

Oct. 9, 1962

R. R. WILLIAMS
PACKAGE FOR TREATING AGENTS AND DISPOSABLE
APPLICATOR FORMING A PART THEREOF

3,057,467

Original Filed Feb. 23, 1954

2 Sheets-Sheet 1

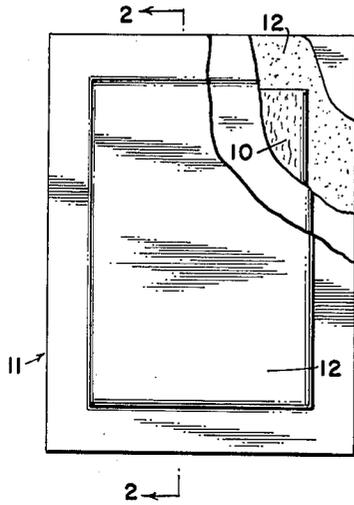


FIG. 1

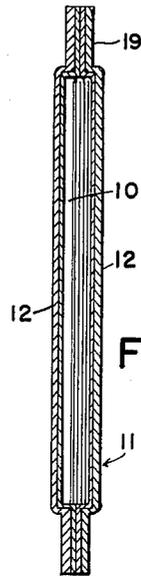


FIG. 2

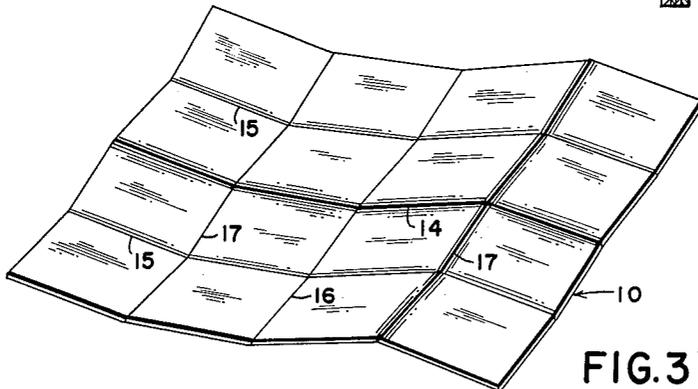
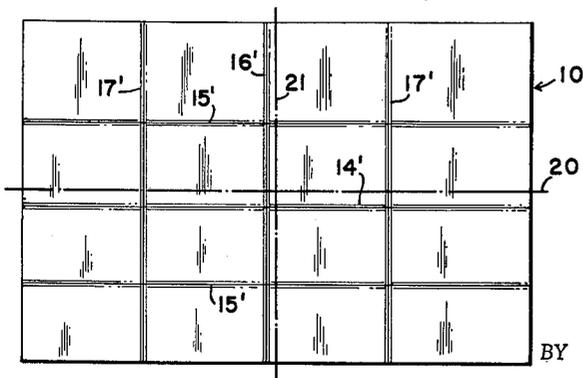


