

Nov. 29, 1960

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 APPLICATOR FOR THE TREATMENT OF FINGER AND
 TOE NAILS AND LIKE BODY PARTS
 Filed July 23, 1957

2,961,682

FIG. 1

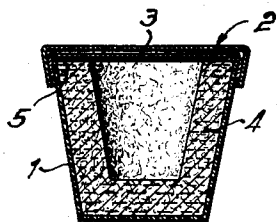


FIG. 2

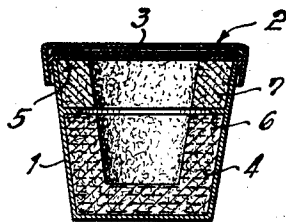


FIG. 3

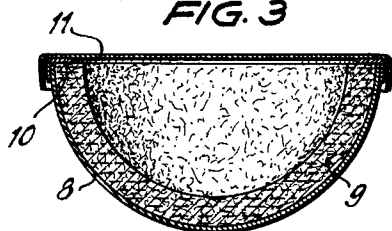


FIG. 4

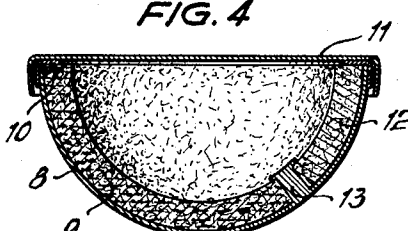


FIG. 5

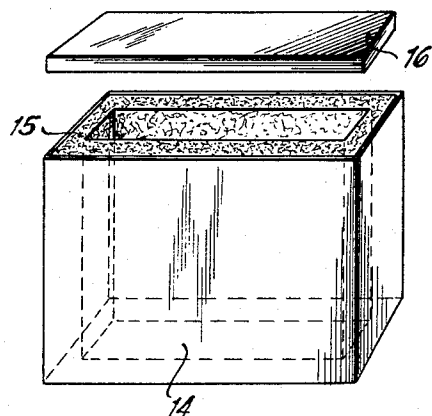
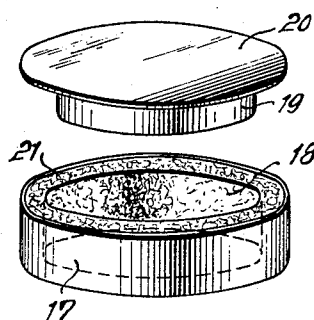


FIG. 6



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APPLICATOR FOR THE TREATMENT OF FINGER AND TOE NAILS AND LIKE BODY PARTS

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Filed July 23, 1957, Ser. No. 673,684

Claims priority, application Germany July 25, 1956

8 Claims. (Cl. 15—210)

This invention relates to a device or applicator for use in connection with the fingers of a hand of a person, and in particular to a device for the treatment of the finger or toe nails of a person.

Nail polish removers for the treatment and cleaning of fingers and toes and in particular of the nails thereof have already been on the market and consist of various compositions and qualities.

Liquid means of this type necessitate for their application and use a cotton tuft, or cellulosic swab-shaped applicator which, however, during travel, is not always handy and available and whose disposal after use meets often with difficulties. Besides this a great disadvantage is encountered in that during use soilage and spoilage of neighboring skin and other parts may easily occur, as the applicator comes often in contact with undesirable locations which are sensitive to the polish or lacquer removers.

More or less pasty cleaning masses of this type have been employed which are admixed with, for instance, waxes, stearates or soaps and like additions in order to bring about a greater consistency and to avoid the use of the aforesaid tufts etc. In such case, the employment of auxiliary liquid carriers or swab-shaped applicators may be dispensed with, but they have the disadvantage, that the treatment with lacquer removers of the aforesaid type is very time consuming and the nail with its adjacent parts and cuticle portions can only be treated and cleaned under circumstances and difficulties, as an aftertreatment of the nails etc. and washing thereof with soap was practically unavoidable.

All these difficulties and disadvantages may be overcome by the present invention.

It is one of the prime objects of the present invention to provide means redounding to a very efficacious and inexpensive applicator structure of the aforesaid type, which is easy to manipulate and to maintain in readiness at all times.

