

Feb. 10, 1942.

F. W. VAN WORMER

2,272,959

SAFETY MASK

Filed July 31, 1940

Fig. 1.

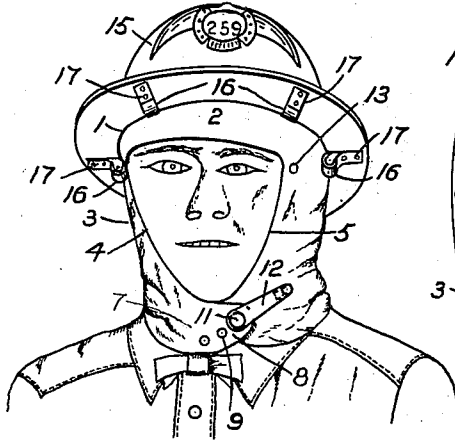


Fig. 2.

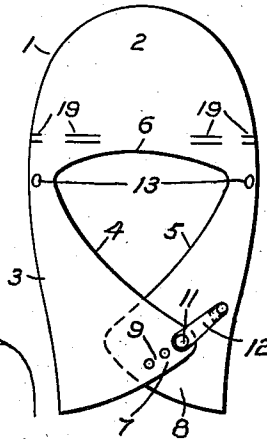


Fig. 4.

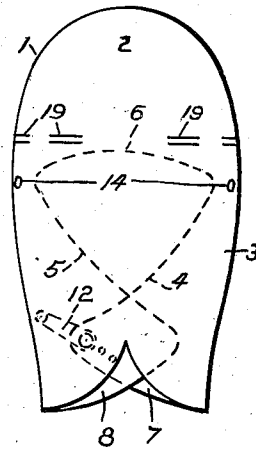


Fig. 3.

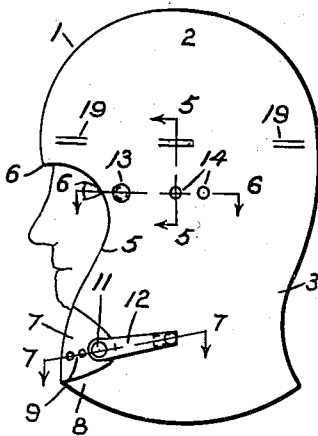


Fig. 5.

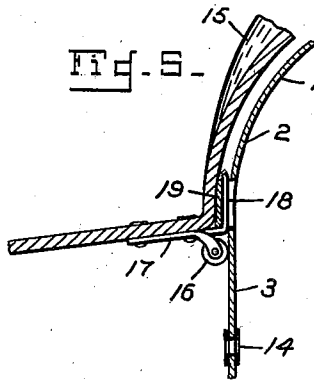
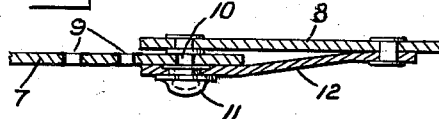


Fig. 6.



Fig. 7.



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UNITED STATES PATENT OFFICE

2,272,959

SAFETY MASK

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Application July 31, 1940, Serial No. 348,865

5 Claims. (Cl. 2—205)

This invention relates to improvements in safety masks or hoods for the use of aviators, firemen, miners, soldiers and others in protecting the head and face of the wearer from injury in fighting a fire or from cold, etc., in freezing weather or cold climates.

The main object of the invention is to provide an article of wear of this character which is simple in construction, light in weight, easy to apply and secure in position, and which will cover the head, neck and sides and greater portion of the face of the wearer, while at the same time allowing free vision, hearing and respiration.

Another object of the invention is to provide a mask or hood which will fit the head closely so that it may be used under a helmet and fastened to the helmet to assist in holding the latter securely on the head.

Still another object of the invention is to provide novel cushioning means on the helmet to space the same from the head for ventilating purposes and which at the same time furnishes fastening means for connecting the helmet with the hood.

In the accompanying drawing—

Fig. 1 is a front view of the mask or hood as applied for use in connection with a helmet.

Fig. 2 is a similar view of the mask per se.

Fig. 3 is a side elevation of the mask.

Fig. 4 is a rear elevation thereof.

Fig. 5 is a detail section through a portion of the helmet and mask on the line 5—5 of Fig. 3.

Fig. 6 is a detail section on the line 6—6 of Fig. 3.

Fig. 7 is a detail section on the line 7—7 of Fig. 3.

In carrying my invention into practice I provide a mask or hood 1 of flexible material. This material may be of inherently waterproof and/or fireproof material or of a material treated to render it so.

