

No. 816,886.

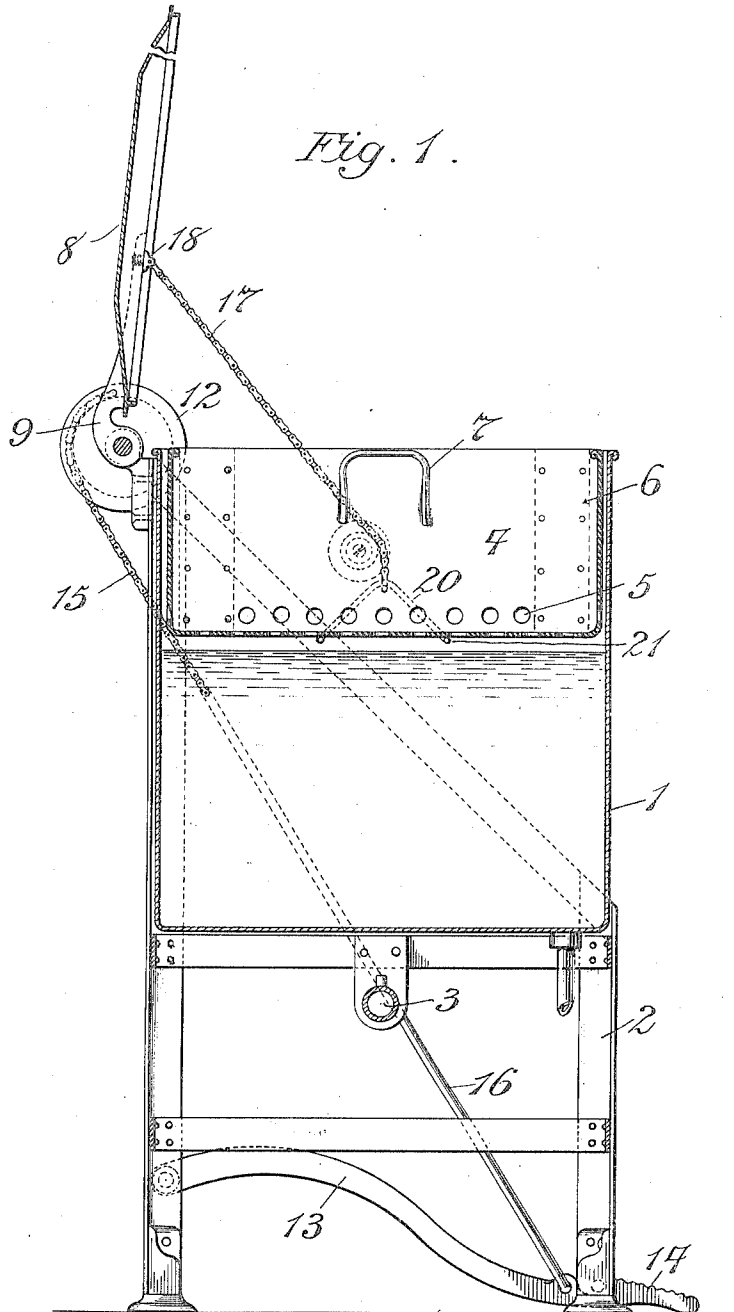
PATENTED APR. 3, 1906.

H. W. SHONNARD.
BASIN STERILIZER.

APPLICATION FILED SEPT. 30, 1905.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

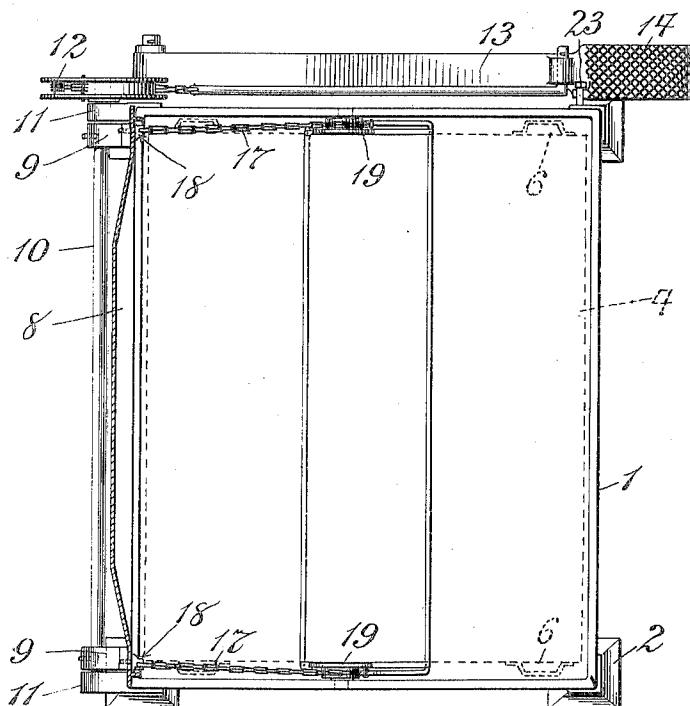


Fig. 3.

