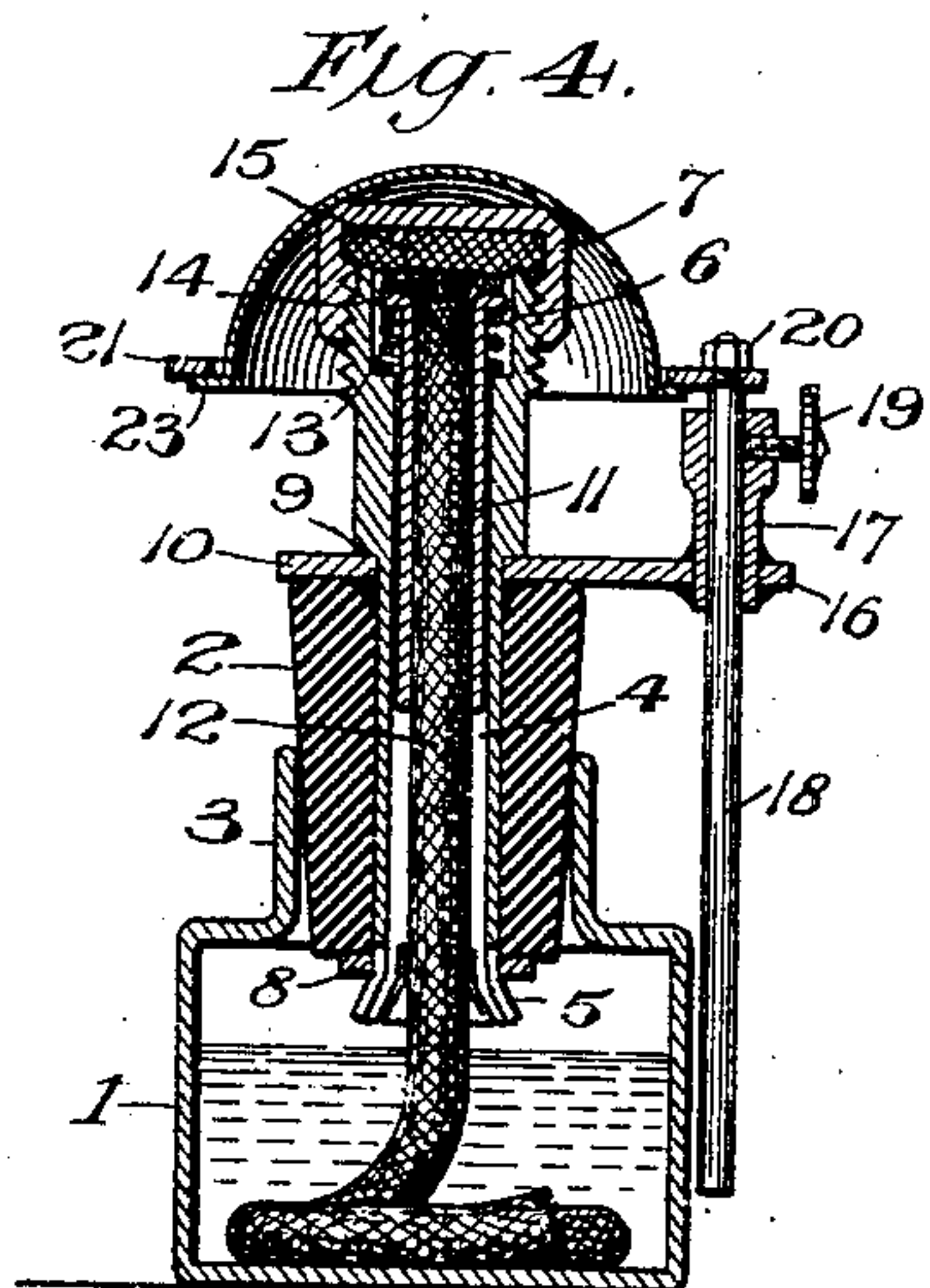
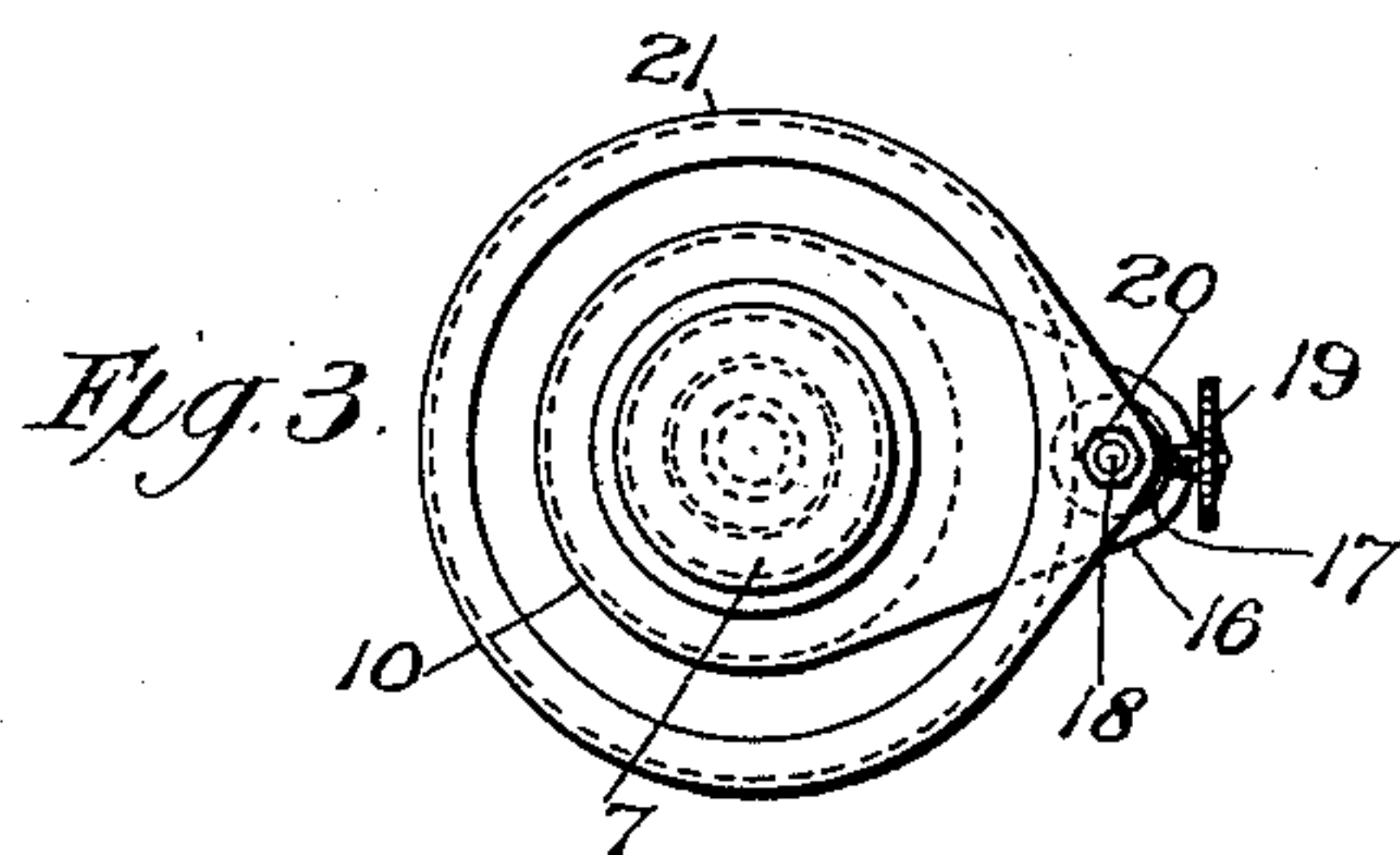
