

March 11, 1930.

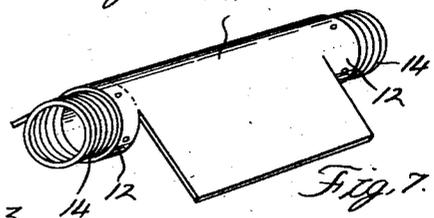
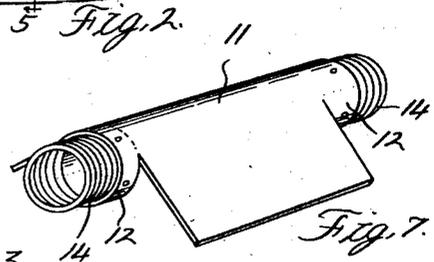
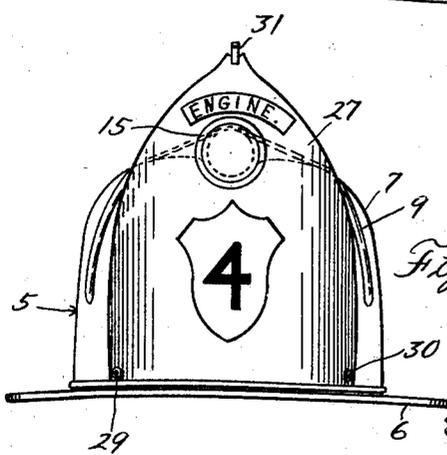
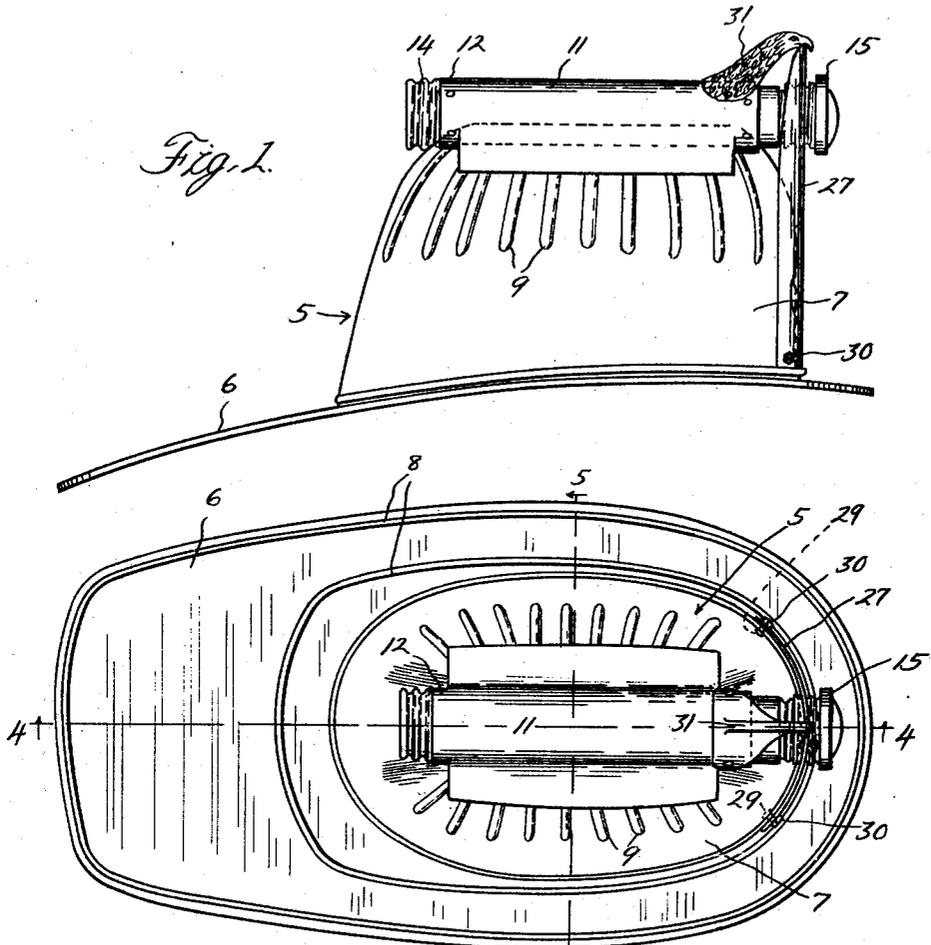
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1,749,998

