May 6, 1924. 1,492,577

F. OBERMEYER

FIREMAN'S HELMET AND THE LIKE

Filed Feb. 18, 1921

Fig. 1.

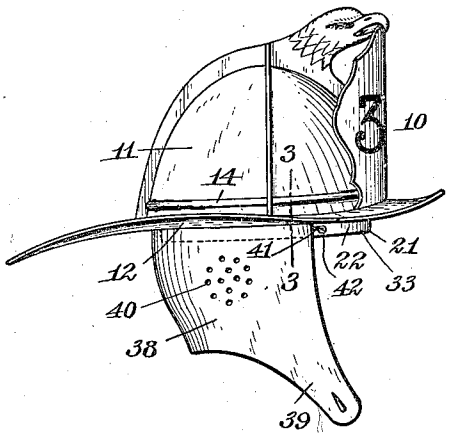


Fig. 2.

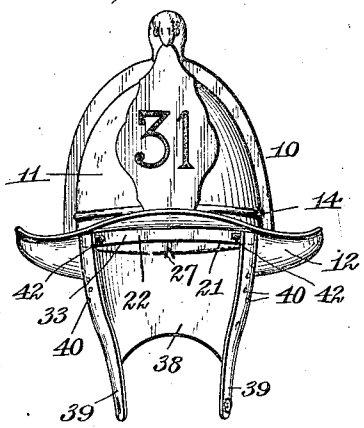


Fig. 3.

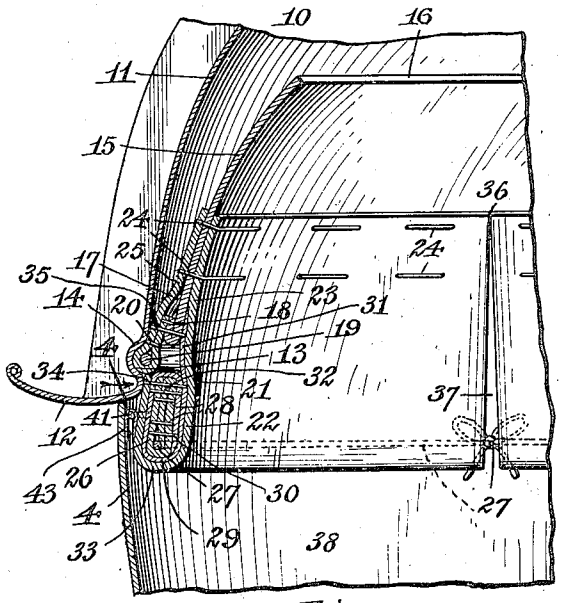


Fig. 5.

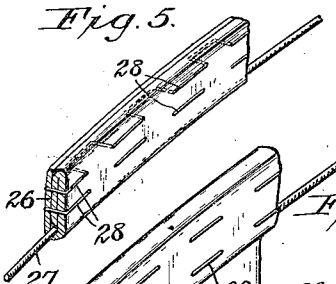


Fig. 6.

Fig. 7.

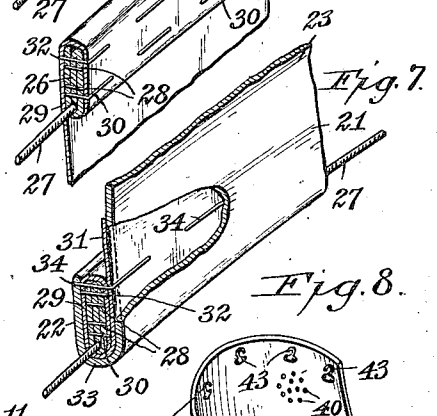


Fig. 8.

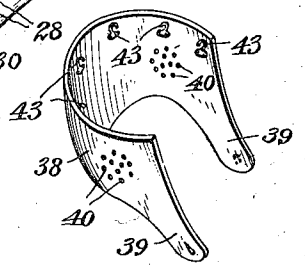
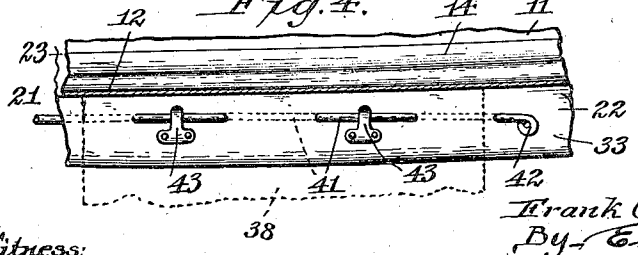


Fig. 4.



