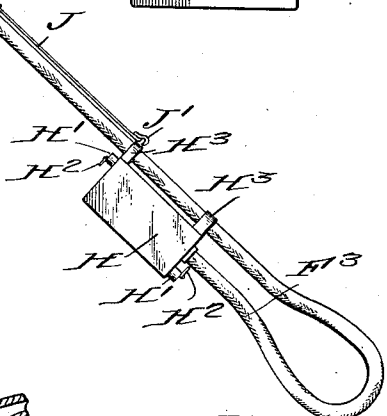
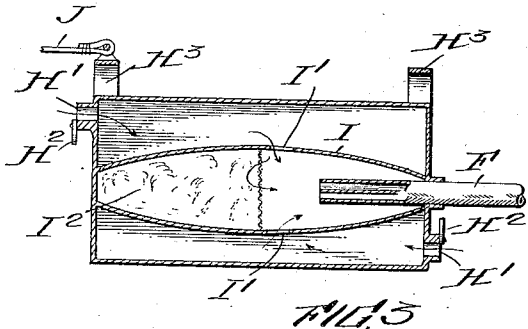
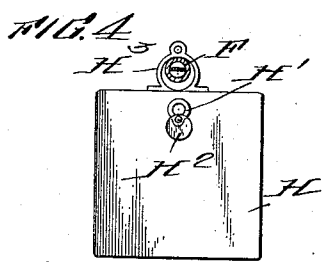
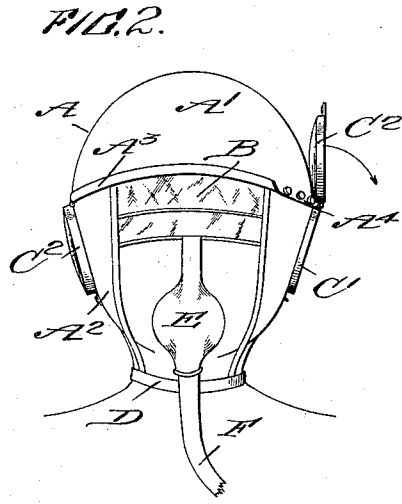
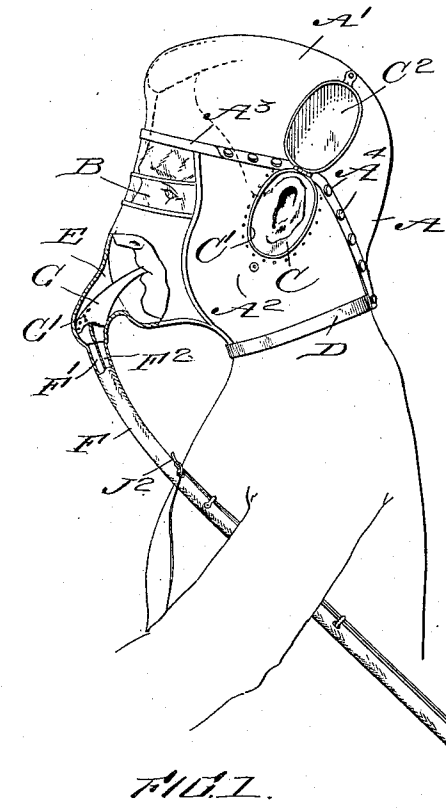


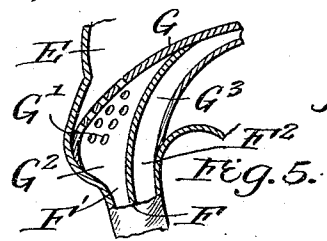
J. A. TYCHON,
FIRE HELMET.
APPLICATION FILED SEPT. 9, 1915.

1,174,780.

Patented Mar. 7, 1916.



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JUSTYN A. TYCHON, OF CLOQUET, MINNESOTA.

FIRE-HELMET.

1,174,780.

Specification of Letters Patent.

Patented Mar. 7, 1916.

Application filed September 9, 1915. Serial No. 49,701.

To all whom it may concern:

Be it known that I, JUSTYN A. TYCHON, a citizen of the United States, and a resident of Cloquet, in the county of Carlton and State of Minnesota, have invented a certain new and useful Improvement in Fire-Helmets, of which the following is a specification.

My present invention relates to fire helmets, and more particularly to a helmet with means adapting the same to operate as a respirator in addition to the protection it affords the wearer.

The object of my invention is to provide a simple and inexpensive equipment of this character including an air intake box which may be readily adjusted by the user to suit various conditions of use as hereinafter described.

A further object of my invention is to provide a simple and inexpensive equipment which will occupy a minimum of space in disuse and will afford maximum protection, without interference, in use.

My invention will be better understood from the following description thereof, in which reference is made to the accompanying drawing, forming a part of this specification, and in which—

Figure 1 is a side view, partly broken away and in section, illustrating my improvement. Fig. 2 is a front view. Fig. 3 is a longitudinal section through the air intake box. Fig. 4 is an end elevation thereof, and Fig. 5 is a detail section through the mouthpiece and parts immediately adjacent thereto.

Referring now to these figures, my invention contemplates the provision of a head encircling mask A, formed in upper and lower parts A' and A² respectively, as plainly seen in Fig. 1, these parts being joined together by a seam at A³ extending across the front of the head mask or helmet at a point above the sight apertures B, and extending above the side ear openings C and downwardly and rearwardly therefrom to and through a neck band D at the lower end of the lower helmet portion A².

