

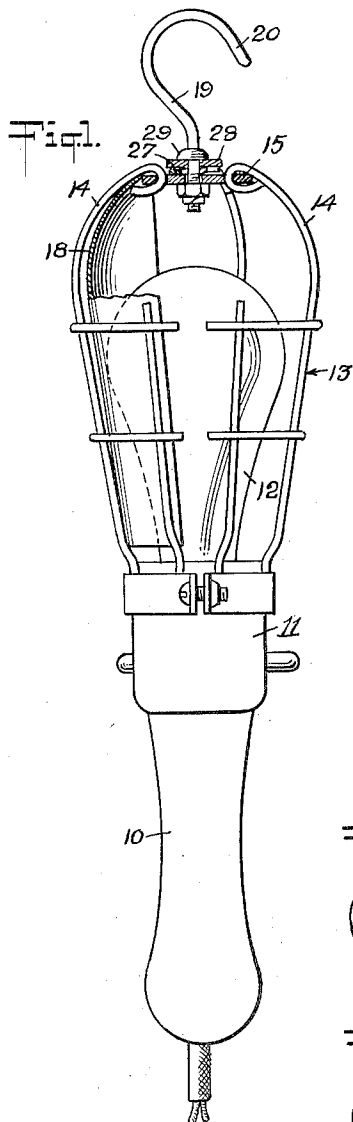
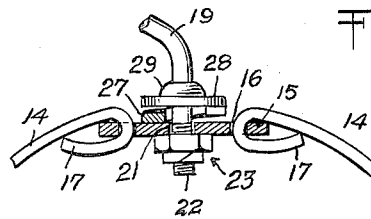
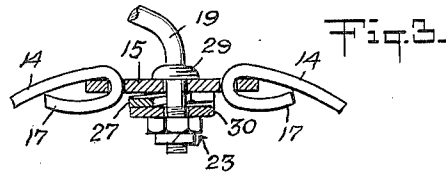
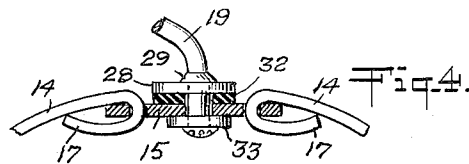
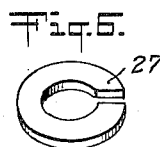
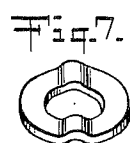
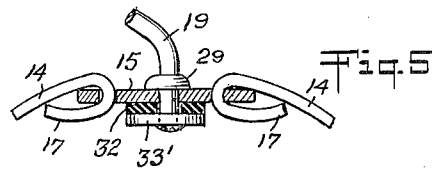
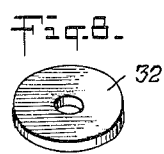
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2,694,776

LAMP CAGE HOOK CONSTRUCTION

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LAMP CAGE HOOK CONSTRUCTION

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1 Claim. (Cl. 240—54)

This invention relates to new and useful improvements in wire cages for work lamps, and the like, and has a special reference to the construction whereby the supporting hook is connected to the cage.

The main object of the invention is to provide a hook so related to the cage that the cage may be readily turned with respect to the hook, and direct the light of the lamp through the medium of the reflector, in any direction and to provide resistance in the connection between the hook and cage structure so that the lamp and reflector will remain in the desired adjusted position so as to throw the light just where it is wanted.

A further object is to provide a construction for connecting the supporting hook to a lamp cage of such character that it may readily be adapted to most conventional cages without the requirement of any major alterations therein.

A still further object is to provide certain tension members in connection with the hook to furnish the desired resistance, and so arranged as to be applicable either on the outside or the inside of the cage as may be desired.

Another object is to provide construction that requires very little additional space for assembly and operation.

Another object is to provide a device wherein the spring tension regulating the resistance in the cage hook may readily be adjusted at the will of the operator.

Still another object is to provide construction in which resistance offered to the turning of the cage is relatively high in relation to the amount of tension employed.

A still further object is to provide a construction in which the frictional resistance member may be of spring or resilient metal, or of rubber or other resilient material.

