Aug. 20, 1963 H. N. KHANBEGIAN 3,100,896

HOOD OVER-ALL

Filed July 18, 1961

Fig. 1.

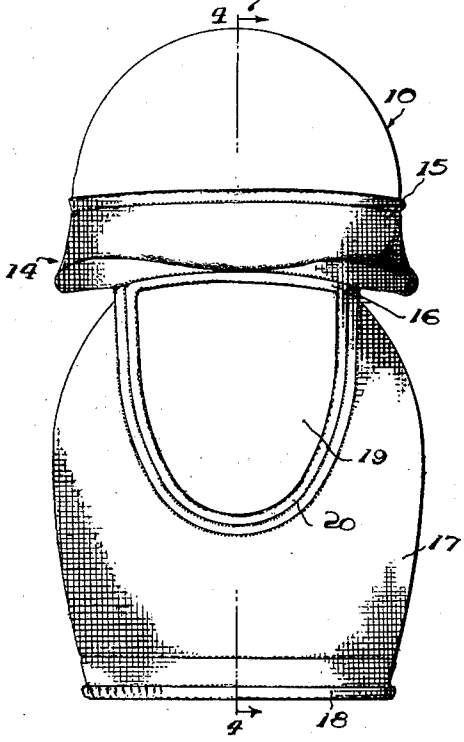


Fig. 2.

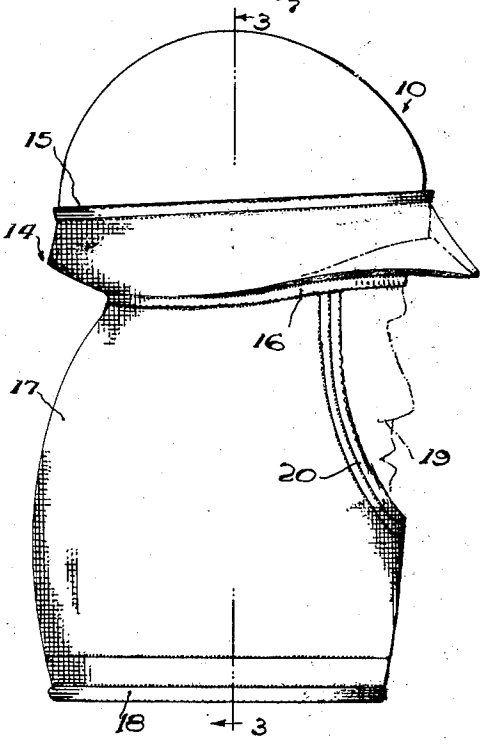


Fig. 3.

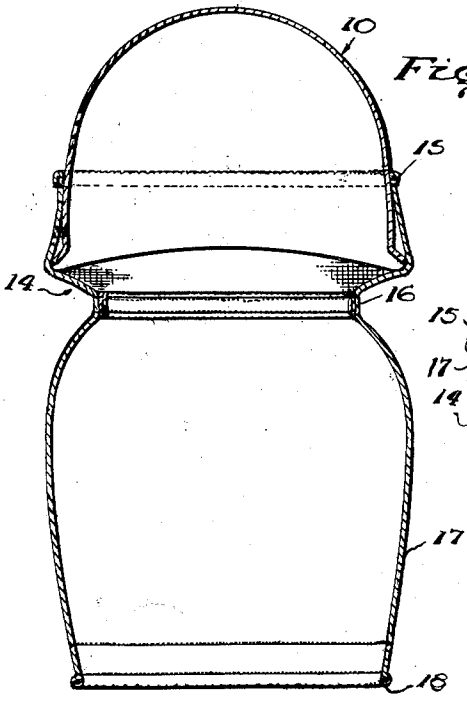
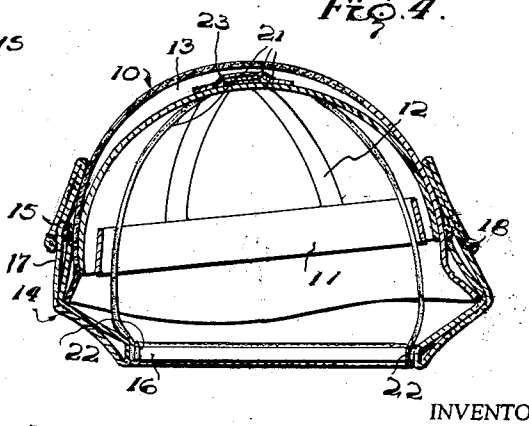


Fig. 4.



INVENTOR

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3,100,896

HOOD OVER-ALL

Harry N. Khanbegian, Boston, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed July 18, 1961, Ser. No. 125,017
1 Claim. (Cl. 2—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)

The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

The invention relates to adjuncts to protective helmets such as are worn by military personnel, fireman, industrial workers and others requiring protection of the head. Specifically the invention relates to such helmets which include a head band and cradle in radially inwardly spaced relation to the helmet shell.

Such head bands provide a roughly annular space around the wearer's head through which drafts enter the shell to the inverted bowl-shaped space around the wearer's head above the cradle. This feature is highly desirable in hot weather on account of the cooling of the head which results therefrom. However, it is highly undesirable in cold weather for obvious reasons.

With the foregoing in view, it is an object of the invention to provide improved means for preventing cold drafts from entering the interior of the helmet.

A further object is to provide in such a device improved means for protecting the areas of the face and neck below the helmet from cold.

A further object is to provide such a device which is readily retracted to a semi-inoperative position atop the helmet.