One rear end of the seam A³, extending centrally through the rear portion of the band D just above mentioned, is open at one side of the helmet to provide for the disposition of the mask or helmet upon, and its removal from, the head of the wearer, the adjoining portions of the helmet or mask along

such openings being provided with separable fasteners A⁴ of suitable character such as buttons, glove fasteners, and the like, to permit the helmet or mask to be securely closed in use.

The sight apertures B, which may if so desired, have inner glasses of more or less magnifying power, are preferably covered exteriorly of the glass by mica or other transparent non-inflammable material.

The ear openings C are preferably provided with surrounding permanent rings C', and with cover plates C², hinged to the rings C' to open and close, as will be plainly seen by a comparison of opposite sides of the helmet as shown in Fig. 2.

At the lower front portion of the lower section A² of the helmet or mask is an enlargement E forming an air pocket, and with which the upper end of the air tube F communicates, this tube being longitudinally divided into air channels F' and F² and said air channels communicating at their upper ends with a divided mouth-piece G, one portion G² of which is provided with a plurality of small apertures G' so as to permit of communication between the air pockets E above mentioned and the air channel F' of the air tube, the channel F² of which communicates with the other portion G³ of the mouth-piece G leading directly to the mouth of the user as best seen in Fig. 5.

The lower end of the air-tube F it will be noted, is bent back thereupon as indicated at F³ in Fig. 1, and its extremity is extended into the end of an air intake box H, having inlet apertures H' at its opposite ends, each of which is covered by a plate H² so that the box may be normally closed, the plates being removable in use of the equipment to permit the entrance of air into the box H and from thence to the air tube F. Within this box H is a cylinder I having inlet apertures I' and divided into compartments with one of which the extremity of the tube F communicates as particularly shown in Fig. 3, the other compartment being adapted for the reception of camphor or other suitable material as shown at I², the fumes from which are adapted for cleansing the incoming air. It is to be understood that the user may inhale through the nose and exhale from the mouth or vice versa, the exhaled air being compelled to pass downwardly through the air tube F to its end and there mixed with fresh air

and acted upon by the fumes from the material at I² before being used again, all due to the separate channels of the tube, one of which communicates with the mouth piece 5 and the other with the air pocket E. By reference to Figs. 1 and 3 in particular, it will also be noted that the box H is provided at one side and adjacent its opposite ends, with a pair of bearing rings H³ slidably disposed upon the tube F whereby to support the box in adjustable relation, enabling the same to be moved by the user 10 along the tube and adjusted vertically therefor toward and away from the ground, dependent upon the particular height of the user and the particular conditions of use. To this end, one end of a flexible adjusting connection J is secured to one of the bearing rings as shown at J', the said flexible 20 adjusting member J extending upwardly along the tube F at the upper portion of which is secured a hook J' upon which the upper portion of the flexible adjusting member J may be anchored. Thus in use, if the 25 operator is moving from place to place, the box H will very naturally be elevated sufficiently to permit the lower end of the tube F to be free of the ground, while upon the other hand, if the operator or user is standing in one place for any length of time, the 30 box H may be lowered to the ground in order to take in the ground currents of air which are likely to be free of poisonous matter.

It is to be noted that a device such as I propose will be simple and inexpensive as compared to those now in use, will take up a minimum of storage space in disuse, may be readily put on and removed, and will 40 be effective and convenient in use.

I claim:—

1. A respirator including a head mask, an air tube leading from and communicating with the lower forward portion of the said 45 mask and having its lower end bent back upon itself, and an air inlet box adjustably held on said tube and to which the said lower bent end of the tube is connected.

2. A respirator including a head mask, an 50 air tube leading from and communicating with the said mask and having its lower end bent back upon itself, an air inlet box, to which the said lower bent end of the tube is connected, adjustably held on said tube, and 55 provided with air inlet openings, and an

inner cylinder having inlet openings and divided into compartments, one of which is adapted to hold an air cleansing material and into the other compartment of which the communicating end of the air tube extends. 60

3. A respirator including a head mask, an air tube leading from and communicating with the lower forward portion of said mask and having its lower end bent back upon 65 itself, an air inlet box adjustably held on said tube and to which the said lower bent end of the tube is connected, and means for adjusting the said box along the tube.

4. A respirator including a head mask, an 70 air tube leading from and communicating with the lower forward portion of said mask, and having its lower end bent back upon itself, an air inlet box having bearing rings slidably engaging the tube, and to 75 which box the said lower bent end of the tube is connected, and a flexible adjusting member connected to one of said bearing rings and extending upwardly along the tube for adjusting the box on the tube. 80

5. A respirator including a head mask having a neck band, side ear pieces, forward sight apertures, and a seam extending above the sight apertures at its front and above 85 the ear pieces and downwardly and rearwardly to and through the central rear portion of the neck band, the said mask being open at one side along a portion of the said seam and having separable fasteners along its said openings, substantially as and for 90 the purpose described.

6. A respirator including a head mask having an enlarged lower front portion constituting an air pocket, an air tube, the upper end of which leads to the said air pocket, 95 and which is divided longitudinally to form separate air channels, a mouth-piece supported within the said air pocket, and having separate compartments communicating with the respective compartments of the air 100 tube, and also provided with apertures establishing communication between one of its air compartments and the said air pockets of the mask, and an intake box with which the lower end of the air tube communicates. 105

JUSTYN A. TYCHON.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."