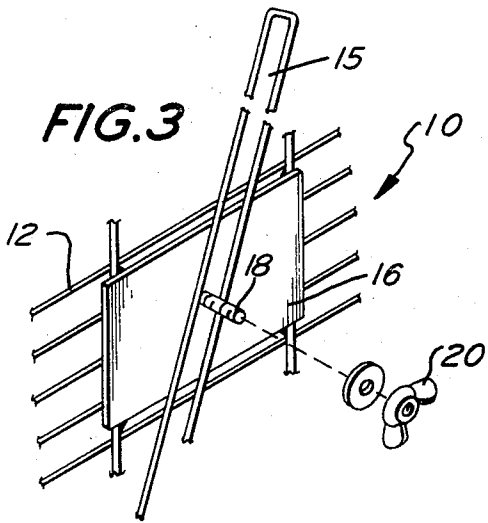
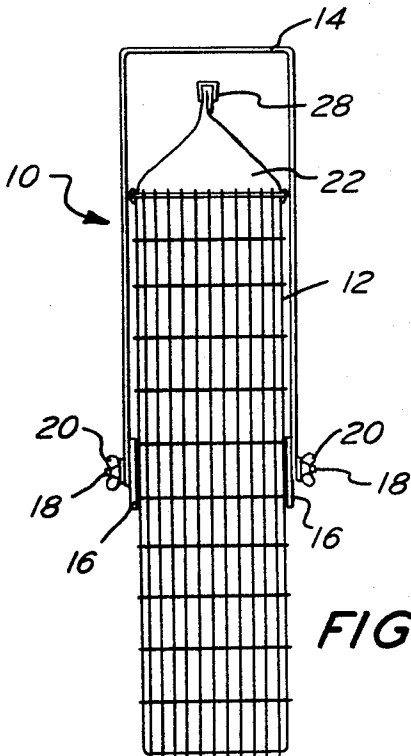
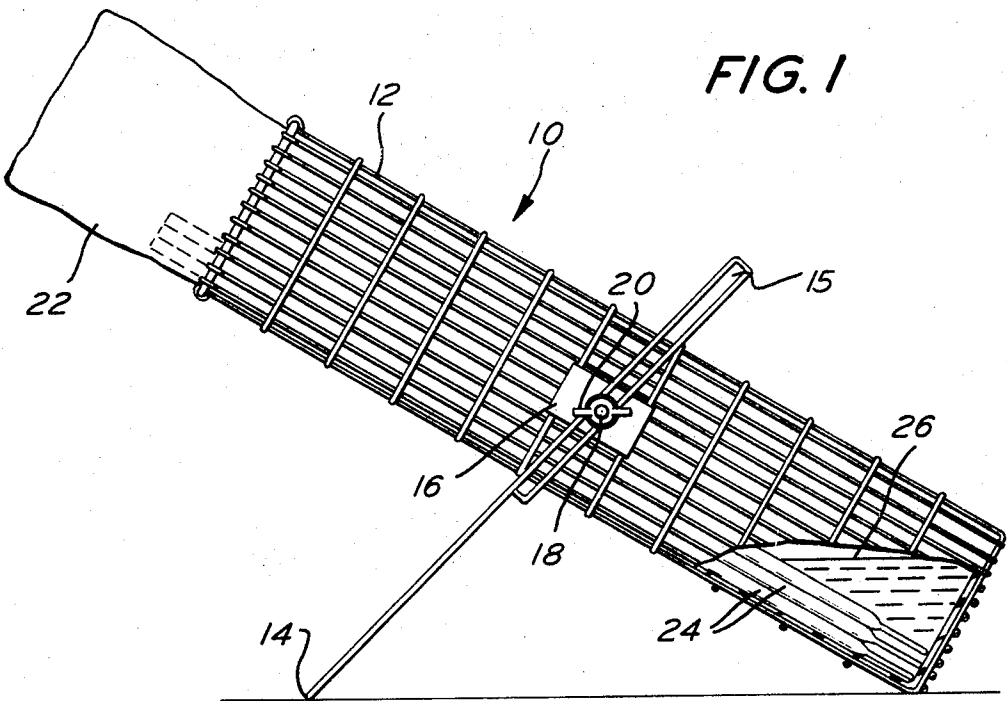