It is another object of the invention to provide means engendering the creation of a new and useful finger nail treating implement, which can be safely carried in a lady's purse or handbag, takes up very little space, is leakproof and may be manufactured through mass production methods from a great variety of materials, such as precious and non-precious metals, plastics, pressboard, paper and other discardable materials.

It is a further object of the present invention to provide means contributing to a sturdy, light weight substantially thimble-shaped applicator, a plurality of which may be stacked and stored, if desired, and may be employed for the treatment of one or a plurality of finger or toe nails or other body parts.

Yet a further object of the present invention is to provide means striving for a simplified, conically shaped applicator which may be built to present two or more compartments for the sequential treatment steps in dissolving finger nail polish substance and then in wiping

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the finger nail clean and free from any adhering, undesirable residual substance or matter.

Still another object of the present invention is to provide means promoting the construction of a novel manicuring implement, which can be easily incorporated in a manicure set or case, since it is very compact and always ready for use as it may be closed and protected by a suitable cover against the loss or evaporation of a treatment fluid or liquid held within said implement.

It is still a further object of the invention to provide means facilitating the creation of a very useful device always ready for use in order to achieve the application of a treatment liquid to the fingers and toes as well as to the nails thereof without soilage of adjacent locations.

The invention more specifically contemplates the employment of a dish- or thimble-shaped and preferably closable applicator or device, which may be made of an elastic foam rubber or like absorbent material, which permits upon pressure exerted thereagainst that at least a quantity of the nail lacquer or polish remover retained in said material may be temporarily released for application to skin or nail parts to be treated.

It has been found that felt, foam rubber or similar single or multi-layer cellular mass or material may be used for administering the treatment fluid, such as nail lacquer remover.

The manipulation of such device is very simple, since the absorbent mass, be it in the form of a container or lining may be soaked with the nail lacquer removing liquid so that upon suitable pressure by a portion of the nail exerted against the aforesaid mass or lining polish removing liquid may be released to become effective.

It is yet another object of the invention to provide means ensuring a kind of massaging action on the nails and an intensification of the lacquer removing operation due to the fact that the device and the finger or toe perform relative movements to each other, whereby the device or container besides being elastic may be further equipped with means enhancing friction and brushing action.

According to the aforesaid invention, it is of particular advantage to dimension the device in accordance with the extent of treatment desired, whether the fingers, toes etc. are to be treated either singly or severally, in which latter case the device or container may be shaped semi-circularly or may be cylindrical, polygonal or conical in cross-section.

In order to ready the device according to the invention for a lengthy period of time, it has been found advantageous to provide next to the absorbent inner lining a container or compartment for supplying treatment liquid in such a manner that, for instance, between the bottom of the device and the aforesaid lining a sieve-shaped wall is arranged or any other simple or possibly automatic means bringing about a connection through a channel or duct with the absorbent lining of the device.

According to the invention evaporation of the treatment liquids with which the absorbent lining layer may be imbued may be avoided by arrangement of a removable or swingable cover of any type with or without snap-on action and which may be provided with a gasket in order to tightly close the device and seal off the absorbent lining or carrier.

According to the invention, the upper rim part of the device may have a wiper in the form of a lining or like member so arranged that it forms either a part of the lining itself or is separate from the latter, so that any residues of the nail lacquer or polish remover or like treatment liquid still adhering to the finger or toe nail may be removed therefrom to permit speedy drying of same.

These and other objects of the invention will become further apparent from the following detailed description, reference being made to the accompanying drawing, showing preferred embodiments of the invention.

Referring now more particularly to the drawing, there is shown in Fig. 1 an embodiment of the invention which is shaped for use of a single finger or toe from the nail of which lacquer or like layer is to be removed. The device 1 is therefore dish-shaped and conical in cross-section and may either be made from rigid, plastic or elastic material, such as metal, plastics, plastic compositions, cardboard and the like.

The container-shaped device 1 is closed by means of a snap-on or threaded cover 2 which encloses a gasket 3 of known structure, so that device 1 may be tightly closed.