FIG. 3

FIG. 4



INVENTOR
ROSS R. WILLIAMS

BY

George H. Mortimer
ATTORNEYS

Oct. 9, 1962

R. R. WILLIAMS
PACKAGE FOR TREATING AGENTS AND DISPOSABLE
APPLICATOR FORMING A PART THEREOF

3,057,467

Original Filed Feb. 23, 1954

2 Sheets-Sheet 2

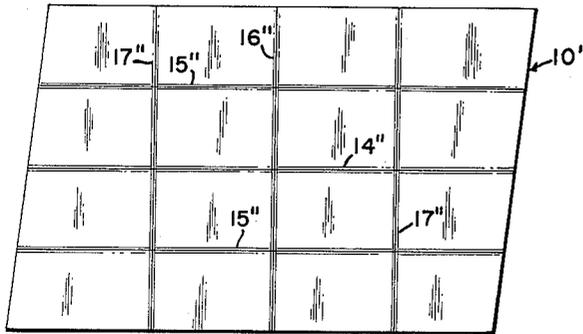


FIG. 5

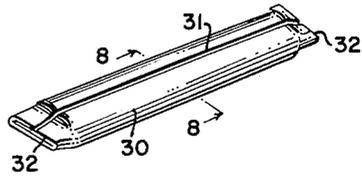


FIG. 7

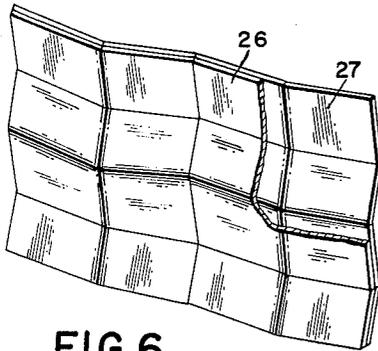


FIG. 6

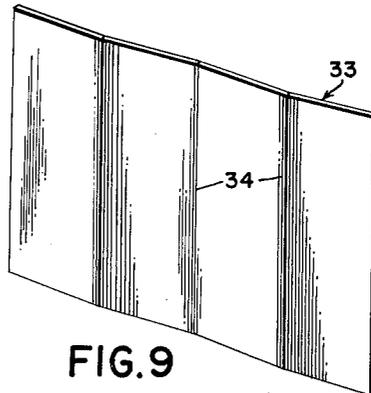


FIG. 9

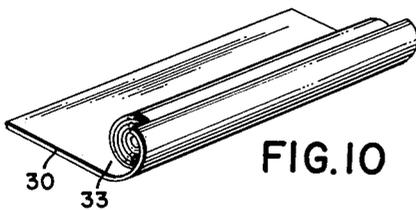


FIG. 10



FIG. 8

INVENTOR
ROSS R. WILLIAMS

BY *George H. Mortimer*
ATTORNEYS

1

3,057,467

PACKAGE FOR TREATING AGENTS AND DISPOSABLE APPLICATOR FORMING A PART THEREOF

Ross R. Williams, Norfolk, Conn., assignor, by mesne assignments, to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 411,815, Feb. 23, 1954. This application Nov. 18, 1959, Ser. No. 853,830
2 Claims. (Cl. 296-46)

The invention relates to an improved package which serves to provide the user with a disposable applicator and a liquid cleansing agent ready for use.

This application is a continuation of my prior application Serial No. 411,815 filed February 23, 1954.

It is an object of the present invention to provide an improved package for treating agents in liquid form which will contain and protect one or more treating agents in single usage quantities conveniently carried by an improved disposable applicator compactly folded within the package. The package can be conveniently opened and the disposable applicator can be readily unfolded to be used in administering the agent or treatment.

A further object is the provision of an improved package for treating agents of the above indicated type which is simple and inexpensive, which is compact and convenient to ship, store and handle, which can be readily opened when desired but which, while closed, will effectively protect the contents from contamination and also from loss by evaporation, sublimation or leakage.

Another object is the provision of an improved disposable applicator for treating agents and packages of the above type which is inexpensive so that it can be discarded after use, which is absorbent or porous so as to hold desired quantities of the treating agents, which will not be weakened or adversely affected by the treating agents, which will not contaminate or adversely affect the treating agents, which can be readily folded and thereafter readily unfolded, without tearing or mutilation, when impregnated with a treating agent consisting largely of a volatile liquid, such as an alcohol-water mixture, which has a suitable "hand" and texture for scrubbing and cleansing purposes, and which is flexible and soft so that it can be used as an applicator without injuring the skin or other surface to which the treating agent is applied. The absorbent and disposable applicator holding the volatile liquid in its initial wet condition just after being removed from the package serves to wet the face and hands so as to remove dirt therefrom, and gradually dries out so that in a moment, the same applicator serves as a drying member removing surplus liquid from the hands and face.

An important aspect of my invention pertains to the provision of an improved kit or package which may be conveniently used for cleansing and refreshing as, for example, while traveling by plane, train, bus, car, or boat. Frequently, washing facilities or adequate water for such facilities is not available while traveling and this results in inconvenience and discomfort to the travelers. Accordingly, it is a further and particular object of the invention to provide an improved cleansing and refreshing kit or package having all of the features and advantages of my invention as set forth above, including my improved applicator, and which is compact and light in weight and readily disposable after use so that an adequate supply can be carried on the person or in the pocketbook in the case of a woman, or in the luggage of the traveler or in the plane, boat or vehicle.

In the accompanying drawings:

FIGURE 1 is a plan view of one form of package em-

2

bodizing my invention with one corner broken away to illustrate the structure and contents thereof;

FIGURE 2 is a cross-sectional view in the direction of the arrows in the line 2-2 of FIGURE 1;

FIGURE 3 is an isometric view of one form of applicator embodying my invention and which may be used in a package embodying my invention. The applicator may be folded along the indicated fold lines for packaging;

FIGURE 4 is a plan view of the applicator but indicating a different arrangement of fold lines so that the folded applicator will have overlapping edge portions to facilitate unfolding;

FIGURE 5 is a similar plan view of a modified form of applicator embodying my invention and also indicating fold lines along which it may be folded to produce projecting or overlapping corner portions which facilitate the unfolding of the applicator;

FIGURE 6 is an isometric view of a form of laminated applicator embodying my invention;

FIGURE 7 is a perspective view of a modified form of package embodying my invention;

FIGURE 8 is a cross-sectional view on an enlarged scale of the modified form of package on the line 8-8 of FIGURE 7;

FIGURE 9 is a perspective view of a form of an applicator indicating one manner in which it may be folded in compacting it for insertion in the modified form of package; and

FIGURE 10 is a perspective view showing the folded and rolled applicator and indicating one manner in which it may be incorporated in the package.

