March 16, 1937. F. HOFSTÖTTER 2,074,219

GAS MASK

Filed Sept. 1, 1936

Fig. 1

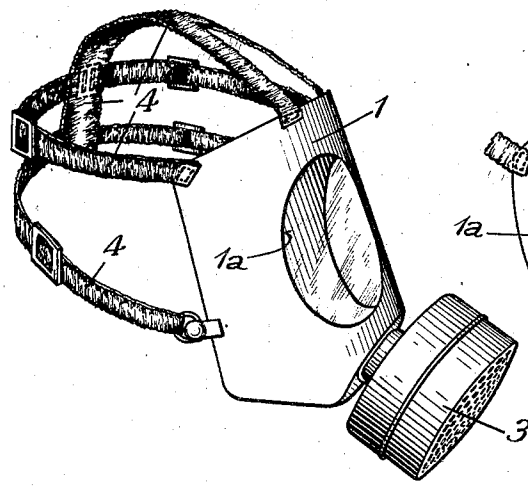


Fig. 2

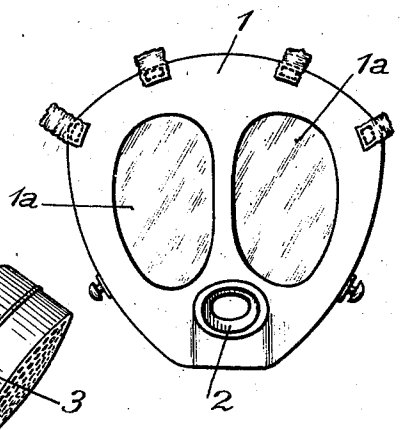


Fig. 3

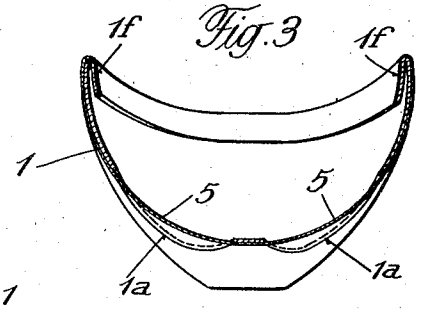
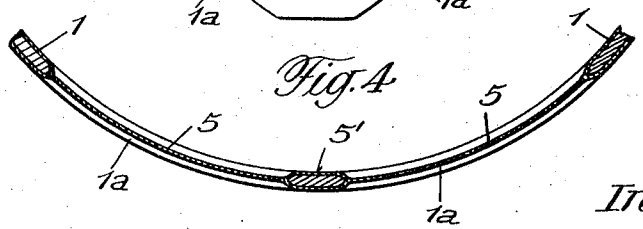


Fig. 4



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GAS MASK

Franz Hofstötter, Zurich, Switzerland

Application September 1, 1936, Serial No. 98,936
In Germany September 9, 1935

4 Claims. (Cl. 128—141)

This invention relates to gas-masks.

Various forms of gas-masks have already been proposed and in order that a gas-mask should be suitable for general use among the civilian population it is desirable for it to be light in weight and cheap to manufacture.

In the gas-mask according to the present invention these and other desiderata are realized in that a foundation of fabric, provided with eyeholes is coated with a colourless lacquer forming a continuous airtight skin extending across and forming a transparent closure for the eyeholes.

This and other features of the invention will now be described with reference to the accompanying drawing, in which one embodiment is shown by way of example.

Fig. 1 is a side view of a complete gas-mask.

Fig. 2 is a front view of the mask with the filter element removed.

Fig. 3 is a horizontal section through the mask.

Fig. 4 is a larger scale section through the eyeholes of a modified gas-mask.