The inner wall of device 1 may consist completely of an absorbent lining 4 which is secured in its position against undesirable removal or slipping out by a suitable flange-shaped retainer ring 5 located at the upper rim of device 1.

This absorbent inner lining 4 may be of predetermined thickness so as to be imbued with a predetermined quantity of nail polish or lacquer remover liquid. In order to use the device of container 1 the cover 2 is removed and for instance, the finger with its nail, on which the lacquer is adhered, is inserted into the interior of the device and against lining 4. Upon exertion of pressure against the absorbent lining material 4 by means of the finger nail a certain quantity of lacquer removing liquid will be fed from the inner lining or layer 4 and is applied to the surface of the nail to thereby dissolve the lacquer.

Upon release of the pressure from the absorbent layer 4 the liquid will be immediately sucked back and may be again ready for further application. If the device or container 1 itself is made from an elastic material or plastic composition, then the respective operation onto the finger nail may be had by a compression of the container in order to intensify the oozing out of the treatment liquid from the container wall. In such case the outermost surface of the container or device 1 may be somewhat stiffened or vulcanized and the like.

The absorbent layer 4 may also be either a single layer, for example a felt layer, or lining 4 may consist of several layers, for instance in the form of sponge-type rubber combined with felt.

According to Fig. 2 a device similar to that of Fig. 1 is shown in which the absorbent inner lining or layer does not reach from the interior to the upper rim of the container 1 or to its flange-shaped rim 5, but is provided with an intermediary projecting rim flange 6, so that between rim flanges 5 and 6 a separate absorbent or like layer 7 is located and retained which may be made from the same material as layer 4 or may be made from another material which does not have the property of retaining nail lacquer remover liquid and acts rather as a wiper for cleaning the treated finger or toe nail as the case may be.

According to the embodiment shown in Fig. 3, a dish-shaped container 8 is shown in section which is semi ball-shaped in order to facilitate the treatment of several fingers or toes and the nails thereof.

Container 8 has an inner absorbent lining or layer 9 which is secured in position against undesirable displacement or removal by a rim flange 10 secured to the outer end of the container 8.

Layer 9 may be imbued with the nail polish remover liquid and container 8 may be closed by a suitable snap-on cover or lid 11 for a purpose quite apparent.

Fig. 4 shows a similar device as that seen in Fig. 3 in which, however, the lining or layer 9 is interrupted at an abutment flange or partition 13 seated on the bottom of container 8.

Between partition 13 and upper rim flange 10 there extends a further layer 12 which is devoid of nail polish

removing liquid and serves primarily as a wiping device after the finger or toe nails were treated in the compartment of the container 8 equipped with the liquid absorbent layer 9.

The embodiment shown in Fig. 5 discloses a jar- or dish-shaped container 14 which has the shape of a relatively narrow and elongated receptacle which permits the insertion of the entire row of fingers of a hand, the length of said receptacle corresponding approximately to the extent of said row of fingers. Within this receptacle there is arranged an absorbent inner lining layer 15, the receptacle being closed by means of a cover 16.

Fig. 6 shows an embodiment of the invention incorporated in a hollow annular casing 17 made from plastic or other material, which is at least partially recessed at its inner surface and is filled with an absorbent layer 18 which is readily accessible to the finger nails and is soaked with a nail polish remover or like liquid. On outer rim 21 of the casing 17 is positionable a cover flange 20 provided with a projection 19, which extends into the hollow casing to close the latter.

If desired projection 19 may be constructed to form a supply or storage space for a liquid nail lacquer remover or other treatment medium for soaking layer 18 therewith, whenever needed.

It can thus be seen, that there has been provided a device for removing nail polish substance from the finger nail of a person's hand; comprising a housing having side and bottom walls and providing a free center space between said walls, a relatively thin layer of liquid absorbent material connected to said walls without substantially obstructing said center space, to hold a predetermined quantity of polish removing liquid, whereby only a part of said layer material located adjacent said bottom wall is imbued by the latter, the remainder of said layer material being insulated from said part to serve as a wiper facilitating removal of residual polish and like substance from said nail subsequently to the application of the latter within said center space to said liquid imbued layer part, and means insulating said layer material part from said remainder of said layer material.

