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2,466,162

DISPLAY AND DEMONSTRATION APPARATUS

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Fig. 1

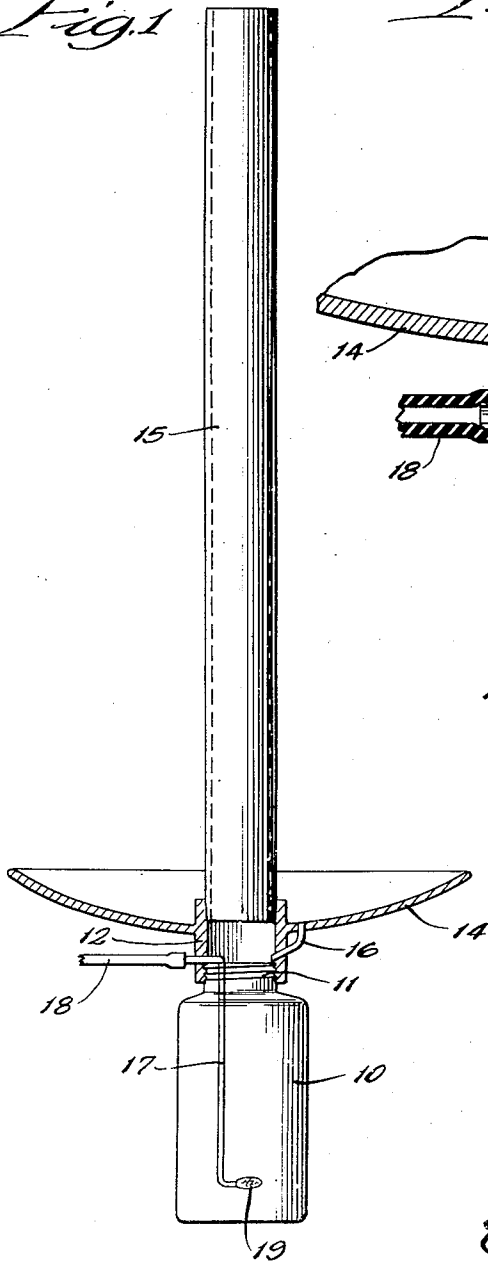
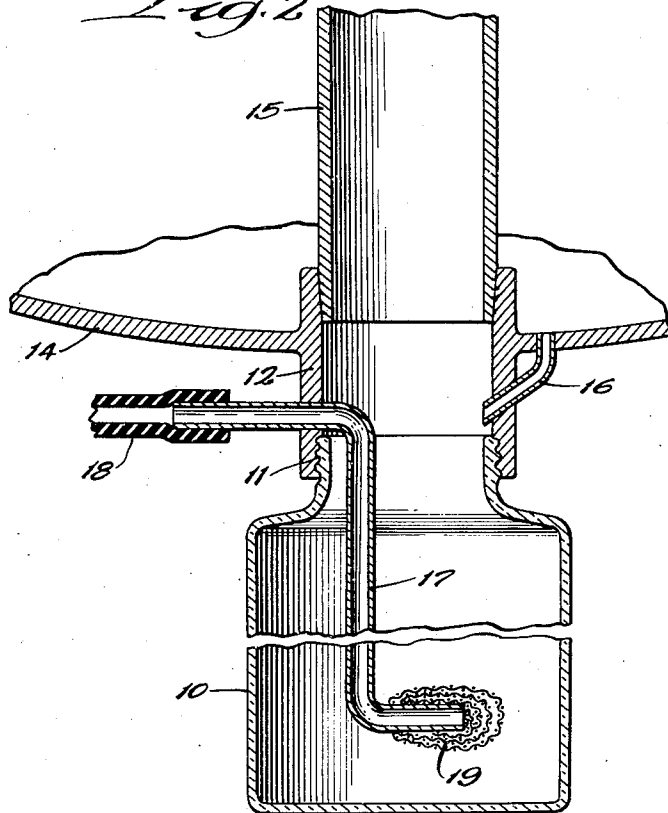


Fig. 2



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DISPLAY AND DEMONSTRATION
APPARATUSCharles F. J. Dupuy, Chicago, Ill., assignor to
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2 Claims. (Cl. 35-49)

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This invention relates to display and demonstration apparatus and is particularly useful in the demonstration of liquid materials that foam.

An object of the invention is to provide apparatus which will effectively demonstrate the foam forming qualities of liquids while at the same time rendering the process continuous by the return of the liquid formed by the condensed or collapsed foam. Yet another object is to provide apparatus of substantially large proportions necessary for the demonstration of the forming of foam while at the same time providing means for the ready assembly and disassembly of the several parts of the apparatus and enabling the parts to be packed in relatively small space for transportation. Other specific objects and advantages will appear as the specification proceeds.

The invention is illustrated, in a preferred embodiment, by the accompanying drawing, in which—

Figure 1 is a side view in elevation, a portion of the apparatus being shown in section; and Fig. 2, a broken vertical sectional view.

