June 4, 1957 R. M. NESBIT ET AL 2,794,189

PROTECTIVE CAP LINER

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Fig. 1

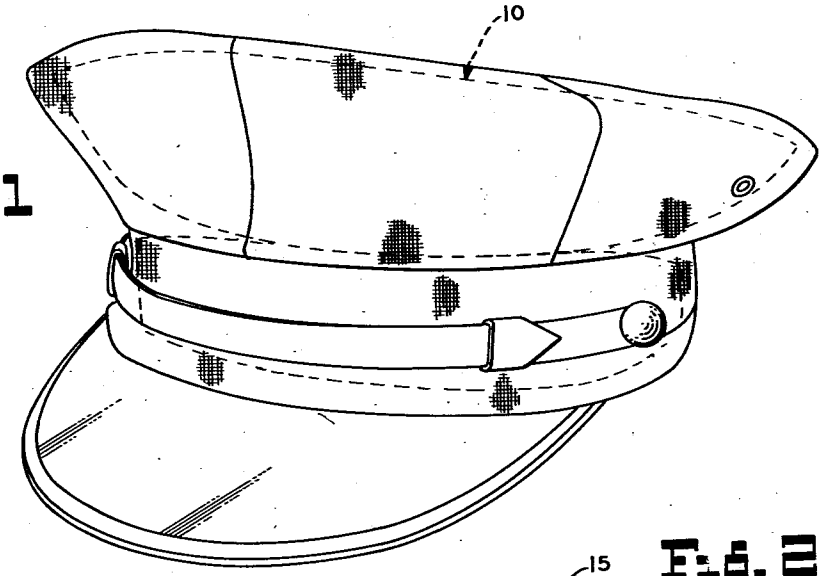


Fig. 2

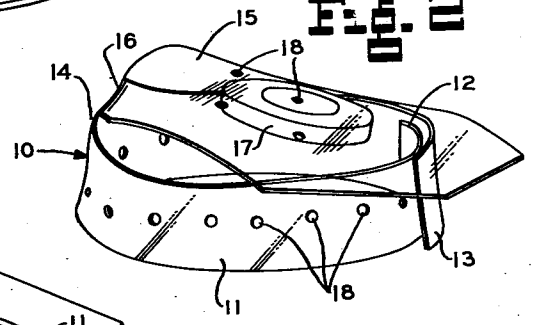
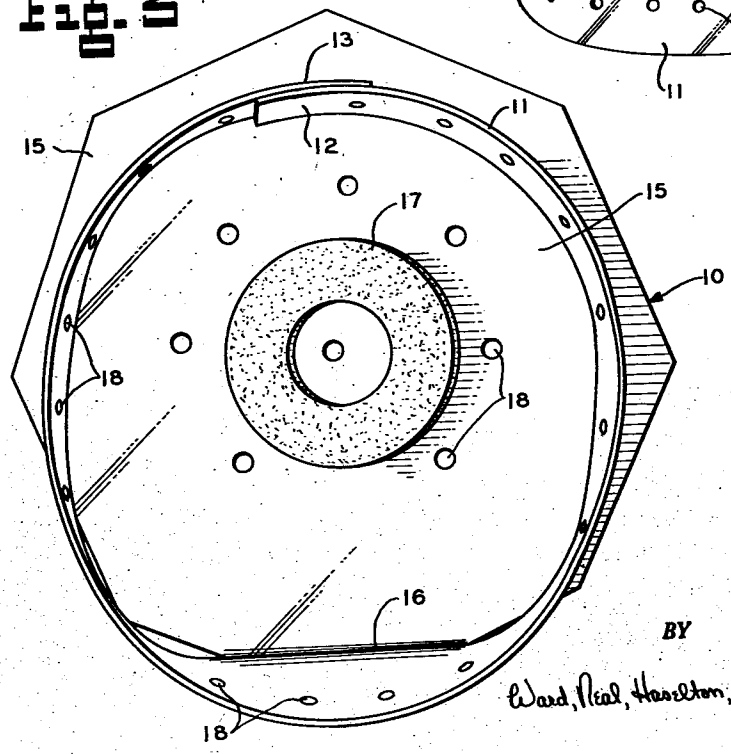


