W. T. POWER.

STERILIZING OUTFIT.

APPLICATION FILED OCT. 30, 1917.

1,384,849. Patented July 19, 1921.

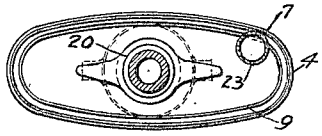


FIG. 2

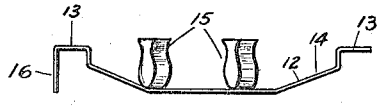


FIG. 3

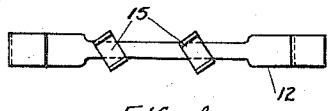


FIG. 4.

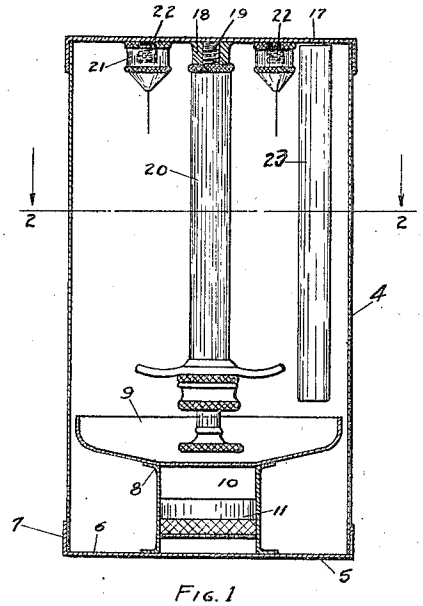


FIG. 1

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STERILIZING OUTFIT.

1,384,849. Specification of Letters Patent. Patented July 19, 1921.

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To all whom it may concern:

Be it known that I, WILLIAM T. POWER, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Sterilizing Outfits, of which the following is a specification.

My invention relates in general to a pocket sterilizing outfit and specifically relates to a hypodermic syringe case for containing all the requisites necessary to the administration of hypodermics.

One of the objects of my invention is to provide a simple, inexpensive type of outfit, of the above indicated character, designed to have the least possible dimensions for containing a complete sterilizer, independent of the container, and co-acting instruments all arranged to utilize practically all of the available space within the container.

Another object is to provide a construction permitting the ready demounting of the parts so that the separated units may be moved independent of each other and each designed to constitute a holder or stand to provide a firm support and opened to permit ready access to the devices carried thereby.

Further and incidental desideratums are to provide a construction for facilitating the manipulation of the instruments under sterile conditions, for insuring the mounting of the instruments in fixed position and for protecting the instruments against accidental injury while carried in the pocket.

Various other objects and advantages of the invention will be in part obvious from an inspection of the accompanying drawings and in part will be more fully set forth in the following particular description of one form of mechanism embodying my invention, and the invention also consists in certain new and novel features of construction and combination of parts hereinafter set forth and claimed.

In the accompanying drawings:

Figure 1 is a longitudinal sectional view taken through the major axis of a preferred embodiment of my invention;

Fig. 2 is a transverse sectional view taken on the line 2—2 of Fig. 1 looking in the direction indicated by the arrows and showing part of the bowl; and

Fig. 3 is a view in side elevation of the bridge piece; and Fig. 4 is a plan view looking down upon the showing in Fig. 3.

In the following description and in the claims, parts will be identified by specific names for convenience of expression but they are intended to be as generic in their application to similar parts as the art will permit.

In the drawings there is shown an open end container 4, in this disclosure shown to be a hollow metal tube, elliptical in cross-section so as to provide a rounded case designed to fit the pocket. One end of the container is closed by means of a cap 5 having a flat end wall 6 constituting a broad support-base for the container and for the cap when the same is demounted from the container.

A peripheral flange 7 outlines the wall 6 and telescopes either end of the container with a frictionally tight fit to retain the cap in place. A complete sterilizing outfit 8 is welded or otherwise fixed centrally to the wall 6 on the flanged side thereof. The sterilizer includes an open top concaved bowl 9 having a configuration in plan substantially that of the interior cross-section of the container so that the transverse dimensions of the container will be dependent upon the necessary capacity of the bowl. The bowl is preferably designed to contain just sufficient water, so that when boiled, there will be enough sterile water to charge the syringe carried by the outfit and to keep the needles submerged during the sterilizing process.

The bowl is spaced in fixed position from the cap by means of a burner 10. This burner may be of any conventional form and is illustrated to include a fuel chamber 11 adapted to contain blocks of solid alcohol positioned the requisite distance below the bowl to obtain the maximum heating effect from the small cakes of alcohol used with the instrument. These cakes are of a size just sufficient to bring the measured quantity of water in the bowl to a boil and the fuel chamber is proportioned to contain this measured amount of fuel.

A bridge piece or cradle 12 for supporting the instruments below the water level is constructed to extend across the bowl parallel to the major axis thereof. The piece is a metal strip reduced in width intermediate its ends to form broad supporting parts 13 arranged to rest on the upper edge of the bowl with the intermediate part 14 depressed to approach the bottom of the bowl. The reduced depressed portion is provided with

a pair of open top U spring clips 15 arranged to hold the instruments parallel to each other and at a slight angle to the length of the strip. One end of the strip is bent down to form a holding end 16 by means of which the bridge piece may be grasped in removing the hot instruments from the bowl.

A cap 17 similar to the cap 5 is arranged to close the opposite end of the container. A stud 18 provided with an inwardly facing threaded socket 19 is positioned centrally on the flanged side of this cap and is designed to have the usual threaded cap end of a hypodermic syringe 20 inserted therein.