FIREMAN'S HELMET

Filed April 4, 1928

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

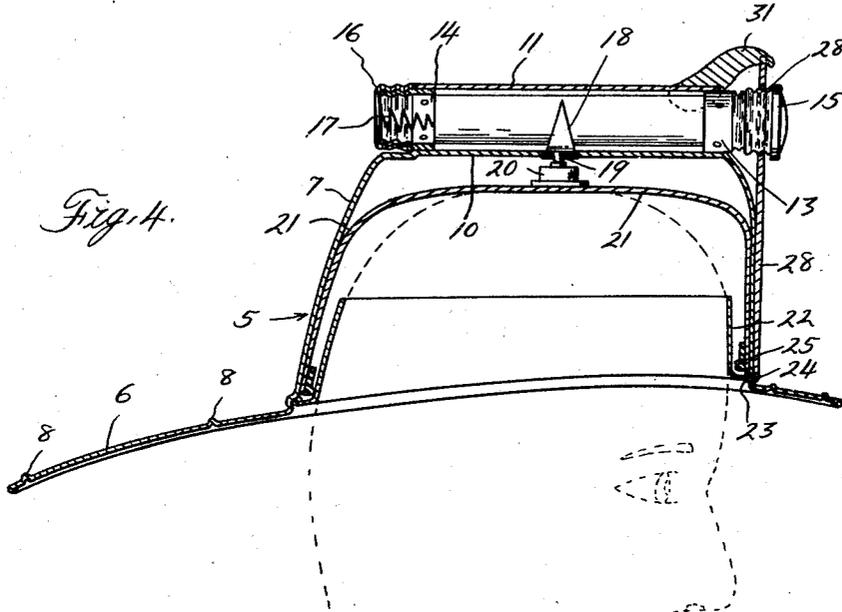


Fig. 4.

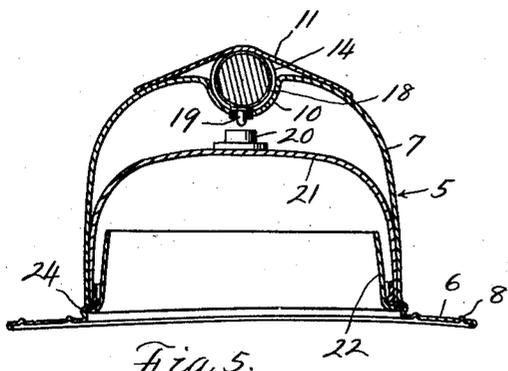


Fig. 5.

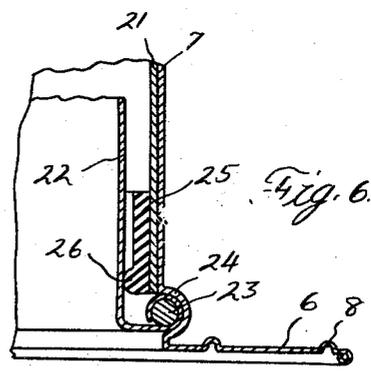


Fig. 6.

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## UNITED STATES PATENT OFFICE

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## FIREMAN'S HELMET

Application filed April 4, 1928. Serial No. 267,232.

This invention relates to helmets or like head coverings carrying an illuminating device, and more particularly to a helmet such as is ordinarily worn by firemen during their work in extinguishing blazes in buildings where they are subjected to possible injury by falling glass or other objects.

One of the objects of the present invention is the provision of illuminating means upon substantially the usual type of fireman's helmet while preserving the general contour and appearance of such a helmet.

Another object of the invention is the arrangement in a helmet of an illuminating device adapted to be electrically illuminated by batteries also carried on the helmet.

A further object of the invention is the provision of an electrically operated flashlight upon a helmet arranged to be controlled by a switch operable by the head of the person wearing the helmet to enable illumination of the flashlight bulb whenever desired and the continued illumination as long as desired, while freeing the hands of the wearer for other work.

The above and other objects will be apparent from the following description, wherein reference is made to the accompanying drawings illustrating a preferred embodiment of my invention and wherein similar reference numerals designate similar parts throughout the several views.

In the drawings:

Figure 1 is a side elevation of a fireman's helmet construction substantially in accordance with my invention.

Figure 2 is a plan view thereof.

Figure 3 is a front view thereof.

Figure 4 is a central longitudinal section taken substantially on the line 4—4 of Figure 2.

Figure 5 is a detail cross sectional view taken substantially on the line 5—5 of Figure 2.

Figure 6 is an enlarged detail sectional view showing a preferred arrangement of the sweat band and associated parts to enable maintenance of the helmet in various positions on the head of the wearer, and

Figure 7 is a perspective view of the cover

plate with the threaded end members attached.

