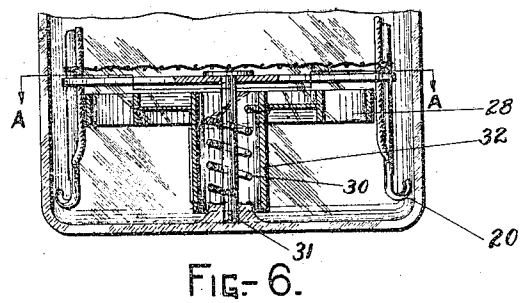
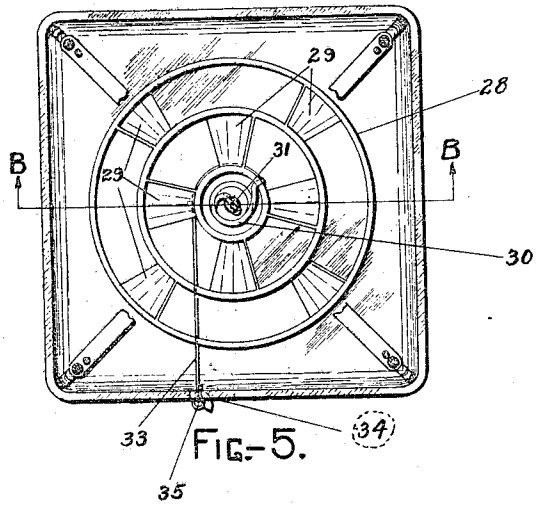
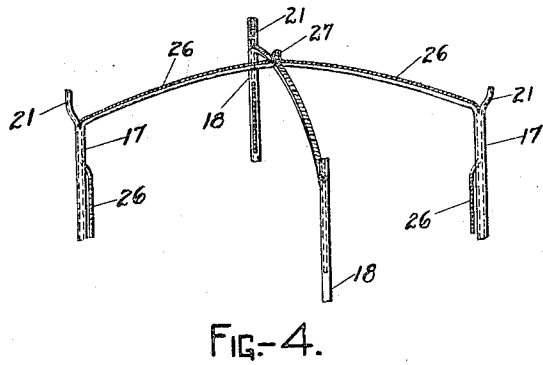
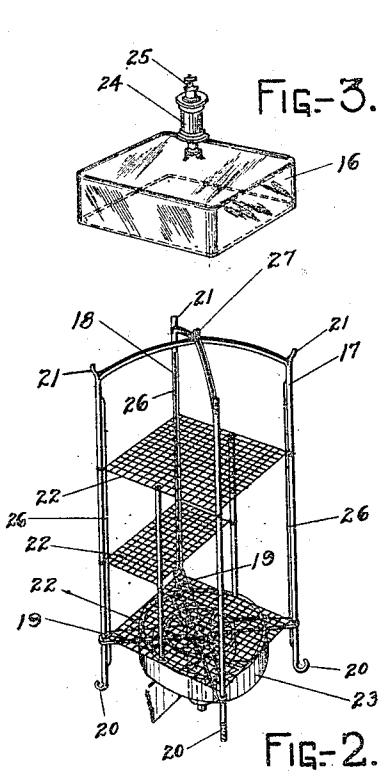


O. A. HOLLIS.
STERILIZING CABINET.
APPLICATION FILED MAR. 2, 1915.

Patented May 21, 1918.

1,267,322.



WITNESSES.

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STERILIZING-CABINET.

1,267,322.

Specification of Letters Patent.

Patented May 21, 1918.

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To all whom it may concern:

Be it known that I, OTIS A. HOLLIS, a citizen of the United States, residing at Pittsburgh, in the State of Pennsylvania, have invented a certain new and useful Sterilizing-Cabinet, of which the following is a specification.