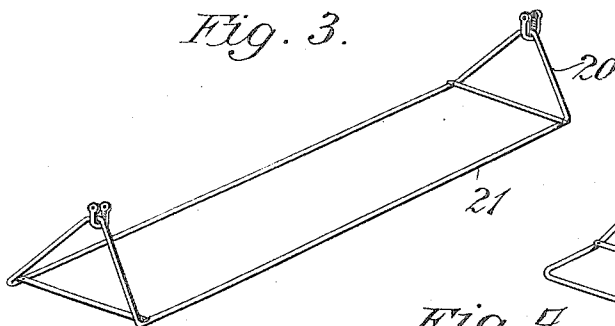
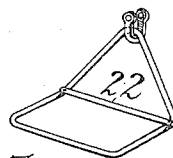


Fig. 4.



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HAROLD W. SHONNARD, OF EAST ORANGE, NEW JERSEY.

BASIN-STERILIZER.

No. 816,886.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed September 30, 1905. Serial No. 280,755.

To all whom it may concern:

Be it known that I, HAROLD W. SHONNARD, a citizen of the United States, residing in East Orange, New Jersey, have invented a certain new and useful Improvement in Basin-Sterilizers, of which the following is a specification.

Where utensils, rubber gloves, or other articles are to be sterilized preparatory to use in surgery, it is very important that such articles be protected after sterilization from all danger of the slightest infection by their surroundings.

The present invention has relation to the type of sterilizer known as "basin-sterilizers," wherein the articles treated are plunged into boiling water and are withdrawn therefrom immediately prior to use.

The principal object of this invention is the provision of a device of this type which, while it is inexpensive and light, taking up very little room, is at the same time capable of efficient use without complicated mechanism and under circumstances which do not involve the least risk of infection either of the articles primarily or of the hands of the user.

The invention is shown in a preferred form in the accompanying drawings, wherein—

Figure 1 is a median vertical section of the device. Fig. 2 is a top plan view of the same with the tray shown in dotted lines. Fig. 3 is a perspective view of the preferred lifting-rack, and Fig. 4 shows a modification of the same also in perspective.

The main tank 1 is supported by any appropriate framework 2 and is designed to contain water, as shown, which is heated by a proper gas-heater 3 or otherwise.

The removable metallic tray 4 is designed to carry the articles to be sterilized and is perforated, as shown at 5, so as to freely admit the boiling water when said tray is immersed. This tray should preferably have the general contour in plan of the tank 1 and should fit quite loosely therein, as shown in Fig. 1. By supplying guide extensions 6 at or near the corners (see Fig. 2) tilting and jamming of the tray when raised or lowered is prevented.

The tray 4 is preferably supplied with handles 7; but these are not to be ordinarily used when the articles which have been sterilized are withdrawn. When the surgeon has sterilized his hands and approaches the basin-

sterilizer to withdraw the articles he wishes, it is desirable that he be not obliged to handle anything but the articles in question. It is the principal object of this invention to provide a simple means whereby the surgeon may himself raise the submerged tray and the articles upon it without assistance and without the use of his hands or of overhead machinery, from which dust or other germ-bearing material is apt to fall upon the tray. For this purpose I employ means whereby mere pressure of the foot will raise the tray into the position shown above the boiling water, so as to make the sterilized articles accessible. It is to be understood that this invention is not limited to any particular construction of the means whereby motion of the pedal or treadle is transmitted to the tray. In the preferred form shown, however, this means is so arranged that both the tray and the cover 8 are simultaneously operated by a common treadle and the weight of the tray and its contents are made to tend to hold said covers closed, so as to resist the outward pressure of the steam generated within the tank 1. In this preferred arrangement the cover 8 is fixed to two arms 9, which are fast at one end to the horizontal shaft 10. This shaft turns in bearings 11 at the two ends of the main tank 1 and a wheel 12 is fixed to one end thereof. Near the bottom of the framework 2, at one side thereof, a treadle-lever 13 is pivoted which carries at its front end a pedal or foot-piece 14. An appropriate connection is provided between said treadle and the wheel 12, whereby the latter may be rotated. In its preferred form, as shown, this connection comprises the link belt or chain 15, fixed at one end to the periphery of the wheel 12 and having its other end connected to the treadle 13 by a rod 16. The use of a continuous chain is within my invention and the construction shown may be looked upon as a chain having a very long terminal link. This arrangement is found to prevent vibration and uncertainty of movement to a great extent.

