

Oct. 30, 1962

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3,060,445

FACE MASK

Filed Feb. 10, 1960

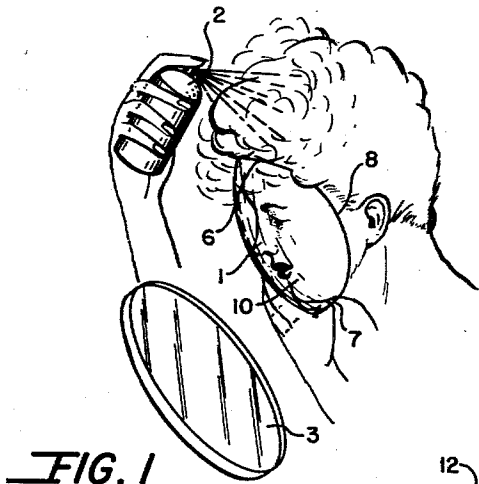


FIG. 1

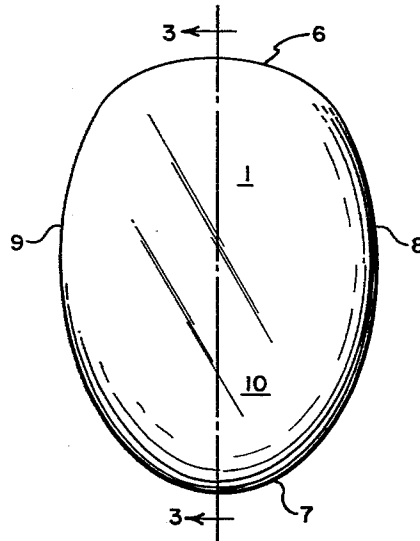


FIG. 2

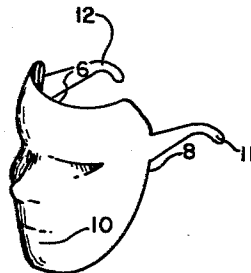


FIG. 4

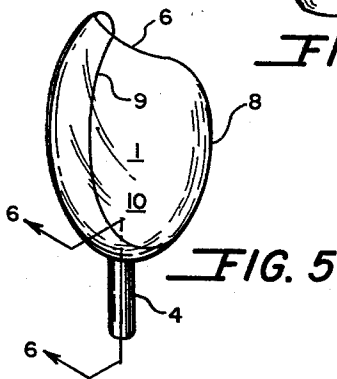


FIG. 5

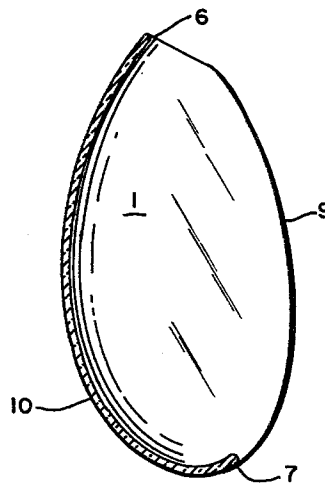


FIG. 3

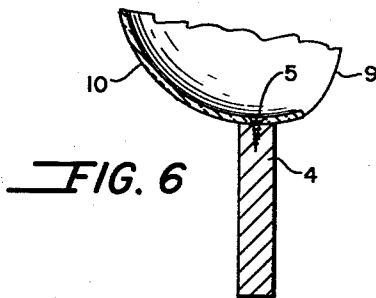


FIG. 6

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1

3,060,445

FACE MASK

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Filed Feb. 10, 1960, Ser. No. 7,875

1 Claim. (Cl. 2—9)

This invention relates to an improved face mask. More specifically, this invention relates to a face mask, fabricated of non-perforated, transparent, nonporous material, having low thermal conductivity, and which is designed to protect the face of the wearer from contact with atomized cosmetic preparations.

The increasing use, in all countries, of atomized cosmetic preparations, dispensed from aerosol containers, has been coupled with the increased incidence of pulmonary lesions, especially in women. It has long been recognized that these cosmetic preparations, as for example, hair sprays, contain matter which is irritating, if not harmful, to the eyes. Accordingly, careful directions for their application have been placed on the containers by the manufacturers. Recently, however, an increasing amount of evidence has been presented to the effect that there is a causal relationship between the inhalation of these atomized preparations and the incidence of pulmonary lesions.

