Dec. 2, 1947. E. CAIRNS 2,431,678

HEADGEAR

Filed Sept. 26, 1944

Fig. 1.

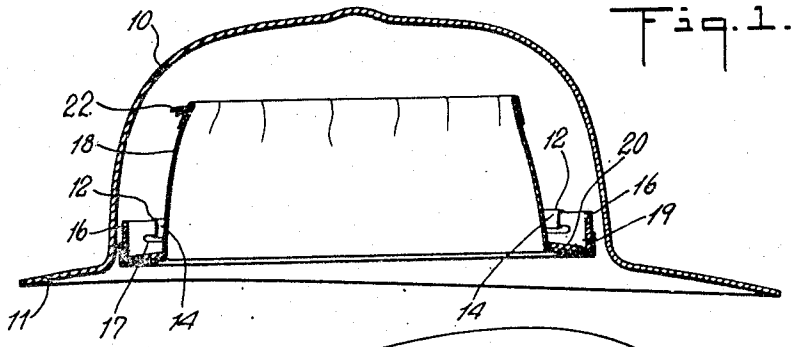


Fig. 2.

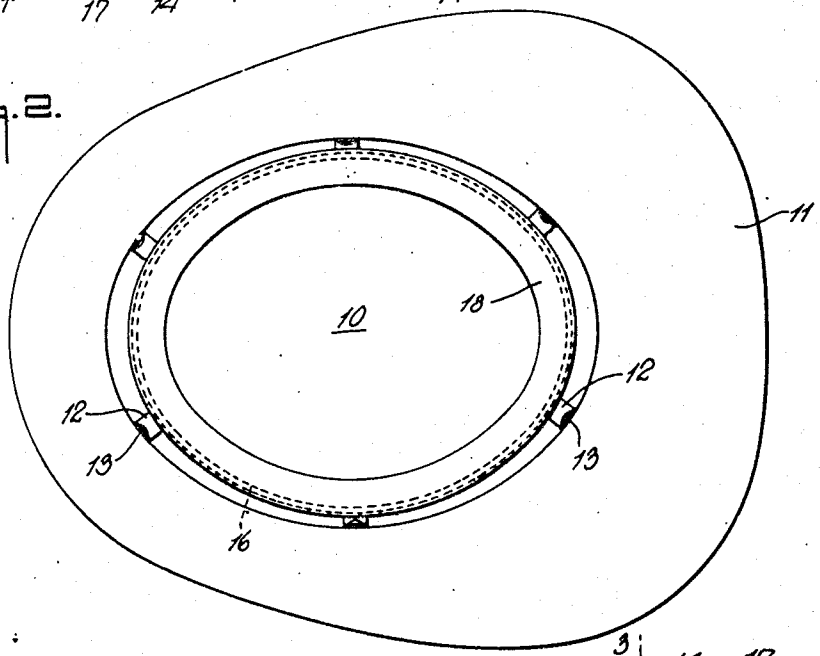
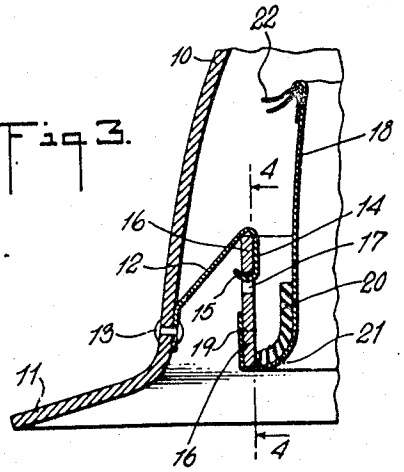


Fig. 3.



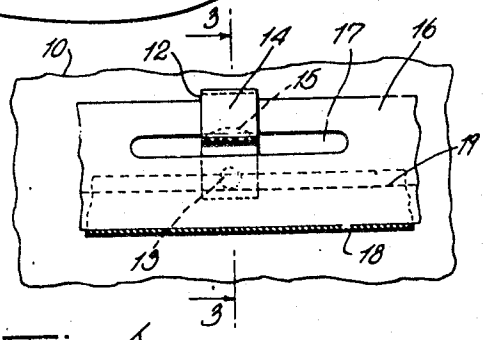


Fig. 4.

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HEADGEAR

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1 Claim. (Cl. 2—3)

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This invention relates to headgear and more especially to protective helmets of the type worn by firemen, soldiers and industrial workers. Such a helmet is made up of sufficiently rigid material to protect the head of its wearer against heavy blows and because of its construction it is undesirable to make the helmet directly fit the wearer's head. Also, for production purposes, it is desirable to make the helmets of uniform size without respect to the particular head-size of the wearer.