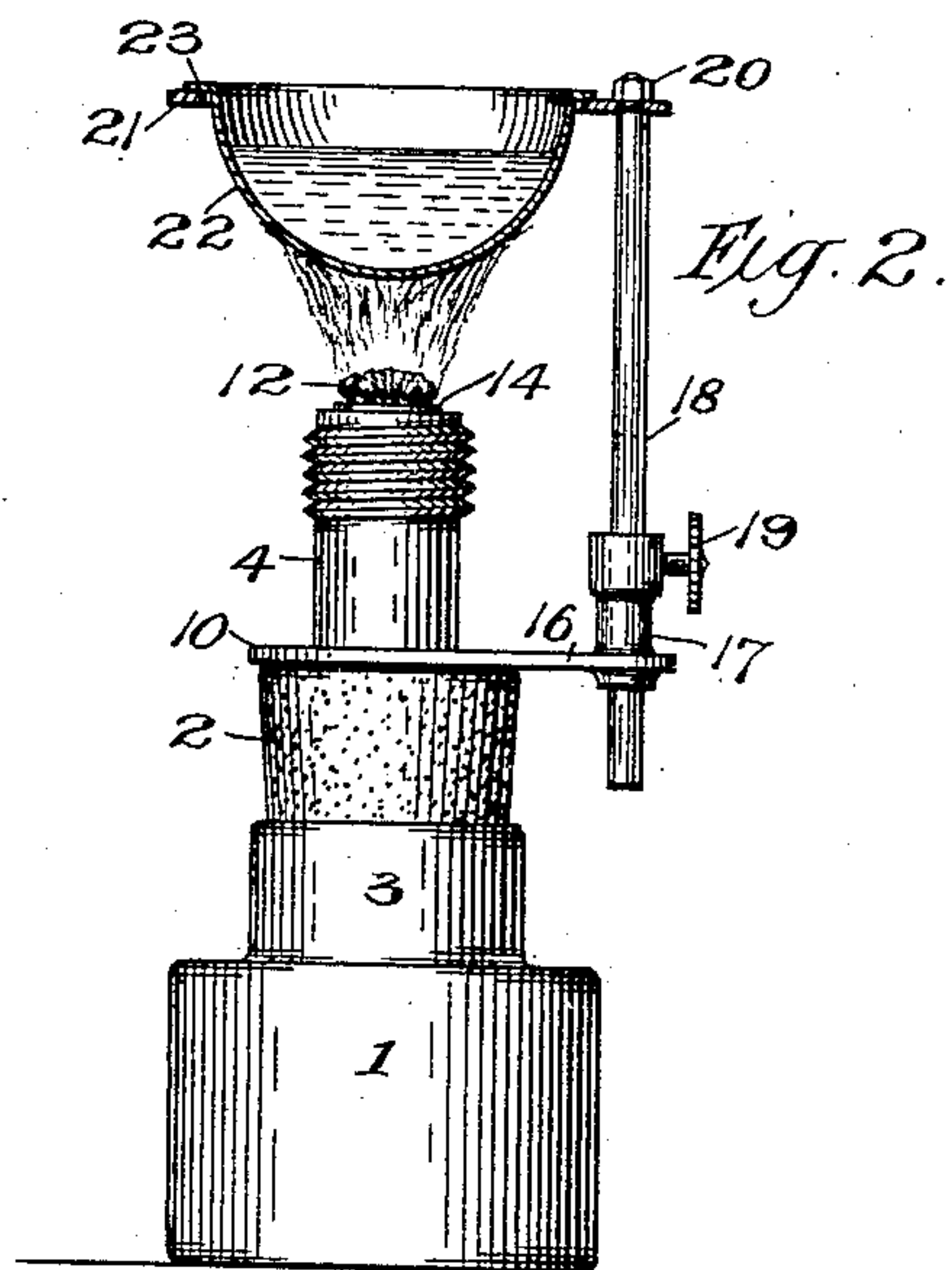
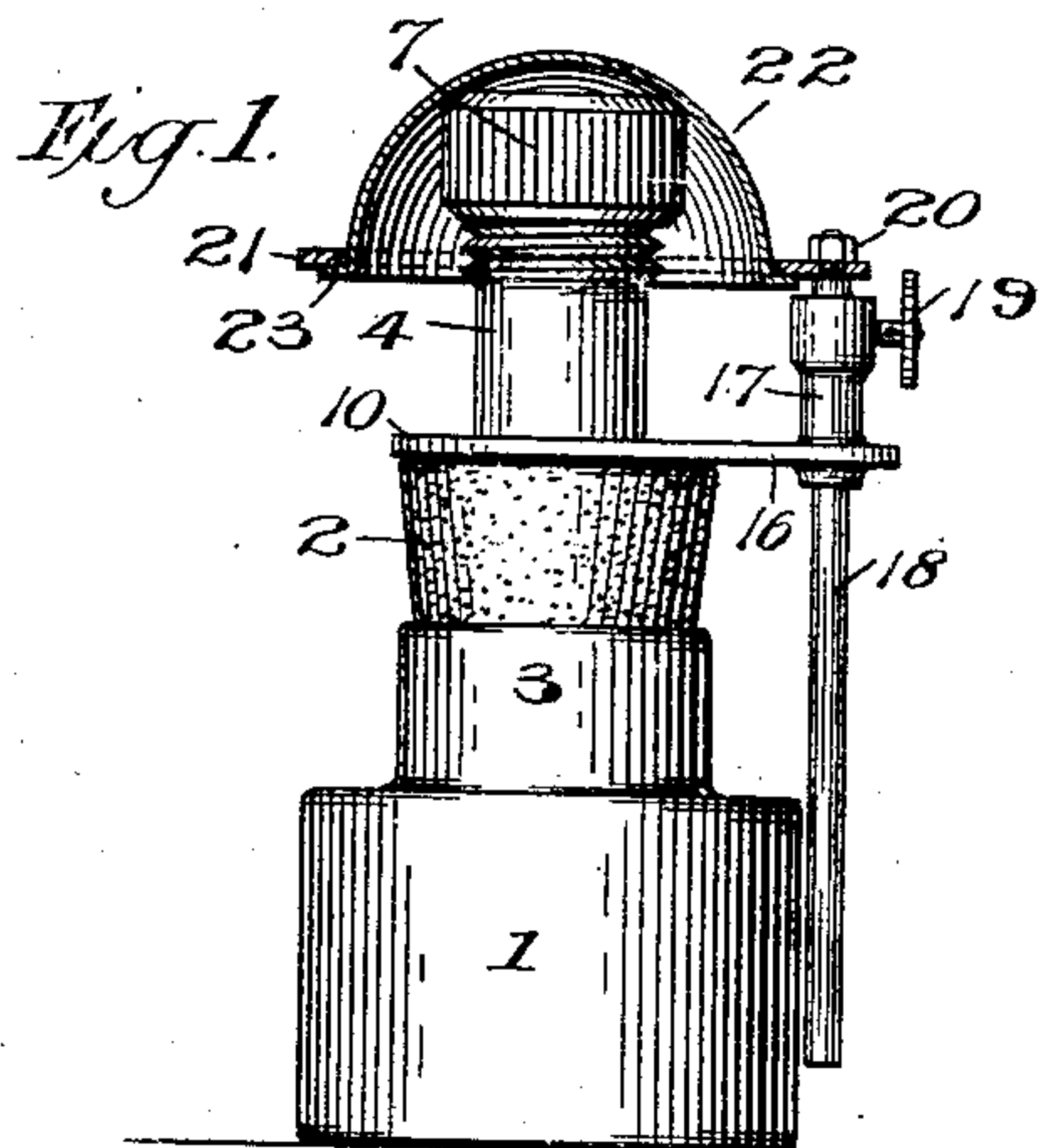
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SPIRIT LAMP.