Thus, Altemeier et al., Surgical Forum, 4,724 (1953) have shown that infusion of polyvinylpyrrolidone is capable of producing globular deposits of basophilic material in the liver, which in some instances cause inflammation of adjacent cells. Bergman et al., New England Journal of Medicine, 258, 10,471 (1958) report bilateral reticulated infiltration of the lungs of two young women following prolonged use of hair spray, which cleared up within 3 to 4 months after the use of hair spray was stopped. These same investigators were able to produce similar pulmonary infiltration in mice by the injection of the residue of commercial hair sprays. Hueper, Archives of Pathology, 70, 267 (1942), has reported lining of the pulmonary alveoli of polyvinylized dogs with films or granules of polyvinyl alcohol as well as mononuclear cells containing the material in the alveolar and bronchial lumens. He attributes the presence of the mononuclear debris in the bronchial lumen as an attempt to rid the body of these accumulations through phagocytic emmigration and desquamation of the cells lining the pulmonary alveoli.

The exact composition of the various hair sprays are closely guarded secrets. Generally however, these preparations contain a setting agent, comprising a natural of synthetic resin in aqueous or alcoholic suspension, perfume, lanolin and a suitable inert propellant, such as Freon. Synthetic resins are numerous and include those derived from polymerization of vinyl derivatives such as polyvinyl alcohol and polyvinyl pyrrolidone. It is known that some of these polymers are carcinogenic. Hueper, Cancer, 10, 8 (1957) has shown that polyvinyl pyrrolidone, injected into mice and rats, has been known to cause malignant growths, notably sarcomas and lymphosarcomas. In addition, some of these hair spray preparations contain metallic or metallic oxide particles. None of these materials are metabolized into the body. Some of the synthetic polymers, i.e. the short chained materials with small molecules, can pass through the renal glomeruli and appear, unchanged, in the urine. Substances with molecular weights of 20,000 and over may be phagocytosed by the cells of the reticulo-endothelial system and deposited in the liver, spleen, lungs and other organs.

Such deposition has been shown to cause inflammatory

2

reactions in these organs and some, as for example carboxymethyl cellulose and polyvinyl pyrrolidone, have been shown to cause lesions of the liver and the lungs.

It is an object of this invention to provide a mask for shielding the eyes and the upper respiratory tract from atomized cosmetic preparations.

Another object of this invention is to provide a mask which shields these organs, without impairing the vision for the self-application of such preparations to the hair.

Another object of this invention is to provide a mask which is fabricated of a material having a low thermal conductivity, which does not cause excessive condensation, either of the atomized hair spray or of moisture in the breath on the mask.

Still another object of this invention is to provide a mask which will shield the face from contact with the hair spray so as not to deface cosmetics applied thereto.

Still another object of this invention is to provide a mask which is attractive, is economical to manufacture and which can be easily cleaned and sterilized.

The above objects are accomplished by the provision of the mask of this invention. This mask consists of a unitary structure, designed to fit over the forehead, eyes, nose, mouth, chin and cheeks of the wearer, and is fabricated of a material which is transparent, substantially non-conductive and non-porous.

The application of atomized cosmetic preparations by the individual requires that the individual be able to see the portion to be treated, as by reflection in a mirror. Thus it is necessary that the mask be transparent. Secondly, although the preparations are applied in several seconds, condensation of moisture from the breath would tend to fog the mask and thus impair visibility. Consequently, the mask of this invention is fabricated of a material having a low thermal conductivity which is not conducive to condensation. At the same time, atomized particles enshroud the face and head of the individual so that the non-conductive properties of the mask tend to reduce the possibility of excessive condensation of the atomized particles on the exterior portions of the mask. Aside from preventing the deposition of excessive quantities of this material around the face of the wearer, this property alleviates cleaning since less material is deposited on the mask by condensation than would occur if a material with a high thermal conductivity such as, for example, metal or glass, were utilized.

Since the mask is substantially non-porous, moisture from the breath is not absorbed by the mask as occurs with masks made of cloth. Furthermore, this property allows for easy cleaning of the mask by soap and water, or if desired, by an alcoholic solution.

A preferred material of fabrication may comprise any of the well known transparent plastic substances, such as cellulose acetate, cellulose acetate butyrate, polystyrene and methyl methacrylate. Of these materials, the cellulose acetate is preferred because of its ability to be molded and because of its low cost.

