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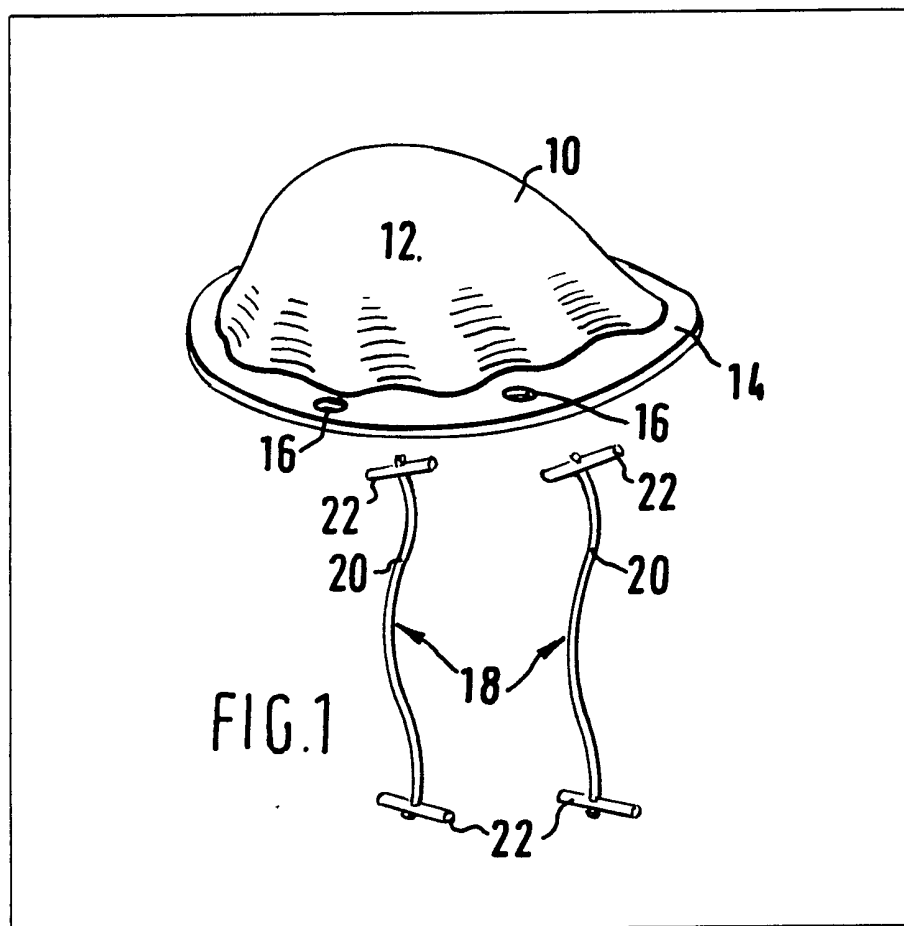
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(54) Face masks and kits therefor

(57) A respirator includes a mask 10 of fibrous material and retaining straps 20 of flexible extensible material that may be inserted into apertures 16 in a peripheral flange or lip of said mask and held in position by means of bars 22. The masks and straps may be packaged together as kits.



