April 5, 1927. 1,623,690

R. H. LITTLE

DISPENSING DEVICE

Filed Oct. 13, 1926

Fig. 1.

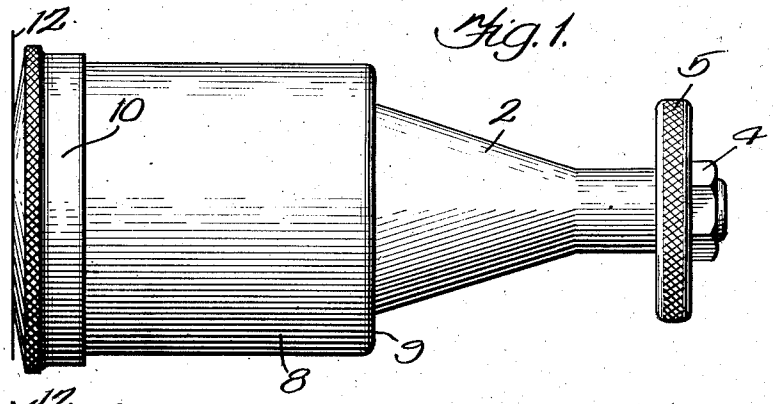


Fig. 2.

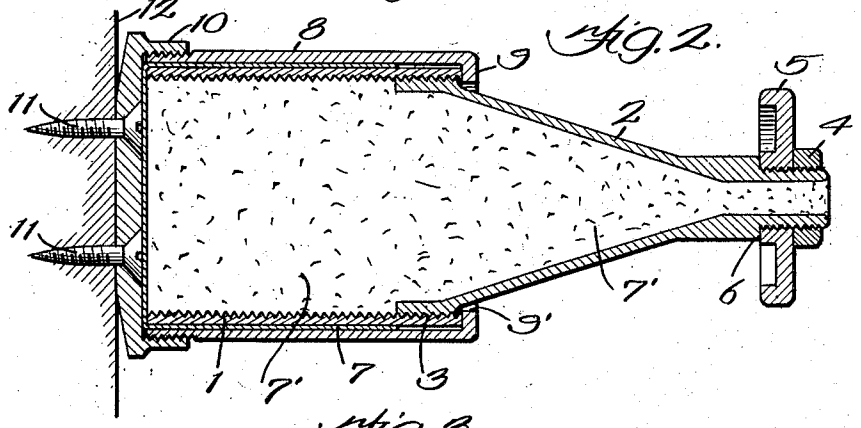
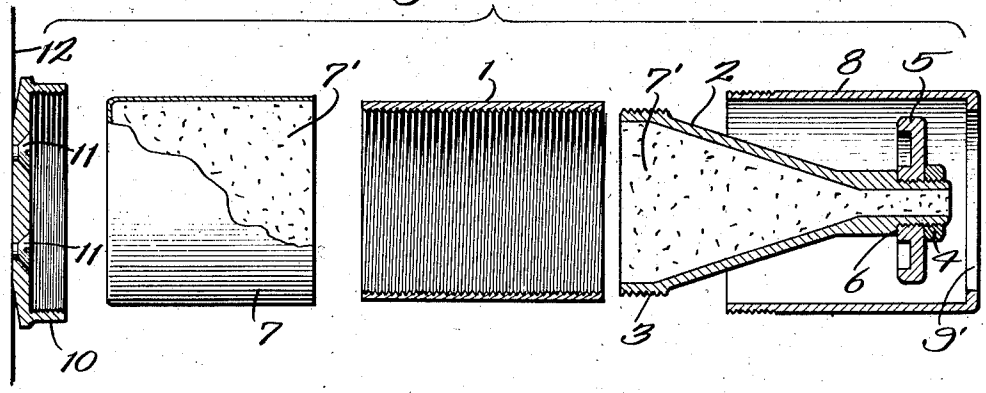


Fig. 3.



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Patented Apr. 5, 1927. 1,623,690

UNITED STATES PATENT OFFICE.

ROBERT H. LITTLE, OF RITTA, FLORIDA.

DISPENSING DEVICE.

Application filed October 13, 1926. Serial No. 142,130.

My invention relates to dispensing devices and is particularly useful in devices that are employed for dispensing semi-fluid soap though the invention is not to be limited to any particular use.

In carrying out my invention, a shell is employed which is preferably open at both ends and in which the soft soap or other matter to be dispensed is disposed. The rear end of a dispensing nozzle is initially received in the front end of the shell and is movable from the front end of the shell toward the rear whereby the matter to be dispensed is forced through the nozzle, the rear end of the shell being then closed. In the preferred embodiment of the invention, the shell is interiorly threaded and the rear end of the nozzle is exteriorly threaded, the threads upon the shell and nozzle being in mesh so that when one of these elements, preferably the nozzle, is turned in a direction to move the rear end of the nozzle toward the rear end of the shell, the matter to be dispensed is forced through the nozzle.

My invention is particularly adapted for the dispensing of semi-fluid soap which is sold in containers and when the invention is thus adapted, the rear end of the aforesaid shell is forced against the bottom or end wall of the container, thereby closing the rear end of the shell. As the shell has snug sliding fit with and within the container, the material in the container is forced into the bore of the shell as the shell is moved rearwardly preparatory to being forced into the nozzle when the rear end of the nozzle is moved toward the rear end of the shell and the bottom of the container.

Clamping means is employed for maintaining the shell and container in fixed relation. This clamping means is preferably in the form of a sleeve which surrounds the shell and container, this sleeve being adapted to have its forward end engage the forward end of the shell and its rear end in threaded engagement with a cup-like mounting that is employed to hold the entire device upon a wall or other support.

