Dec. 2, 1952 E. CAIRNS 2,619,638

FIREMAN'S HELMET

Filed March 4, 1950

Fig.1.

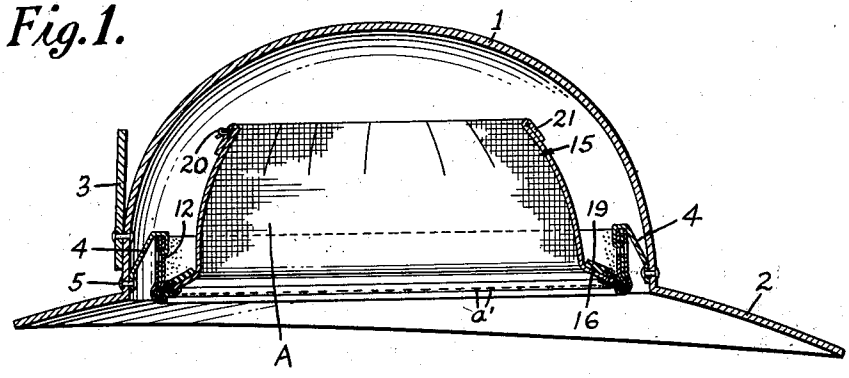


Fig.2.

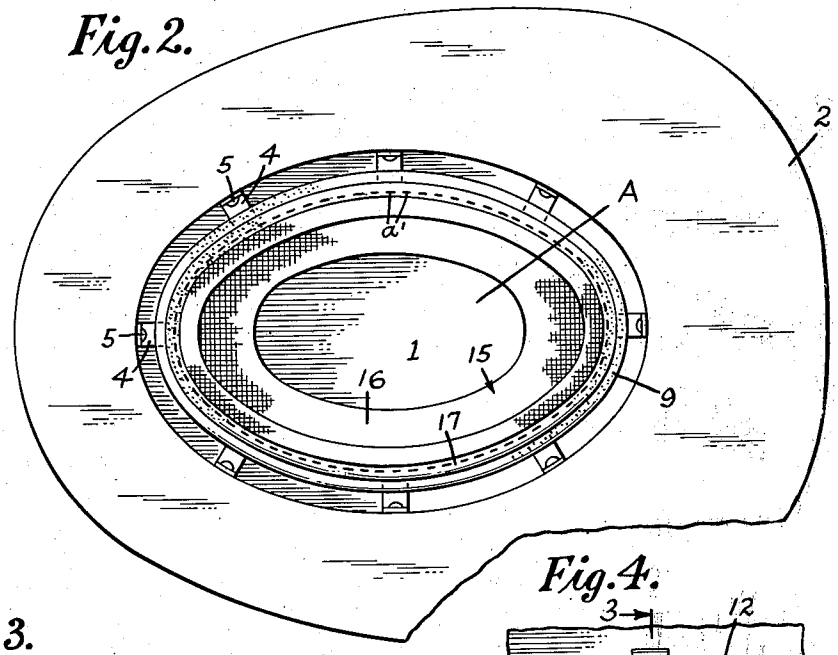


Fig.3.

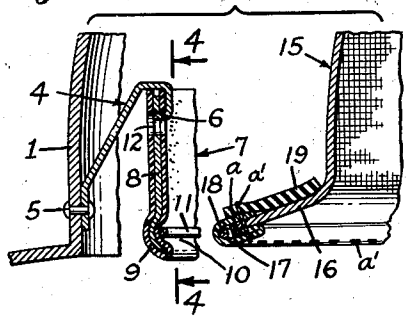
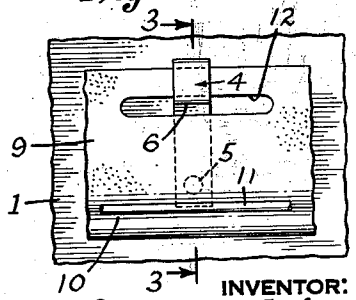


Fig.4.



INVENTOR:
Edward Cairns,
BY
W. H. Swearton,
His ATTORNEY.

Patented Dec. 2, 1952 2,619,638

UNITED STATES PATENT OFFICE

2,619,638

FIREMAN'S HELMET

Edward Cairns, Montclair, N. J.

Application March 4, 1950, Serial No. 147,656

2 Claims. (Cl. 2—3)

1

This invention relates to helmets more particularly plastic helmets for firemen, soldiers and other individuals commonly employing protective head gear in their occupations and has for its particular objects the provision of such a helmet having a readily removable lining retainer member which is equipped with a metallic formable band that can be permanently shaped on removal from the helmet to accurately conform to the contour of the individual head of a wearer. Other objects of the invention are hereinafter set forth.

In my prior Patent No. 2,431,678, there is disclosed a helmet having a removable head band and lining members which together constituted a cradle by which the helmet is supported on the head of a wearer. While such helmet is adaptable to different head sizes, merely by substituting a band of a size appropriate to the head of a particular customer, nevertheless, owing to the fact that such band was formed of resilient material that was not intended to take a permanent set, it did not lend itself to being accurately and permanently shaped, on being removed from the helmet, so as to conform to the contour of the head of a customer. Consequently, the helmet equipped with such removable band did not possess anywhere near the degree of comfort and snugness of fit as obtainable with my improved helmet construction.