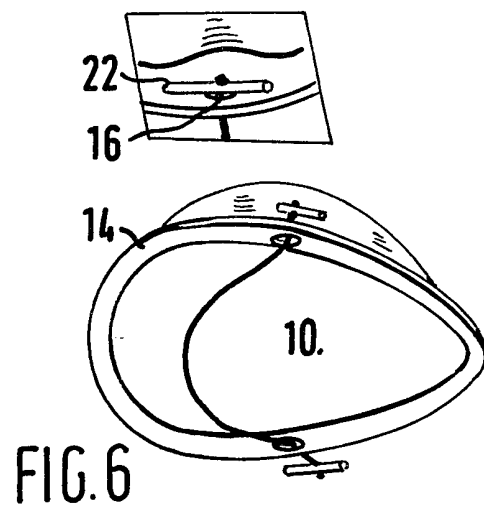
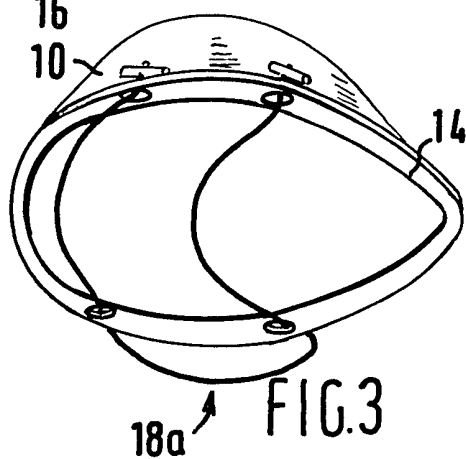
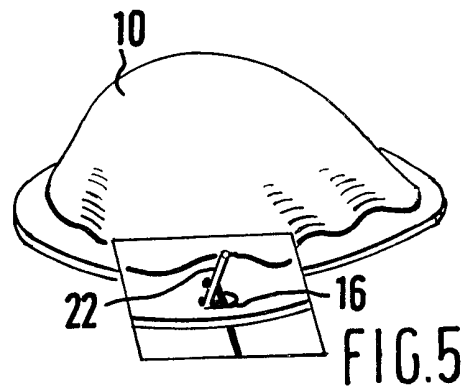
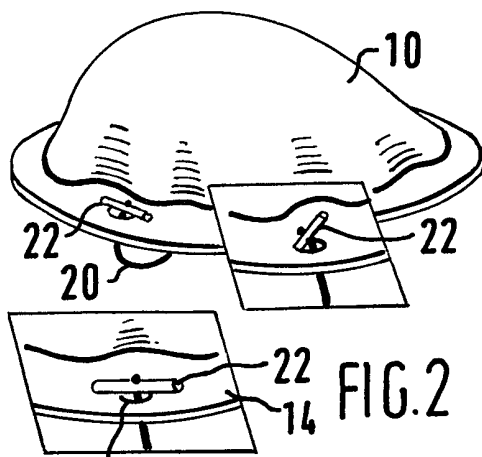
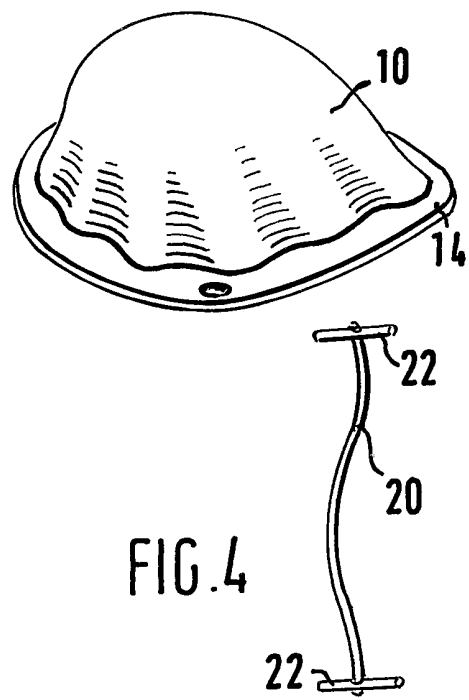
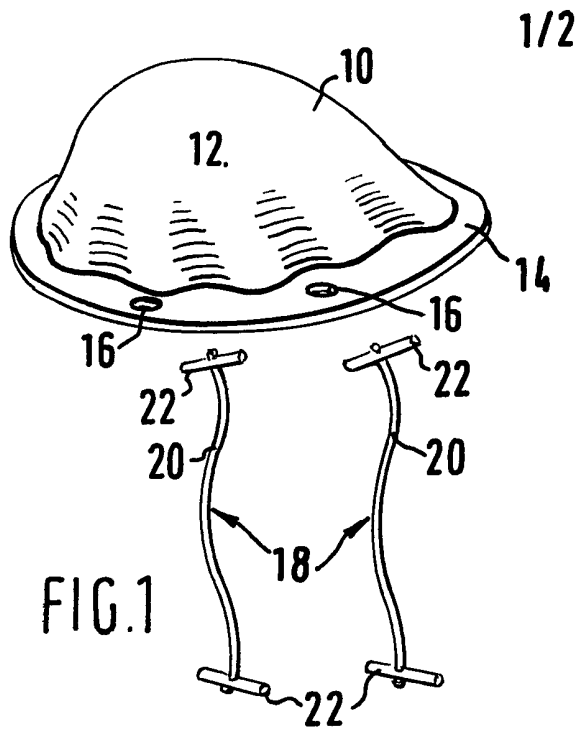