Further and more specific objects, features and advantages will more clearly appear from a consideration of the detailed specification hereinafter set forth, especially when taken in connection with the accompanying drawings which illustrate a present preferred form which the invention may assume and which form part of the specification.

The conventional hook as hitherto usually employed has either been rigidly fastened to the case or loosely swivelled thereto. This has the result that the light can not be directed under the complete control of the operator, or may be influenced by a twisted cord to throw the light to variable positions independent of the operator.

In brief and general terms, the improved construction constituting this invention involves the usual wire cage construction wherein the upper ends of the wires are connected to a cap piece or plate. In the present construction, this cap piece or plate is apertured and the stem of the supporting hook passes therethrough. The lower end of the hook below the cap piece is provided with suitable locking devices, and a resilient frictional resistance member in the form of a resilient disk of metal of various forms or a disk of rubber is disposed adjacent the cap plate and around the stem either above or below the cap plate and associated with suitable bearing washers wherein frictional resistance to the turning of the cage with respect to the stem is offered, and of sufficient magnitude to prevent the cage from being turned relative to the hook, or vice versa, except under the direct effort of the workman.

A further feature of the invention has to do with the disposition of the frictional resistance member in such position against the cap piece that the closely ad-

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jacent bent upper ends of the cage wires surround it along at least a portion thereof to prevent lateral displacement thereof.

The present preferred forms which the invention may assume are shown in the drawings, of which,

Fig. 1 is an elevation of a work lamp and wire cage with the supporting hook connected thereto in accordance with the preferred form of the invention;

Fig. 2 is an enlarged partial cross section through the form of a hook connection shown in Fig. 1;

Fig. 3 is a modified form in which the resilient disk and the bearing washer are disposed below the cap plate;

Fig. 4 is a still further modification in which no lock nuts are used and the disk of metal is above the cap piece;

Fig. 5 is a form similar to Fig. 4 in which the disk is below the cap piece; and,

Figs. 6, 7, and 8 are perspective views of different types of resilient disks which may be employed.

Referring now merely to the specific forms of the invention, as shown in the drawings, it is to be noted that this connection is shown applied to a work lamp having a handle 10 at the upper end of which is a socket 11 for a lamp bulb 12 which is surrounded by the usual wire cage generally indicated by the numeral 13. In the usual manner, the upper ends of the several wires of the cage extend upwardly and are curved toward each other, and their bent ends 14 are engaged with a cap piece or plate 15 in any suitable manner. Preferably, the bent ends extend over the top of the outer edges of this piece 15 and are bent downwardly through apertures 16 in the cap piece, which are disposed at spaced points adjacent the periphery thereof. The wires are thus reversely bent so that their outer ends 17 lie somewhat closely to the main body of the wires. By being thus bent downwardly and around, these bent portions may act to hold or retain the upper end of a reflector 18 as shown in Fig. 1. However, this reflector may be supported in any other manner, and the wires may be bent in the opposite direction if desired, or may be connected to the cap piece in some other manner.

In the form shown in Fig. 2, a stem 19 of the hook 20 extends freely through an aperture 21 in the cap piece and its lower portion is threaded at 22 to threadably receive an elastic type of stop nut 23, which serves to maintain the resilient turning-resistance disk under tension, and also to provide a tensional bearing surface in contact with the cap piece.

Above the cap piece 15, there is disposed a resistance member which may be in the form of a resilient split ring washer 27 (Fig. 6), the lower face of which bears on the top of the cap piece and the upper face of which bears against a frictional bearing surface shown in the form of an apertured washer 28 through which the stem 19 loosely passes. Above the top of this washer 28 there is formed an enlarged abutment element 29 which may be formed out of the metal of the stem, or may be a supporting apertured piece to slip onto the stem and be welded thereto. It is obvious that the resilience of split ring 27 will press up against the washer 28 to force it against the abutment 29, and thus also cause the stop nut 23 to bear frictionally against the lower surface of the cap piece 15, with the various parts thus frictionally engaged. By the resilience, or pressure of the split ring 27, it can be seen that the handle and the cage can be relatively turned, but that the frictional resistance thus created will not permit such relative turning on the part of the cage or hook themselves, but only under a deliberate turning effort on the handle 10 by the workman. Thus, the workman can turn the handle while the hook is supporting the lamp from any suitable supporting element and be thus enabled to position the reflector 18 so as to direct the light in any desired direction, and when so positioned, the parts will remain therein. The size of the abutment members and washer is such that these elements nest within the circle of bent over cage wires formed at the connection of the cage wires with plate 15.