APPLICATION FILED OCT. 4, 1907.

914,900.

Patented Mar. 9, 1909.



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# UNITED STATES PATENT OFFICE.

SAMUEL N. TURNER AND CHARLES F. A. LOCKE, OF NEW YORK, N. Y.

## SPIRIT-LAMP.

No. 914,900.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed October 4, 1907. Serial No. 395,937.

*To all whom it may concern:*

Be it known that we, SAMUEL N. TURNER, a citizen of the United States, and CHARLES F. A. LOCKE, a subject of the King of Great Britain, and both residents of the city, county, and State of New York, have invented certain new and useful Improvements in Spirit-Lamps, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to improvements in spirit lamps designed particularly for use in the sterilization of hypodermic solutions, needles used in giving hypodermic injections, etc. Many features of the present invention, however, are capable of general application wherever a portable spirit lamp of small size may be desired.

As a full understanding of the present invention can best be had from a detailed description of an organization embodying the same, such description will now be given, reference being had to the accompanying drawing, in which—

Figure 1 is an elevation, partly in section, of a spirit lamp embodying the present improvements. Fig. 2 is a similar view showing some of the parts in a different position. Fig. 3 is a plan view of the lamp. Fig. 4 is a vertical section thereof; and Fig. 5 is a vertical section of a portion of the lamp, illustrating a modification which will be hereinafter referred to.