FIG. 7a



FIG. 7b

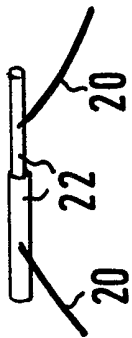


FIG. 7c

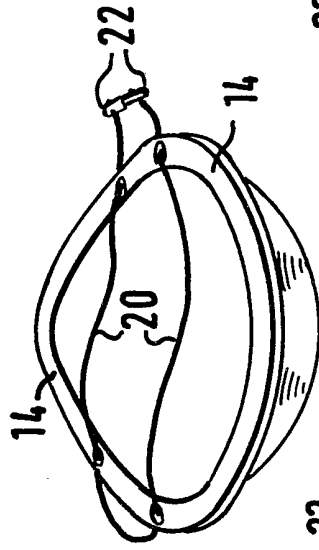
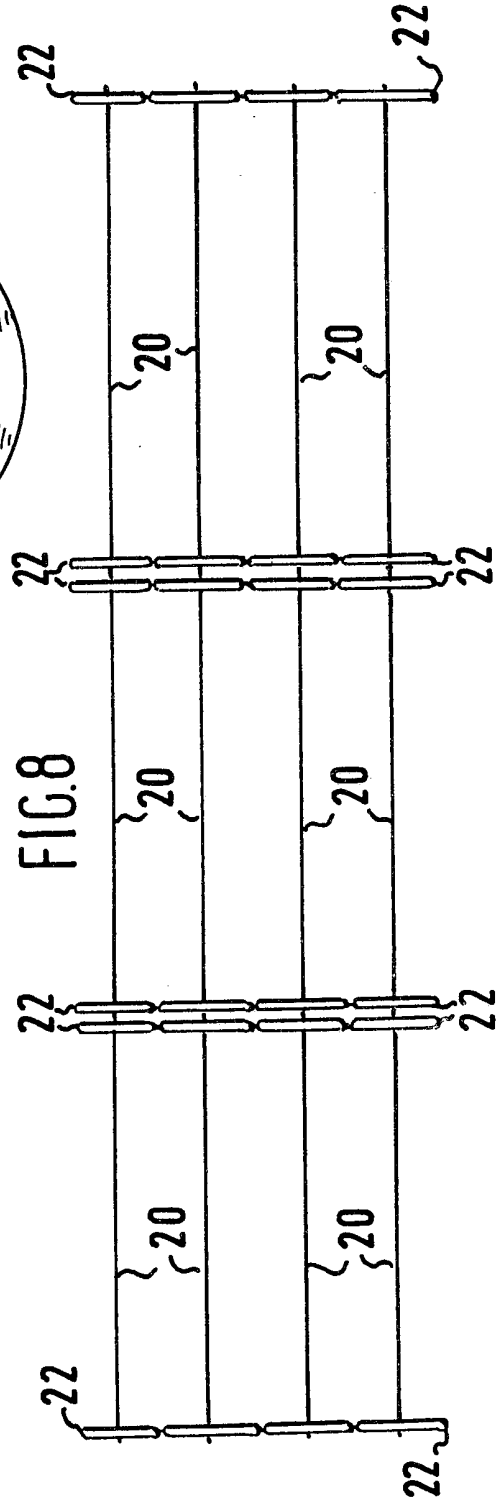


FIG. 8



SPECIFICATION

Face masks and kits therefor

5 The present invention relates to face masks or respirators and principally those of a disposable nature.

Face masks or respirators shaped to fit over the mouth and nose of an eventual user and to be held in place by one or more straps passing behind his or her head are known. They may be formed by moulding a flat non-woven fibrous fabric made from synthetic fibres into a three-dimensional shape including a curved upwardly protruding part and an outwardly directed peripheral flange or lip which rests flat against the wearer's face. The strap or straps have been fitted to the mask by stapling, sticking, riveting or welding which is a time consuming and expensive process. Disposable masks of this kind have, however, been finding increasing acceptance for use in dusty environments in industry and in coal mining.