Referring now to the drawings, the numeral 5 designates a helmet such as is ordinarily used by firemen while performing their usual work in extinguishing fires where they are exposed to falling water, broken glass, etc. Such helmets are usually constructed of sheet metal or other comparatively heavy material, and are so braced by ribs, corrugations, and the like, as to render the rim and crown of the helmet substantially rigid. It is to be understood, however, that the illustration herein of such fireman's helmet is merely for purposes of exemplification, and that my invention is adaptable for use on helmets of various shapes and uses. As herein shown, my improved helmet comprises a rim 6 and crown 7, preferably formed of sheet metal, so shaped and stiffened by beads 8 or corrugations 9, as to render it substantially rigid. Unlike the usual firemen's helmets, my improved helmet is formed with a substantially central, longitudinally extending grooved portion 10 in its crown, such grooved portion being herein shown as formed by shaping the upper portion of the crown to receive substantially cylindrical dry cells for illuminating electric light bulbs, or the cylindrical body portion of a well known type of flashlight. Suitably secured to the crown portion of the helmet, as by welding, brazing, etc., is a cover plate 11, preferably shaped substantially as illustrated herein, with its central portion elevated above the sides thereof a sufficient distance to enable the insertion with a comparatively close fit, of cylindrical dry cells or the cylindrical portion of an ordinary flashlight between the under side of the cover plate 11 and the grooved portion 10 of the helmet. This arrangement also provides sloping sides from the substantially central uppermost portion of the helmet, whereby water or falling objects will be deflected. Each side portion of the cover plate 11 is secured to the crown of the helmet throughout the major portion of its length, the end portions of the cover plate being preferably downwardly and inwardly bent until their edges are adjacent, to thereby form with the central portion of the

cover plate guide rings 12 for the reception of hollow, cylindrical end pieces 13 and 14 (note Figure 4) the projecting portions of which are preferably threaded substantially as shown. On the threaded end portion 13 may be removably secured an assembly 15 such as is ordinarily used upon flashlights and including a casing having a threaded rear portion and enclosing a reflector, an electric light bulb and socket and the edge of a transparent lens. Various arrangements of these elements are well known in the trade, and practically all of them are adaptable for use on my improved helmet. The bulb is preferably threaded through its socket so that the rear terminal of its filament projects into engagement with a terminal of the cell nearest the bulb. Upon the threaded member 14 may be threaded a rear cap 16 preferably carrying a substantially centrally disposed coil spring 17 for engagement with the bottom of the rearmost cell to press the several cells utilized for illuminating the bulb into engagement with each other, and the foremost cell into engagement with the projecting terminal of the bulb. Obviously the cap 16 may be removed at will to permit removal of the cells and substitution of others without disturbing the bulb carrying assembly 15. Intermediate the ends of the grooved portion 10 of the helmet is arranged a switch 18 for opening or closing a circuit to illuminate the bulb, the switch being preferably of the normally open type and operable upon the raising of the pin 19, as when the pin is engaged by the member 20 secured upon the flexible lining 21 of the helmet. The pin 19 preferably passes through an apertured rubber gasket fitted into an opening in the grooved portion 10 of the helmet, both to position the pin 19 and aid in insulating the bulb lighting circuit. The member 20 may also be of rubber, fibre, or other suitable insulating material, and sewed or otherwise secured upon the upper face of the lining 21.

Within the crown 7 of the helmet I preferably provide means for permitting a comfortable seat upon the head of the wearer, and also for snugly positioning the helmet upon the head in various positions, whereby the head of the wearer will be instrumental in maintaining the switch of the flash light in closed position whenever desired. As best illustrated in Figures 4-6, I have arranged a sweat band 22 of leather or the like, with a split wire ring 23 secured to the lower edge thereof and adapted to hold the lower edge of the sweat band within a bead 24 at the base of the crown 7 of the helmet. Adjacent the lower extremity, the sweat band extends inwardly for a distance sufficient to permit the insertion of a ring 25 of rubber or other soft material, which is preferably formed with an inwardly projecting rib 26 adjacent its lower edge. The rubber ring 25 engages

the lower extremity of the lining 21 and serves to aid in positioning the lining. The lining 21 may be of silk or other fabric, stiffened at its central portion to prevent collapsing under the weight of the member 20 when the helmet is removed from the head of the wearer. By virtue of this arrangement, the helmet may be supported upon the head of the wearer with a cushioning effect, the soft rubber ring 25 and the spaced position of the sweat band 22 from the metal crown 7 permitting distortion of the sweat band and ring to accommodate themselves to the shape of the head of the wearer. Moreover, the elasticity of the rubber ring 25 and sweat band 22 permits a firm support with the helmet in various positions upon the head of the wearer, whereby the helmet can be supported without the top of the head of the wearer pressing the pin 19 to close the switch to illuminate the bulb of the flashlight, or will hold the helmet in a position wherein the top of the head of the wearer does effect the closing of the switch and the maintenance of the switch in closed position as long as desired.