Fig. 3



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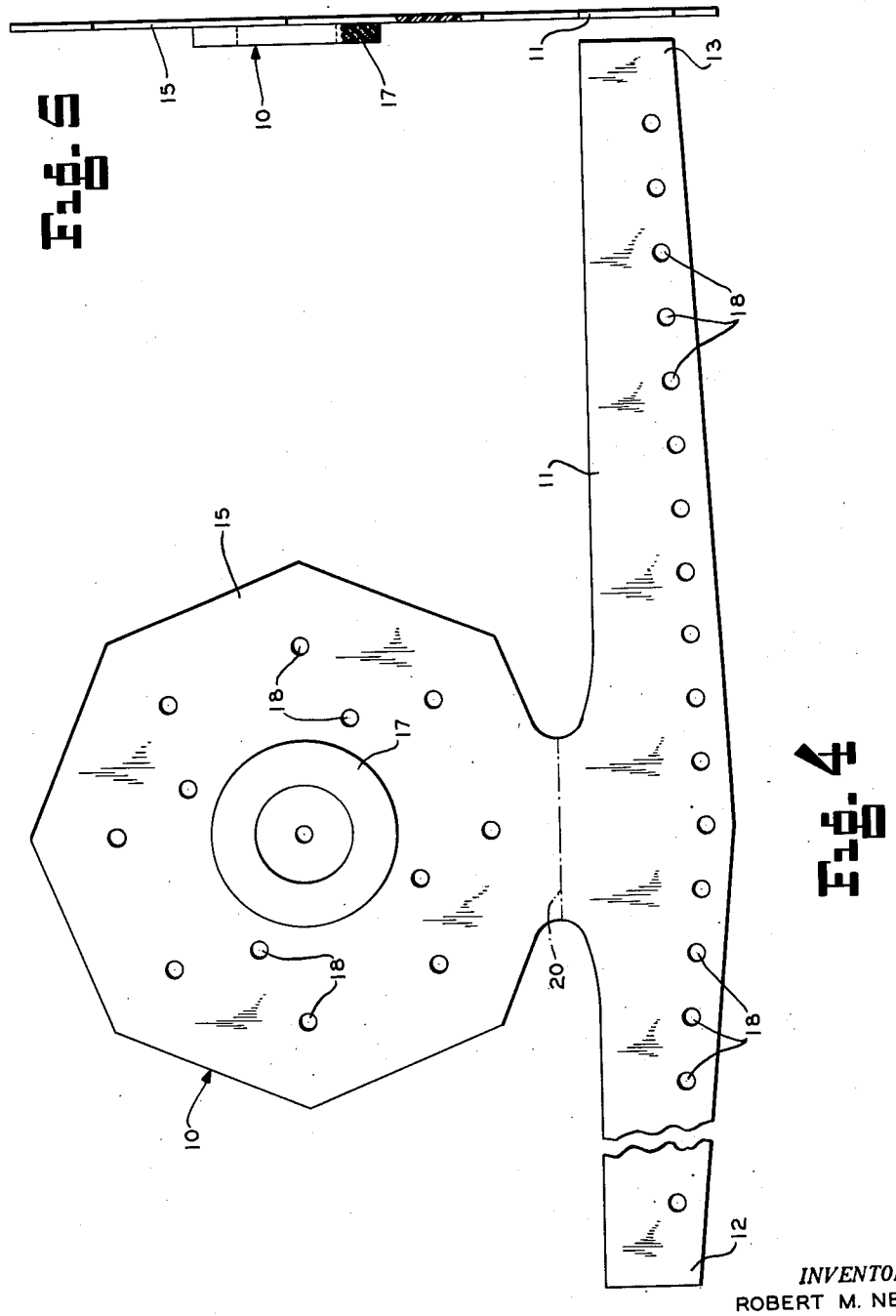


Fig. 3

Fig. 4

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United States Patent Office 2,794,189 Patented June 4, 1957

2,794,189

PROTECTIVE CAP LINER

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Application November 29, 1955, Serial No. 549,741

1 Claim. (Cl. 2—195)

This invention relates to a device in the nature of a protective hat liner adapted to be inserted into the hat or cap of the wearer for protection against blows and injuries to the head.

While many types of devices and protective hats have been devised to be worn by workmen and others to protect them from head injuries, these have generally been of a relatively complicated, expensive, heavy or awkward construction, or required the users to wear hats of non-conventional or unusual shapes and thus unsuitable for ordinary wear by uniformed personnel such as for example officers, public utility servicemen, meter readers, power plant guards and attendants.

The present invention provides a simple lightweight and inexpensive form of device particularly adapted to be quickly and easily inserted into caps or hats of conventional shapes such as worn by officials or employees engaged in work of the nature above referred to.

The device of the invention may be formed of semi-rigid sheet thermosplastic material suitably shaped for insertion wholly inside a cap such as for example an officer's type cap without noticeably changing the external outline or appearance of the cap, thus avoiding any possibility that the wearer will feel conspicuous because of the presence of the device.

According to the invention there is also preferably provided in under the middle of the top of the device a foam rubber element adapted to cooperate with the other and semi-rigid parts of the device safely to protect the wearer from skull injuries and lacerations or abrasions in case he should run into, or after stooping rise and strike against projecting apparatus, low beams, or other objects. The device further preferably includes a hat band-like portion expansible to various sizes and thus adapted to fit either against or in under the conventional hat bands of caps or hats of various sizes.

Various further and more specific objects, features and advantages of the invention will appear from the detailed description given below taken in connection with the accompanying drawings which form a part of this specification and illustrate by way of example the presently preferred embodiment of the invention.