To complete the transmission system extending from the treadle 13 to the tray, I employ a chain 17 or equivalent means on each side, one end of each of which is fixed to one side of the cover, preferably by a screw-staple 18 or other attachment making direct connection with one of the arms 9. The other end of

each chain 17 acts to lift the tray 4, and the mechanical connection whereby this is accomplished may take any one of many forms. I prefer to employ an indirect means for this purpose, however, as it is obviously desirable that the tray 4 be easily capable of removal without disturbing any attachment of said chain. In the two preferred forms shown a wheel or pulley 19 is pivoted on the inner face of each side of the tank 1, and the chains run over these pulleys. In the form shown in Figs. 1 and 2 a single cradle is supported at its two ends by the chains 17. This cradle, as shown, consists of triangular wire sides 20, joined by two straight horizontal wires 21, which extend under the flat bottom of the tray 4 to support the same. It is obvious that various forms of cradles may be appropriately employed in this connection without departing from my invention.

In Fig. 4 is shown a form of cradle 22 which can be attached separately to each chain 17, thus supporting the tray 4 upon two cradles hung under its two ends. This modification is within the spirit and scope of my invention.

In using the device above described the articles to be sterilized are placed in the tray 4 and the cover is closed. This permits the tray and its contents to sink beneath the water in the tank 1. In this position the weight of the tray and contents tends to hold the cover down against the pressure of the steam, and thus maintains more uniform conditions with a higher temperature and prevents noisy vibration of the cover. When it is desired to use any sterilized article, the surgeon needs no assistance, but has only to depress the treadle with his foot and the cover will rise, while the tray is lifted out of the water into the position shown in Fig. 1. Here, without manual contact with the machine, the surgeon can pick out the article desired and can return the whole to sterilizing position by allowing the treadle to rise again. Whether one or more treadles be used, however, it will be found convenient to pivot the lever 13 loosely enough to permit its outer end to be pushed laterally under a securing lug or projection 23, (see Fig. 2,) so that, if desired, the tray may be held in its raised position, and the cover may be held open without exerting a continued pressure of the foot.

What I claim is—

1. In a sterilizer, a main tank, a movable tray therein, a treadle and means connecting said treadle with said tray for producing operative movement of the tray, substantially as described.

2. In a sterilizer, a main tank, a tray sliding vertically therein, a treadle and means connecting said treadle with said tray for lifting said tray, substantially as described.

3. In a sterilizer, a main tank, a perforated tray fitting loosely therein, guides on said

tray for preventing tilting thereof, a treadle and means connecting said treadle for lifting said tray, substantially as described.

4. In a sterilizer, a main tank, a tray fitting therein, wheels on the inner faces of the tank sides, a chain connected to each side of said tray and passing over each of said wheels, a treadle and operative connections between said treadle and chain, substantially as described.

5. In a sterilizer, a main tank, a tray fitting therein, a shaft pivoted to said tank and carrying a wheel on one end thereof, a treadle, a chain connecting said treadle with said wheel and operative connections between said shaft and tray for raising the latter, substantially as described.

6. In a sterilizer, a main tank, a tray fitting therein, a treadle, a shaft pivoted to said tank, arms fixed to said shaft, operative connections between said arms and said tray and operative connections between said treadle and shaft, substantially as described.

7. In a sterilizer, a main tank, a tray fitting therein, wheels within the tank, a shaft pivoted to said tank, arms on said shaft, a wheel on said shaft, a treadle, a chain connecting said treadle with the wheel on said shaft and chains connecting said arms with said tray and passing over the wheels within said tank, substantially as described.

8. In a sterilizer, a main tank, a pivoted cover thereon, a tray fitting in said tank, a treadle and operative means connecting said treadle with said cover and tray for raising both simultaneously, substantially as described.

9. In a sterilizer, a main tank, a cover thereon, a tray fitting said tank and connections between said cover and tray whereby the weight of the tray tends to hold down said cover, substantially as described.

10. In a sterilizer, a main tank, wheels within the same, a tray fitting within said tank, a cover for said tank and flexible connections between the tray and cover passing over said wheels, substantially as described.

11. In a sterilizer, a main tank, a tray fitting the same, a shaft pivoted to said tank, a treadle operatively connected to said shaft, arms fixed on said shaft, a cover operatively connected to said arms and operative connections between said arms and said tray, substantially as described.

12. In a sterilizer, a tray, a cradle for supporting the same, a treadle and operative means connecting said treadle and cradle, substantially as described.

13. In a sterilizer, a tank, a tray, a cradle for supporting the same, a cover for the tank and means connecting said cradle and cover whereby a weight on said cradle tends to hold down said cover, substantially as described.

14. In a sterilizer, a tank, a tray fitting the same, a cradle extending under said tray from

side to side thereof and lifting means connected to said cradle at both sides of said tray, substantially as described.

5 15. In a sterilizer, a tank, a shaft pivoted thereto, a treadle, operative connections between said treadle and shaft, arms on said shaft, a cradle within said tank, a tray on

said cradle and operative connections between said cradle and said arms, substantially as described.

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Witnesses:

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