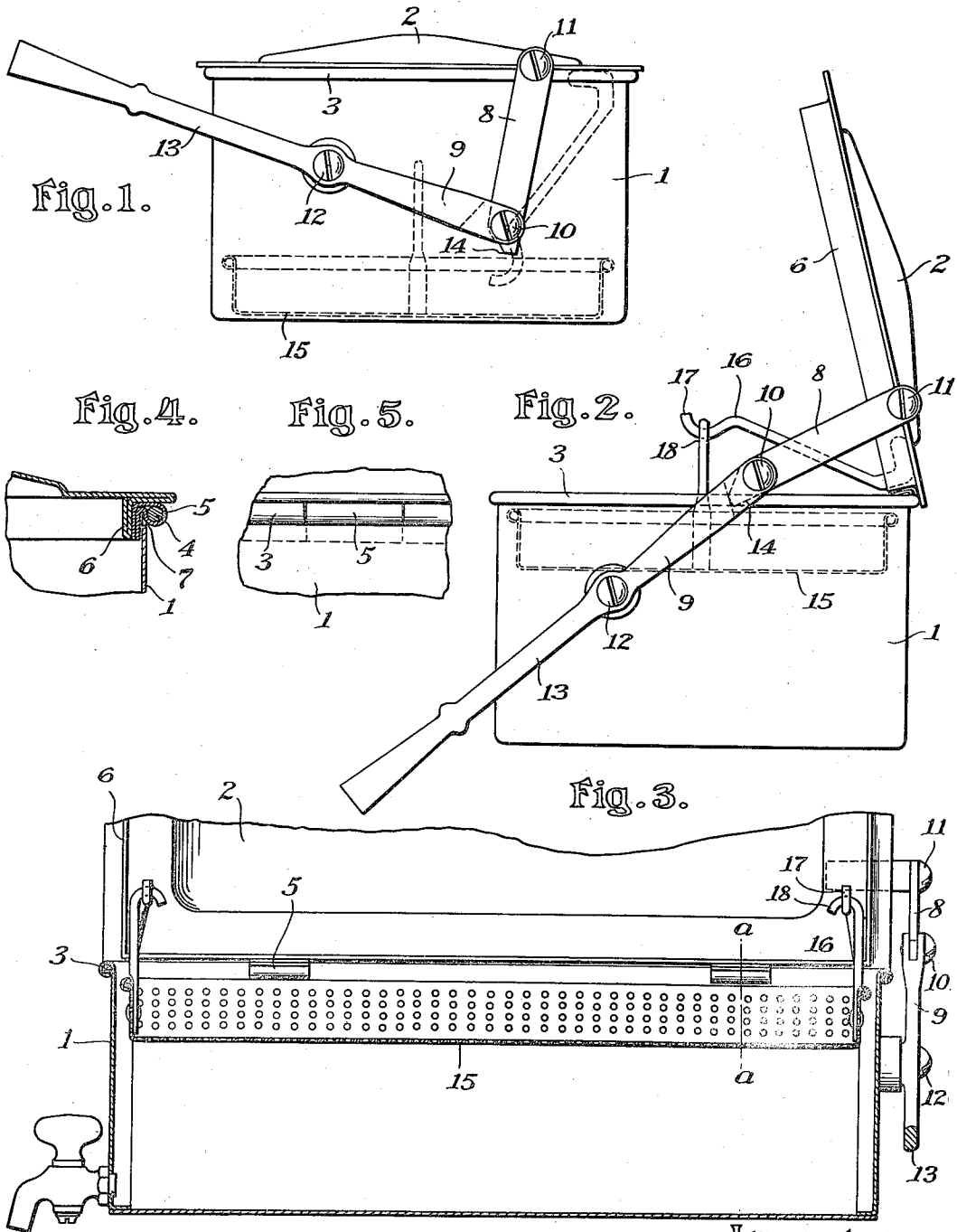


W. B. UNDERWOOD.
STERILIZER.
APPLICATION FILED NOV. 29, 1916.

1,318,246.

Patented Oct. 7, 1919.



Inventor:

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UNITED STATES PATENT OFFICE.

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STERILIZER.

1,318,246.

Specification of Letters Patent.

Patented Oct. 7, 1919.

Application filed November 29, 1916. Serial No. 134,213.

To all whom it may concern:

Be it known that I, WEEDEN B. UNDERWOOD, a citizen of the United States, and resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Sterilizers, of which the following is a specification.

The present invention relates to sterilizers for sterilizing the instruments of physicians, surgeons and dentists, or for sterilizing any other suitable devices, an object of this invention being to provide a means for opening the cover and supporting the same in an open position with the handle operating part so mounted that it may be readily operated by the arm without exposing any part of the body of the user to the steam issuing from the sterilizer as the cover is opened. Another object of the invention is to provide an improved connection between the cover and the instrument or draining tray, requiring but few parts, and necessitating but a slight movement of the tray in moving from its lowermost to its uppermost position, so that a sterilizing receptacle of minimum depth may be used for a tray of a given width.

To these and other ends, the invention consists of certain parts and combinations of parts all of which will be hereinafter described, the novel features being pointed out in the appended claims.