The fabric foundation 1, which should be substantially inextensible, is provided with eyeholes or windows 1*a* which extend over a considerable portion of the face of the wearer. This not only gives a very wide angle of vision but also enables the wearer to be recognized readily. The mouthpiece 2 into which the filter element 3 can be screwed is provided in the foundation. The customary harness or strap system for securing the mask in position is also associated with the foundation. The foundation is coated with cellulose lacquer 5 which at the eyeholes 1*a* forms a self-supporting flexible closure foil. The periphery of the mask is folded inwardly and the lacquer coating extends continuously on to the inside of the fold 1*f*. In this way the lacquer coating forms an entirely jointless surface extending over the entire mask foundation except for the socket where the filter element is attached. Due to its flexibility, smoothness and high power of adhesion, the lacquer coating provides a reliable seal where it contacts with the skin of the wearer. The fabric foundation is permeated by the cellulose lacquer during the application of the coating so that the latter is firmly and reliably attached without auxiliary securing means.

If it is regarded as necessary to provide sealing strips of soft leather on the inside of the fold 1*f*, these strips may be secured in position by placing them on the lacquer coating before it has dried.

A coating of lacquer may be applied to both sides of the mask foundation instead of to one side only, in which case the inwardly folded part of the mask may be dispensed with so that the mask will better adapt itself to the shape of the face of the wearer. The transparent lacquer coating renders unnecessary the rubber material hitherto customarily used, eliminates the insertion of separate windows and also makes it possible to dispense with the sealing strips of soft leather or the like which previously have been regarded as necessary for a tight closure between the periphery of the mask and the wearer.

More particularly when a very light fabric is employed for the foundation and a softer lacquer coating is provided, the mouthpiece may be disposed at the intersection of auxiliary reinforcing strips of fabric, metal or the like which extend to the points of attachment of the strap system.

Due to its light weight, the wide field of vision, cheapness of manufacture and the possibility of repairing the lacquer coating more readily than rubber, the gas-mask as described and illustrated is particularly suitable for use by the civilian population while following their occupations.

The gas-mask according to the invention may, for example, be produced in the following way.

A suitable quantity of the colourless liquid lacquer, varying with its consistency, is caused to thicken on the polished surface of a horizontally disposed glass plate of appropriate dimension. The quantity of lacquer is so chosen that the flexible transparent coating has the desired thickness. Cellulose or acetyl-cellulose, with a suitable addition of softener, is employed as lacquer. The strength of the lacquer coating is determined by its thickness. The foundation, previously cut to the desired configuration, is pressed onto the lacquer layer until the lacquer penetrates through the fabric and runs together to form a thin coating on the other side. A further layer of lacquer may be applied to the inside of the fabric to enhance the mechanical strength as indicated in Fig. 4, at 5'. When the lacquer is dry, the whole is removed from the glass plate and made up into the mask.

I do not limit myself to the particular size, shape, number or arrangement of parts as shown and described, all of which may be varied without going beyond the scope of my invention as shown, described and claimed.

What I claim is:

1. In a gas-mask, a foundation of fabric, eyeholes provided in said foundation, and an airtight, transparent, pliable foil covering said foundation throughout its areal extent and forming a self-supporting window across said eyeholes as an

integral part of said foil, for constituting a jointless gas-mask together with said foundation.

2. In a gas-mask, a foundation of fabric, eyeholes provided in said foundation, an airtight, transparent, pliable foil covering said foundation throughout its areal extent and forming a self-supporting window across said eyeholes as an integral part of said foil, for constituting a jointless gas-mask together with said foundation, and an inturned marginal strip on said foundation providing a sealing joint with the skin of the wearer by bearing engagement therewith.

3. In a gas-mask, a foundation of fabric, eyeholes provided in said foundation, and an airtight, transparent, pliable coating of lacquer penetrating through said foundation throughout its areal extent from the outside thereof and forming a self-supporting window across said eyeholes as an integral part of said coating, for constituting a jointless gas-mask together with said foundation.

4. In a gas-mask, a foundation of fabric, eyeholes provided in said foundation, an airtight, transparent, pliable foil covering said foundation throughout its areal extent and forming a self-supporting window across said eyeholes as an integral part of said foil, for constituting a jointless gas-mask together with said foundation, a coating of lacquer covering said foundation exteriorly throughout its areal extent and forming a self-supporting window across said eyeholes as an integral part of said coating, for constituting a jointless gas-mask together with said foundation, an inturned marginal strip on said foundation providing a sealing joint with the skin of the wearer by bearing engagement therewith, and a second coating applied to the inner side of said mask.

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