The invention will be better understood by reference to the attached drawing.

Referring now to the drawing, FIG. 1 is a view in perspective of a young lady applying hair spray and utilizing the mask.

FIG. 2 is a frontal view of the mask.

FIG. 3 is a sectional view, taken along the line 3—3 of FIG. 2.

FIG. 4 illustrates another modification of the mask.

FIG. 5 is a view in perspective of the mask with a handle.

FIG. 6 is a fragmentary section, taken along line 6—6 of FIG. 5.

Referring now to FIG. 1, numeral 1 designates the

mask itself, which is of a general elliptical shape, numeral 2 designates the aerosol container and numeral 3 designates a mirror. Numeral 6 designates the upper arcuate surface of the mask, which from the interior, forms a convex depression for placement of the mask against the forehead, and along the hair line of the individual.

This shape is best illustrated in FIGS. 4 and 5. Numeral 7 illustrates the lower external surface of the mask, which fits underneath the jaw. The lateral surfaces of the mask form a gentle elliptical curve from the forehead to the under portion of the jaw, and are designated on the right by numeral 8 and on the left by numeral 9.

The interior recess of the mask in which the lower facial portion fits is designated generally by numeral 10. As is shown in the drawing, the mask may be equipped with a handle designated in FIGS. 5 and 6 by numeral 4. The handle may be easily installed by a hole provided in the lower portion of the mask through which a screw, designated by numeral 5, is inserted. It is also possible to mold a handle onto the mask so that the mask is of unitary construction. While a gentle elliptical shape is pleasing to the eye, and is suitable for the purposes of this invention, it is, of course, possible to utilize other forms of the mask, such as is illustrated in FIG. 4. In this modification, a mask has been designed, following the general facial characteristics, of the average wearer. In this figure it will be noted that ear pieces 11 and 12 have been substituted for handle 4. It is also within the scope of this invention to provide surface ornamentation to the mask as for example, provision of rhinestones or other artificial gems.

Since the aerosol spray is dispensed at a distance of from about 10 to 14 inches from the hair, a cloud of the atomized spray enshrouds the head. Generally, the movement of the spray particles is downwardly, so that the upper arcuate surface, 6, of the mask fitting closely against the forehead at the hairline, tends to prevent contact of the majority of the particles with the face of the individual. It will be appreciated that the mask does not fit snugly so as to be airtight, and that normal breathing is not affected. As is shown in FIG. 1, the side portion of the mask also provide protection of the cheeks from contact with the atomized spray particles. Thus makeup, mascara and lip rouge are not defaced by the hair spray. And it is possible to apply these cosmetics, prior to administering the hair spray.

It goes without saying, that as soon as possible after the spraying operation, the individual should leave the area, in order to allow the remaining airborne spray suspension to settle to the floor or to otherwise become so dilute as to be innocuous. The critical period is the period in which the spray is being administered and if reasonable precautions are taken, and afterwards one

removes one's self from the area after the mask is removed, the harmful effects of the spray, as previously outlined, will be, for the most part, eliminated.

It will be obvious to those skilled in the art that various and sundry modifications can be made in the mask, as illustrated and described, and such description and illustration are meant to be merely illustrative of the invention. Therefore, no limitations should be imposed upon the invention, except as to be commensurate with the appended claim.

I claim as my invention:

A face mask, adapted for shielding the eyes, nose, mouth and anterior portion of the face and jaw, from atomized cosmetic preparations, which comprises: an impervious mask member and a handle member, said handle member being operatively connected to said mask member, said mask member being fabricated of a transparent plastic material, characterized by a low thermal conductivity and by the property of being non conducive to the formation of condensation, said mask member comprising a curved center portion, two side portions, a lower rim portion, and an upper rim portion, said upper rim portion being arcuate in shape and having a wide radius and said center portion being contiguous with the side portions and the upper and lower rim portions, said mask member, in front and rear elevations, being elliptical in shape and in vertical section forming a semi ellipse which terminates at an imaginary line which extends tangentially from the upper rim portion downwardly and rearwardly to the lower rim portion, so that the lower rim portion fits snugly beneath the jaw, the upper rim portion fits snugly against the forehead along, but not extending over the hairline, the curved center portion of said mask fits over the anterior portion of the face with ample room for the nose and the side portions fit adjacent to the sides of the anterior portion of the face and jaw.

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