25 Patent Specification No. 1184545 discloses a filing lace comprising a flexible lace member and end retaining tags each lying across an end portion of the lace member, the tags being in the form of solid bars of nylon or other plastics material which have been moulded onto the lace member. The main use of these tags has been in document filing and the cord has been of an inextensible string-like material. It is proposed in the specification that a rubber cord might be used and that the resulting articles might be supplied to the hat-making trade. But our information and belief is that this aspect of the disclosure has never been taken up and that no article incorporating an extensible cord was ever supplied.

The present invention comprises a respirator in the form of a mask of fibrous material moulded into a curved shape to fit over the mouth and nose of an eventual user and having an outwardly directed peripheral flange or lip which rests flat against the user's face, apertures in or adjacent the peripheral flange and a retaining strap or flexible extensible material which passes behind the head of the eventual user and is held to the mask by means of end retaining tags in the form of solid bars which have been moulded onto the retaining strap and which have been passed through the holes in the mask.

55 The invention also comprises, in another aspect, a kit for face masks to be supplied to a user and comprising within a package a plurality of the retaining straps and a plurality of the masks, the user being invited to assemble the mask to one or more straps immediately prior to use. In such a kit the number of the straps may be greater than the number of the masks because they last longer.

The invention will now be described by way of example only with reference to the accom-

panying drawings in which:

Figure 1 is a view of a mask and two retaining straps;

70 *Figure 2* is a top view of the mask with straps being assembled thereto (the parallelogram inserts denote different assembly stages);

Figure 3 is an underneath view of a mask with a single double-length retaining strap;

75 *Figures 4, 5 and 6* are views analogous to Figs. 1 to 3 but showing a mask having a single retaining strap;

Figures 7, 7a and 7b are views showing a tag having interlocking end members and a mask to which that tag is fitted; and

Figure 8 is a strap of retaining strap material from which individual retaining straps may be severed.

In the drawings there is shown a mask 10 of non-woven sheet material generally shield-shape in plan and having a raised portion 12 to fit over the mouth and lips of the eventual user and a peripheral flange 14. Fixing holes 16 are formed at appropriate positions in the peripheral flange. Retaining straps 18 each comprise an elastic lace or strap 20 and end retaining tags 22 of nylon or other plastics moulded in situ. In use the plastic ends of the retaining straps are inserted through the holes in the mask by the user so that the mask can be held in position on the face with ease and comfort.

In Fig. 3 a single tag 18a of double length passes through four holes in the member 14 to provide two lengths or strands of elastic material passing behind the head. But in Figs. 4-6 there is only a single tag and a single strand of elastic material behind the head.

In Figs. 7a to 7c the tags 22 at opposed ends of the retaining strap interlock by means of a sleeve attachment. Using this construction a completed band may be applied to a mask with four apertures as shown.

110 The combination of mask and elasticated retaining straps is inexpensive and practical. Moreover, the straps may be used for more than one mask with consequent cost saving.

CLAIMS

115 1. A respirator in the form of a mask of fibrous material moulded into a curved shape to fit over the mouth and nose of an eventual user and having an outwardly directed peripheral flange or lip which rests flat against the user's face, apertures in or adjacent the peripheral flange and a retaining strap of flexible extensible material which passes behind the head of the eventual user and is held to the mask by means of end retaining tags in the form of solid bars which have been moulded onto the retaining strap and which have been passed through the holes in the mask.

125 2. A kit for making respirators comprising in a package a respirator mask of fibrous material moulded into a curved shape to fit

- over the mouth and nose of an eventual user and having an outwardly directed peripheral flange or lip which in use rests flat against the user's face and has apertures in or adjacent
- 5 the peripheral flange, and a retaining strap of flexible extensible material which has end retaining tags in the form of solid bars of plastics material moulded onto the retaining strap.
- 10 3. A kit according to Claim 1 wherein the number of straps and the number of masks is such that each strap may be used with a plurality of the masks.
4. A face mask or respirator substantially
- 15 as hereinbefore described with reference to and as illustrated in Figs. 1-3 or 4-6 or 7a-7c of the accompanying drawings.

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