With reference to the modified form of the invention shown in Fig. 3, it will be noted that in this form the resilient resistance element is disposed below the cap

piece 15. In this form this member takes the form of a resilient split-ring 27 as in the above mentioned form shown in Fig. 2 and its upper face bears against the lower face of the cap piece 15, and its lower face bears against a frictional bearing plate or washer 30 which loosely surrounds the lower portion of the stem 19 which, as before, loosely passes through the central aperture 16 in the cap piece 15. Below this washer 30 is disposed, as before mentioned, the stop nut unit 23 held securely to the stem 19. It will be seen that the ring 27 is normally disposed with respect to the adjacent bent ends of the wires 14 so that lateral displacement of this element is prevented by the adjacent disposition of these wires. This construction will permit of a shorter unit but otherwise operates substantially the same as the one above set forth. The use of the stop type nut unit 23 clearly allows for adjustment of the split-ring tension at the option of the workman.

As shown in Fig. 4, the construction is modified to show the washer 28 loosely disposed around the stem 19. Between this washer 28 and the cap piece 15 is disposed a flat apertured disk 32, preferably of resilient material such as rubber. On the lower end of the stem 19, below the cap piece 15, there is disposed a friction washer 33 which is preferably welded or riveted to the stem.

In the form shown in Fig. 5, the same general construction is employed with the use of the rubber disk 32, but in this case it is disposed below the cap piece 15, and the friction bearing washer or element 33 is welded or riveted to the stem and is of sufficient diameter to amply extend across the rubber disk.

In general summary of the invention above set forth as to several forms thereof, it may be said that the hook stem is loosely associated with the cap piece of the lamp guard through the intermediary of a resilient resistance element which is related to a frictional bearing element respectively contacting the cap piece and the stem so that at all times the relative turning between the cap piece and the stem is resisted by a predetermined, or adjustable, amount of resistance which will not allow the parts to move relatively of themselves, but will require a definite turning force exerted on the parts by the workman using the lamp. Therefore, when the lamp is set in a definite position with respect to the hook, it will stay in this position with the many resultant advantages above set forth. It is obvious that in the constructions shown in Figs. 2, 3, 4 and 5, any one of the forms of resistant spring disks shown in Figs. 6, 7 and 8 may be employed in accordance with the necessity or requirements of the particular construction.

While the invention has been described in detail and shown with respect to the accompanying drawing, it is

not to be limited to such details, since many changes and modifications may be made in the invention without departing from the spirit and scope thereof. Hence, it is desired to cover any and all forms and modifications may be made in the invention without departing from the spirit and scope thereof. Hence, it is desired to cover any and all forms and modifications of the invention which may come within the language and scope of the appended claim.

I claim:

A wire cage for a work lamp comprising a cap plate having a circular series of peripheral openings and vertical cage wires extending therethrough and bent over to secure them therein, said cap plate further having a central aperture, a hooked stem loosely extending through the aperture, an abutment encircling and secured to the stem above the plate, said abutment being of substantially greater diameter than the stem and having a frictional bearing surface facing the outer side of the cap plate, an abutment member encircling the stem below the cap plate and having a frictional bearing surface substantially larger than said aperture, facing the inner side of the cap plate, and a compressible and resilient deformed metal washer resistance member disposed around the stem and under compression between the first mentioned abutment member and the cap plate, said abutment members and said resistance member all being of such size as to nest within the circle of bent-over cage wires, said resistance member engaging the first mentioned abutment member and the cap plate, with the second mentioned abutment member being adjustably fixed on said stem to maintain frictional contact between said cap plate and said second abutment member and between said cap plate and said first mentioned abutment member and said compressible and resilient resistance member, said compressible resilient resistance member maintaining substantial frictional resistance to unwanted rotating movement of said stem with respect to said cap plate at all times, said stem being rotatable with respect to said cap plate only when urged by external force.

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