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2,904,814

PLASTIC FOAM POWDER PUFF

Filed March 21, 1957

FIG. 1

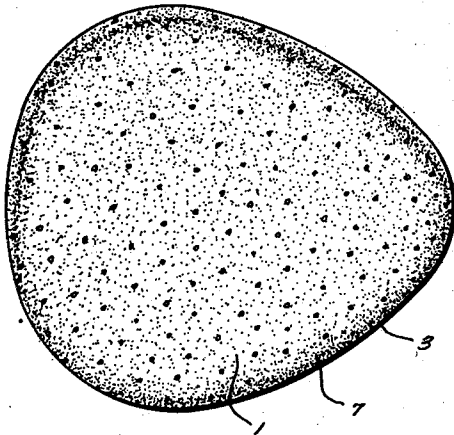


FIG. 2

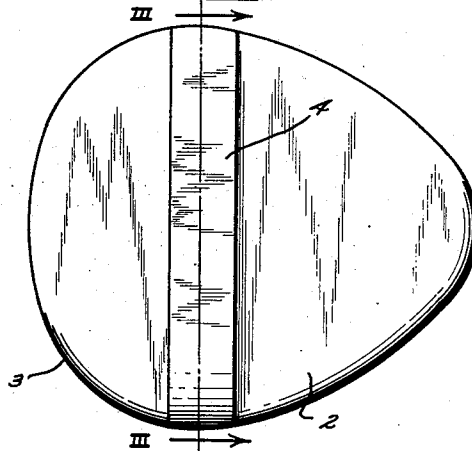


FIG. 3

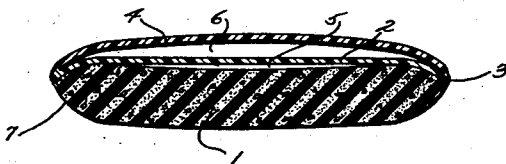


FIG. 5

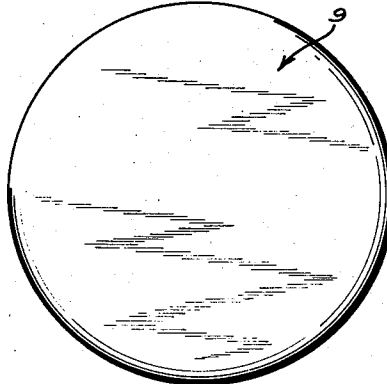
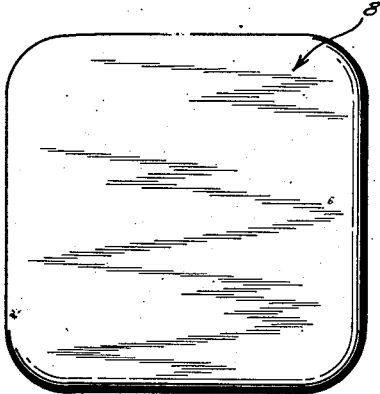


FIG. 4



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## PLASTIC FOAM POWDER PUFF

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2 Claims. (Cl. 15—244)

This invention relates to improvements in a powder puff, and more particularly to an economical powder puff having an impervious backing or cover and an application side of soft velvety cushioning material, the construction being highly sanitary, easy to manipulate, and is readily adaptable for numerous applicator uses in addition to functioning as a powder puff, as will be apparent to one skilled in the art.

In the past, many and various types of powder puffs and similar applicators have been developed, but in most instances these devices comprised a fabric cover sheet, if any cover sheet at all was utilized, and the puff or applicator side of the device comprised a sheet of cotton felt, lamb's wool, or some equivalent soft and powder-absorbing or retaining substance of a type that became readily soiled and also caught and retained dust, dirt, and the like. These formerly known puffs or applicators, in every instance of which I am aware, retained any dust or dirt and soon became unsightly, and could not be laundered without losing their pleasing appearance, their softness, their powder retention characteristics, etc. In short, whenever one of these formerly known devices was laundered or otherwise treated in an attempt to cleanse the same and render it sanitary, the device was substantially destroyed and should be replaced by a new one. Another defect of powder puffs and similar applicators as known heretofore resided in the fact that if the applicator surface thereof became dampened, wet, or otherwise moist, the efficacy of the device was practically permanently destroyed, and if such moistening happened during use, the device would slide over the skin of the user and smear rather than properly apply powder or similar substance. Caked powder resulting from a moistening could not effectively be removed from the device and its usefulness thereafter was questionable. In addition, it may be mentioned that powder puffs and the like heretofore known were of objectionably expensive construction comparable with their useful life, and this was particularly true if the puff was of the highly efficient type.

