May 28, 1929. G. B. SIMMONS 1,715,148

HOLDER FOR MINERS' LAMPS

Filed May 24, 1926

Fig. 1.

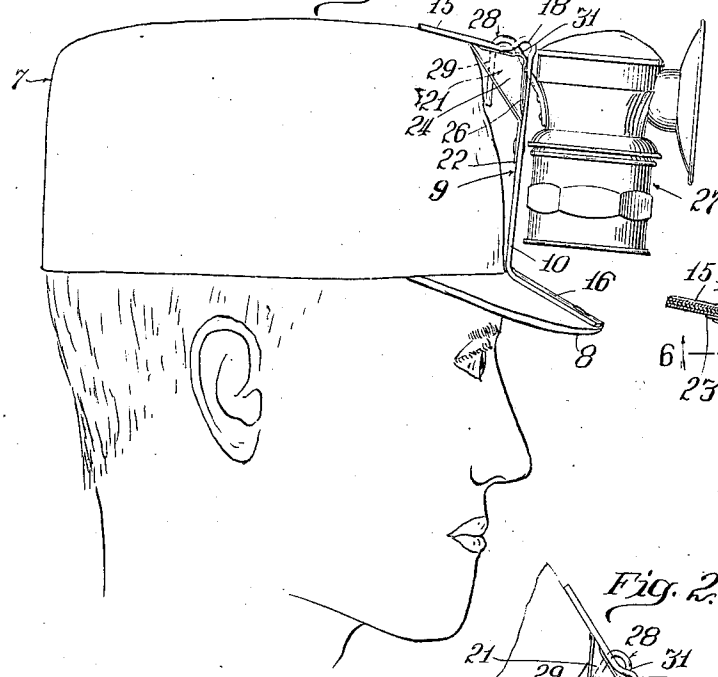


Fig. 5.

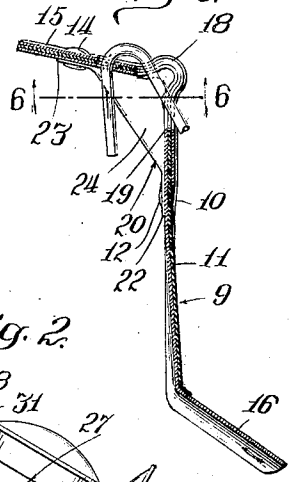


Fig. 2.

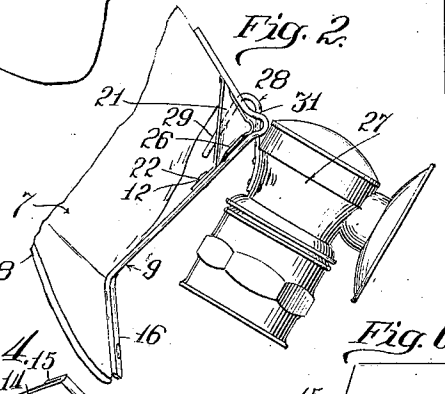


Fig. 3.

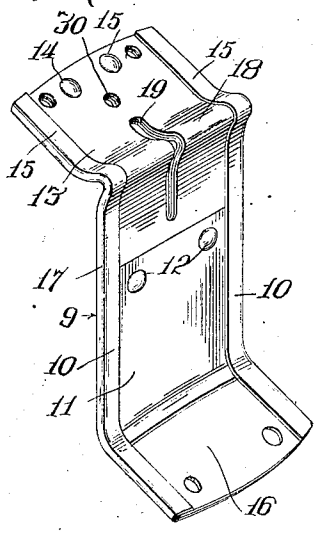


Fig. 4.

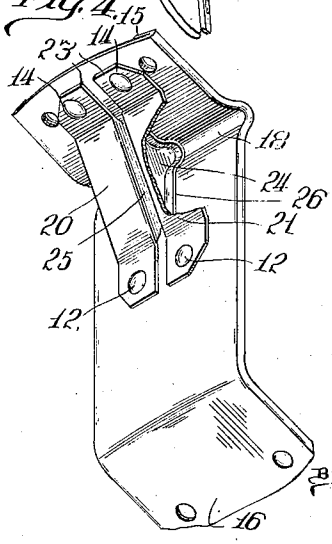
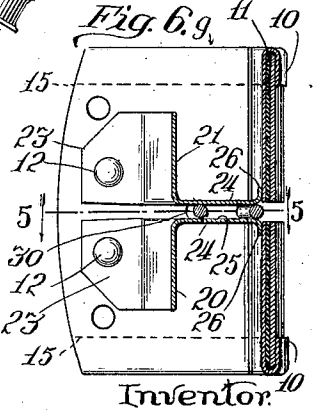


Fig. 6.