My invention contemplates the provision of an improved disposable applicator 10 of flexible, absorbent sheet material impregnated with or carrying a liquid treating agent and which is compacted as by being folded and encased in a relatively flat, compact envelope 11 which can be readily opened but which effectively protects the contents from contamination or from loss through leakage, evaporation or sublimation.

The envelope 11 is substantially impervious to the liquid contents as well as to contaminants and is preferably gas and vapor-proof. The illustrated embodiment is made of two rectangular panels 12 of the same size which are substantially impervious to the materials mentioned above and they are sealed along their edges to provide a completely sealed envelope or package. The material from which the panels are made may be varied depending upon the use and contents of the package but the material should be one which is not adversely affected by the package contents and which, in turn, will not contaminate or react with or adversely affect the contents. Also, the package should form a durable seal and should be of sufficient strength to withstand the vapor pressures of the treating agents contained in the package at temperatures ranging between -65° F. and 160° F. and otherwise maintain durable seals within this temperature range. At the same time the panels should be of such a character that they can be readily torn by hand to permit easy opening of the package.

Where my improved package is in the form of a cleansing and refreshing kit, I have found that satisfactory results are provided by making the panels 12 from a metal foil such as aluminum foil and lining the inner surface with a thermoplastic film such as polyethylene, polyvinyl resin or cellulose acetate which provides a protective coating and an impervious vapor-proof barrier and also permits the panels to be readily heat sealed along their edges as shown. The panels 12 may be made from other materials such as cellulosic material lined with a thermoplastic film or various synthetic or plastic materials.

In assembling the package the two panels may first have one or more of their edges sealed together. Thereafter, the folded applicator 10 may be inserted into the partially formed envelope either before or after being impregnated by the treating agent. Where the applicator is inserted into the partially formed envelope before it is impregnated, the treating agent may be injected into the package or into the folded applicator after the applicator is inserted in the envelope and the unsealed portion of the envelope is then sealed as by heat sealing or electronically sealing so as to completely close the envelope.

Suitable labelling instructions or other printed material may be displayed on the outer surface of the panels. If preferred, layers of paper may be laminated over the outer surface of the panels and the printed material may then be displayed thereon.

The applicator 10 is in the form of a flexible sheet of absorbing material of convenient size to serve as a washing and a drying implement for instance, the size of a conventional washcloth. It may be made of any suitable absorbent material which will not be adversely affected by the treating agent and which in turn will not contaminate or adversely affect the treating agent such as cellulosic material or paper. A preferred form of applicator is made of an absorbent sheet which resists disintegration when saturated with the treating agent, for example, a wet strength paper for aqueous mixtures. Also, to increase the cleansing action and to improve the "hand" and to impart a degree of resiliency thereto, I prefer to texture the paper, as by creping it or embossing it. I have found, however, that where creping is employed, the creping should be limited or controlled so as to prevent excessive stretch as this results in undue bulkiness and also creates problems and difficulties in connection with the folding and unfolding of the applicator. A crepe providing between 1% and 25% stretch is satisfactory. However, I prefer to limit the stretch to approximately 10%.

In my improved cleansing and refreshing kit I prefer to use a wet strength type of paper in order to prevent the liquid treating agent from causing the sheet to disintegrate or to tear too easily. The wet strength paper may be made by incorporating in the paper, while it is being made, a wet strength agent such as melamine resin and a satisfactory proportion is between approximately 1½% and 4% to the beater or chest box of the paper making machine in the preparation of the fibre sheet.

The applicator is suitably compacted as by being plaited, or folded prior to packaging. In the illustrated embodiment the applicator is folded. The type of folding may be varied but it preferably should be such that the folded applicator can be readily unfolded when desired and so that the finished package is of a size that can readily fit in a pocket, pocketbook or the like.

In the form of applicator shown in FIGURE 3 the sheet is shown as of rectangular shape and it is folded along transverse and longitudinal lines providing 16 panels. One convenient method of folding is to first fold along the transverse centerline 16 then along the two equally spaced parallel transverse lines 17. Thereafter, the transversely folded applicator may be folded along the longitudinal centerline 14 and then along the parallel equally spaced longitudinal fold lines 15. The resultant folded applicator is in compact rectangular form of the length and width of one of the panels defined by the fold lines and of the thickness of the 16 superimposed panels.