My invention relates to containers for instruments which have to be sterilized or disinfected, after use, and my particular object is to provide such a cabinet in the most sanitary form possible, of a structure which can be manufactured at small cost, and of such form that the entire contents of the cabinet may be observed from the outside, from any side, without opening the door. In addition to this the operation of the disinfecting medium can be observed and adjusted from the outside without opening the case.

In my co-pending application No. 829528, filed April 4th, 1914, I have described a cabinet somewhat similar to the present one, and with some of the features herein embodied. The present case, is, however, an improvement upon the structure described in said prior application.

Referring to the drawings, Figure 1 is a perspective of the glass case designed to form the walls of my cabinet; Fig. 2 is a perspective showing the details of a suitable arrangement of shelves, the arrangement of wicks, and the supporting framework therefor; Fig. 3 is a perspective of the glass top for the case of Fig. 1, showing a reservoir affixed in the middle of said top. Figs. 1, 2 and 3, show the whole of my cabinet, the respective views showing the case, interior structure, and top, in dis-associated position, just as they would be if the top were first raised, then the interior frame raised, all on a common center line. Fig. 4 shows the details of the arrangement of wicks at the top of the frame; Fig. 5 is a plan view of a horizontal section through the case on the line A A of Fig. 6; and Fig. 6 is a partial section of the cabinet, showing details of the fan arrangement, being the section indicated by lines B B, of Fig. 5.

The details of construction of my cabinet are as follows:

I prefer to use an integral glass vessel, 11, of a rectangular form, with rounded cor-

ners, and with a flange 12 at the open end thereof, to form the bottom and walls of my cabinet. On the front side of the cabinet a door 13 is cut out, and re-attached by hinges 14 and latch 15. Another rectangular glass vessel 16 is provided, the open end being of proper size to closely fit over the open top of the case 11, and to be retained by the flange 12 thereon. Suitable packing, such as a rubber band, can be used between the two glass parts and about the door to secure an air tight fit, if necessary.

A frame adapted to be inserted in the glass case 11 is made of tubular metal members 17 and 18, shaped as shown in Fig. 2. These members are welded or soldered together at their intersection, shown at the top of the figure, and they are also rigidly held by the metal cross member 19, as shown at the bottom of the figure. The lower ends of the tubular frame are bent outward into projections 20 as indicated, and at the upper end a projection 21 is formed. These projections have the function of holding the frame rigid under spring tension in the glass case, since the metal frame is of such size that the projections 20 and 21 must be slightly bent inward in order to force the frame into the glass case. This insures rigidity to the metal frame, and furnishes a firm support for shelves 22, and the fan 23.

Affixed in the middle of the top 16 is a liquid-containing reservoir 24, with an air valve 25 at the top, and having an opening through the glass top inside the cabinet. Any desirable means of regulating the flow of liquid from this reservoir into the cabinet may be used, but I prefer to use a valve as indicated on the top of the reservoir, so that the supply may be shut off at any time by a simple turn of the valve stem. This reservoir is so constructed that it may be re-filled without removing the top of the cabinet.

Immediately under the outlet of the reservoir 24, inside the cabinet, is the intersection of the frame members 17 and 18. Wicks 26 extend from near the bottom of said frame members, on the outside thereof, to near the top, where they are threaded through a hole into the tube and thence out on top of the frame members, across to their

intersecting knot 27, which is immediately under the opening in the reservoir 24. Thus the wicks are exposed to the air across the top of the cabinet and vertically throughout its depth. Fig. 4 shows in detail the manner of threading the wicks through the tubes and bringing them to the knot under the reservoir drip.

Suspended underneath the retaining brace 19, is a fan wheel 28 having a suitable number of paddles 29 thereon, inclined in opposite direction from the horizontal, so that when the fan revolves currents of air will be forced upward and downward in the cabinet. In the interior of the fan wheel is a coil spring 30, one end of which is attached to the wheel, and the other to the rigid spindle 31 about which it revolves. Wound around the drum 32 upon which is fixed the fan wheel 28 is a flexible belt 33, extending through a slot (34), in the case 11, and having a handle 35 on the outside of said case. When this handle is pulled and the belt withdrawn, the fan is rotated counter-clockwise, and the spring is wound up. When the handle is released the spring reverses the fan wheel, and winds up the belt. In either direction there is a current of air forced upward and downward throughout the cabinet.

