May 3, 1932. E. M. A. ENLOWS ET AL 1,856,988

STERILIZING APPARATUS

Filed Oct. 6, 1930

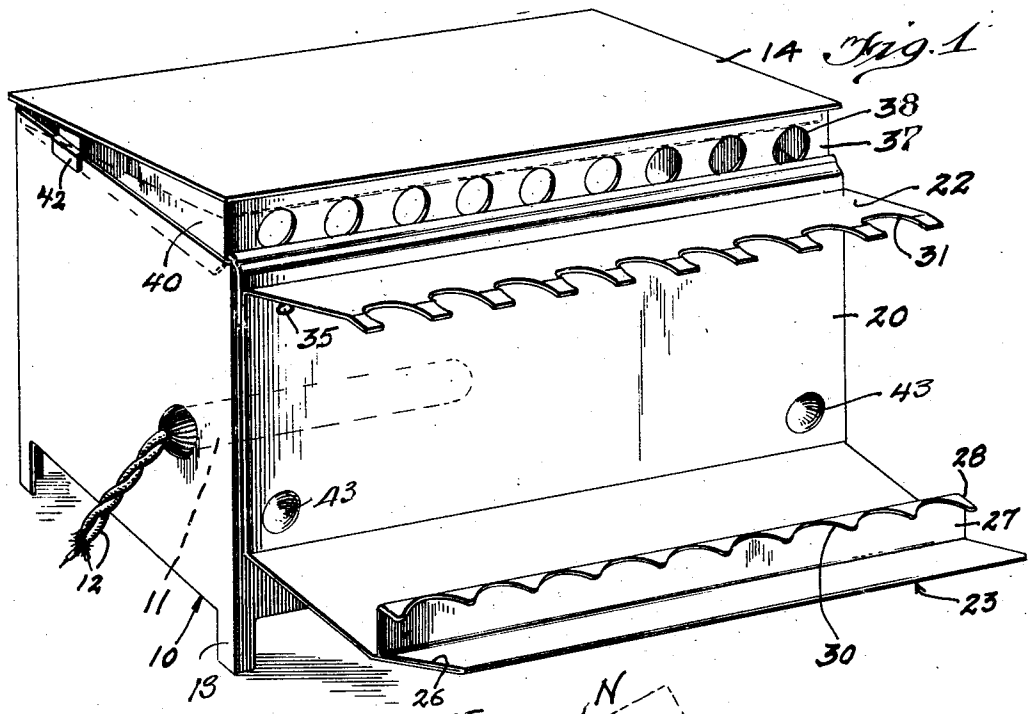

Fig. 1

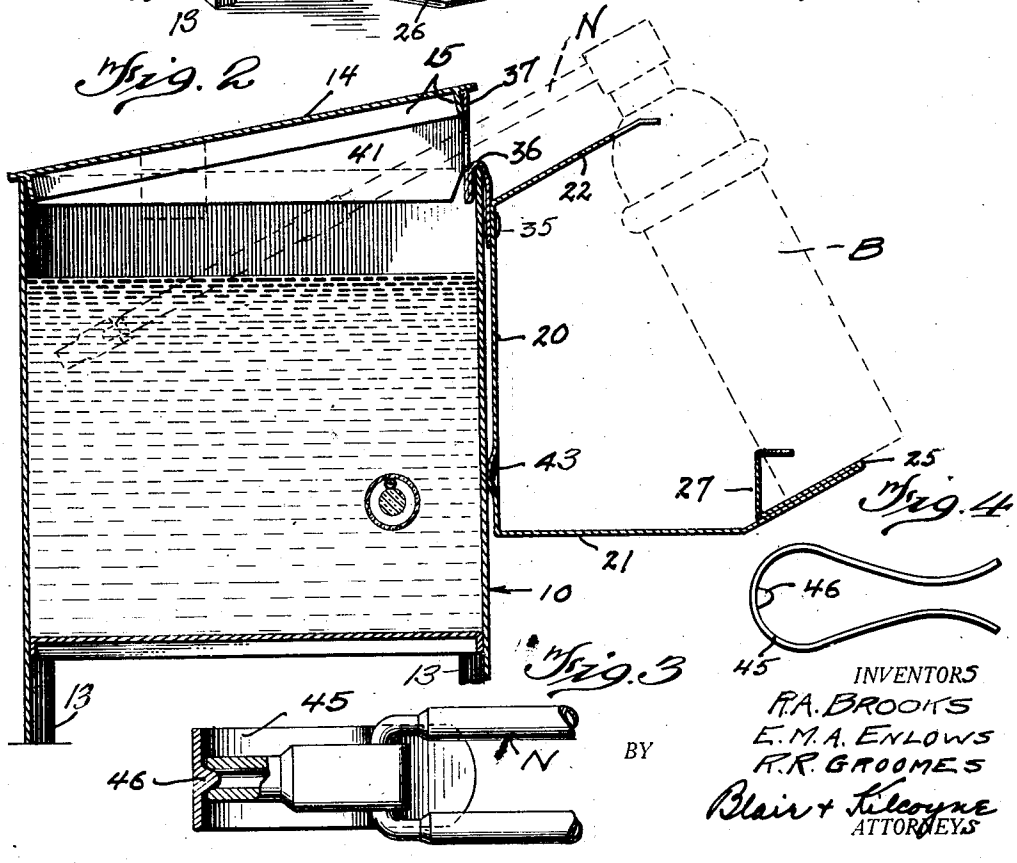

Fig. 2

Fig. 3

Fig. 4

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Patented May 3, 1932

1,856,988

UNITED STATES PATENT OFFICE

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STERILIZING APPARATUS

Application filed October 6, 1930. Serial No. 486,786.

This invention relates to sterilizing apparatus, and more particularly to an attachment for conventional sterilizing cabinets and providing means for sterilizing the spray tips or nozzles of atomizers such as are used in treatment of the nose and throat. It will be understood, however, that the invention has utility in other arrangements and for other purposes, all of which are intended to be included within the scope of the following description and claims.

Among the objects of our invention may be noted the provision of a sterilizing apparatus of simple and durable character and well adapted to sterilize the spray tips or nozzles of atomizers; the provision of a support for articles such as atomizers and the like whereby certain parts of the article are protected from excessive heat during sterilization of other parts thereof; the provision of a support for articles to be sterilized which may be readily associated with a conventional sterilizing cabinet; and the provision of an attachment for sterilizing cabinets which may be readily applied to the cabinet without disturbing its normal functioning.

Other objects will be in part obvious from the annexed drawings and in part indicated from the following analysis of the invention, in which reference is made to the accompanying drawings illustrating one embodiment of our idea.

In the drawings—

Fig. 1 is a perspective view of our sterilizing apparatus illustrating a conventional sterilizing cabinet and our improved attachment associated therewith;

Fig. 2 is a transverse section thru the apparatus illustrated in Fig. 1;

Fig. 3 is a detail of a nozzle or tip closure to be applied to the discharge end of the tips during sterilizing treatment;

Fig. 4 is a section thru the closure illustrated in Fig. 3.

In the drawings, the reference character 10 designates a conventional sterilizing cabinet adapted to contain a sterilizing liquid to be heated by desired means such as an electrical heating unit 11 connected by leads 12 to a suitable source of electric current. The cabinet 10 may be rectangular in shape and is generally provided with supporting legs 13 and a hinged cover 14 having depending drip flanges 15 which project within the cabinet adjacent the top edges of the side and front walls, when the cover is in closure position, whereby to prevent leakage of steam from the cabinet.