With the foregoing in mind, it is an important object of the instant invention to provide a simple form of sanitary powder puff, which may be laundered when and as often as may be desired, without losing any of its efficacy and without changing the "feel" of the device when in use.

Another object of the instant invention resides in the provision of a powder puff or similar applicator having a soft velvety feeling applicator side, and a backing of impervious material.

It is also a feature of the instant invention to provide a powder puff or similar type of applicator made from chemical or inorganic materials as distinguished from cotton, wool, and similar substances utilized directly by way of processing the natural growth.

Also a feature of the instant invention is the provision of a powder puff or equivalent applicator which may be made in substantially any desirable size and shape, with no unexpected or material difference in cost between one shape and another.

It is also an object of the instant invention to provide a powder puff or similar type of applicator wherein the applicator element comprises a relatively thick layer of

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chemical foam having intercommunicating cells, and the cover comprises an imperforate thermoplastic sheet or film.

Still another object of the instant invention resides in the provision of a powder puff or equivalent type of applicator wherein a thick sheet of thermoplastic foam is joined to an unsupported thermoplastic film by a heat seal seam defining the very bounding edges of the resultant puff.

Still a further feature of the instant invention resides in the provision of a device of the character set forth herein comprising a powder-retaining foamlike layer heat sealed to an impervious film at the bounding edge of the structure, the layers being otherwise unsecured to each other, and which device may be provided with a handle in the form of a strap-like element extending across the cover layer with its ends caught in the heat seal seam.

While some of the more salient features, characteristics and advantages of the instant invention have been above pointed out, others will become apparent from the following disclosures, taken in conjunction with the accompanying drawing, in which

Fig. 1 is a bottom plan view of a powder puff or similar device embodying principles of the instant invention;

Fig. 2 is a top plan view of the structure of Fig. 1;

Fig. 3 is a transverse vertical sectional view taken substantially as indicated by the line III—III of Fig. 2, looking in the direction of the arrows;

Fig. 4 is a top plan view of a puff or similar applicator embodying principles of the instant invention, but showing a different shape or contour; and

Fig. 5 is also a top plan view of a device embodying principles of the instant invention, showing a still different shape.

As shown on the drawings:

In the first illustrated embodiment of the instant invention, seen in Figs. 1 to 3 inclusive, there is shown a powder puff having a generally ovate contour. This powder puff preferably comprises an applicator element in the form of a thick layer 1 of foamlike material having intercommunicating cells so that it will readily absorb or retain powdery substances. Disposed over one face of the foam layer 1 is a cover layer or sheet 2 which is preferably impervious to powder or moisture. Both these layers or sheets are preferably of thermoplastic material and are secured together preferably by heat sealing, so as to establish a heat seal seam 3 which defines the very bounding edge of the resultant article.

A handle may be provided, if so desired, although the same will not be desired in many circumstances. To this end, I have illustrated in Figs. 2 and 3 a handle in the form of a strap-like member 4 which may, if so desired, be of the same material as the cover 2, and which is preferably of thermoplastic material so that it may be joined to the cover at its ends by being caught in the same heat seal seam 3 above mentioned. The strap-like handle 4, as seen best in Fig. 3, is preferably slightly longer than the distance across the powder puff, so that one may readily place a finger or two beneath the handle.

By way of example and not by way of limitation, I may mention that a satisfactory material for the applicator layer 1 is a thermoplastic foam, having the general appearance of foam latex, but which may be electronically welded or heat sealed to another thermoplastic element. Several thermoplastic foam materials are suitable for this purpose, but by way of specific example, a very satisfactory substance is vinyl foam made from a liquid composition generically known as a plastisol.

The plastisol may be expanded by the use of an inert gas or otherwise, and then cured to provide a lightweight structural material which is highly flexible, resilient, and possesses intercommunicating cells throughout the body

portion thereof. This plastisol may satisfactorily be a dispersion or suspension of polyvinyl chloride resin, or a copolymer in one or more plasticizers selected from a large number of high boiling alcohols, for example, such as dioctyl phthalate, dioctyl adipate, dicapryl phthalate, etc.

The cover sheet 2 may have the same chemical constituency as the foam layer, but is made under a different process to provide a relatively thin sheet or film. In this instance, the resins and plasticizers may be charged directly into a Banbury mill, and from there pass to a calendar which rolls out the finished product. There is no expansion during the forming process, so that the covering material will be considerably denser than the foam material, and in the illustrated instance, this covering material is in the form of an unsupported film.

The handle element 4 may satisfactorily be of the same material as the cover sheet 2.