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DECONTAMINATION UNIT
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DECONTAMINATION UNIT

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5 Claims

ABSTRACT OF THE DISCLOSURE

A decontamination unit wherein an open wire container provides the support for a plastic bag containing disinfectant. The container is provided with a carrying handle which can also function as a stand for offering convenient disposal of contaminated pipettes. The bag is further provided with a means for sealing the interior of the bag from atmosphere to prevent contamination of the immediate area by aerosol particles prior to the entire unit being autoclaved.

DISCLOSURE

This invention relates to a decontamination unit and more particularly to a container for providing septic disposal of pipettes and the like.

Presently, the handling of contaminated pipettes in laboratories poses a serious biological hazard. Current methods of retaining the pipettes or other contaminated glassware do not prevent aerosol particles from contaminating the immediate vicinity surrounding the storage place. The existing disposal containers for pipettes are generally left open to the atmosphere. Further, the presently used containers are long, cumbersome affairs which are easily tipped over when placed on the top of a laboratory bench or knocked over when placed on a floor or other low surface near the bench. The resulting danger from an accidental spilling of such a container constitutes an unnecessary working hazard.

In addition to the foregoing, the presently available pipette containers are generally constructed of a solid impermeable material which requires lengthy autoclaving to insure that the contents of the container have been thoroughly decontaminated.

The foregoing factors have made it desirable that a substitute be found for the present type of pipette container.

It is therefore an object of this invention to provide a decontamination unit wherein the unit itself is easily adapted to be stable when placed on a laboratory workbench and offer a convenience in carrying which will permit safer handling of the container when it contains contaminated pipettes and the like.

It is a further object of this invention to provide a container which is easily autoclaved, permitting effective heating of the contents of the container to facilitate in their decontamination.

It is still a further object of this invention to provide a decontamination unit which initially provides for a measure of decontamination through the use of disinfectants and the like and further prevents aerosol contaminants from entering the atmosphere in the vicinity of the container.

The above and further objects and advantages of the present invention will be apparent from the hereinafter contained description.

For the purpose of illustrating the invention, there is shown in the drawings a form which is presently preferred; it being understood, however, that this invention is not limited to the precise arrangements and instrumentalities shown.

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FIGURE 1 is a side elevation, partially broken away, of the decontamination unit of the present invention in an angular position.

FIGURE 2 is a fragmentary perspective exploded view of the attachment means of the unit of FIGURE 1.

FIGURE 3 is an upright elevation of the unit of FIGURE 1 with the handle extended in the carrying position.

Referring now specifically to the drawings, the decontamination unit 10 comprises a wire container 12 having a bail handle 14 adjustably attached to the container 12 by means of a loop 15 on handle 14 being retained by wing nut 20 threaded on bolt 18 which is attached to a plate 16 fixed to the container 12. Bolt 18 is located above the center of gravity of container 12. The interior of container 12 is provided with a bag 22 for containing pipettes 24 and disinfectant 26. Bond or closure member 28 seals the folded top of bag 22 from the atmosphere.

It has been discovered that a decontamination unit according to this invention is especially well-suited for containing pipettes. The bail handle can be rotated and adjusted for any angular position desired by loosening the wing nuts 20 which fasten the loop 15 of the bail 14 to the sides of the wire container 12. As shown in FIGURE 1, the container of the unit according to this invention, can then be placed on top of a laboratory bench or the like, providing a handy receptacle for used pipettes. This convenience is extremely important for the safe handling of the contaminated materials since it does not require a laboratory worker to lift the pipette high into the air to insert it into the top of a tall container. Further, the plastic bag into which the pipettes are placed can hold a liquid microbial disinfectant and thereby provide initial decontamination by lowering the level of available contaminants. The plastic bag is further provided with a sufficient length to permit the end to be folded over and sealed if desired. This is especially desired if the laboratory work is of such a nature that autoclaving cannot be performed each time a pipette is used. In this manner, a quantity of pipettes can be accumulated in the container according to this invention, over a period of time, without a high risk of contamination in the area.