In order to mount an article such as an atomizer in operative relation to the cabinet so that the body portion of the atomizer, generally a bottle containing the fluid to be atomized, is protected from the heat while the spray or nozzle tips thereof may extend within the cabinet for suitable sterilizing treatment, we provide an attachment to the cabinet comprising a supporting rack for the atomizer bottle disposed exterior of the cabinet, and provided with means for readily attaching and detaching the same to and from the cabinet. This rack is preferably cut or stamped, and thereafter formed, from a sheet metal blank or blanks, for convenience in manufacture and assembly, altho equivalent means of fabrication may be substituted.

The rack is constituted by an upright web portion 20, a horizontally extending portion 21 extending from the bottom thereof, an upper spacer portion 22 and a lower spacer and shelf member generally designated at 23. The upper spacer portion 22 extends outwardly and upwardly from the web portion 20 and is inclined at an angle of approximately 30° from the horizontal. The lower spacer and shelf member 23 extends in similarly inclined manner from the horizontal portion 21, and is bent back on itself as at 25 to form a shelf or bottom 26 on which the atomizer bottle rests. The shelf is then bent upwardly as at 27, and terminates in an outwardly projecting flange 28, spaced from shelf 26 and forming a bottom spacing portion.

At intervals along the bottom spacer portion 28, we provide indentations 30 preferably cut on an arc whose radius is substantially that of the body portion of the atomizer bottle. The shape of the indentation will generally conform to the shape of the bottle to be supported. Similar identations 31 are

provided along the edge of the upper spacer portion 22, the respective indentations being in vertical alignment. The indentations 31, however, are cut on a smaller radius than the said indentations 30, whereby to engage with the neck portion of the atomizer bottle. It will be understood that the number of such indentations 30, 31 may be varied, and depends upon the size of the cabinet 10 and/or upon the number of atomizers to be sterilized.

The rack is associated with the cabinet and preferably disposed on the front wall thereof by any desired means. The specific attaching means illustrated comprises a metallic strip of a length slightly less than the length of the cabinet 10 and secured to the web portion 20 of the rack as by rivets 35. The strip extends upwardly and is bent back on itself as at 36 to provide an elongated hook which engages over the top edge of the front wall of the cabinet. The strip is thereafter extended upwardly as at 37 for a substantial distance above the hook 36 and has cut therein a plurality of apertures 38 which are vertically aligned with indentations 30, 31 of spacer portions 28, 22, respectively. Angularly shaped side wings 40, 41 project rearwardly from the vertical portion 37 and are welded or otherwise fixed thereto.

By reference to Fig. 2, the cover 14 of the cabinet is raised, and the rack, by means of hook 36 engaging over the top edge of the front wall, is detachably suspended therefrom exterior of the cabinet. Depressions 43 may be stamped in the web portion 20 of the rack, whereby to space the same slightly from the cabinet. The wing portions 40 extend rearwardly just inside the top side walls of the cabinet, and lips 42 fixed thereon may extend outwardly over the edge of said walls to form a support therefor. Upon lowering of the cover, the under face thereof engages the top edges of the wings 40, 41 and vertical extension 37, the drip flanges 15 of the cover, by reason of their normal clearance from the top edges of the side and front walls of the cabinet, fitting just inside said wings and extension, and thus substantially sealing the cabinet and preventing leakage of steam therefrom.

One or a plurality of atomizers B may then be placed on the rack, the bottom of the atomizer bottle resting on shelf 26. The bottle is held in inclined position, and against lateral displacement by indentations 30, 31 of spacer portions 28, 22, respectively, the neck of the bottle or bottles being seated in the said indentations 31. The spray tips or nozzles N which extend normal to the axis of the bottles pass upon proper insertion thru apertures 38 in the extension 37 and project into the cabinet where they are subjected to the action of the heated fluid or steam therein.

In order to prevent seepage of the atomizing liquid thru the atomizer tips or nozzles N when the latter are inclined downwardly in the cabinet, we provide an attachment therefor comprising a spring clip 45 which frictionally engages over the end of the tip. The clip is provided with a plug 46 which may be formed by stamping or otherwise, said plug extending within the nozzle aperture and forming a closure for the same. The clip 45, being resilient, is readily removable from or attached to the atomizer nozzles.