The mask is formed with an upper body portion 2, which has the general shape of a skull cap, and a skirt or apron portion 3 depending therefrom. The body or cap portion 2 is shaped to fit about and down upon the crown of the head and to overlie the forehead to a suitable point or level adjacent to and above the level of the eyebrows. The skirt or apron portion 3 depends from the back and sides of the crown portion and comprises a back part formed to cover and enclose the back of the head and neck and side parts formed to enclose the sides of the head and neck. These side parts of the skirt

portion are separated at the front from the cap portion and from each other to form free edges 4 and 5 intersecting the front edge 6 of the cap portion and curved along lines to produce with the edge 6, when the mask is applied for use, a substantially heart-shaped opening to expose the eyes, nose, mouth, chin and sides of the face of the wearer in advance of the cheekbones. The curved formation of the edges 4 and 5 is also such as to provide substantially triangular lapping flaps 7 and 8 adapted to extend under the chin and cover the sides and front or throat of the neck and which may be spread to admit of the hood being enlarged at its base for ready application to and removal from the head of the user. The formation of these flaps is such as to adapt them to be adjusted at inward and upward angles with relation to each other in lapping engagement so that such neck part may be snugly drawn about the neck of the wearer and in such manner as to conform to the contour of the neck.

The mask as thus constructed is adapted when worn to give substantial protection to the head and in a large measure to the face of the user. To hold the mask secured in position any suitable fastening means may be used. In the present instance the part 7 is shown as provided with a plurality of openings 9 for passage of a spring stud 10 carried by the part 8 and adapted to be engaged by a spring socket 11 carried by the free end of a fastening strip 12 secured to the part 8, whereby the parts 7 and 8 are adapted to be adjustably connected. Spring studs 13 are also provided on the hood at the sides of the front opening in the region of the eye level for engagement by spring sockets on goggles or the like (not shown) which may thus be detachably secured in position for use to protect the eyes while enabling the user to have free vision. Openings 14 reinforced by eyelets are furthermore provided in the sides of the hood at points overlying the ears to allow the wearer to hear clearly and to afford ventilation at these points.

The mask may be employed in conjunction with a fireman's or other protective helmet 15 which may be made of Bakelite, metal or other fireproof and waterproof material. The helmet 15 shown is of a conventional form and of that kind having cushioning and spacing members 16 arranged to bear against the head to soften its bearing contact with the head and to allow ventilation. In accordance with my invention the members 16 are mounted on bracket plates 17 secured to the helmet, which bracket plates are

provided with spring clips or tongues 18. For cooperation with these clips or tongues the cap of the hood is slitted to form an annular series of keeper strips 19 engageable with the tongues to fasten the hood and helmet together, whereby the hood fastened about the head of the wearer is adapted to serve as a retaining means to hold the helmet firmly in position on the head. By this means the helmet is prevented from being knocked off or otherwise displaced while the user is in action, thus giving maximum protection to the wearer in service.

From the foregoing description, taken in connection with the drawings, the construction and mode of use of my improved protective mask will be readily understood, and it will be seen that the invention provides a simple construction of hood or mask which may be used, with or without a helmet, to give protection to the head and face of a fireman, miner or other person engaged in hazardous work where such protection is desirable, as well as for the purpose of protecting a wearer from cold in freezing weather. Its construction also adapts it to be worn without inconvenience and with greater comfort and convenience than hoods or masks of an ordinary type. Furthermore, when used with a helmet it provides convenient and effective means to assist in holding the helmet on the head against possibility of displacement.

While the construction disclosed is preferred, it will, of course, be understood that changes in the form, construction and arrangement of parts, falling within the scope of the appended claims, may be made without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is:

1. The combination of a head protecting hood having an annular series of keepers, and a helmet, of supporting means on the helmet comprising an annular series of plates fastened to the helmet, cushioning and spacing members carried by the plates, and fastening clips carried by the plates to engage the keepers on the hood.

2. The combination with a helmet member, of a protective hood or mask member formed to

envelop the head and portions of the face and the neck of the wearer, keepers on one of the members, clips on the other member to engage the keepers, said keepers and clips serving to support the helmet member from the hood member in position on the head, and cushioning means arranged between the two members and carried by one of said members and adapted to yieldingly bear on the other member to hold said members in spaced relation.

3. The combination with a helmet member of stiff or substantially rigid material, of a protective hood or mask member of relatively soft material formed to envelop the head and portions of the face and the neck of the wearer, engaging means between the members adapting the hood member to hold the helmet member in position on the head, and cushioning means arranged between the two members and carried by one of said members and adapted to yieldingly bear on the other member to hold said members in spaced relation.

4. The combination with a helmet member of stiff or substantially rigid material, of a protective hood or mask member of relatively soft material formed to envelop the head and portions of the face and the neck of the wearer, means on the helmet member engageable with the hood member to hold the helmet member in position on the head, and cushioning means arranged between the two members and carried by one of said members and adapted to yieldingly bear on the other member to hold said members in spaced relation.

5. The combination with a helmet member of stiff or substantially rigid material, of a protective hood or mask member of relatively soft material formed to envelop the head and portions of the face and the neck of the wearer, said hood member being provided with an annular row of keepers, of clips on the helmet member to engage said keepers, and cushioning means on the helmet member to yieldingly bear on the hood member and hold said members in spaced relation.

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