Witness:
J. J. Olivi.

Frank Obermeyer, Inventor.
By Emil Kuhbach
Attorney.

Patented May 6, 1924. 1,492,577

UNITED STATES PATENT OFFICE.

FRANK OBERMEYER, OF BUFFALO, NEW YORK.

FIREMAN'S HELMET AND THE LIKE.

Application filed February 18, 1921. Serial No. 445,936.

To all whom it may concern:

Be it known that I, FRANK OBERMEYER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Firemen's Helmets and the like, of which the following is a specification.

My invention relates to improvements in helmets, and while I have shown the novel features of my invention applied to a fireman's helmet, it is adapted for use on any type of helmet or any type of head-gear formed of non-yielding material or in conjunction with a non-yielding rim or band.

Firemen's helmets and other similar headgear constructed of non-yielding material are difficult to retain on the head without resorting to the use of straps or the like adapted to be fastened around the chin, especially when stooping or when the head is moved quickly in any direction. Moreover, it has been found extremely difficult for firemen to retain helmets on their heads when dressing for service while on a fire apparatus responding to a call of fire, and also while working around a fire, particularly when the helmet comes in contact with some object, as it requires very little pressure to cause the helmet to be tipped from the head.

With a view of overcoming these and other annoyances and difficulties experienced when wearing helmets, I have devised this invention, in which the primary object is to employ an adjustable retainer band which will snugly fit the head of the wearer and which is so secured to the helmet that it will retain the helmet on the head under all conditions of use.

Another object of my invention is to provide a retainer band which will extend beneath the rim of the helmet and which is so constructed that it may be secured to the ordinary lining now employed in firemen's helmets.

Another object of my invention is to provide a retainer band for firemen's or other helmets having a replaceable lining, and to so construct the band that it is secured to the lining and may be removed therewith, thus enabling a fireman in possession of a helmet to purchase a new helmet lining, which can be applied to his helmet and which may have my improved adjustable band secured thereto.

A still further object of my invention is to provide a retainer band for a helmet adapted to snugly fit the head of the wearer, and which is equipped with means co-operating with a head apron which can be conveniently attached to said band and as readily removed therefrom.

Other object of my invention will be apparent from the description to follow.

The invention consists in the novel features of construction and in the arrangement and combination of parts to be hereinafter described and more particularly pointed out in the subjoined claims.

In the drawings:—

Fig. 1 is a side elevation of a fireman's helmet, showing the same equipped with my improved retainer band and head apron.

Fig. 2 is a front elevation of the same.

Fig. 3 is an enlarged section taken on line 3—3, Fig. 1.

Fig. 4 is a section taken on line 4—4, Fig. 3, looking in the direction of the arrow crossing said line.

Figs. 5, 6 and 7 are sectional perspective views of portions of the retainer band in the course of construction showing progressive steps in the method of forming the same.

Fig. 8 is a detached perspective view of the head apron.

My improved retainer band, which may be referred to as a sweat band, is shown in the drawings applied to the lining of a fireman's helmet, and as this lining is of a type retained within the helmet in a special manner, I desire it to be understood that my invention may be applied to the linings of other helmets, although such linings are secured in a manner different than herein shown, or it may be applied to some other portion of a helmet.

The lining of a fireman's helmet is so applied to the helmet that it can be conveniently detached therefrom, and as linings become worn sooner than the body of a helmet, it is common practice to purchase a new lining and insert the same into the helmet, and for this reason my invention may be applied to linings of helmets adapted to replace worn linings, or it may be directly applied to the body portion of a fireman's helmet and sold therewith.

The reference numeral 10 designates a regulation fireman's helmet, and in the crown 11 thereof, in proximity to the rim

12, an internal groove 13 is formed by pressing the material from which the body portion of the helmet is formed outwardly so as to form an external bead, as clearly shown at 14.