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UNITED STATES PATENT OFFICE.

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HOLDER FOR MINERS' LAMPS.

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My invention relates to devices for attaching a miner's lamp to his cap, and has to do particularly with devices for that purpose of the type comprising a metal plate having its end portions arranged respectively to be attached to the visor and the upper front portion of the cap, with its intermediate portion arranged to assume an approximately vertical position at the front of the cap. Such holders are usually provided with a slot and socket at the top adapted to receive a hook carried by the miner's lamp and having its free end extending downwardly so that it can be inserted in such slot and socket from above. By this arrangement the lamp can readily be applied to or removed from the cap. In some holders of this type the hook is so engaged as to hold the lamp against lateral swinging, and in other cases provision is made for permitting the lamp to swing fore and aft so that it will tend to maintain an approximately vertical position under the action of gravity when the miner stoops over or throws his head forward.

The object of my invention is to provide an improved holder of the general character above referred to which will possess all the advantages of the older constructions and which will have the further advantage of holding the lamp against lateral swinging even when its lower end is thrown forward away from the cap by the stooping over of the wearer; also to provide a construction that will be inexpensive to manufacture, but will nevertheless be strong and rugged so that it cannot easily be damaged when subjected to the rough usage that miners' caps are apt to experience. I accomplish these objects as illustrated in the drawings and hereinafter described. What I regard as new is set forth in the claims

Referring to the drawings,—

Fig. 1 is a side view of a miner's cap in position on the wearer, with my improved holder secured thereto, and a lamp in position on the holder;

Fig. 2 is a fragmentary view showing the position assumed by the parts when the miner stoops over or throws his head forward;

Fig. 3 is a perspective view of the holder alone, showing the front thereof;

Fig. 4 is a similar view showing the rear portion of the holder;

Fig. 5 is a vertical sectional view on line 5—5 of Fig. 6; and

Fig. 6 is an enlarged horizontal section on line 6—6 of Fig. 5 looking up.

Referring to the drawings,—7 indicates a miner's cap, and 8 the vizor with which such caps are usually equipped. The holder as an entirety is indicated by 9, and it consists of a metal plate originally in the form of a substantially rectangular strip having its side margins folded over, as shown at 10 in Fig. 3, for stiffening purposes, and to aid in securing in position on said plate a sheet of fiber or cardboard 11 that extends from the lower portion of the holder to its upper end. Said sheet is overlapped by the rolled over margins 10 of the holder plate, and is also further secured, preferably by rivets 12. The upper part of said sheet is covered by a cover plate 13 which is also overlapped by the margins 10 and is further secured by rivets 14.

The upper end of the holder is bent rearwardly to form a lip 15 that is adapted to project over the upper front portion of the cap 7 and to be secured thereto in any suitable way. In like manner the lower portion of the holder is bent forward and downward to form a lip 16 that is adapted to bear on the upper surface of the vizor 8 and to be secured thereto. The intermediate portion 17 of the holder is thus held in an approximately vertical position, as best shown in Fig. 1. The fiber sheet 11 serves as insulation to protect the wearer from the heat of the lamp and it also provides a wearing surface to keep the lamp from rubbing against the metal parts of the holder.

The lip 15 joins the intermediate part of the holder by a rounded bend 18, and at this point centrally between the side margins of the holder is provided a slot 19 that extends down into the upper part of the intermediate portion 17 and up into the lip 15, as best shown in Fig. 3.

At the reverse or back side of the holder are provided two diagonal brackets 20, 21 which are parallel with each other and are spaced apart a distance approximately equal to the width of the slot 19. Said brackets are fixedly secured to the holder at opposite sides of said slot by means of the rivets 12, 14, which pass through ears 22, 23 at the lower

and upper ends, respectively, of said brackets, as best shown in Fig. 4. These brackets, therefore, serve to brace the lip 15 and the intermediate portion of the holder together so that the holder as an entirety is rigid and strong. Each of said brackets is provided at its inner margin with an approximately triangular plate 24 preferably formed integral therewith, which plates extend into the angle at the juncture of the lip 15 with the intermediate portion of the holder, as shown in Figs. 4 and 5. Said plates are parallel with each other and are alined respectively with the opposite side margins of the slot 19 so that they cooperate to form a downward extension of said slot, or in other words to provide a narrow channel open at the rear, and communicating at the front with the slot 19, as best shown at 25 in Fig. 6. As best shown in Fig. 4 the plates 24 are provided with marginal flanges 26 which serve to stiffen their apices and hold them against lateral deflection.

