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PROCESS OF PRINTING ON SOAP

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ABSTRACT OF THE DISCLOSURE

A process for making a soap bar with a relatively permanent, water-impervious graphic design comprising the steps of moistening with water a portion of the bar of soap intended for display of the graphic design, coating said moistened display portion with a first coat of a water-impervious lacquer, printing a graphic design upon said lacquer base coat, applying a second substantially transparent lacquer coat over said printing, and coating said second lacquer coat with a substantially transparent paraffin.

This invention relates to a process of printing on soap products, and more specifically to a process for imprinting bar soap with a graphic design which does not fade during usage of the soap.

Previous attempts to produce bar soap with advertising indicia thereon have generally involved methods which were not economically feasible and therefore of little commercial value. As a general rule, bar soap has indicia embossed thereon. The embossing melts away rather readily obliterating the indicia and is therefore of limited value for advertising purposes. Other attempts to provide a soap bar with indicia which would persist until the soap bar is substantially used up have utilized casting or molding techniques which were too costly to produce and were accordingly of little or no commercial importance. Attempts were made to prolong the duration of the indicia by having the indicia extend transversely through a substantial portion of the bar so as to be legible during the entire useful life of the soap. Providing indicia of this nature involved complex equipment which is generally difficult and costly to change over from one graphic design to another.

After considerable experimentation, I have invented a process for imprinting bar soap with a graphic design which has advantages which were heretofore not attainable by processes known in the prior art.

It is therefore a primary object of this invention to set forth a process of providing a bar soap with relatively permanent indicia imprinted thereon.

It is a further object of this invention to provide a simple and inexpensive process for providing a bar soap with a water insoluble graphic design.

Still a further object of this invention is to set forth a process of applying the graphic design to the soap.

Still a further object of this invention is to set forth indicia bearing and protecting compositions which are not irritating to the persons using the soap.

Still another object of this invention is to set forth a process of forming a water impervious indicia bearing area on a portion of the surface of a bar of soap and sealing a graphic design upon the area so prepared.

Other advantages and objects will become apparent

from the detailed description of my process for printing upon bar soap.

The process set forth by the present invention contemplates coating a portion of a bar of soap with a base coat of lacquer after which the coated area has a graphic design printed thereon and the design sealed to the base coat by application of a second coat of translucent or transparent lacquer contiguous with the first coat of lacquer. A layer of a suitable transparent waxy substance may be applied over the lacquered area of the bar to cover the glassy lacquered surface of the bar to approximate the natural appearance and feel of soap.

In order to insure the persistence of the graphic design during usage of the bar, the lacquer base coat must adhere tenaciously to the surface of the bar and must also be impervious to moisture.

Any relatively rigid bar soap produced by methods well known in the art is suitable for decoration with a graphic design by the instant process. The bar soap may have any of the various standard shapes such as elongated rectangular, or oval, for example. The instant process will be described using an elongated rectangular bar soap for purposes of illustration only.

Generally it is preferable to use one surface of the bar as a display surface for the graphic design which may be in the nature of advertising indicia.

In carrying forth my invention the area on which the graphic design is to be printed is moistened with lukewarm water by suitable means such as a fabric wiper, or sponge, for example. The display surface of the soap is moistened in this manner to assure proper adhesion of a water impervious film which functions as a base for the graphic design.

I have found that a lacquer incorporating alkyd resin, or oil modified alkyd resin, for example, is suitable for forming the base coating for the graphic design. A thin layer of the lacquer is applied to the premoistened display surface of the bar soap by any suitable means such as brushing, dipping, or spraying, for example.

The base coat of the lacquer is allowed to partially dry and preferably before it has set the graphic design is printed on the lacquer by suitable printing apparatus such as a hand operated letter press, such as those used in printing simple name cards for example.

The ink utilized to print the graphic design is preferably of a vegetable oil base, such as soya and linseed oil, for example and is modified with an oil modified alkyd resin such as castor, coconut or soya oil modified phthalic alkyd resin, for example to improve its adhesion to the base coating. However, any nonfading ink which adheres to the base coating without bleeding of the design would be suitable.

In order to hermetically seal the graphic design to the base coat the display receptive area of the soap bar is again coated with a thin layer of transparent or translucent lacquer of essentially the same composition as the lacquer utilized to form the base coat for the graphic design. The display portion of the bar of soap will now have a graphic design encapsulated in a water impervious lacquer. The surface of the lacquer will have a glaze which may be toned down by the application of a transparent layer of paraffin, with a density of about 0.9, to give the display area the natural appearance of soap.

A specific example of a base coat lacquer suitable for carrying out the present decorating process is formulated

by combining eight parts of lacquer A with one part of lacquer B and one part of lacquer C.