The groove 13 extends completely around the crown and serves as a means for retaining the lining 15 in the helmet. This lining is shaped somewhat to the crown but is smaller than the same, and has an opening 16 through the top. In the main, it is constructed of felt, woolen cloth or other suitable material, but along its lower end such material has stitched thereto a strip of leather or similar material 17, as at 18, and within the leather or similar material a retainer wire 19 is secured, the leather or similar material being curved around the wire and then sewed, as at 20, or otherwise fastened to completely enclose said retainer wire. The leather or similar material 17 and retainer wire 19 combined serve as a removable securing band. In fact, said band may be referred to as a self-expanding securing band, since the wire 19 thereof is adapted to be sprung into the groove 13 in the helmet and thereby retain the lining 16 and the retainer band, to be hereinafter referred to, in position within the helmet.

The retainer wire 19 with the leather or similar material around it, is sprung into the groove 13, and in this manner the lining is retained within the helmet. There, however, is no portion of said lining extending beneath the plane of said groove and when the helmet is worn, the covered retainer wire causes considerable pressure against the head of the wearer, particularly since it fits snugly within the retainer groove 13 and the body portion of the helmet is unyielding. This is especially true when the helmet does not fit the wearer at all points, in which case the pressure at certain points of the head makes it possible for the wearer to use the helmet only for short periods of time. Moreover, with the parts bearing against the head made unyielding, the helmet can be easily blown from the head or knocked off by coming in contact with an object or by a stream of water from a fire hose.

In the use of my invention I equip the helmet with a cushion retainer-band 21 serving as a sweat band and having a cushion portion 22 and a securing flap 23 extending upwardly from said cushion portion for attachment to the lining of the helmet. The cushion portion 22 hangs loosely within the extreme lower portion of the helmet and projects beneath the rim thereof. The flap 23 is secured to the lining 15 by means of stitches 24, and where the lining is especially constructed for use in connection with my improved retainer-band, the leather material 17 stitched to the main portion of the lining 15 and surrounding the retainer wire 19 is carried upwardly, as at 25, at the outside of the lining proper, and in such cases the stitches 24 are also passed through the upwardly extending flap 25 of said leather material.

In constructing my improved band, a strip of felt or other soft material is folded upon itself so as to form a pad 26, comprising three layers of material, as shown in Fig. 5, and a draw cord 27 is placed within the folds or layers of the pad, the three folds or layers being stitched together, as at 28, to complete a pad having the draw cord slidable therein, which cord is at the lower end of the pad.

The pad so formed is then enclosed within a strip of cotton or other similar material 29, which is first stitched along one of its marginal portions to the inner side of the pad near its lower end, as at 30, and is then completely wound or folded around the pad with a flap 31 extending upwardly therefrom, this strip of cotton or other similar material being overlapped or doubled at the inner side of the pad, as clearly shown in Figs. 3 and 6, and being further stitched to the pad, as at 32.

Partly surrounding the cotton covered pad is a strip of leather 33 which has one marginal portion at the outside of the cotton covered pad and is stitched along said marginal portion to said cotton covered pad, as at 34; this leather strip being directed downwardly from the line of stitching 34 and thence folded around the lower edge of the cotton covered pad, and finally upwardly along the inner side of said cotton covered pad and along and beyond the flap 31 thereof to form the flap 23 hereinbefore specified. With the retainer band so formed, the cotton flap 31 is stitched, as at 35, to the leather 17 secured to the lining and enclosing the retainer wire 19, while the leather flap 23 is stitched, as at 24, to said lining and to the flap 25 of the leather secured to said lining, as hereinbefore described. In this manner the retainer band is secured to the lining of the helmet by means of the two flaps 31 and 23, which extend upwardly from the cushion portion 22 of the band; said cushion portion being suspended from said flaps and positioned underneath the leather covered retainer wire 19.

It is to be noted that the retainer band has its ends in close proximity to each other at the rear of the helmet. The ends of the leather flap 23 may abut at their edges, as at 36, Fig. 3, but otherwise all parts of the opposite ends of the band are separated, as at 37. The draw cord 27 has its ends extending out through the ends of the band, and these ends may be tied together after drawing the band inwardly to conform to

the size of the head on which the helmet is to be used.

When equipping a helmet with a retainer band of this kind, the band is tightened around the head so that the helmet will be securely held thereon, and when once adjusted to the head and the ends of the draw cord 27 are tied together, no further adjustment will be required. It is simply necessary to take hold of the rim of the helmet at opposite sides and pull the helmet down firmly over the head, with the result that the retainer band will fit snugly to the head at all points, and this band will conform itself to the shape of the head. Furthermore, by reason of this band having the cushion lower portion 22 hung in position by means of flaps secured to the lining of the helmet and having said cushion portion out of contact with non-yielding surrounding parts, there will be no discomfort to the wearer and he will have assurance that objects falling onto the helmet will not tip the helmet from the head, since a direct upward pull is required to remove the helmet.

