Feb. 4, 1936. A. E. HERZER 2,029,566

HELMET

Filed April 10, 1934

Fig. 1

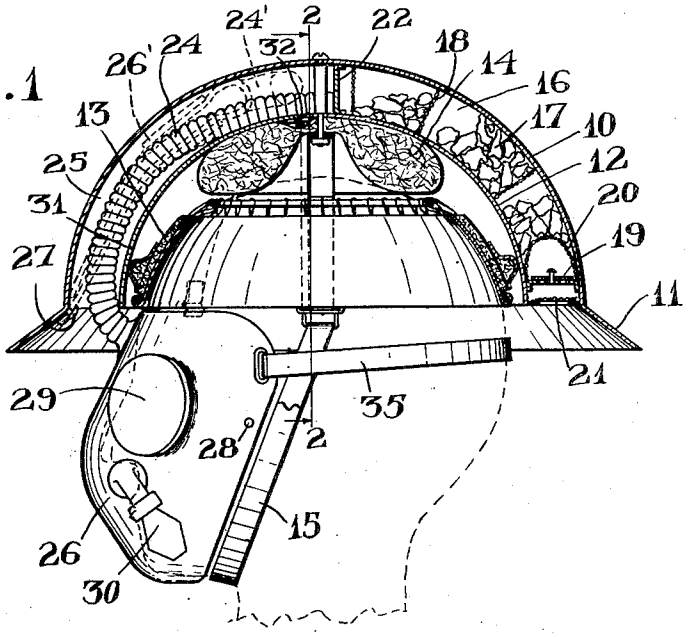


Fig. 2

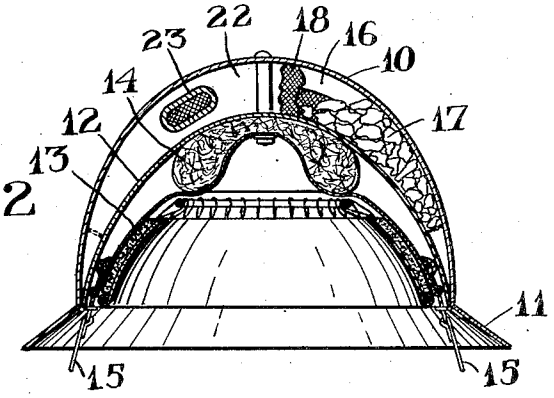
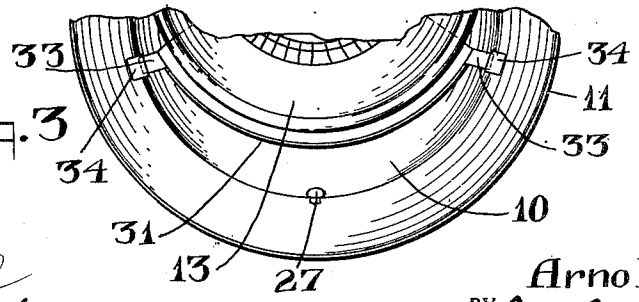


Fig. 3



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HELMET

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11 Claims. (Cl. 128—141)

This invention relates to helmets for head protection, embodying therein a chamber for receiving a gas mask and a chamber or chambers containing the necessary filters for supplying filtered air to the mask.

A further object of the invention is to provide a helmet having a part fitting the head of the user in substantially the usual and ordinary manner with an exterior shell spaced therefrom forming a chamber intermediate said exterior shell and the inner helmet structure, one part of the space thus provided being employed for containing the necessary filtering materials and elements and another part of the space being employed as storage for a gas mask and hose connection therefrom to the filter chamber.

A further object of the invention is to provide a helmet having an exterior of protecting material and an interior spaced therefrom to provide a filter chamber and with a second part of the interior properly hinged to form at one position a mask receiving chamber and to be moved from such position to provide access to such chamber.

It is well-known that at the present time gas masks are employed for various purposes including warfare, and that the chemical chamber is suspended in some position about the body, with a hose connection therefrom to the gas mask, which in times of gassing is employed over the face of the user, it being necessary for the user to remove his helmet or other head covering for the purpose of applying the mask to his face, and that when so applied, the length of hose extending from the filter chamber to the gas mask makes breathing exceedingly difficult.

The present invention is directed to a more convenient means, both of carrying the mask and of quick adjustment to the face, together with a hose much shorter than the conventional gas mask hose, so that breathing shall be easier. Also, in accordance with the present invention, the hose from the filter chamber makes communication with the gas mask adjacent to the eyes of the user, whereby the top part of the face is cooled by the incoming air, the air being exhaled through a trap which may be of the present approved type.

The drawing illustrates an embodiment of the invention and the views therein are as follows:

Figure 1 is a view of the helmet along substantially anterior-posterior lines, showing the gas mask in operative position upon a head shown in dotted lines,

Figure 2 is a view taken transversely of Figure 1, as indicated by line 2—2 at said figure, and

Figure 3 is an inverted plan of the anterior side of the helmet with the mask stored.

Like characters of reference indicate corresponding parts throughout the several views.

According to the present invention, an exterior protecting dome or helmet sheet 10 is provided, except for being larger than the helmets now in use, it conforms substantially to the same shape and is provided with a rim or visor 11. The shell 12 conforms closely in its dimension to the size and shape of the helmets now in use and the interior or head engaging construction 13 is of the usual type and will, therefore, not be particularly described. The pad 14 is also such as is now in use and needs no further description.

The device is held upon the head by means of a chin strap 15 which also is in accordance with the present usage.