In the drawings:—

Figure 1 is a side elevation of the sterilizer with the cover or top closed, the tray being shown in dotted lines resting on the bottom of the sterilizing chamber;

Fig. 2 is a similar view showing the cover open and the tray in its elevated position;

Fig. 3 is a longitudinal sectional view through the sterilizer with the cover open and partially broken away;

Fig. 4 is a section on the line *a—*a**, Fig. 3, showing the cover closed; and

Fig. 5 is an enlarged sectional view of the hinge.

Referring more particularly to the drawings, 1 indicates the receptacle forming the sterilizing chamber which is heated in any suitable manner. To this receptacle, a cover 2 is hinged preferably by forming a bead 3 around the upper edge of the receptacle with a rod 4 inclosed therein and surrounded by a strap 5 which is bent intermediately of its

ends about the rod 4 and has its ends secured to the flange 6 which depends from the cover 2 within the sterilizing chamber 1, the ends of the strap serving to cover the opening 7 which is formed by cutting away the tubing or bead 3 in order to expose the rod 4, thereby preventing the escape of steam, by way of the opening, from the sterilizer when the cover is closed.

The cover is opened and closed and also held open by two links 8 and 9 pivoted together, one being pivoted at 11 to the closure and the other at 12 to the exterior of the sterilizing chamber 1, the pivot 12 being in front of the pivot 11. The link 9 has an extension 13 which projects beyond the front wall of the sterilizing chamber 1, so that the movement of said extension 13 to open the closure of the cover 2 is downward and the handle extension 13 thereby lies below the top of the sterilizing chamber 1 when the closure 2 is open. This arrangement of the handle extension permits the cover to be opened by the forearm of the user of the sterilizer, this making it unnecessary for such user to handle the unsterilized extension 13 before touching the instruments in the tray. Furthermore, the steam escaping upon the opening of the cover does not come in contact with that portion of the body which effects the opening of the cover. The end of the link 9 is bifurcated at the pivot 10 while the adjacent end of the link 8 has an extension 14 operating in this bifurcation to contact with the base wall thereof when the pivot 10 has moved slightly beyond the center line between the pivots 11 and 12, whereby the links 8 and 9 serve as a locking device for holding the cover open.

A novel connection is provided between the cover 2 and an instrument or draining tray 15 which operates within the sterilizing chamber 1. This connection is such that a sterilizing chamber of minimum depth may be employed with a tray of a given width. A lost motion is provided which will permit a movement of the cover during the first part of the opening and the latter part of the closing movement without producing any movement in the tray. In this embodiment, this connection comprises two arms 16 extending downwardly and forwardly from the cover 2 near the hinge of the latter, and having upwardly-opening hooks 17 at their free ends for engagement with downwardly-

opening hooks 18 at opposite ends of the instrument or draining tray 15.

When the cover is closed, as shown in Fig. 1, the hooks or engaging portions of the arms 16 lie to one side of and below the hooks 18. During the first part of the opening movement of the cover the hooks 17 move upwardly and forwardly toward the hooks 18 to cooperate with the latter, and after such cooperation the tray 15 is elevated, but not carried out of the top of the sterilizing chamber 1. Although each of the hooks 17 swings in an arc of a circle, only that portion of its movement which is substantially vertical is utilized for lifting the tray 15, and the latter, by cooperation with the walls of the sterilizing chamber, is held to a vertical movement.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a sterilizer, a sterilizing chamber, a tray resting on the bottom of the chamber and having portions at opposite ends substantially midway between its sides, a hinged cover, and devices depending from the cover and having portions which, when the cover is closed, lie out of contact with, below and on the rear side of the portions on the tray and are carried by the cover into contact with the portions at the end of the tray to lift the latter in the chamber as the cover is opened, and cover opening means constructed to hold the cover in an open position where the tray cooperates with the side walls of the sterilizing chamber to hold said tray against swinging.

2. In a sterilizer, a sterilizing chamber, a tray adapted to rest upon the bottom of the sterilizing chamber, a hinged cover for the chamber, open hooks on the draining tray, and arms carried by the cover near the

hinge of the latter and extending downwardly and forwardly, said arms having hooks at their free end lying out of contact with, below and on the rear side of the hooks on the tray while the cover is closed but entering into contact with the hooks on the tray when the cover reaches a certain position in opening so that the tray is elevated in opening the cover, and cover opening means constructed to hold the cover in an open position where the tray cooperates with the side walls of the sterilizing chamber to hold said tray against swinging.

3. In a sterilizer, a sterilizing chamber, a tray guided vertically by the walls of the chamber, and a cover for the chamber having a lost motion connection with the tray to raise and lower the tray within the chamber without removing the tray from the chamber, said connection permitting the cover to move without moving the tray as the cover begins its opening movement or completes its closing movement, and cover opening means constructed to hold the cover in an open position where the tray cooperates with the side walls of the sterilizing chamber to hold said tray against swinging.

4. In a sterilizer, a sterilizing chamber, a tray adapted to rest upon the bottom of the sterilizing chamber, a hinged cover for the chamber, devices carried by the cover and lying out of connection with the tray when the cover is closed, said devices cooperating with the tray to elevate the latter after the cover in opening has passed a certain position, and cover opening means constructed to hold said cover in an open position where the tray cooperates with the side walls of the chamber to be held against swinging.

WEEDEN B. UNDERWOOD.