

[54] **DISTRIBUTOR FOR LIQUID TEXTILE CONDITIONERS**

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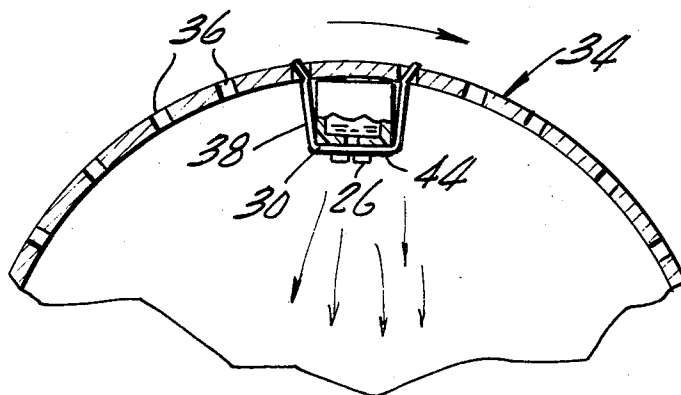
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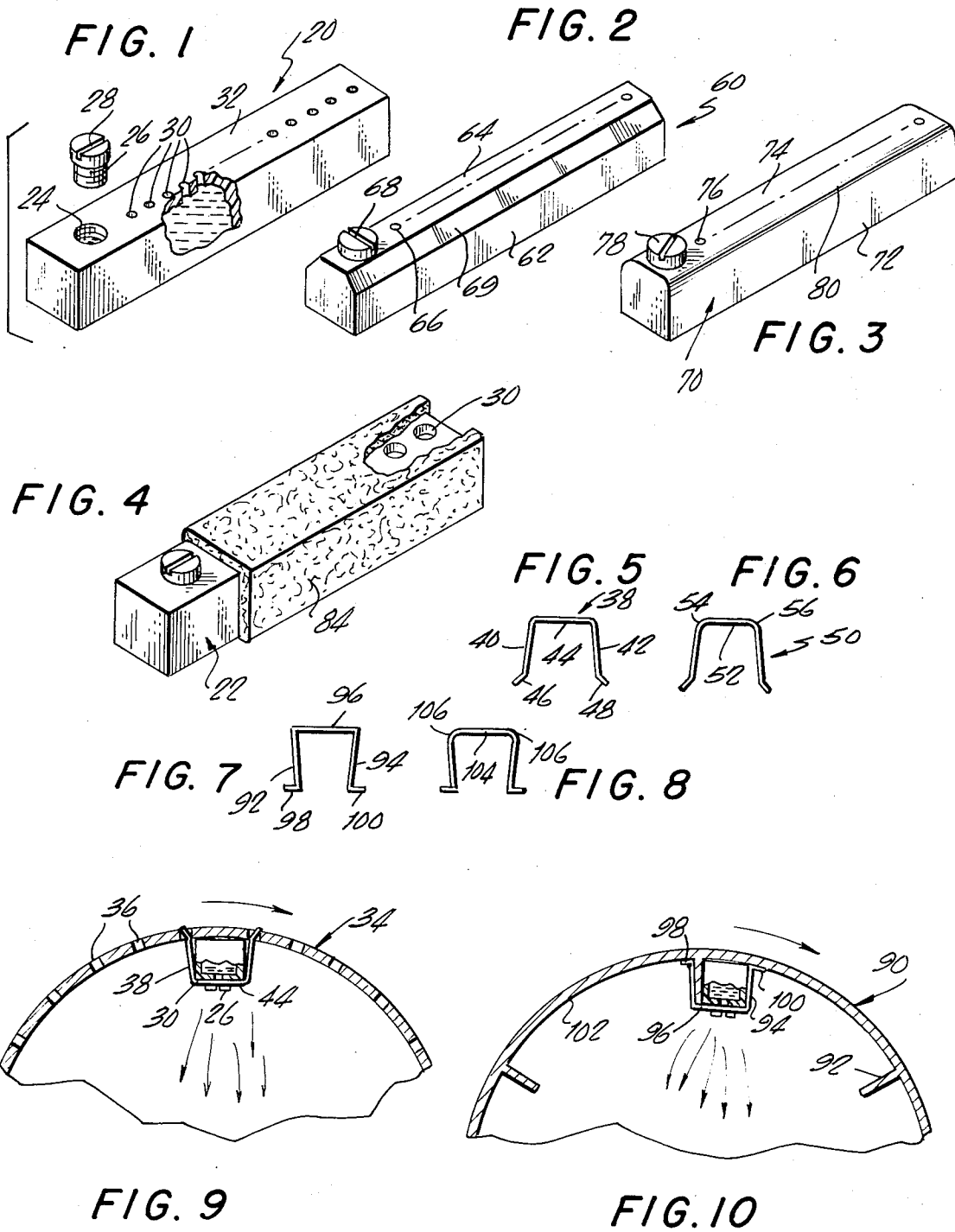
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**ABSTRACT**