A further object is to provide such a device which is readily applied to and removed from a standard protective helmet without any modification of the same and without the use of special tools or skills.

Other objects and advantages reside in the specific structure of the invention and/or the combination of the same with a protective helmet, all of which will be readily apparent to those skilled in the art upon reference to the attached drawing illustrating one species of the invention and to the following specification wherein the invention is described and claimed.

In the drawing:

FIGURE 1 is a front elevational view of the device applied to a helmet;

FIGURE 2 is a side elevational view thereof;

FIGURE 3 is a transverse vertical sectional view taken substantially on the plane of the line 3—3 of FIGURE 2; and

FIGURE 4 is a longitudinal vertical sectional view taken substantially on the plane of the line 4—4 of FIGURE 1 but showing the invention in the semi-inoperative position.

Referring specifically to the drawing wherein like reference characters designate like parts in all views, **10** designates generally a helmet liner or the like such as the military helmet illustrated which is supported upon the head of a wearer by a radially inwardly spaced headband **11** such as that disclosed in the Riddell Patent No. 2,250,275. Such headband **11** supports any suitable cradle **12** which may conform to that disclosed in the Grancsay et al. Patent No. 2,758,306. As is readily apparent in FIGURE 4, headband **11** and cradle **12** provide an inverted bowl shaped space **13** wherein air normally circulates. To prevent cold outside air from entering such space **13** outside of headband **11**, there has been provided the protective hood **14** according to the invention.

The hood **14** comprises a generally tubular body of any suitable flexible material which is substantially impervious

to the passage of air or drafts and which is provided at its upper end with a flexible adjustable means **15** such as a drawstring or elastic band for removably securing the same about the outside of the helmet liner **10**. A second flexible adjustable means **16** likewise extends entirely around the hood **14** in downward spaced relation to the means **15**. This second adjustable means **16** likewise may comprise an elastic band or a drawstring and is located just below the brim of the helmet liner **10**. It has a close fit with the head of a wearer whereby to close the annular space outside of the headband **11** and prevent the entrance of outside air to the space **13**. Below the second adjusting means **16**, the hood comprises a tubular curtain portion **17** having a lower edge **18** preferably formed with a third flexible adjustable means for providing a close fit with a wearer's neck.

A face opening **19** is formed in the front of the curtain **17** and the upper margin of such opening is defined by a portion of the second adjustable means **16**. The remaining margin of the face opening **19** is defined by a substantially U-shaped edge **20** of the curtain **17** which edge is formed as a tunnel and contains an elastic or drawstring for tightening the opening about a wearer's face to prevent entry of drafts therethrough to the interior of the helmet and hood.

To insure that the hood **14** is properly supported, there has been provided a hood cradle which corresponds to the liner cradle **12** and which comprises three or more crossing straps **21** which have their lower ends **22** in equispatial arrangement around the hood and which ends are sewed or otherwise secured to the hood **14** in the region of the second adjustable member **16** inwardly thereof. The central portions of the straps **21** are crossed in the region of the top of a wearer's head and are slidably connected together by a keeper **23** as in the cradle of the Grancsay et al. patent aforesaid. The hood cradle straps are located inside the headband **11** and cradle **12**. This arrangement insures that the second adjustable member **16** is drawn into close engagement with the periphery of a wearer's head in the region of and just below the headband **11**. Thus, there needs to be but a minimum of adjustment of such means **16** if it is a drawstring or if it is an elastic band, the same can be comparatively weak whereby there is no danger of cutting off or unduly reducing circulation of blood to the head. Thus, a comfortable fit is assured merely by properly adjusting the length of the cradle straps **21** in the manner of the Grancsay et al. patent aforesaid.

FIGURE 4 illustrates the use of the device when circumstances do not require the use of the curtain portion **17** of the hood. Here the curtain **17** is rolled or folded upwardly until it is entirely around the liner **10**. It is secured in such a position by the third adjustable means **18** in a manner readily understood.

It follows from the foregoing that the hood according to the invention can be applied to and removed from any standard protective helmet without any modification of the latter and without the use of any special tools or skills. Moreover, while there has been shown and described what is now thought to be the preferred embodiment of the invention, it should be understood that the same is susceptible of other forms and expressions. Consequently, the invention is not considered to be limited to the precise structure and design shown except as hereinafter claimed.

I claim:

The combination with a protective helmet including a helmet shell having a headband therein in radially inwardly spaced relation thereto to provide a substantially annular air space therebetween; of a protective hood for said helmet, said hood comprising a portion adapted to engage the outer surface of a helmet shell engaging portion, a

flexible curtain depending therefrom below said shell, said curtain having a lower edge normally disposed in the region of a wearer's shoulders, an annular adjustable means encircling said curtain immediately below said shell to provide a close fit with a wearer's head whereby to close said annular air space between said headband and shell, a face opening in said curtain between said annular adjustable means and said lower edge, said face opening including an upper edge defined by a portion of said annular adjustable means, said face opening having opposed side edges connected by a lower edge to provide a substantially U-shaped edge, a substantially U-shaped adjustable means included in said U-shaped edge to provide a close fit with the face of a wearer, curtain straps secured to said annular adjustable means inwardly thereof, said curtain straps being adapted to extend upwardly within said helmet and over a wearer's head for supporting said hood thereon, said

curtain straps being operative to draw said annular adjustable means into engagement with a wearer's head just below said headband.

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(First addition to No. 329,068).