The envelope 11 should be large enough to accommodate the folded applicator but is preferably only slightly larger than the folded applicator in order to save material and space.

To facilitate the unfolding of the applicator when the package is opened and it is desired to apply the treating agent, the applicator may be designed and folded so as to have projecting edge or corner portions on one or more of the superimposed panels or layers. This may be accomplished either by folding the sheet to provide project-

ing corners or edges or by designing the sheet in such a fashion that when folded it automatically provides projecting edges or corners. Thus, in FIGURE 4 I have shown a rectangular applicator 10 similar to that shown in FIGURE 3 but in folding the applicator it has been folded off center. Thus, the longitudinal and transverse axes or centerlines are shown in dotted lines and identified by the numerals 20 and 21. The intermediate longitudinal and transverse fold lines 14' and 16' are each offset slightly to one side of the centerline axis. The result is that when the applicator is folded first along the transverse fold line 16', then along the spaced transverse lines 17', then along the longitudinal fold line 14' and finally along the spaced longitudinal fold lines 15' in the manner previously described the edges of the panel on the top and right-hand end of the applicator, as viewed in FIGURE 4, will project slightly beyond the other panels whereby the projecting edges may be readily grasped between the fingers to unfold the applicator.

In FIGURE 5 the applicator 10' is shown as being in the form of a non-rectangular parallelogram. The applicator shown in FIGURE 5 is folded along the transverse fold lines 16'' and 17'' and then folded on the longitudinal fold lines 14'' and 15''. One or both of the two acute angular corners of the parallelogram on the upper right and lower left portions of FIGURE 5 will project beyond the remaining panels when this form of the applicator is thus folded. It will be appreciated that the projecting corners may similarly be grasped between the fingers to facilitate unfolding of the applicator.

As previously indicated, the applicator may be impregnated with the treating agents either shortly before or after it is inserted in the envelope. One convenient procedure to follow is to first partially complete the envelope, then insert the folded applicator into the envelope and inject the treating agent, or the mixture of treating agents between the folds of the applicator in the envelope. By injecting the liquid treating agent between the layers or folds of the applicator, it will be readily absorbed by the superimposed layers. When the applicator has been thus impregnated the sealing of the envelope is completed and the contents will be effectively protected from contamination or loss through leakage and evaporation.

The shape and form of the envelope and package may be varied. Thus, in FIGURES 7 and 8 I have shown a modified form of package in substantially cylindrical shape. As in the first form of my invention, the envelope 30 may be made of any suitable material substantially impermeable to the treating agent and to its vapor. Thus, the envelope may be made of a metallic foil which, as in the first form of my invention, may have a thermoplastic coating such as polyethylene applied to the inner surface thereof. The coating facilitates sealing the package and increases its impermeability to the treating agent and its vapors. The sheet material forming the envelope is wrapped or rolled around the compacted applicator 33 in substantially cylindrical form with the longitudinal edges 31 in overlapping relationship. The overlapping longitudinal edges are suitably sealed as by heat sealing with the thermoplastic coating. The two ends 32 of the envelope preferably project beyond the two ends of the compacted applicator, as shown, and are suitably sealed by pinching and heat sealing with the thermoplastic coating.

The applicator may be compacted in any suitable fashion as, for instance, in the manner shown in FIGURES 9 and 10. Thus, the applicator may be first folded upon itself on the indicated fold lines 34 shown in FIGURE 9 and when thus folded may be tightly rolled as indicated in FIGURE 10. The applicator in the modified form of package may be impregnated in the same manner as the applicator in my first form of package with any of the indicated treating agents.

As shown in FIGURE 6 the applicator may be lami-

nated from two layers of material such as the layer 26 of absorbent material and the layer 27 of relatively non-absorbent and relatively impervious material.

My improved package and applicator are suitable for use with many different types of treating agents. Thus, as previously pointed out, it may be used for both the packaging and also the applying and administering of various mixtures of cleansing agents such as liquid soap and wetting agents, detergents, emulsifying agents and solvents; humectants such as glycerine, propylene glycol and similar hygroscopic materials and volatile evaporating liquids such as water and alcohol.