Referring to said drawings, 1 represents the receptacle for the alcohol or other fluid to be used in the lamp, and 2 a plug of yielding material, preferably rubber, closely fitting into the neck 3 of the receptacle 1, said plug 2, serving as a closure for the receptacle 1 and also, as will hereinafter appear, carrying the wick and all the other parts of the lamp, except the fluid receptacle 1. In the plug 2 is centrally mounted a tube 4 of metal, the lower end of which projects below the lower end of the plug and is flared outwardly, as shown at 5 in Fig. 4, and the upper portion of which is provided with a central recess 6 for a purpose which will be hereinafter explained and also with an external screw thread for the reception of a closure or cap 7. The tube 4 is held in position on the plug 2 by a collar 8 encircling the lower flaring end 5 of said tube and bearing against the lower end of said plug 2, and by a shoulder 9 formed at

the upper end of the tube 4 and which bears against the upper end of the plug 2, a plate 10, however, being interposed between it and said plug for a purpose hereinafter described.

Within the tube 4 is mounted another tube 11, the fit between which and the tube 4 is such as to permit said tube 11 to slide freely in the tube 4 in a vertical direction. The tube 11 is designed, as shown, to carry the wick 12 and present the upper end thereof in proper position for lighting, and for this purpose said wick 12 is passed through said tube with its upper end projecting slightly beyond the upper end thereof in the recess 6 of the tube 4. The tube 11 is supported in the tube 4 by a spring 13 coiled about the upper end of the tube 11 with its lower convolution bearing against the bottom of the recess 6 and its upper convolution bearing against a flange 14 projecting horizontally from the upper end of the tube 11. The spring 13 not only serves this function of thus supporting the tube 11 in the tube 4, but also, when cap 7 is removed from tube 4, the further function of moving said tube 11 upwardly in tube 4, so that the upper end of the wick carried by tube 11 will be projected above the upper end of said tube 4 into proper position for ignition, as shown in Fig. 2. The cap 7 is preferably milled for convenient turning and is internally threaded so as to screw upon the upper end of the tube 4. It is also provided with a washer 15 of suitable yielding material which, when the cap is screwed down upon tube 4, engages the upper end of said tube, making a tight joint therewith and thus preventing leakage of the alcohol or other liquid. When cap 7 is thus screwed upon the tube 4, the washer 15, engaging the upper edge of the tube 11, directly through the upper end of wick 12, depresses said tube 11 and the wick 12 into the position shown in Fig. 4, against the pressure of the spring 13, which, when cap 7 is removed, will again move the tube 11 upwardly, and thus project the upper end of the wick into the position shown in Fig. 2. The plug 2, as before stated, is preferably of rubber or some other suitable yielding material not affected by the alcohol or other fluid in the receptacle 1, and it is obvious that, when said plug is jammed down into the neck 3 of said receptacle and cap 7 is properly screwed onto the upper end of the tube 4, the lamp is closed against any possible leakage of the



alcohol or other fluid between the plug 2 and the neck 3 of the receptacle or at the upper end of the tube 4.

As thus far described, the device is complete for the ordinary purposes of an alcohol lamp, but the present invention embodies an additional feature or features which will now be described, and which are combined with the lamp as thus far described for the purpose of providing a convenient, compact, portable sterilizing apparatus, for use, for example, by physicians in preparing hypodermic solutions or needles for use in connection therewith, and which can be readily carried by a physician in his pocket or bag.

The plate 10, before referred to, encircles the tube 4 beneath the shoulder 9, and is provided with a lateral projection 16 having a hub 17 in which is slidably mounted a rod 18 which may be readily adjusted in said hub 17 to any desired vertical position within the length of the rod, and fixed in such adjusted position by means of a set screw 19 mounted in said hub 17 and engaging said rod 18. In the upper end of said rod is secured, by a nut 20, a ring 21, having a central opening, which, in size and shape, is such as to adapt it for the reception of the body portion of a cup 22, which has a lateral flange 23 for engagement with said ring, this cup being designed to contain, for example, hypodermic solutions to be sterilized or otherwise prepared for use or water for sterilizing needles used in a hypodermic injection. This cup 22 is removable from the ring 21, so that when the device is not in use, or is being carried about by a physician, for example, the cup may be inverted and laid over the cap 7, as shown in Fig. 4, the rod 18, in such case, being, of course, in its lowered position, as shown in Fig. 4, and locked securely in that position by tightening the set screw 19 so that the ring 22, engaging the flange 23 of the cup 22, will hold it down securely against the cap 7; all the parts of the lamp thus being compactly nested together. When it is desired to use the lamp, the set screw 19 will, of course, be loosened, and the rod 18 moved upwardly to proper position to permit removal of the cup 22 from the cap 7. The cup 22 will then be laid in the opening of the ring 21 with its flange 23 resting against the upper surface of said ring, and rod 18 then locked in proper position to support the cup 22 at the desired distance from the wick 12, the upper end of which is then exposed for ignition by the removal of the cap 7 from tube 4. The instant cap 7 is thus removed, the spring 13 will move the tube 11 upwardly in tube 4 and thus project the upper end of the wick 12 into the position shown in Fig. 2, where it can be conveniently ignited. The apparatus is then ready for use and the sterilizing of hypodermic solutions or the heating of water for the sterilizing of hypodermic