The syringe extends axially of the container and the parts are so proportioned that with the caps in place the syringe will extend as far as possible into the concaved bowl thus economizing in the length of the container.

The syringe illustrated is of the class in which the needle tips 21 may be removed from the barrel and thus further insuring a minimum length to the container.

In the device illustrated two such needle tips are shown threaded to studs 22 positioned on opposite sides of the syringe proper.

A plurality of vials or instrument cases 23 generally used in connection with a device of this character are fixed to the inside of the container preferably by welding the same in place. Placing these articles close to the wall, a large number may be disposed between the wall and the members carried by the caps.

This invention contemplates the assembling of the parts as illustrated without permanently connecting the several parts in fixed position and in the case of the sterilizer the bowl may be pivotally mounted to the frame and designed to be swung out of the way and thus permit the ready insertion of the fuel.

In operation, and assuming that the outfit is in the assembled position shown in Fig. 1, the operator removes the bottom cover 5 and sets the same upright in position on any suitable support. This provides a complete open-top-bowl sterilizer which permits ready access to the fuel chamber and provides a construction in which a small portion of water may be readily introduced into the bowl. The operator then withdraws the cover 17 from the container and inverting the same lays the cover on its broad back thus presenting the upstanding syringe 20 and needle tips 21 in position to be readily unscrewed by the operator. One or both of the needle tips is then unscrewed from their holding studs and inserted in the spring clips 15 on the bridge piece. The bridge piece is then laid in position to bring the needles below the level of the water in the bowl. The fuel charge is then ignited and the water in the bowl brought to a boil. this sterilizes the needles as is common with operations of this character. By grasping the handle 16 the needles may be withdrawn from the water in position to have the end of the syringe screwed into position thereon. The sterile water may then be utilized to charge the syringe or to dissolve any medicaments to be used.

These medicaments may be contained within one of the vials 23 and it is obvious that other needles and other instruments may be contained in these vials or may take the place of the same.

The container with one or both caps removed may be arranged to rest on one end thus presenting the articles 13 in spaced apart position to be conveniently withdrawn as needed by the operator. When the operation is completed, the contents of the vials may be returned to the same, the syringe parts demounted and screwed to their carrying cap and both caps slipped on to the ends of the container thus packing the outfit in its carrying position.

By means of a device of this character all of the necessary appurtenances for giving a hypodermic or other similar treatment, may be contained in a simple form of receptacle of minimum capacity designed to conveniently fit the pocket of the operator. Practically all of the available space within the container is utilized. While retaining all of the advantages of an open bowl type of sterilizer the otherwise wasted space taken up by the depth of the bowl is utilized to contain part of the longest instrument to be carried by the outfit. The parts are arranged in either telescoped or in offset relation so that the space is utilized and each part has its allotted space without any necessity of dividing partitions or other parts which might increase the weight of the device.

The parts of the sterilizer are accurately proportioned so as to obtain the greatest heating effects with the limited amount of fuel carried and the bowl is so arranged that other receptacles may be positioned on the bowl to provide a double heater should it be desired to heat a substance by means of a boiling liquid. The instrument parts fixed to the cover 17 are held rigid in position and separated from any possible contact with other members, thus assuring protection to the needle points and permitting ready access to the same when the supporting cover is removed.

While I have shown and described and have pointed out in the annexed claims, certain novel features of my invention, it will be understood that various omissions, substitutions and changes in the form and details of the device illustrated and in its op-

eration may be made by those skilled in the art without departing from the spirit of the invention.

Having thus described my invention, I claim:

1. A pocket sterilizing outfit including an open end tubular container, a plurality of receptacles fixed to the inner side of said container, a pair of removable closure caps for the ends of said container, a complete sterilizing outfit including a water bowl and a heater for the same carried by one of the caps and adapted to be positioned within the container when the cap is in place and bodily removable from the container with the cap, the other cap provided with means for positioning instruments in pre-set spaced apart positions within the container when this other cap is in its closing position, said means arranged so as to space the instruments carried thereby in off-set position relative to the articles carried by the holder.

2. A pocket sterilizing outfit including an open end tubular container, a closing cap for one end of the container, a sterilizer carried by said cap and removable as a unit therewith, said sterilizer including a concaved bowl facing the opposite end of the container when in place in the container, a cap for closing said opposite end, said cap provided with means for positioning an instrument in the bowl.

3. A device of the class described comprising a container designed to inclose surgical instruments and having an open end, a removable cap for closing said end and a sterilizing outfit including a burner and a bowl both fixed to the inner side of said cover and removable as a unit therewith.

4. In a device of the class described, a closure cap designed to constitute a broad base stand, a bowl and a heater disposed between said cap and bowl and constituting a spacing means for holding the bowl in fixed position relative to the heater.

5. In a device of the class described, the combination with a sterilizer bowl of a bridge piece designed to rest on the bowl and having a depressed portion designed to be positioned below the water level in the bowl and instrument-holding-means fixed to said depressed portion.

6. In a device of the class described, a closure cap for a container, said cap being designed to constitute a broad base stand, a fuel support attached and spaced above said cap member to provide an air space therebetween, and a bowl spaced above said fuel support and adapted to be heated by fuel burning on said fuel support.

Signed at New York city, in the county of New York and State of New York this 23rd day of October, A. D. 1917.

WILLIAM T. POWER.