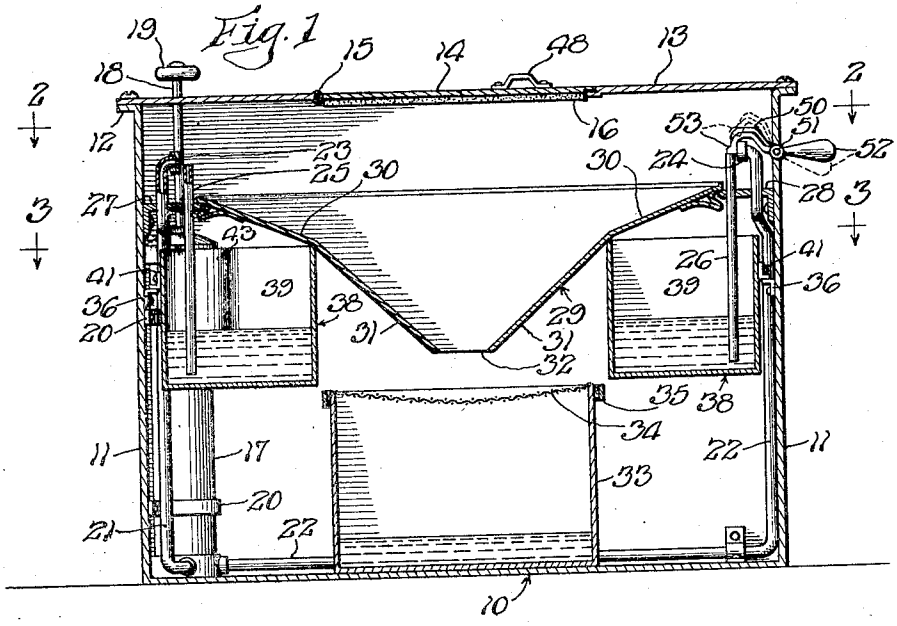
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STERILIZER

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Fig. 1



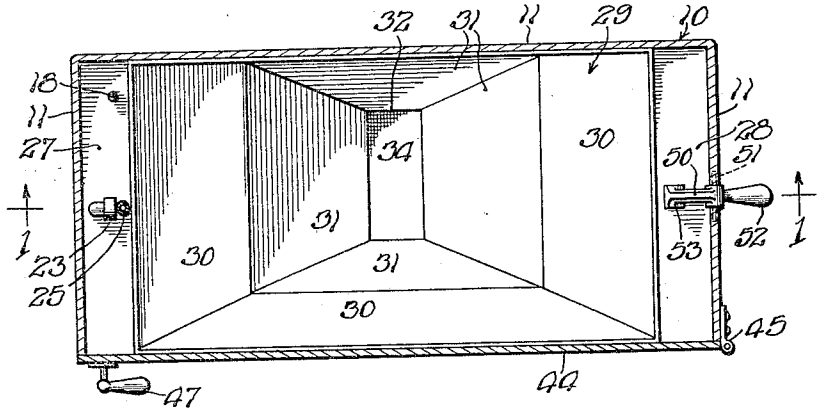


Fig. 2

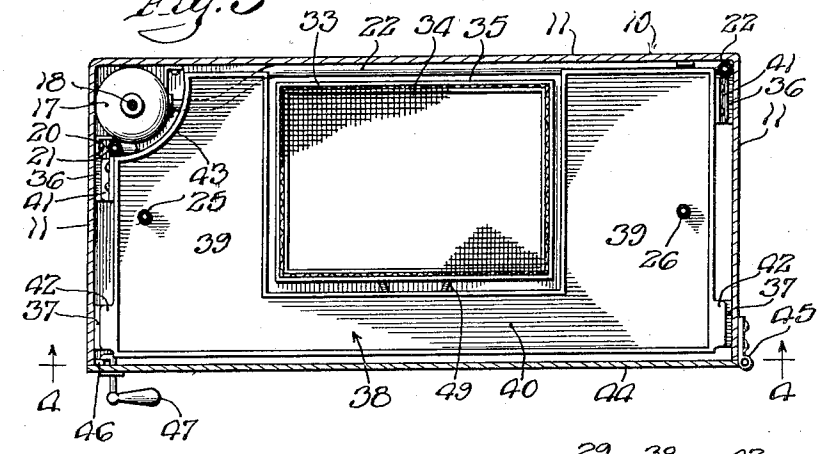
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STERILIZER