Helmets as now constructed have no provision for attaching a head apron thereto and it is found necessary in cold weather to wear a knitted cap under the helmet capable of being drawn down over the ears. With my improved retainer band extending beneath the rim, a convenient means is provided for attaching a head apron thereto, said apron being designated by the numeral 38 and being constructed from felt or other woolen material which will not impart a cold feeling to the wearer when damp or when saturated with water. This apron is so constructed that it covers a good portion of the face and completely surrounds the rear of the head, it being extended down so as to fit around the neck and thus leave exposed only the front portion of the face. It is also shaped to provide two flaps 39 adapted to be placed underneath the chin and buttoned or otherwise fastened together. Since the ears are fully covered by this apron I preferably punch or otherwise form small openings 40 through the apron at the regions covering the ears so as to enable the wearer to hear commands from his superior while in action.

This apron has its upper marginal portion fastened to the cushion portion 22 of the retainer band in any suitable manner, but with a view of providing a simple and effective connection, a wire or the like 41 is threaded into and out of the cushion of the band, as clearly shown in Fig. 4, said wire extending around a portion of the band from a point at one side thereof, forward of a medial line, to a similar point at the other side thereof, the ends of the wire being bent into loops or eyes 42 so they cannot be withdrawn from the band.

To the inner side of the head apron along its marginal portion, hooks 43 are secured at regular intervals, the hooks being adapted to hook onto the exposed portions of the wire 41, thus securely fastening the head apron to said band.

Having thus described my invention, what what I claim is:—

1. A helmet, comprising a metallic body portion, a lining within said body portion, a retainer band having a cushion portion, a flap extending upwardly from said cushion portion and secured to said lining to loosely suspend said cushion portion, and a draw cord passing through said cushion portion, said cushion portion serving as a sweat band for said helmet.

2. A helmet, comprising a body portion having an internal groove extending around the same near its lower edge, a lining within said helmet having a retainer wire adapted to co-operate with said groove to detachably retain the lining within said helmet, and a cushion band attached to said lining at points above said retainer wire and suspended from its points of attachment to said lining, the lower end of said band being movable inwardly and outwardly so as to enlarge or reduce the size of the same, and means for reducing the size of said band or permitting enlargement of the same.

3. A retainer band for helmets and the like having a lower cushion portion, a flap extending upwardly from said cushion portion and a draw cord extending through said cushion portion and adapted to draw the latter inwardly to reduce the size of the band, said band being formed of a strip of yielding material folded upon itself and having said draw cord positioned between its folds, a strip of material surrounding said folded yielding material and having a flap extending upwardly from the inner side of said folded material and a strip of facing material secured to the thus covered folded yielding material so as to face the outer surface, the lower edge and the inner surface thereof, said facing material terminating in an upwardly-extending flap adapted to be secured within a helmet.

4. A retainer band for helmets formed of a strip of yielding material folded upon itself to form a pad, a draw cord positioned between the folds of said pad, a strip of covering material completely surrounding said pad and sewed thereto and having an upwardly extending flap, and facing material facing the exterior of said covering material at the outer side, the lower edge, and the inner side of said covered pad and extending upwardly so as to terminate in a flap projecting beyond the flap of said covering material, said flaps being adapted to be secured to the helmet.

5. A helmet, comprising a body portion,

a retainer band secured to said body portion and extending downwardly beyond the lower edge thereof, a wire carried by the downwardly-extending portion of said retainer band and extending from a point at one side thereof to the other, and a head apron having hooks on its inner side along its upper marginal portion adapted to hook onto said wire.

6. A helmet, comprising a body portion, a retainer band having a cushion portion projecting downwardly beneath the rim of said helmet and a flap extending upwardly from said cushion portion for connection to said body portion, a wire stitched into and out of said cushion portion to form alternately concealed and exposed portions, said wire extending from one side of said band rearwardly and around to the other side thereof, and a head apron adapted to fit around the head and having flaps adapted to be connected underneath the chin, said head apron having ear openings and hooks along its upper marginal portion adapted to hook onto the exposed portions of said wire.

In testimony whereof I affix my signature.

FRANK OBERMEYER.