needles can obviously be performed very rapidly.

The construction shown in Fig. 5 is precisely the same as that of the preceding figures of the drawings except that the washer 15 is of ring form or cut away centrally to provide a central opening for the reception of the upper end of the wick, so that when the cap 7 is screwed onto the upper end of the tube 4, the upper end of the wick 12 will not be engaged and crushed or flattened down by the washer 15, but will be left with its threads projecting upwardly in a loose condition, the only thing engaged by the washer 15 in this construction, when the cap 7 is screwed down, being the upper flanged edge of the inner tube 11.

As before stated, the present invention has primarily in view the provision of a very compact, readily-portable, spirit lamp for use, for example, by physicians for sterilizing purposes, but it will be obvious that many features of the invention are capable of other uses which, of course, it is the intention to include within the claims.

What we claim is:—

1. In a lamp of the kind described, the combination with a receptacle for the fluid, of a tube mounted in the receptacle, a wick carrying tube slidably mounted therein, a spring for moving the inner tube upwardly and projecting the upper end of the wick carried thereby above the upper end of the outer tube, and a closure for the upper end of the outer tube adapted to engage the inner tube and move it downwardly, substantially as described.

2. In a lamp of the kind described, the combination with a receptacle for the fluid, of a tube mounted in the receptacle, a wick carrying tube slidably mounted therein, and a closure threaded on the outer tube and bearing interiorly against the upper ends of the outer and inner tubes, said closure having an internal recess for the reception of the upper end of the wick, substantially as described.

3. In a lamp of the kind described, the combination with a receptacle for the fluid, of a tube mounted in the receptacle, a wick carrying tube slidably mounted therein, a spring for moving the inner tube upwardly and projecting the upper end of the wick carried thereby above the upper end of the outer tube, and a closure for the upper end of the outer tube adapted to engage the inner tube and move it downwardly, said closure having an internal recess for the reception of the upper end of the wick, substantially as described.

4. In a lamp of the kind described, the combination with a receptacle for the fluid, of a tube mounted in the receptacle, a wick carrying tube slidably mounted therein, and a closure for the upper end of the outer tube,



said closure having an internal washer provided with a recess for the reception of the upper end of the wick, substantially as described.

5 5. In a lamp of the kind described, the combination with a receptacle for the fluid, of a tube mounted in the receptacle, a wick carrying tube slidably mounted therein, a spring for moving the inner tube upwardly  
10 and projecting the upper end of the wick carried thereby above the upper end of the outer tube, and a closure for the upper end of the outer tube adapted to engage the inner tube and move it downwardly, said closure  
15 having an internal washer provided with a recess for the reception of the upper end of the wick, substantially as described.

20 6. In a lamp of the kind described, the combination with a receptacle for the fluid, of a closure adapted for engagement with and to seal said receptacle, a tube mounted in said closure and projecting into the receptacle, a wick carrying tube slidably mounted in said tube, and a closure for the upper end

of the outer tube adapted to engage the inner tube and move it downwardly, substantially as described. 25

7. In a lamp of the kind described, the combination with a receptacle for the fluid, of a closure adapted for engagement with and  
30 and to seal said receptacle, a tube mounted in said closure and projecting into the receptacle, a wick carrying tube slidably mounted in said tube, a spring for moving the inner tube upwardly and projecting the upper end  
35 of the wick carried thereby above the upper end of the outer tube, and a closure for the upper end of the outer tube adapted to engage the inner tube and move it downwardly, substantially as described. 40

In testimony whereof, we have hereunto set our hands in the presence of two subscribing witnesses.

SAMUEL N. TURNER.

CHARLES F. A. LOCKE.

Witnesses:

CHAS. J. BRADY,

JAMES LIVINGSTON.