Preferably the bail handle should be rotated to permit the wire container 12 to form an angle with the horizontal surface on which it rests of about 30° to about 90°. The pipettes placed in the container will then nest on one side due to gravity, thereby permitting their tips to be immersed in the disinfectant.

Preferably the plastic bag 26 within the wire container 12 is constructed of a high density polyethylene of about 4 mil thickness. The bag of this type is especially well-suited in the practice of the present invention when the entire unit is eventually autoclaved. The thickness of the bag permits the liquid disinfectant and pipettes to be retained within the bag while permitting good heat exchange during autoclaving. The time required for complete decontamination of the contents of the container is then substantially less than when heavier plastic containers and the like are employed.

The wire container 12, according to this invention is preferably constructed of stainless steel wire to provide a rigid easily sterilized support for the plastic bag 22 and the handle 14. Any other material which is acceptable for general laboratory use and permits a high rate of heat transfer to the contents of the bag during autoclaving is suitable.

When the container is full of contaminated pipettes, the top of the bag or liner is folded over and secured, sealing the contaminated pipettes from the surrounding atmosphere. The entire apparatus is then autoclaved as a unit. Preferably autoclaving should take place at approximately 256° F. under 15 pounds of steam pressure. These con-

ditions are maintained for a sufficient period of time to permit complete decontamination of the contents. It has been discovered, according to this invention, that the time required for such decontamination is substantially shorter than where larger more bulky pipette containers are employed. The heat of the autoclave sterilizes the entire unit and after removal of the unit from the autoclave, the pipettes may be safely removed from the bag and subjected to routine laboratory washing procedures. Preferably, the bag is destroyed or discarded after the autoclaving.

As hereinbefore described, the decontamination unit of this invention permits effective septic treatment of contaminated pipettes thereby reducing the biological hazards normally attending the disposal of such laboratory articles.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof and, accordingly, reference should be made to the appended claims, rather than to the foregoing specification as indicating the scope of the invention.

I claim:

1. An autoclavable decontamination unit comprising an elongated open mesh container of autoclavable non-corrosive material which is self-supporting, a flexible disposable plastic liner having a closed end in said container and an open end projecting beyond an open end of said container, and a support member adjustably connected to said container so that the angle of the longitudinal axis of said container may be adjusted relative to the horizontal between 30° and 90°.

2. The decontamination unit of claim 1 wherein said liner is a bag which is provided with a tie member at its open end to permit said bag to be sealed from the atmosphere after receiving contaminated pipettes.

3. The decontamination unit of claim 2 wherein the support member of said container includes an adjustable, one-piece handle means releasably fastened to attachment means located on at least two sides of said wire container above the center of gravity of said container and extending above the open end of said container.

4. The decontamination unit of claim 3 wherein said

one-piece handle means is movable to an angular relationship with said container to provide a support for said container resting at an angle of from about 30° to about 90° to the horizontal by release of the attachment means, predetermined rotation and adjustment of the handle means and refastening of said attachment means.

5. A decontamination unit for containing pipettes and the like, comprising an elongated stainless steel wire container having an open end for receiving the pipettes, a plastic container capable of containing a liquid and shaped to be received within said wire container with the bag being long enough to receive said pipettes completely within its length and extending beyond the open end of said wire container, an amount of a liquid microbial disinfectant contained in said bag sufficient to provide initial decontamination of at least a portion of the pipettes received within said bag, and a support member adjustably connected to said container so that the angle of the longitudinal axis of said container may be adjusted relative to the horizontal between 30 degrees and 90 degrees.

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