In practically all firemen's helmets in use today, there is provided a shield 27 serving to identify the wearer, and also to ornament the helmet. The shield shown herein is merely exemplary, and is provided with an aperture 28 for the passage of the assembly 15 carrying the illuminating bulb when such assembly is being secured upon the threaded end member 13. The shield 27 may be secured on the crown of the hat in any desired manner, as by means of bolts 29 and nuts 30. Further ornamentation, such as an eagle head 31, may also be utilized as desired, the eagle head being herein shown as riveted upon the cover plate 11 and with its beak extending through a notch in the top of the shield 27.

In use, my improved helmet is provided with suitable dry cells arranged beneath the cover plate 11, and maintained in engagement with the terminal of the bulb element by means of the spring 17 on the adjustable rear cap 16. The switch for illuminating the bulb is normally open, and remains open until the member 20 upon the lining 21 of the hat is pressed upwardly into engagement with the pin 19 of the switch, as by contact of the lining by the head of a wearer of the helmet. The elastic sweat band arrangement permits the firm gripping of the helmet upon the head of the wearer with the bulb illuminated by the closing of the switch as above described, whereby the hands of the wearer are freed for carrying a hose or doing other work. Whenever it is desired to extinguish the bulb of the flashlight, it is only necessary to push the helmet upwardly to relieve the pressure of the top of the head of the wearer against the lining 21, the lining thereupon flexing slightly under the weight of the mem-

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ber 20 to permit the opening of the switch controlling the illumination of the bulb. The simplicity and practicability of my improved helmet is believed to be apparent. The arrangement of the flashlight permits a nice balance of the helmet, and does not materially detract from the ornamental appearance of the helmet. Moreover, the arrangement of the cover plate 11 is such that the use of the helmet to deflect water or falling objects is not impaired.

While it will be apparent that the illustrated embodiments of my invention herein disclosed are well calculated to adequately fulfill the objects and advantages primarily stated, it is to be understood that the invention is susceptible to variation, modification and change within the spirit and scope of the subjoined claims.

What I claim is:

1. In a helmet including a crown having a grooved portion therein, a cover plate secured to the crown so as to bridge said grooved portion, a pair of threaded end members secured to the cover plate, a flashlight bulb assembly mounted upon one of said end members, batteries for energizing the flashlight bulb arranged in the grooved portion, and an adjustable cap mounted upon the other threaded end section.

2. In a helmet including a crown having a grooved portion therein, a cover plate secured to the crown so as to bridge said grooved portion, a pair of threaded end members secured to the cover plate, electric dry cells movably mounted within said grooved portion, a flashlight bulb assembly mounted upon one of said end portions with a terminal of the bulb engaging the adjacent cell, and an adjustable rear cap mounted upon the other end member and arranged to press the cells into engagement with a terminal of the bulb.

3. In a helmet including a crown having a grooved portion therein, a cover plate secured to the crown so as to bridge said grooved portion, a pair of threaded end members secured to the cover plate, electric dry cells movably mounted within said grooved portion, a flashlight bulb assembly mounted upon one of said end portions with a terminal of the bulb engaging the adjacent cell, and an adjustable rear cap mounted upon the other end member and arranged to press the cells into engagement with a terminal of the bulb, a switch for controlling the illumination of the bulb from the cells including an operating member extending through the crown of the helmet, and means arranged within the crown for moving said operating member when desired.

4. A metallic helmet having a crown with sloping sides and a grooved portion in its top, a cover plate arranged to bridge the grooved portion and also formed with slop-

ing sides, a shield mounted forwardly of the crown and having an aperture therein in substantially horizontal alignment with said grooved portion, a flashlight assembly arranged in the grooved portion and with its bulb carrying end projecting through the aperture in the shield, and means for illuminating the bulb at will.

5. A metallic helmet having a crown with sloping sides and a grooved portion in its top, a cover plate arranged to bridge the grooved portion and also formed with sloping sides, a shield mounted forwardly of the crown and having an aperture therein in substantially horizontal alignment with said grooved portion, a flashlight assembly arranged in the grooved portion and with its bulb carrying end projecting through the aperture in the shield, and means for illuminating the bulb at will, including a switch having an operating member extending into the interior of the crown, and a flexible lining secured within the crown and carrying a member adapted to engage said operating member.

6. A metallic helmet having a crown with sloping sides and a grooved portion in its top, a cover plate arranged to bridge the grooved portion and also formed with sloping sides, a shield mounted forwardly of the crown and having an aperture therein in substantially horizontal alignment with said grooved portion, a flashlight assembly arranged in the grooved portion and with its bulb carrying end projecting through the aperture in the shield, and means for illuminating the bulb at will, including a switch having an operating member extending into the interior of the crown, a flexible lining secured within the crown and carrying a member adapted to engage said operating member, and means arranged within the crown for snugly positioning the helmet upon the head of a wearer in various positions, whereby the head of the wearer may press the flexible lining to move said operating member of the switch.

In witness whereof I hereunto set my hand.

MERRILL D. COLLINS.

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