It will be noted that by reason of the difference of size of the outer shell 10 and the inner shell 12, a chamber 16 is provided. This space or chamber 16 may be used for supporting chemical filtering materials 17 and mechanical filters 18 which in their consistency are substantially as now known.

At one point, preferably at the posterior side, an inlet valve 19 is provided. This valve is preferably protected by a screen 20 to separate the valve from the filter chamber proper and also with an exterior screen 21 to protect from outside damage.

At the opposite end the chamber is limited by a partition 22 which has a connection 23 for the hose 24. The hose 24 extends through a chamber 25 which is of such proportion that the hose may be folded back to the position 24' and the mask 26 folded and inserted into the chamber, as indicated at 26'.

Any convenient means for holding the mask within this chamber is employed, as the button 27, which will engage a perforation 28 in the side of the mask when the mask is inserted into the chamber.

No particular novelty is claimed in the construction of the mask, it having the usual windows 29 and exhaling trap 30.

So that access may be more readily had to the chamber 25 containing the hose 24 and gas mask 26, the shell section 31 is hinged at 32 so that it may swing toward the major axis and, therefore, provide access to the chamber containing the hose and mask. This hinged section is held

in proper spaced relation by any approved means, as the offsets 33, which engage fastening members 34 on the shell 10.

In ordinary use it is not necessary to move this section 31 upon its hinge as the gas mask and hose are so proportioned that they will slide in and out of the lower opening of the chamber 25 and the section 31 is moved only for access to that chamber for replacement or repairs.

In the ordinary use of the helmet, the gas mask and hose will be retained within the chamber 25, as indicated in dotted lines at Figure 1. When gas is discovered or expected, the user may unhook the mask by releasing the perforation 28 from the button 27 and draw the mask down over his face.

It may be retained by any approved means, but a strap 35 is shown for the purpose.

As the chin strap 15 always stands outwardly from the head of the user adjacent to the helmet, the strap 35 will preferably be disposed between the chin strap 15 and the head, so that the gas mask will be held tightly fitting over the face.

Of course, thus positioned, the user will inhale through the hose and the filter chamber and exhale through the trap 30. By reason of the very short length of the hose 24, and its immediate connection to the filter chamber, breathing is very much easier than through a longer length of hose.

Also, it will be noted that the hose connects with the upper part of the mask adjacent to the eyes and the incoming air will, therefore, pass over the face and cool the face to make the use of the mask less uncomfortable.

It will be obvious that the mask may be drawn down and fixed over the face without removing the helmet from the head and that it may likewise be replaced in its chamber by merely being refolded and pushed upwardly and buttoned.

The hose, being exposed only a very short distance from the helmet to the mask, will offer but little obstruction to the action of the user, as distinguished from the present type of gas mask where a considerable length of hose extends from the filter chamber upwardly along the body of the user and connects with the lower part of the mask.

Of course, the helmet herein described may be modified and changed in various ways without departing from the invention herein set forth and hereinafter claimed.

I claim:—

1. A helmet provided with a filter chamber and a gas mask chamber open at the front to permit withdrawal of a gas mask into wearing position, and means to maintain a mask within the chamber, said helmet having a head-receiving space separate from said chambers.

2. A helmet provided with a filter chamber and a gas mask chamber open at the front to permit withdrawal of a gas mask into wearing position, a hose connected with the filter chamber and extending through the gas mask chamber and connecting with the mask.

3. A helmet provided with an inner and outer shell providing a filter chamber, an inlet to the filter chamber at the posterior side of the helmet, a hose connected to the filter chamber extending operatively from the anterior side of the helmet, said helmet providing also a chamber for storage of a gas mask and hose.

4. A helmet provided with an inner and outer shell providing a posterior filter chamber and an anterior gas mask chamber divided by a partition, said partition having a connection for a gas mask hose, a hose connected with said connection whereby it is connected to the filter chamber, and a gas mask being connected with the hose and positioned in said gas mask chamber.

5. A helmet having inner and outer shell parts, one of said inner shell parts being rigidly fixed to the outer shell part and forming a filter chamber therebetween, the other of said inner shell sections being hinged, means to fix the hinged section with relation to the outer shell part to form a space separate from the filter chamber, and a gas mask and hose disposed within said last mentioned space, and connected with the filter chamber.

6. A helmet comprising inner and outer shell parts, one of said inner shell parts being fixed in spaced relation to an outer shell part, providing a filter chamber, another inner shell part being hinged to an outer shell part and providing a gas mask space, a hose connected with the filter chamber and passing through the gas mask chamber, a gas mask connected with the hose, means to maintain the gas mask and hose removably within the gas mask chamber, head fitting parts within the inner shell parts, means for maintaining the helmet upon the head, and means to maintain the gas mask upon the face.

7. A helmet provided with a gas mask chamber and a filter chamber, a gas mask and a hose extending from the filter chamber through the gas mask chamber to and connecting with the gas mask adjacent to the part covering the eyes.

8. A helmet provided with a filter chamber and a gas mask chamber, said mask chamber being open at the bottom immediately over the face of the wearer, and means to maintain a mask within the chamber.

9. A helmet provided with a filter chamber at its posterior end and a gas mask chamber at its anterior end, said mask chamber being open at the bottom immediately over the face of the wearer.

10. A helmet embodying means for carrying a gas filter and means to carry a gas mask in relation to be withdrawn to operative position while the helmet is maintained in head covering position, both said means being disposed interiorly of the helmet.

11. A helmet combining in its construction a gas filter and a gas mask chamber in the posterior and anterior parts respectively of the interior of the helmet.

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