The invention will be more fully explained in connection with the accompanying drawing in which Fig. 1 is a side view of the preferred embodiment of the invention; Fig. 2 is a longitudinal sectional view; and Fig. 3 is a view of the device with the parts thereof in separated relation, all of the parts being shown in longitudinal section with the exception of the container which is shown partially in section and partially in elevation.

The dispenser illustrated includes an interiorly threaded hollow cylindrical shell 1 which is open at both ends. The nozzle 2 is of funnel formation and is provided with threads 3 at its rear end, these threads meshing with the threads upon the interior of the shell. The front end of the nozzle bore is formed to impart the desired shape to the stream of soap or other matter that is being exuded. The nozzle is exteriorly threaded at its front end to receive a nut 4 which serves to clamp a gripping wheel 5 against the shoulder 6 upon the nozzle. This gripping wheel is desirably knurled and is of such diameter that it may readily be grasped to turn the nozzle within the shell. The shell is adapted to have snug sliding fit with and within the cylindrical wall of the container 7 which holds the soap 7′ or other matter that is to be dispensed.

In the use of the device, the cover of the container is removed and the shell is forced into the container and as the shell has sliding fit with and within the container, the material in the container is practically entirely forced into the bore of the shell, no appreciable amount of this material escaping between the shell and the container. After the shell has been inserted fully within the container so that the rear end of the shell engages the bottom of the container, and assuming that the rear end of the nozzle has been screwed into the position illustrated in Fig. 2, the clamping sleeve 8 is applied. This clamping sleeve has an annular shoulder 9 at its forward end which engages the forward end of the shell 1. The rear end of the clamping sleeve 8 is exteriorly threaded and is screwed into the threads provided upon the cylindrical wall of the mounting cup 10. The clamping sleeve 8, which surrounds the shell 1 and the container 7, when being screwed into the mounting cup, holds the inner end of the shell against the bottom wall of the container. If the shell has not been initially placed in actual engagement with the bottom of the container, the adjustment of

the clamping sleeve will complete the movement of the shell against this container bottom. As illustrated, the mounting cup 10 is secured by means of screws 11 upon a wall 12.

The shell 1 is desirably of such length that when the device has been supplied with a fresh container of the material that is to be dispensed, it will project beyond the container to an extent equal to the axial length of the rear threaded portion of the nozzle that is surrounded by the shell and clamping sleeve.

When the rear end of the nozzle has been rearwardly moved longitudinally of the shell sufficiently to bring this nozzle end against the bottom of the container, no further material can be dispensed from the device until a fresh container has been substituted. When the rear end of the nozzle has reached its rearmost position, a residue remains in the nozzle as indicated in Fig. 3, this residue being the first to be ejected when the device is used after the substitution of a fresh container. When the substitution of a fresh container is about to be effected, it is only necessary to continue the rotation of the nozzle to move it rearwardly sufficiently to have its rear threaded end clear the rear end of the shell, whereafter the nozzle is drawn rearwardly to separate it from the shell and is thereafter transferred to the front end of the shell, Fig. 3, to have its assembly with the shell renewed at this point, the nozzle being screwed into the shell to the position indicated in Fig. 2 before the clamping sleeve 8 is applied. The shoulder on the clamping sleeve is desirably of such size as to slightly lap the threaded rear portion of the nozzle on which account said sleeve is passed over the discharge end of the nozzle in being brought to position, the gripping wheel being of sufficiently small diameter to permit it to pass through the opening 9′ surrounded by said shoulder. The parts may be assembled in other ways, as will be readily understood.

While threaded engagement is preferably employed between certain parts of the device, as illustrated, it is obvious that the invention is not to be thus limited in all embodiments thereof.

Changes may be made without departing from the invention.

Having thus described my invention, I claim:—

1. A dispenser including an interiorly threaded hollow cylindrical shell open at both ends; a nozzle exteriorly threaded at its rear end, the threads upon said shell and nozzle meshing, the threads upon the shell being continued to enable the rear end of the nozzle to be moved toward the rear end of the shell; a clamping sleeve surrounding the shell and spaced apart therefrom to permit a wall of a container to be received between the shell and sleeve and formed, at its forward end, to engage a forward end portion of the shell and exteriorly threaded at its rear end; and an interiorly threaded cup whose threads mesh with the threads upon the clamping sleeve.

2. A dispenser including an interiorly threaded hollow cylindrical shell open at both ends; a nozzle exteriorly threaded at its rear end, the threads upon said shell and nozzle meshing, the threads upon the shell being continued to enable the rear end of the nozzle to be moved toward the rear end of the shell; and means for clamping the shell against the bottom of a container into which the shell is adapted to be inserted.

3. A dispenser including a hollow cylindrical shell open at both ends; a nozzle having a rear end in snug fit with the shell and movable from the front to the rear of the shell; a clamping sleeve surrounding the shell and spaced apart therefrom to permit a wall of a container to be received between the shell and sleeve and formed, at its forward end, to engage a forward end portion of the shell and threaded at its rear end; and a threaded cup whose threads mesh with the threads upon the clamping sleeve.

4. A dispenser including a hollow cylindrical shell open at both ends; a nozzle having a rear end in snug fit with the shell and movable from the front to the rear of the shell; and means for clamping the shell against the bottom of a container into which the shell is adapted to be inserted.

In witness whereof, I hereunto subscribe my name.

ROBERT H. LITTLE.