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Fig. 3



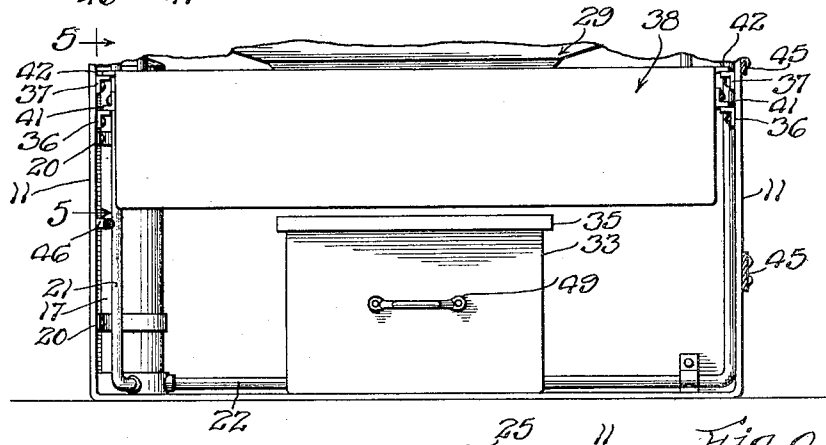


Fig. 4

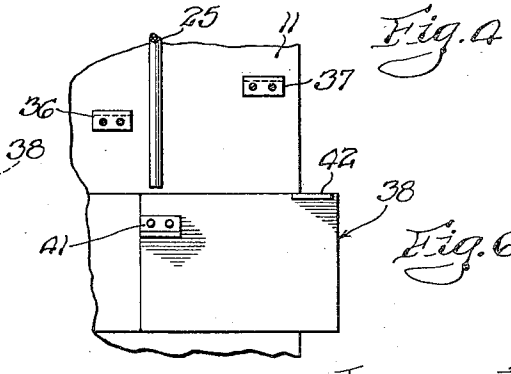


Fig. 6

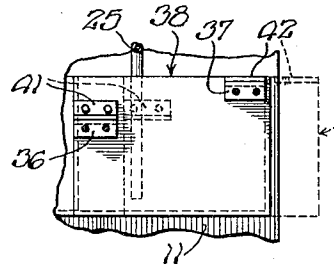


Fig. 5

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UNITED STATES PATENT OFFICE

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STERILIZER

Application filed May 16, 1929. Serial No. 363,612.

The present invention relates to a sterilizing device and has particularly to do with the details of its structure and the novelties of its arrangement.

Among the objects of the invention are the following:

An unique arrangement of parts in a sterilizer whereby devices therein may be treated for one or both sides.

An unique reservoir supplying a plurality of sterilizing sprays and always maintaining for each of said sprays an equal level and constant liquid charge.

An unique means for inserting a reservoir into a sprayer or other device.

A novel tray for receiving instruments to be sterilized.

An improved arrangement of tray, reservoir, spray and enclosing cabinet in a sterilizer.

Novel means for collecting the condensed unused sterilizing liquid after it has been vaporized.

Unique means for shutting off an atomizer coupled with means for collecting the liquid which is partially vaporized therein.

These and such other objects as may hereinafter appear are attained by the novel construction of the device, the arrangements of its parts, and the combination of the several elements thereof.

One form of the device is shown in the accompanying two sheets of drawings, hereby made a part of this specification, and in which:

Figure 1 is a vertical section on the line 1—1 of Figure 2;

Figure 2 is a transverse section on the line 2—2 of Figure 1;

Figure 3 is a similar section on the line 3—3 of Figure 1;

Figure 4 is a vertical section on the line 4—4 of Figure 3;

Figure 5 is a lateral detail in section on the line 5—5 of Figure 4; and

Figure 6 is a similar detail showing the drawer reservoir in its lowest position.

Like reference characters are used to designate similar parts in the drawings and in the description hereinafter given of the device therein illustrated.

For the device, there is provided a case 10 having upstanding sides 11 terminating in flanges 12. Over the top of the case, is a cover 13 secured thereto by rivets, spot welding or otherwise and having a door 14 hinged at 15, there being a flange 16 of felt or rubber or other protecting material about the door opening in said cover 13 to prevent contact of instruments inserted therethrough.

Within said case 10, is an air pump 17 operated by a plunger 18 extending through the top 13 of the casing and terminating in a handle 19. Brackets 20 about said pump secure it firmly in one corner of the case 10. Any other means or source of air pressure may be substituted for this pump.

From the pump 17 extend two conduits 21 and 22, each terminating in atomizer tips 23 and 24 at opposite sides or ends of the case 10. The tips 23 and 24 reduce the conduits 21 and 22 to miniature openings through which the air of pump 17 is adapted to be forced in a minute stream under high pressure.