In the drawings:

Fig. 1 is a perspective view of the exterior of a conventional officer's cap or serviceman's type of cap containing one of the devices embodying the invention;

Fig. 2 is a perspective view of one of such devices for insertion into a cap or hat;

Fig. 3 illustrates one of the devices as viewed from the underside thereof;

Fig. 4 is a developed view of the device according to the invention before same has been shaped to fit into a cap; and

Fig. 5 is an edge view of the device as shown in Fig. 4.

Referring now to the drawings in further detail, and more particularly to Figs. 2 and 3, the preferred construction of the device comprises a member of suitable

sheet plastic material which is somewhat flexible, although semi-rigid and preferably of thermosplastic material of a nature such that same may easily be shaped or molded when subjected to heat or heat and pressure to the form shown. This member may comprise a band portion 11 of generally circular formation and of dimensions corresponding generally to those of a conventional hat band except that the ends as at 12 and 13 are positioned so as normally to overlap as shown, permitting the portion 11 to be readily expanded or contracted to fit within hats of various sizes, either by inserting same between the hat band and the walls of the hat or by positioning same against the hat band and in contact with the wearer's head. Usually, however, it will be convenient to insert the portion 11 in under the hat band so as to retain the device removably but securely in place.

In case the device is to be worn in a conventional officer's type cap as indicated in Fig. 1, the forward parts of portion 11, as indicated at 14, may extend up somewhat higher than the other portions to closely fit in under the usually raised front portion of such caps.

A top and generally flat portion of the device is indicated at 15 having an area such as largely to overlie the band portion 11 and a periphery preferably shaped as indicated closely to fit within the top portion of the cap. The portion 15 as shown may readily be made integral with the band portion 11, the two portions being integrally joined by a bent or folded-over area indicated at 16 which is located within the upper front portion of the cap and thus provides an exceptionally rigid support for this part of the cap which may often receive serious blows which would injure the wearer in the absence of the device. The peripheral parts of the portion 15 as best shown in Fig. 3 will generally extend out considerably beyond the hat band portion of the cap and thus provide substantially rigid supports adapted to withstand blows coming in directions from the sides or back of the cap as well as holding the cap portions in proper extended attractive condition.

A disc or annular flat piece of foam rubber 17 is adhered to the underside of the middle area of portion 15 so as to come between the head of the wearer and the underside of portion 15 and thereby protect the head effectively against any sharp or powerful impacts which may be received from above.

The band and top portions of the device may be formed with suitably spaced perforations as at 18 for ventilation purposes.

To form the device, a sheet of suitable plastic material, perferably of transparent form, is first cut in flat condition to the shape shown in Fig. 4. Thereupon this material may be heated, or heated and subjected to pressure, and shaped or molded so that the band portion 11 conforms to the configuration indicated in Figs. 2 and 3 while the portion 15 may be smoothly bent over along the dot-and-dash line indicated at 20 to form the integral joining portion between the top and band parts as above referred to in connection with Fig. 2 and indicated at 16. The foam or sponge piece 17 may be formed of any resilient material and may be adhered in place either before or after the remaining parts are shaped.

To insert the device after it is properly shaped, into a hat in the preferred way, it is simply necessary to first turn down the hat band and then insert the device into the hat and then again turn up the hat band. The device may of course be readily removed and used in alternative hats, either in hats of the type indicated in Fig. 1 or other forms, such as Fedora hats or engineers' caps. By reason of the adjustable overlapping portions 12 and 13 it is generally possible to provide but one single size of

device which will be adapted to fit within hats or caps of all the usual sizes by substantially automatic adjustment.

A simple lightweight and inexpensive form of device is thus provided which does not interfere with the wearing comfort of the usual hats and caps nor with the proper external appearance thereof. Thus officials and attendants, servicemen and the like will not be prejudiced against wearing the device whenever needed and they will need only a single device for alternative use in their various hats or caps.

Although a presently preferred embodiment of the invention is herein disclosed for purposes of explanation, various modifications thereof after study of this specification, will be apparent to those skilled in the art to which the invention pertains. Reference should accordingly be had to the appended claim in determining the scope of the invention.

What is claimed and is desired to be secured by Letters Patent is:

A protective lining device adapted for removable insertion in officer's type caps, said device being formed of an integral piece of semi-rigid plastic sheet material and including a top portion adapted to be substantially coextensive with and to support and retain the undersurface of the top of the cap with its periphery in spread

out condition, and a band portion adapted to encircle the wearer's head and substantially to conform to the hat band, the plastic material being bent over along a line at one edge only of the top portion to form a flexible integral interconnection between the upper edge of the band portion and the top portion, the band portion having a relatively raised upper edge at the region of such interconnection, the periphery of the top portion at other areas loosely overlying and extending outwardly beyond the upper edge of the band portion and adapted to be supported thereby.

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