A distributor for liquid textile conditioners for use in combination with a dryer drum comprising an elongated container detachably secured to the drum. The container has a removable closure for filling of the container with a textile conditioning substance. The container has a series of outlet apertures thereon and is covered with a porous material for distributing the conditioning substance.

**3 Claims, 10 Drawing Figures**





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## DISTRIBUTOR FOR LIQUID TEXTILE CONDITIONERS

This invention relates to the treatment of fabrics in a dryer and more particularly to a distributor for liquid textile conditioners capable of releasing the conditioning material at an optimum rate onto the clothes during the normal drying cycle of a household dryer.

Fabric conditioners of various types have been devised which are designed to be released during the normal drying cycle in a household dryer for conditioning the clothes.

In the past, the fabric conditioning material has been coated on various fabric, paper, or plastic sheet material. The coated material heretofore used has been generally rigid and such a size due to cause noise and vibration in the dryer at least during the early stages of use thereof.

The present invention overcomes the disadvantages of the aforesaid prior fabric conditioners by providing a distributor for fabric conditioning material which is in a liquid state by providing a container for the liquid and means for the optimum dispensing of the material predicated upon the viscosity of the liquid solution, the amount of solution needed, the heat of the dryer, and the other variable conditions existant during normal operation of a household dryer.

The concept of this invention features the use of an elongated container which is suitably mounted on the inner surface of the dryer and which is adapted to be filled with the liquid textile conditioner. A porous covering overlies the container and serves as a contact distributing surface for the material in a wick-like manner receiving the conditioning material through various apertures extending through the walls of the container.

It is, therefore, the primary object of the present invention to provide a simple, economical, and efficient device for distributing liquid fabric conditioning agents onto the clothes during the drying cycle of a dryer.

It is a further object of the invention to provide for a distributor for liquid textile conditioners that may be manufactured out of inexpensive plastic or like material so as to be available as a "give-away" or for promotional use in conjunction with the sale of the fabric conditioner.

It is a further object of the invention to provide suitable means for attaching the distributor for liquid textile conditioners to the inner surface of the dryer drum.

An additional object of the invention is to provide a dispenser for use in dispensing various types of textile conditioners such as brighteners, bleaches, anti-static fabric softeners, and the like or any suitable combination thereof and which provides for an increased surface area in contact with the clothes as compared with other means for applying fabric conditioners during the drying cycle.

Still further objects and features of this invention reside in the provision of a distributor for liquid textile conditioners which will provide for more thorough, uniform, and efficient application of the liquid textile conditioners to the clothes during substantially all of the drying cycle.

These, together with the various ancillary objects and features of the present invention, which will become apparent as the following description proceeds,

are attained by this distributor for liquid textile conditioners, preferred embodiments of which are illustrated in the accompanying drawing, by way of example only, wherein:

FIG. 1 is an exploded perspective view of an embodiment of the distributor for liquid textile conditioners, with parts being broken away, in accordance with the concepts of the present invention;

FIG. 2 is a perspective view of a modified form of the invention;

FIG. 3 is a perspective view of an alternate embodiment of the invention;

FIG. 4 is a perspective view with parts broken away to show other parts in detail of another embodiment of the invention;

FIG. 5, FIG. 6, FIG. 7, and FIG. 8 are elevational views of various forms of clips adapted to be used in accordance with the concepts of the present invention for attaching the distributors for liquid textile conditioners to the interior of the drum of a household dryer;

FIG. 9 is a schematic view illustrating one embodiment of the invention as attached to a drum and utilizing a clip of the type shown in FIGS. 5 and 6; and,

FIG. 10 is a sectional detail view schematically illustrating the manner in which one of the clips shown in FIGS. 7 and 8 is used for attaching a distributor for liquid textile conditioners to a dryer drum.