An object of this invention is a protective helmet equipped with means for supporting the helmet from the wearer's head out of contact with the head and of such nature that the helmet may be readily adapted to different head-sizes.

An additional object of the invention is to provide means for easily removing and replacing the complete lining assembly for cleaning or renewal.

Other objects, novel features and advantages of this invention will become apparent from the following specification and accompanying drawings, wherein:

Fig. 1 is a longitudinal section through a protective helmet embodying the invention;

Fig. 2 is a bottom view of Fig. 1;

Fig. 3 is a section on the line 3—3 of Fig. 4, and

Fig. 4 is a section on the line 4—4 of Fig. 3.

The helmet consists of a rigid body portion or crown 10 having an integral rim 11. The helmet is composed of any suitable material having the required degree of rigidity. Within the helmet and near the intersection of the body and rim portions there are provided several resilient members 12, in this case six such members, each of which comprises a thin strip of metal or other suitable material rigidly fastened to the helmet at one end by a rivet 13. Each member 12 extends inwardly and upwardly into the interior of the body portion and near its inner end is bent downwardly to provide a substantially vertical portion 14 and its extreme end is formed to provide an outwardly directed hook 15. The arrangement just described provides a series of spring clips substantially equally spaced from each other around the interior of the body of the helmet.

An endless band 16 comprises part of a cradle for the helmet and is formed from suitable resilient material, either metal or plastic. This band is provided with several slots 17, the number of the slots being the same as the number of the spring clips 12 and each slot is of greater length than the width of a spring clip. The band 16 is supported by the hooks 15 of the spring clips 12, these hooks forming seats for the band and passing through the slots 17 from the interior of the band to the exterior thereof. The portion 14 is long enough and there is sufficient spacing between the end of the hook 15 and the main portion of the spring clip 12 to permit passage of each hook 15 through a slot 17 merely by pressing the upper edge of the band 16 into the angle of the clip 12 to bring the hooks into register with the slots whereupon the hooks spring through the slots. The band 16 and the clips 12 are sufficiently resilient to permit easy manipulation thereof to assemble the band with the clips. Also, attachment of the band 16 to the spring clips 12 is facilitated by the fact that the slots 17 are of greater length than the width of the spring clips 12. Any shock caused by a falling object striking the crown 10 tends to force the band 16 into the angles of the clips with no strain coming on the hooks 15.

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Bands 16 of different headsizes may be used in conjunction with the spring clips 12. With the larger size bands the spring clips 12 will assume a more nearly vertical position than with the smaller size head-bands but will readily adapt their position to the particular size band assembled with the helmet. Also, irrespective of the size of the head-band, the helmet will be slightly spaced from the wearer's head. The hooks 15 serve to retain the band 16 in assembled relation with the spring clips 12 and prevents accidental disengagement of the band from the clips. However, the band may be removed from the clips merely by lifting the tips of the clips until they are released from the slot. This arrangement facilitates cleaning or renewal of the band.

A lining 18 of felt or other suitable material and shaped to conform substantially to the head of the wearer has one edge attached to the exterior of the band 16 at 19 and passes around the under edge of the band. A narrow annular strip 20 of suitable elastic cushioning material, such, for example, as sponge rubber is stitched to the outer surface of the liner 18 at 21 and has its outer periphery engaging the inner surface of the band 16. The strip 20 tightly wedges the lining onto the head of the wearer, thus effectually preventing accidental displacement or removal of the helmet from the wearer's head. A draw string 22 is provided in the top edge of the lining 18. The lining 18, together with the band 16, constitutes a cradle by which the helmet is supported on the wearer's head. The lining may be easily and quickly removed for renewal or cleaning merely by disconnecting the band 16 from the clips 12 as previously described.

I claim:

A headgear comprising a rigid hollow body, a plurality of spring clips within the body, each spring clip comprising a strip member bent intermediate of its ends into inverted V-shape forming an angle at the top and providing straight inner and outer portions, the outer portion being secured at the lower end to said body and extending upwardly and inwardly at an inclination and the inner portion depending vertically from the upper end of the outer portion and terminating in a hook facing said body and providing a seat for a head band, and a head band within the body and fitting at its upper edge in the angles of the spring clips and provided between the upper and lower edges with a plurality of slots receiving said hooks, the latter snapping automatically into engagement with the band when the latter is placed in the angles of the clips and pressed upwardly.

EDWARD CAIRNS.

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The following references are of record in the file of this patent:

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