In the illustration given, 10 designates a container such as, for example, a five gallon glass jar or any other suitable container. The container is shown provided with a threaded neck 11 to which is threadedly secured a collar 12. Integrally formed with the collar 12 is a tray or basin 14 which preferably has sides sloping toward the center of the annular tray. The tray may be formed of metal, plastic material, or any other suitable material. Received within the collar 12 is a column 15, preferably of transparent material, which may extend 6 or 7 feet above the basin 14. The column 15 may be formed of Lucite or any other suitable material, and preferably of a transparent character.

Communicating between the bottom of basin 14 and the interior of collar 12 is a return pipe 16 adapted to return the liquid formed upon the collapsing of foam to the container 10.

Any suitable means for introducing a gas, such as air, into the liquid body for the purpose of forming foam may be employed. In the illustration given, I provide a pipe 17 which extends through the collar 12 and may be connected by a suitable hose 18 or other means to an air compressor or other source of air. Pipe 17 terminates in an open end, and the end is enclosed by a mass of wire screen 19 which tends to diffuse the incoming air so that it enters the liquid from widely distributed points and in small portions. The breaking up of the air stream thus facilitates the forming of foam within the liquid body.

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Operation

In the operation of the device, the parts are assembled by rotating collar 12 to secure it to the threaded neck 11 of container 10 which contains the liquid to be demonstrated. A hose 18 is connected to the pipe 17 and leads to an air compressor, etc. The transparent pipe 15 is then placed within the collar 12. The container 10 may in itself serve as a base for the entire structure or, if desired, any other support for the tray 14 may be employed. If desired, the container 10 may be provided with a flared or widened bottom so as to provide a more extensive base. In normal operation, a screen is placed around the lower portion of basin 14 and thus there is exposed to view only the screen, basin or tray 14, and the transparent column 15. Air is introduced through pipe 17 and enters the liquid in dispersed form from the screen 19. The foam that is formed rises upwardly through the neck 11, collar 12 and column 15. The rising current of air carries the bubbles upwardly through the transparent column 15 and they are discharged from the open end of the column, falling downwardly along the outside of column 15 and tending to collect in mounds upon the tray 14. The apparatus thus gives a visual demonstration of the effectiveness of the liquid in forming foam and specific types of foam. For attractive effects, colored lights may be supported above the column 15 so as to cast their rays upon the foam as it falls slowly toward tray 14.

In the above operation, the foam tends to collapse at points along the outside of column 15 and within the tray 14 and the resultant liquid flows downwardly toward the center of tray 14 and is returned by the pipe 16 to container 10. Thus, there is a continuous process in which foam is constantly formed and foam forming liquid is constantly returned to the container. The incoming air stream serves to create the foam and further serves as a means for propelling it upwardly through column 15 so that it may be discharged along the outside of column 15.

It will be understood that many other effects may be produced in the display operation, as, for example, by adding tubes formed in letter or design configurations and through which the foam may be passed. It is sufficient, however, for the purpose of illustrating the invention to show the straight transparent tube 15.

After use of the structure, the column 15 may be withdrawn from collar 12, and similarly the collar 12 may be detached from the container

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neck 11. The pipe 17 may, if desired, be removed from the collar 12 and the separated parts may then be packed for shipment, occupying relatively small space. In such an operation, the integral collar 12 formed with the tray 14 serves as a simple and effective means for connecting all of the parts together. Thus, there are no screws or bolts or small assembly parts for storing. Upon reaching the next point of demonstration, the work of assembling the apparatus requires a very few minutes.

The transparent pipe 15 may be secured within the collar 12 by merely slidably engaging the collar, or the parts may be connected by slots and ribs or by any other suitable means.

It will be understood that any foam-forming material may be used; for example, a foaming cleaner solution for rugs and the like, or soapy water or any other suitable forming material may be used. The apparatus may be used also in connection with fire-fighting foam materials in which protein foam stabilizers, etc., are employed.

While in the foregoing specification I have set forth certain specific apparatus in great detail as illustrative of one embodiment of my invention, it will be understood that such details may be varied widely by those skilled in the art without departing from the spirit of my invention.

I claim:

1. In apparatus of the character set forth, a container equipped with a threaded neck, a collar threadedly engaging said neck, a transparent

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column removably engaging the upper portion of said collar and supported thereby in a vertical position, an annular tray carried by said collar and equipped with means for returning liquid in said tray to the interior of said collar, and means for discharging air into said liquid to form foam and produce a rising current of air in said column, said column being open at its top.

2. In apparatus of the character set forth, a container equipped with a threaded neck, a collar threadedly engaging said neck, a transparent column telescopically engaging said collar and supported thereby in a vertical position, a tray formed integrally with said collar and having an annular upwardly turned portion forming a basin around said collar; a return pipe between said basin and the interior of said collar, means for introducing air into the liquid of said container and means for dispersing the air within said liquid.

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