It will be seen that the several objects of the invention are achieved and other advantageous results attained. As many changes could be made in carrying out the above invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

We claim:

1. In combination with a sterilizing cabinet, a support for atomizers having spray nozzles and including means to detachably secure said support to and exteriorly of the cabinet, the support being provided with apertures through which the spray nozzles extend within the cabinet.

2. In combination with a sterilizing cabinet, a support for atomizers having spray nozzles, means for mounting the support exteriorly of the cabinet, the support including means to hold the atomizer bottle in inclined position, said means being provided with apertures through which the spray nozzles extend within the cabinet.

3. In combination with a sterilizing cabinet, a support for atomizer bottles having spray nozzles, the support including an upright portion, an inclined shelf extending from said upright portion and on which the atomizer bottle is supported in inclined relation whereby the spray nozzles may extend within the cabinet, a spacer portion adjacent said shelf and having an indentation into which the atomizer extends, and means for detachably securing the upright portion to and exteriorly of the cabinet.

4. In combination with a sterilizing cabinet, a support for atomizers having spray nozzles, the support including an upright portion, an inclined shelf extending from said upright portion and on which the atomizer bottle is supported in inclined relation whereby the spray nozzles may extend within the cabinet, a spacer portion adjacent said shelf and having an indentation into which the bottom portion of the bottle extends, and another spacer portion extending from said upright portion and having an indention into which the neck portion of the bottle extends, and means for detachably securing the upright portion to and exteriorly of said cabinet.

5. In combination with a sterilizing cabinet having a hinged cover, a support adapted

to hold an atomizer bottle in inclined position, and means extending over the top edge of a wall of said cabinet for securing the support thereto, said means having an extension thereon operative to hold the cover in inclined position and provided with an aperture therein thru which the spray tips extending from the bottle may project within the cabinet.

6. In combination with a sterilizing cabinet having a hinged cover, a support adapted to hold an atomizer bottle in inclined position, a strip fixed to said support and extending upwardly therefrom to form a hook adapted to engage over a top edge of the cabinet, the strip being extended upwardly from the hook to hold the cover in inclined position, said extension having an aperture therein thru which the spray tips extending from the bottle may project within the cabinet.

7. In combination with a sterilizing cabinet having a hinged cover, a support adapted to hold an atomizer bottle in inclined position, a strip fixed to said support and extending upwardly therefrom to form a hook adapted to engage over the top edge of the front wall of the cabinet, said strip being extended upwardly from the hook to hold the cover in inclined position, said extension having an aperture for insertion of the spray tip extending from the atomizer bottle within the cabinet, and triangular shaped wings secured to said extension and extending rearwardly between the top edges of the side walls of the cabinet and inclined cover thereof.

8. An attachment for sterilizing cabinets including an inclined shelf, a spacer member adjacent said shelf and having an indentation therein for holding an article supported on said shelf from lateral displacement, a spacer element removed from said first-named spacer element and having an indentation aligned vertically with said first-named indentation, means joining said last named spacer element with said shelf, and an extension providing a means of attachment with a cabinet.

9. An attachment for sterilizing cabinets comprising an inclined shelf element, spacer elements operatively related thereto for preventing lateral displacement of an article supported on said shelf, and an extension in fixed relation to said elements and forming a hook for engagement over the edge of a wall of a cabinet and projecting upwardly therefrom, said projection being provided with apertures thru which may extend a portion of said article.

10. An attachment for sterilizing cabinets comprising an inclined shelf element, spacer elements operatively related thereto for preventing lateral displacement of an article supported on said shelf, an extension in fixed relation to said elements and forming a hook for engagement over the edge of a wall of a cabinet and projecting upwardly therefrom, said projection being provided with apertures thru which may extend a portion of said article, and triangularly shapped wings extending normally from the side edges of said projection.

Signed at Washington, District of Columbia, this 25th day of August, 1930.

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