All three elements so far described may be provided in substantially any desired color, and obviously the elements may be intermingled as to color so as to provide contrasting appearances. Likewise, the cover sheet 2 and the handle element 4, if so desired, may be given substantially any desirable external finish, such as simulated leather, a mottled pattern, a plain color, or numerous other finishes, depending upon the desired effect.

It will be noted that the three elements are preferably secured together only at the heat seal seam 3, and are otherwise free from securement to each other. There will, therefore, in many cases be a space 5 between the cover 2 and the foam layer 1, and obviously there will be a space 6 between the handle 4 and the cover 2. Accordingly, there is provision made for relative movement between the respective layers, and thus the applicator side or foam layer 1 of the device does not become wrinkled during use, particularly on its applicator or exposed face. The device may be firmly grasped, carelessly handled, and used even forcefully without distorting the exposed face of the foam layer 1, so that the resultant application is smooth and even at all times.

In providing the heat seal seam 3, dies of such character are preferably used that will draw down the marginal portion of the foam layer 1 during the heat sealing operation, so that the surrounding margin of this layer is given a curvate effect as indicated at 7. In other words, the margin of the foam layer curves smoothly inwardly or toward the heat seal seam, thereby giving a fine bounding edge to the article but providing a central thickness for application purposes. This, of course, greatly enhances the appearance of the resultant article as well as eliminates any lateral flange at the heat seal seam which might become distorted and interfere with the efficiency of the article.

Another important feature of the instant invention should be noted, and that resides in the initial production of the foam layer. Preferably a relatively large block of foam material is molded or otherwise formed, and then this block is split or sliced so as to eliminate any surface on the application side of the foam layer that may be occluded as to the cells therein by virtue of the skin effect resulting from contact with the mold or other container when the block of foam material is formed. Preferably, a block of foam may be formed of substantially the thickness of the width of the resultant powder puff, and then successive foam layers 1 are sliced transversely from this block of material. That provides an applicator surface on the exposed side of the foam layer 1 having a myriad of transversely cut fine cells which intercommunicate with cells therebeneath, and such a surface is not only excellent as to its powder retention value, but is also soft and provides a smooth velvety feel to the skin of the user.

Now it will be further noted that the instant invention is extremely light in weight, economical, and very long lived. There is substantially no portion of the structure that can possibly become injured or out of order through

an extremely long usage of the article. Furthermore, the device may be washed or otherwise cleansed any time desired, will quickly dry out, and will have its original appearance and characteristics after laundering. In addition, it should be noted that the impervious character of the cover sheet 2 prevents material retained by the foam layer 1 from passing completely therethrough and likewise through the cover to give an unsightly or soiled appearance to the device.

In Figs. 4 and 5, I have illustrated powder puffs or applicators of the same construction, but having a different shape or contour, merely as a way of presenting the fact that the instant invention may be made in substantially any size, shape, or thickness depending upon its particular disposition or ultimate use. Where it is to be placed in a particular container, such as a compact, it may be made much thinner than if it is to be used in the manner of a powder puff commonly disposed in the bathroom. Likewise, it may be made much larger for use after the bath.

In Fig. 4, I have illustrated a powder puff 8 which is substantially square in contour, and which is preferably provided with rounded corners so that it will better retain its original substantially flat character.

In Fig. 5, I have illustrated the same general structure having a circular contour. It will be noted, of course, that substantially any other desired shape may readily be provided, since the layers 1 and 2 are originally flat sheets of any desirable size, and the shape of the article is determined by the shape of one of the heat sealing elements.

From the foregoing, it is apparent that I have provided a neat, efficient, launderable, and economical powder puff or similar applicator, pleasing in appearance and extremely long lived.

It will be understood that modifications and variations may be effected without departing from the scope of the novel concepts of the present invention.

I claim as my invention:

1. A powder puff, comprising a body portion formed of plastic foam having opposed surfaces converging in a tapered peripheral portion, a plastic sheet covering one of the surfaces of the body portion and sealed to the peripheral portion thereof, and handle means formed of a relatively narrow band of the same material as the plastic sheet and secured thereto along the peripheral portion of the body portion, said body portion and the overlying plastic sheet and handle means being relatively spaced from one another inwardly of the peripheral portion.

2. A powder puff comprising a relatively thick layer of vinyl foam having opposed surfaces converging in a tapered peripheral portion, a relatively thin layer of vinyl film secured to the peripheral portion only of one of the surfaces of the foam layers to form a seal therewith, and a vinyl strap overlying said film and having its ends caught in the seal between the film and foam layer, the foam layer, film and strap being relatively free of securement to each other except at the seal.

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