My invention is particularly suitable for use with various treatments requiring a multiplicity of treating agents to accomplish a desired result. Thus, in the case of my improved cleansing and refreshing kit I impregnate the applicator with a mixture of various treating agents which will cleanse, refresh and stimulate the skin, accelerate drying without the use of a separate towel, or drier, and will also impart pleasant aroma or fragrance. For this purpose, I may employ a mixture of a detergent, cleansing agent such as sodium lauryl sulfate, a humectant such as propylene glycol, an astringent such as aluminum sulfate, an olfactory stimulant such as oil of bay, a drying or evaporating agent such as ethyl alcohol and a carrier or diluent such as water. A specific example of a preferred mixture of treating agents for use in my improved cleansing and refreshing kit is as follows:

	Percent
Sodium lauryl sulfate -----	0.25
Propylene glycol -----	2.00
Aluminum sulfate -----	1.00
Oil of bay -----	0.25
Ethyl alcohol -----	25.00
Water qs. to -----	100.00

In addition, it will be appreciated that various other minor agents such as skin stimulants, astringents, deodorants or the like may be mixed with the other treating agents in my cleansing and refresher kit. A cleansing and refreshing kit embodying my invention is compact and light weight so that it can be readily stored or carried. While sealed the contents are effectively protected from contamination and from loss by leakage or evaporation. The package can be conveniently opened by tearing or severing the envelope and removing the applicator. The applicator is impregnated with a mixture of treating agents as disclosed above and when it is opened it can be used to cleanse and refresh the skin by the user. The impregnating liquid consists largely of volatile components, at least as volatile as water, and such as alcohol diluted with water so that it initially serves to facilitate cleansing, dries rapidly, and as it is evaporated, as by the warmth of the body, it soon allows the applicator to serve as a drying member, in place of a towel. The drying agents serve to dry the skin without the necessity of a separate towel, leaving the user with a clean and refreshed feeling. Due to the small size of the envelope and the applicator they can be readily disposed of after use.

My invention provides an improved cleansing and refreshing kit or package which is compact and light in weight and readily disposable after use so that an adequate supply can be carried on the person or in the luggage of a traveler.

Modifications may be made in the illustrated and described embodiments of my invention without departing from the invention as set forth in the accompanying claims.

What is claimed is:

1. A cleansing kit comprising: an applicator made of a flexible sheet of paper large enough to serve as a washing and drying implement free from any backing and creped to impart a resiliency and a soft friction surface thereto, said sheet of paper being folded longitudinally and transversely upon itself to provide a readily unfoldable, compact, multiple substantially rectangular pad structure; a liquid impregnating and saturating said folded applicator, the impregnated applicator having a sufficient strength to resist integration upon storage over a long period of time and to resist tearing upon unfolding thereof just prior to use and during application of the liquid in use, said liquid comprising a cleansing agent in a volatile vehicle of water and alcohol, said volatile vehicle drying rapidly enough that the unfolded paper sheet may be used first to apply the liquid to the skin of the user and then to dry the skin; and an envelope slightly larger in size than the folded applicator encasing and protecting the applicator and liquid, said envelope being sealed and being made of a flexible, tearable metal foil lined with a film which seals upon the application of heat so that the envelope may be opened by being torn and being substantially unaffected by and substantially impermeable to said liquid and the vapors thereof and being of a strength to resist the vapor pressure thereof at normal atmospheric temperatures.

2. A cleansing kit comprising an applicator made of a flexible sheet of paper large enough to serve as a washing and drying implement having a wet strength equivalent to paper having about 1.5% to 4% melamine resin added during preparation of the fiber sheet, said applicator being folded longitudinally and transversely upon itself to provide a readily unfoldable, compact, multiple, substantially rectangular pad structure; an envelope slightly larger in size than the folded applicator encasing the applicator, said envelope comprising metal foil lined with a film sealed by the application of heat completely around the periphery of the envelope; and a liquid comprising a cleansing agent in a volatile vehicle of water and alcohol within said envelope impregnating said applicator, said volatile vehicle drying rapidly enough from the unfolded paper sheet after removal from the envelope that the applicator may be used first to apply the liquid to the skin of the user and then to dry the skin, said film being substantially unaffected by and substantially impermeable to said liquid and the vapors thereof and said envelope being of a strength to resist the vapor pressure of the liquid at normal atmospheric temperatures.

References Cited in the file of this patent

UNITED STATES PATENTS

2,079,793	Donlan -----	Mar. 11, 1937
2,631,980	Lewis -----	Mar. 17, 1953

FOREIGN PATENTS

837,513	France -----	Nov. 12, 1938
873,873	France -----	Apr. 13, 1942
646,075	Great Britain -----	Nov. 15, 1950
165,028	Australia -----	Sept. 6, 1955
770,744	Great Britain -----	Mar. 20, 1957