In the case of the use of instruments upon the human body, such for instance as surgical appliances, barbers' tools, manicuring outfits, etc., it is necessary to thoroughly sterilize the instruments after use upon one person before application to another person, in order to prevent a transfer of infectious diseases. In fact such sterilization is now required by law in a great many States. It is inconvenient to boil such instruments as combs and brushes, shaving brushes, etc., and in many cases it is impossible on account of the nature of the article. However, the same result may be secured by putting such articles in a tightly closed cabinet in which air is saturated with a powerful disinfectant such as formaldehyde.

My cabinet is especially adapted for this purpose, since it consists of an air tight case, having room for the storage of a large number of instruments, means for distributing a volatile liquid throughout the cabinet in such a manner that it is exposed to constant evaporation, thus insuring a thorough saturation of air with the fumes of the liquid. The disinfectant drops from the reservoir at the top of the cabinet upon the intersection of the wicks and by them is conducted on four sides through the entire depth of the cabinet, as explained above. The case is made of glass so that the operator may observe from the outside exactly where each instrument is situated on the inside and where he must reach for it in taking it out. Consequently there is no necessity for open-

ing the door of the cabinet for more than an instant at any time. Also the structure of the case, being entirely of glass, insures that one may see entirely through the case from any side, and therefore the person upon whom the instruments are used is enabled to observe whether proper precautions are being taken to procure thorough disinfection. Also it is possible to observe by the drip of the liquid from the reservoir whether or not the sterilizing agent is being properly and constantly distributed throughout the case, without waste, and the supply can be adjusted or renewed without opening the cabinet. The case itself is thoroughly sanitary, being made of glass and metal, except for the wicks, which are kept saturated with an agent designed especially to prevent any septic growth. There are no joints or cracks in the glass, and it will be observed that the metal frame stands out from the case and only contacts at four small points.

The belt 33 may be a barber's razor strop, and therefore each time the barber pulls out his strop to sharpen the razor, he rotates the fan and thoroughly mixes the air throughout the cabinet.

It will be further observed that ready access is obtained to any part of the case or frame by simply removing the glass top 16 and pulling out the rigid frame from the cabinet. Thus the cross frame members form a bail by which the whole interior mechanism and shelving, with the fan arrangement attached, may be withdrawn from the case for inspection or carriage from place to place as desired. Furthermore, the reservoir being rigidly fixed in the glass top acts as a convenient handle therefor.

Many other advantages and conveniences of this form of containers not herein recited will be apparent to those familiar with such devices.

I claim:

1. In a sterilizing cabinet consisting of an integral container having an open top and a door in one side, the combination of a removable transparent top therefor, an outer reservoir in the middle of the top, having an opening therethrough, and means within the cabinet for distributing liquid disinfectant from said reservoir throughout the cabinet.

2. In a sterilizing cabinet comprising a source of liquid disinfectant on the outside thereof and wicks for distributing the disinfectant within, the combination of an integral case forming the walls and bottom of the cabinet, a removable transparent top for the case, and a rigid, removable shelf rack within the cabinet.

3. The combination with an integral case forming the top and walls of a sterilizing cabinet and having a door therein and a re-

movable top, of a removable metal frame composed of intersecting members, rigidly attached to each other, and adapted to hold shelves, of wicks supported by the frame
5 members and extending throughout the cabinet, of a valved reservoir fixed in the top and adapted to drop liquid disinfectant on said wicks, and means to intermittently agitate the air throughout the cabinet.

OTIS A. HOLLIS.

Witnesses:

JO. BAILY BROWN,
W. A. HECKMAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."