My improved holder is designed to be used with miners' lamps, such as that shown at 27, provided at the upper rear portion thereof with a hook 28 the free end 29 of which extends downward. This hook serves as a means of attaching the lamp to the holder, and in the construction shown is adapted to be inserted from above through a hole 30 in the lip 15 a short distance back of the rear end of the slot 19, as best shown in Figs. 3 and 5, so that its free end 29 extends down in the channel 25 between the plates 24. When the lamp is attached to the holder the shank 31 of the hook lies in the front part of the slot 19 and extends between the apices of the plates 24 and across the bend 18, as best shown in Fig. 5, so that lateral movement of the lamp is prevented by the engagement of the shank at two comparatively widely separated points. Normally the lamp is in an approximately vertical position, substantially parallel with the intermediate portion of the holder. Should the wearer bend over or throw his head forward, as indicated in Fig. 2, the holder will be tilted to a considerable extent, but the bottom of the lamp will swing outward, or away from the holder, so that the lamp will not be tilted to so great an extent. In some cases the holder may be tilted far enough so that the shank 31 will clear the apices of the plates 24, as shown in Fig. 2, but in that case said shank will still remain in the slot 19 at the bend 18 of the holder, and the free end 29 of the hook will be carried in between the plates 24, the lamp will be kept from tilting sidewise. When the parts are in the position shown in Fig. 2 the plates 24 provide extended bearing surfaces for engagement with the free end of the hook, which aid in keeping the lamp from swinging sidewise and greatly increase the strength and stiffness of the structure. Furthermore, said plates make it practicable to use a hook short enough so that it will not be apt to strike the wearer's forehead when the lamp is in its approximately vertical position shown in Fig. 1.

What I claim as my invention and desire to secure by Letters Patent, is—

1. A holder for miners' lamps comprising a plate having upper and lower lips adapted to be secured respectively to the top and vizor of a cap, and a flat intermediate portion at an angle to said lips, a slot extending across the angle at the juncture of said intermediate portion and the upper lip to receive the shank of the hook on the lamp, a hole in the upper lip back of the slot, and brackets secured to said intermediate portion at the opposite sides of said slot and on the under surface of said upper lip, said brackets defining a channel which extends in a plane at right angles to the flat intermediate portion and which is open at the rear and which communicates at the front with said slot, said channel receiving the shank and free end portions of said hook, the free end portions of the hook being free to swing in the plane of the channel and being held against lateral swinging by said brackets.

2. A holder for miners' lamps comprising a plate having upper and lower lips adapted to be secured respectively to the top and vizor of a cap, and a flat intermediate portion at an angle to said lips, a slot extending across the angle at the juncture of said intermediate portion and the upper lip to receive the shank of the hook on the lamp, a hole in the upper lip back of said slot, the weight of the lamp being carried by the portion of the plate between the slot and the hole, brackets secured to said intermediate portion and to the under surface of said upper lip at opposite sides of said slot, forming a channel open at the rear and communicating at the front with said slot, and parallel plates carried by said brackets, respectively in substantial alinement with the side margins of said slot, said plates being adapted to laterally engage the shank and free end portions of said hook to hold the lamp against lateral swinging.

3. A holder for miners' lamps comprising a plate having upper and lower lips adapted to be secured respectively to the top and vizor of a cap, and a flat intermediate portion at an angle to said lips, there being an upward jog in the plate at the juncture of the intermediate portion and the upper lip, a slot extending across the angle at the juncture of said intermediate portion and the upper lip to receive the shank of the hook on the lamp, a hole in the upper lip back of said slot, and brackets secured to said intermediate portion and to the under surface of said upper lip at opposite sides of said slot, said brackets having integral inwardly projecting plates substantially in alinement with the opposite side

margins of said slot and extending into such angle, said brackets defining a channel opening into said slot, the hook being free to swing in the channel and being held against lateral movement by said brackets.

4. A holder for miners' lamps comprising a plate having upper and lower lips adapted to be secured respectively to the top and vizor of a cap, and an intermediate portion at an angle to said lips, a slot extending across the angle at the juncture of said intermediate portion and the upper lip to receive the shank of the hook on the lamp, a hole in the upper lip back of said slot, and brackets secured to said intermediate portion and to the under surface of said upper lip at opposite sides of said slot, said brackets having approximately triangular plates substantially alined with the opposite margins of said slot and extending into such angle, and marginal flanges on said plates, the free end of the hook on the lamp passing through the hole in the upper lip into the space between the brackets and being free to swing within said space.

GEORGE B. SIMMONS.