My invention is fully set forth in the following detailed description and drawings forming a part thereof in which latter

Figure 1 is a vertical section of a firemen's helmet embodying my invention;

Figure 2 is a plan view, from below, of such helmet;

Figure 3 is a fragmentary vertical section taken on the line 3—3 of Figure 4; and

Figure 4 is a fragmentary elevation taken on the line 4—4 of Figure 3.

Referring to the drawings and the helmet construction illustrated therein, the reference numerals 1 and 2 designate the crown and brim, respectively, of the helmet and 3 the conventional company identification ornament. Spring clips 4, of the same general construction as those disclosed in said patent, are rigidly secured to the crown 1, adjacent the bottom thereof, preferably by means of rivets 5. Said clips each have a hook member 6 formed on the outer or free end thereof which is adapted, as hereinafter described, to be sprung into and retain a lining-retainer member 7. The latter comprises an annular head band composed of a core 8 of essentially inelastic or

2

non-resilient non-corrosive, formable metal, such for example as a thin strip, which is of considerably greater width than thickness, of soft brass or zinc of about 26 gauge having its ends overlapping and riveted together. Such strip is encased in a flexible covering of a plastic, as vinyl resin or the like, 9. The lining-retainer member 7 has a groove 10 formed along the bottom margin thereof and a spring split ring 11 when sprung into said groove serves to temporarily retain the core 8 and the casing 9 in an assembled relation and to thereby facilitate the mounting of the member 7 on the hooks 6 which can then be readily accomplished by snapping said hooks partially through the slots 12 that are formed both in said core 8 and the covering 9. The member 7 can likewise be readily removed from the slips 4 when it is desired to shape the member 7, in the manner hereinafter explained, merely by tilting the latter by gripping the same adjacent the bottom thereof and moving the bottom portion inwardly, i. e. radially toward the center of the crown 1.

A cloth of felt lining 15 which is adapted to be supported by said lining-retainer member 7, comprises an inner crown 16 having a binding 17 secured to its lower margin by stitches a, which binding embraces and retains a spring-wire compression ring 18. A cushioning pad element 19, formed of sponge rubber, is secured to the lower end of the member 15 by means of stitches a^1 Said member 15 is adapted to generally assume the position shown in Figure 1 when its lower marginal rim portion is sprung into the aforesaid groove 10 of the lining-retainer member 7, the same being retained therein by the elestic pressure exerted by said ring 18. The upper margin of the member 15 is provided with an adjusting draw-string 20 which is retained within the marginal hem 21.

In lieu of employing clip members to secure the lining-retainer member to the crown member, lacings may be substituted therefor is desired.

While my invention is especially applicable to the manufacture of plastic helmets, which because of the high expense for dies are usually made in but one or two sizes, nevertheless it may also be desirable to employ the same for manufacturing leather and aluminum helmets now usually made in all sizes, since thereby a single crown member will serve to receive lining-retainer members that represent all the different sizes which may be desired.

The advantages of providing a helmet having a conformable head band which, as above explained, is capable of assuming a permanent set

when manually distorted to the contour desired, are the extreme comfort imparted thereby to the wearer, even when the helmets are unusually heavy, the resistance offered by such helmets to dislodgment from the head of the wearer when the helmet is struck by falling objects and the more even distribution of any shock over the entire head of the wearer.

From the foregoing description, it will be apparent that my invention not only enables the manufacturer of helmets to supply them in accurate sizes while employing the same size of crown for all helmets of a particular style, if it is so desired, but each helmet can be accurately fitted to the head of a particular purchaser merely by removing the lining-retainer member with the lining attached thereto and conforming the head band to the contour of the wearer's head while the band is still so attached to the lining member.

Various modifications of the construction herein specified can be made without departing from the spirit of the invention as embraced within the scope of the appended claims.

Having thus described the invention, I claim:

1. A helmet, comprising a crown member, a brim member projecting from the bottom edge thereof, a flexible lining member adapted to receive the head of the wearer of the helmet, a lining-retainer member which includes a head-band that consists of a strip of formable, substantially non-resilient metal, which strip is of considerably greater width than thickness and is capable of assuming a permanent set upon distortion thereof, and mean for detachably securing the said lining-retainer member to the crown member and to said lining member.

2. In a helmet, the sub-combination comprising a lining-retainer member which is provided with a head-band that consists of a strip of formable, substantially non-resilient metal capable of assuming a permanent set when distorted, which strip is of considerably greater width than thickness; and a lining member detachably secured to said first mentioned member.

EDWARD CAIRNS.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
1,575,251	Cairns	Mar. 2, 1926
1,984,521	Deegan	Dec. 18, 1934
2,074,568	Sloan	Mar. 23, 1937
2,422,161	Zacks	June 10, 1947
2,423,168	Barritz	July 1, 1947
2,431,678	Cairns	Dec. 2, 1947