In juxtaposition to each of tips 23 and 24 are liquid conduits 25 and 26, vertical in position and comprising downwardly extending capillary tubes. Any suitable fastening means may be employed to permanently secure said tubes 25 and 26 to their proper supporting shelf, 27 or 28, each of which is properly apertured to receive the tube 25 or 26.

Normally slidingly disposed on shelves 27 and 28 which are above the top of the pump 17 is an instrument holder 29 having a series of oblique sides or walls 30 and 31, terminating in an orifice 32, through which the excess sterilizing material, after being sprayed over instruments, collects as it would in the neck of a funnel. Instruments ordinarily cannot pass through aperture 32, but if they should extend therethrough they would rest upon a sieve hereinafter described.

The instrument holder is provided with slotted edges designed to telescope in shelves 27 and 28 which retain this instrument holder firmly in place and also prevent the

liquid from dropping down side walls of case.

Beneath the orifices 32 in instrument holder 29 is a collecting vessel 33 having a closed bottom and sides, the top being open and covered by a screen 34. Any suitable means for holding screen 34 upon box 33 such as the friction ring 35, may be employed therewith.

The excess of sterilizing material draining from instrument holder 29 is thus collected, free from injurious contamination, in box 33, which from time to time may be emptied into the reservoir now to be described, to be again used.

On each side 11 of the case 10 are two staggeredly arranged shelves 36 and 37, each of short length and the latter higher and nearer the front of the case 10 than the former. A reservoir 38 which has end sections 39 and a narrow connecting section 40, all integral and formed from a single blank of sheet metal with upturned sides the edges of which are suitably joined together to provide a liquid-tight trough open at its top.

At each end of said reservoir 38 are two short shelves 41 and 42 corresponding to shelves 36 and 37 in case 10 and complemental thereto. The uppermost of these is adjacent to the top edge of the reservoir and they may be attached to said reservoir by rivets or by spot welding or otherwise.

When the reservoir is charged with sterilizing liquid, it is inserted into casing 10 by sliding it thereinto while it rests on the bottom of said casing. When the half-way position is reached and the inner edge of the reservoir is beyond the lower ends of tubes 25 and 26, the reservoir is lifted until shelves 41 and 42 are slightly above angle irons 36 and 37 whereupon the reservoir is slid into position thereon, the ends of tubes 25 and 26 depending into the liquid in reservoir 38. Removal of reservoir is had by reversing the operation. It will be noted that there is a cutout corner 43 of reservoir 38 to avoid pump 17.

A door 44 may be supplied for the front of the case 10, and said door may be hinged at 45 as shown. Lock 46 may be used to secure the open end of the door 44 in closed position, said lock being operated by lever handle 47.

A suitable handle 48 may be attached to door 14, and a drawer pull 49 affixed to collector box 33.

When brushes and other instruments having only one side thereof requiring treatment, it is desirable to shut off one spray; otherwise the pump forces vapor upon them from the opposite sides of the device.

To shut off one of said sprays, a lever 50 is pivoted at 51 in one side of the case. At one end said lever 50 has a handle extending outside of the case 10 to provide a manipulating control therefor. At its other end, lever 50 has a cap 53 closing tubes 26 and arresting to some extent the escape of air through the tip 24. Some atomization will occur, but however slight, the atomized liquid will be collected either in reservoir 38 or in the instrument tray 29 to be again used.

A most compact but efficient device is illustrated and described. The particular forms of the elements may be altered without departing from the spirit of the invention which resides primarily in the arrangement of parts although there is pronounced novelty in some of the parts themselves.

I claim:

1. A sterilizer comprising a case, a funnel like instrument tray slidable into said case from the side thereof, there being also an opening through the top of said case to said tray, and oppositely disposed atomizers adapted to spray liquid above instruments in said tray.

2. The sterilizer described in claim 1, having a reservoir to receive sprayed liquid, and for which said instrument tray provides a funnel for the delivery of such liquid to said reservoir.

3. The sterilizer described in claim 1, and in which there is a common reservoir for all of said sprays.

4. The sterilizer described in claim 1, having a reservoir U-shaped in horizontal section, each leg of which reservoir supplies one of said sprays.

5. The sterilizer described in claim 1, and in which there is a sliding reservoir insertable in the side opening in said case to secure said tray in position.

6. A reservoir comprising a casing having flanged shelves, an air pump therein, conduits to opposite sides of said casing, capillary tubes in association with said conduits, an integral removable reservoir adapted to supply all of said capillary tubes, an instrument tray adapted to ride on shelves, said reservoir being adapted to secure said tray against displacement, a vessel for collecting in a filtered condition the excess of sterilizing liquid forced over said tray, said tray being in the shape of a funnel and open bottomed to facilitate such collection, and means for intercepting the spray from one of said capillary tubes.

VIELE JOHN BUGG.