(A) Lacquer enamel (white):

	Volume, percent
Ester (ethyl acetate, butyl acetate)	25
Alcohol (butyl alcohol)	5
Toluene	26
Pigment (TiO_2)	20
Alkyd resin (castor oil modified glyceryl phthalate)	10
Nitrocellulose	10
Plasticizer (dibutyl phthalate)	4
	100

(B) Clear lacquer #1:

	Volume, percent
Ester (ethyl acetate, butyl acetate)	25
Alcohol (butyl alcohol)	5
Toluene	39
Alkyd resin (coconut oil modified glyceryl phthalate)	10
Nitrocellulose	16
Plasticizer (dibutyl phthalate)	5
	100

(C) Clear lacquer #2:

	Volume, percent
Ester (ethyl acetate, butyl acetate)	22
Alcohol (butyl alcohol)	5
Toluene	37
Alkyd resin (soya oil modified glyceryl phthalate)	28
Nitrocellulose	6
Plasticizer (dibutyl phthalate)	2
	100

The oil modified alkyl resin is generally of the medium-oil or long-oil type which is modified with about 50 to about 70% oil.

A mixture of equal parts of clear lacquer B and clear lacquer C is used to form the transparent sealing coat over the printed design. The lacquer coated area may then be coated with paraffin to tone down the glaze.

Bar soap imprinted with graphic designs by the process set forth herein are superior to any similar articles heretofore known. The graphic design printed by the process of the present invention remains intact and clearly legible until all the soap to which it is attached dissolves away.

The bar soap is therefore provided with a permanent graphic design which may be inexpensively applied by high-speed equipment thus keeping the cost per unit to a minimum. Bar soap decorated by the process set forth is therefore of value for carrying advertising indica which remains legible for a relatively long period of time.

What is claimed as new is as follows:

1. The process of providing bar soap with a relatively permanent water impervious graphic design which includes the steps of moistening with water a portion of a bar of soap intended for the display of a graphic design, coating said moistened display portion of said bar of soap with a first coat of a water impervious lacquer, said first coat of lacquer forming a base coat for the reception of a printed graphic design, printing a graphic design upon said lacquer base coat, applying a second substantially transparent lacquer coat over said printing and in contiguous relationship to said first base coat, and coating said second coat of said subtantially transparent lacquer with a layer of substantially transparent paraffin.

2. The process of providing bar soap with a relatively permanent water impervious graphic design which includes the steps of moistening with water a portion of a bar of soap intended for display of a graphic design, applying a first coat of lacquer to said moistened display portion of said bar of soap, said first coat of lacquer

comprising a mixture of eight parts lacquer having the formula:

	Volume, percent
Ester	25
Alcohol	5
Toluene	26
Pigment	20
Alkyd resin	10
Nitrocellulose	10
Plasticizer	4
	100

one part lacquer having the formula:

	Volume, percent
Ester	25
Alcohol	5
Toluene	39
Alkyd resin	10
Nitrocellulose	16
Plasticizer	5
	100

and one part lacquer having the formula:

	Volume, percent
Ester	22
Alcohol	5
Toluene	37
Alkyd resin	28
Nitrocellulose	6
Plasticizer	2
	100

printing a graphic design upon said first coat with a vegetable ink modified with oil modified alkyd resin, applying a second coat of lacquer over said printing with a lacquer comprising a mixture of one part of lacquer having the formula:

	Volume, percent
Ester	25
Alcohol	5
Toluene	39
Alkyd resin	10
Nitrocellulose	16
Plasticizer	5
	100

and one part of a lacquer having the formula:

	Volume, percent
Ester	22
Alcohol	5
Toluene	37
Alkyd resin	28
Nitrocellulose	6
Plasticizer	2
	100

and coating said second coat of lacquer with a layer of paraffin having a density of about 0.9.

3. An article of soap having permanent indicia thereon comprising a soap member having a display surface, a first water impervious lacquer coating adhesively secured to said surface, a second water impervious lacquer coating adhesively secured to said first lacquer coating and encapsulating a graphic design therebetween and a paraffin coating adhesively secured to said second lacquer

coating, said first lacquer coating comprising a mixture of eight parts lacquer having the formula:

	Volume, percent
Ester	25
Alcohol	5
Toluene	26
Pigment	20
Alkyd resin	10
Nitrocellulose	10
Plasticizer	4
	100

one part lacquer having the formula:

	Volume, percent
Ester	25
Alcohol	5
Toluene	39
Alkyd resin	10
Nitrocellulose	16
Plasticizer	5
	100

and one part lacquer having the formula:

	Volume, percent
Ester	22
Alcohol	5
Toluene	37
Alkyd resin	28
Nitrocellulose	6
Plasticizer	2
	100

said second lacquer coating comprising a mixture of one part lacquer having the formula:

	Volume, percent
Ester	25
Alcohol	5
Toluene	39
Alkyd resin	10
Nitrocellulose	16
Plasticizer	5
	100

and one part of a lacquer having the formula:

	Volume, percent
Ester	22
Alcohol	5
Toluene	37
Alkyd resin	28
Nitrocellulose	6
Plasticizer	2
	100

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