With continuing reference to the accompanying drawing, wherein like reference numerals designate similar parts throughout the various views, reference numeral 20 is used to generally designate an embodiment of liquid textile conditioner in the form of a container 22 generally rectangular in cross section and having an opening 24 adapted to be closed by a threaded closure device 26 having a kerf 28. The elongated container 22 has a plurality or series of apertures 30 therein which communicate with the interior of the container 22, the bores of which are of a predetermined size.

As shown in FIG. 7, the container 22 is adapted to be secured on the inner surface of a dryer drum generally indicated by reference numeral 34. The dryer drum 34 is of the type provided with a series of perforations 36 therethrough and clips 38 are provided. These clips include a pair of divergent arms 40, 42, and an interconnecting portion 44 which is adapted to engage and overlie the surface 32 of the container 22 with the diverging ends 46 and 48 of the arms 40 and 42 extending into the apertures and clampingly holding the container 22 to the dryer drum 34.

In FIG. 6 there is shown a modified form of clip, generally indicated by reference numeral 50, in which the interconnecting portion 52 is provided with rounded corners 54, 56.

Referring to FIG. 2, there is shown another embodiment of the distributor for liquid textile conditioner which is generally indicated by reference numeral 60. The distributor 60 includes an elongated container 62 having a distributing surface 64 provided with an opening therein closed by a removable closure 68. The container 62 has bevelled edges 69 and has a plurality of apertures 66 therein arranged in spaced relationship extending longitudinally along the surface 64 of the container 62. The container 62 is preferably molded of suitable synthetic plastic, but, of course, may be made

of lightweight metal or such other material as may be found desired.

In FIG. 3 there is shown a further modification, generally indicated by reference numeral 70, which is in the form of an elongated container 72 provided with a surface 74 and having a plurality of apertures 76 for discharging the liquid textile conditioner and having a fill opening adapted to be filled by a removable closure device 78. In this form of the invention the surface is provided with rounded corners as at 80 as compared with the bevelled edges 69 of the container 62.

Referring now to the embodiment of FIG. 4, herein there is shown a modification of the embodiment of FIG. 1 in which the container 22 is provided with a cover 84 of suitable porous material which may be of felt, porous synthetic plastic material, such as foamed polyurethane or the like, which material is designed to serve as a wick for transferring fluid metered through the openings 30. It is to be understood that the fluid in the container 22 is directed by gravity onto the wick-like covering 84 when and substantially only when the container 22 reaches a top dead center feeder position such as shown in FIG. 9. The size of the openings 30 are predetermined upon the viscosity of the conditioning liquid and the rate that it is determined desirable to transfer the conditioner onto the clothes.

In FIG. 10 there is shown a modified form of the invention in which the dryer drum, generally indicated by reference numeral 90, is of the type which is provided with a plurality of veins 92. Clips of the type shown in FIGS. 7 and 8 are employed and include a pair of convergent legs 92 and 94 interconnected by a portion 96 and having divergent feet 98 and 100 adapted to lie against the inner surface of the drum 90 while the clips clampingly hold the container against one of the veins

and against the inner surface 102 of the drum 90.

In FIG. 8 there is shown another form of the invention in which the central connecting portion 104 of the clip has rounded corners as at 106 and 108 so as to conform with the shape of a rounded surface container such as shown in FIG. 3.

The clips, whatever their shape, may be made of any suitable material, such as steel spring wire suitably covered by a plastic or rubber-like material.

A latitude of modification, substitution and change is intended in the foregoing disclosure, and in some instances, some features of the present invention may be employed without a corresponding use of the other features.

What is claimed is:

1. A distributor for liquid textile conditioners for use in combination with a dryer drum comprising an elongated container having an opening for filling said container with a liquid fabric conditioning agent, a removable closure for said opening, and a plurality of spaced U-shaped clip means for attaching said container to said drum, said clip means embracing said container, said container having a surface, said container having a series of fluid discharge apertures extending through said surface, and a porous felt-like non-metallic covering secured to said container and overlying said apertures serving as a wick.

2. A distributor for liquid textile conditioner according to claim 1, wherein said porous covering is selected from felt and foamed polyurethane.

3. A distributor for liquid textile conditioners according to claim 2, wherein said drum includes at least one radially extending flange, said clip means including clips clampingly holding said container to said flange.

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