Various changes and modifications may be made without departing from the spirit and scope of the present invention and it is intended that such obvious changes and modifications be embraced by the annexed claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent, is:

1. A nail polish removing device comprising a resilient housing having side and bottom walls and providing a free center space between said walls, a flange fixed to said side walls dividing said housing into upper and lower portions, a first layer of liquid absorbent material connected to said walls in said lower portion without substantially obstructing said center space, said layer adapted to hold a predetermined quantity of polish removing liquid, a second layer of liquid absorbent material connected to said side wall substantially free of said polish removing liquid to serve as a wiper facilitating removal of residual polish and like substance from a finger nail subsequently to the application of a finger nail within said center space to said first liquid imbued layer.

2. A device for removing nail lacquer from the nail of the fingers and toes of a person; comprising a resilient casing having peripheral walls and providing a free center space between said walls, a first layer of liquid absorbent material contiguous to said walls adapted to hold a predetermined quantity of lacquer removing liquid, a partition fixed to said walls, and a second layer of material separated by said partition from said first layer material to serve as a wiper thereby facilitating removal of residual substance from a nail subsequently to the application of the latter within said center space to said first liquid imbued layer, said partition being located above said first layer and supporting said second layer material within

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said casing, said first layer and said second layer extending beyond said partition towards said center space to protect a finger from contact with said partition.

3. A nail polish removing applicator comprising a relatively thin walled housing substantially U-shaped in vertical cross-section and having side and bottom walls and an open top end, said housing being made of resilient material, a lining conformed in shape to the interior of said housing and extending along said bottom and side walls of said housing, said lining being made of a liquid absorbent material to store therein a nail polish removing substance and being of substantially greater thickness than the walls of said housing so that upon pressure exerted on said housing and said lining and upon application of the thus inwardly deflected housing and lining to a finger nail with said lining when imbued with said substance said housing and lining may be moved relative to and said substance squeezed from said lining onto said finger nail for removal of nail polish and for wiping off the latter from the finger nail, said housing being shaped to receive at least one of a person's fingers and said lining providing in the center thereof space for the insertion of said finger without necessitating displacement of said lining during said insertion, means located adjacent the upper end of said housing and projecting toward the interior thereof for releasably retaining said lining in said housing, and means overlying said projecting means for closing said open top end when said applicator is not in use.

4. A nail polish removing applicator comprising a housing having imperforate side walls, a bottom, a central cavity and an open top, a cover for said open top, a lining in the cavity of substantial thickness relative to the walls of the housing to form a liquid storage medium large enough to store sufficient liquid for repeated use of said applicator, said lining conforming in shape to the central cavity of the housing, said lining being entirely

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within the confines of the container and adhering to the inside wall of the housing, said lining being formed of a liquid-absorbent material and containing therein a liquid nail polish removing substance, said container otherwise being free of any liquid and said housing and lining together providing a finger nail receiving cavity of size sufficient to receive simultaneously a plurality of fingers therein without displacing the lining and to engage the finger nails of such fingers with the lining, whereby such fingers may be inserted into the cavity and moved with respect to the lining without thereby causing the lining to move with respect to the housing and without causing said liquid to be pressed out of said housing.

5. The applicator described in claim 4 in which the lining is felt.

6. The applicator described in claim 4 in which the lining is sponge rubber.

7. The applicator described in claim 4 in which the casing is of flexible material.

8. The applicator described in claim 4 in which the housing has on its inside surface a flange fixed to the side walls of the housing dividing said housing into upper and lower portions, a first portion of said lining below said flange to store therein a nail polish removing substance, a second portion of said lining above said flange substantially free of said polish removing liquid to serve as a wiper facilitating removal of residual polish and polish removing liquid from the finger nail.

References Cited in the file of this patent

UNITED STATES PATENTS

1,389,621	Brod	Sept. 6, 1921
1,659,644	Vernet	Feb. 21, 1928
2,424,509	Singer	July 22, 1947
2,713,693	Johnson	July 26, 1955