

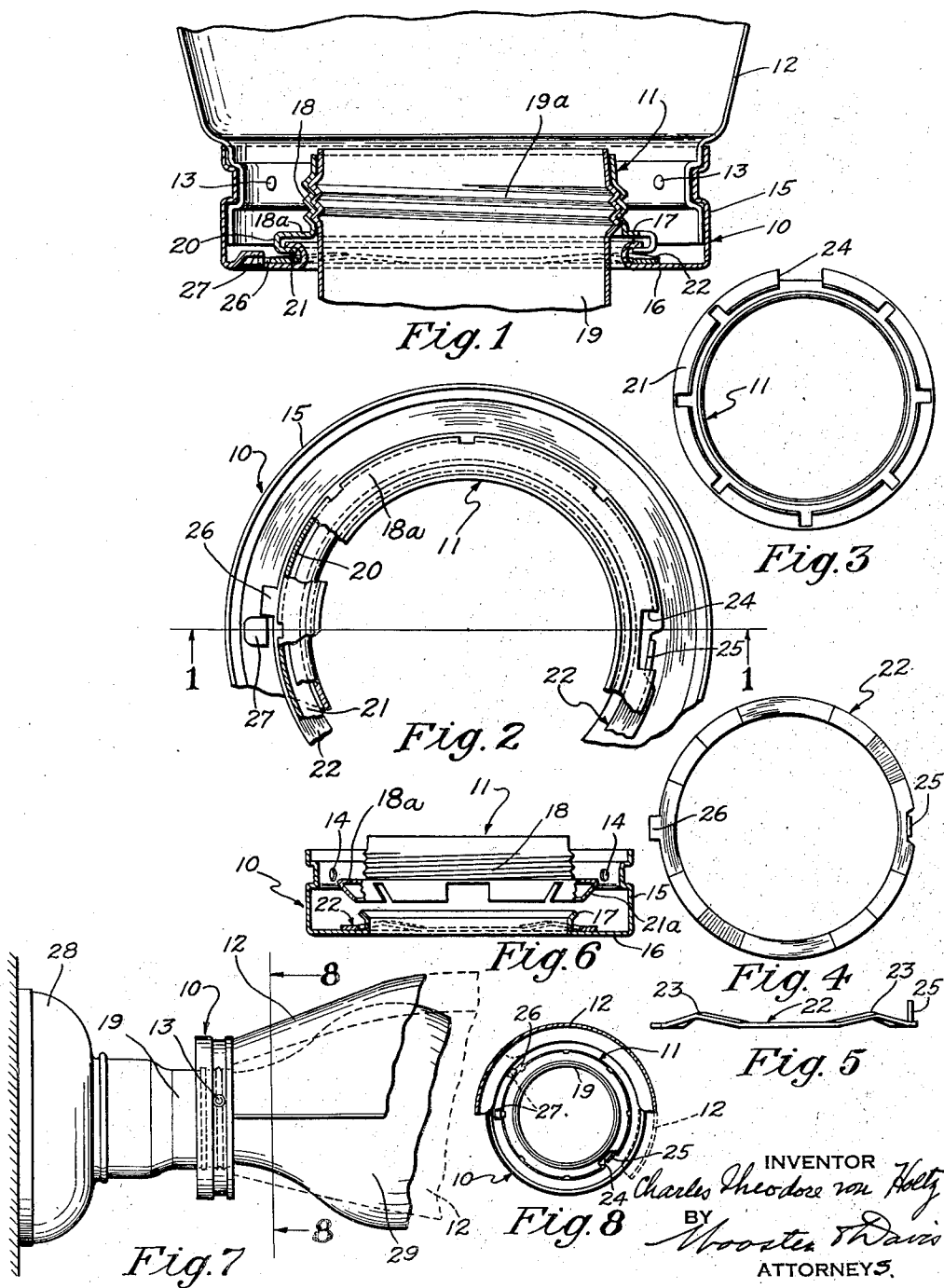
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ADJUSTABLE NECK REFLECTOR

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ADJUSTABLE NECK REFLECTOR

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This invention relates to new and useful improvements in reflectors, and has particular relation to an adjustable neck reflector for securing the reflector to a lamp socket.

An object of the invention is to provide a reflector including an improved neck construction whereby the reflector may be securely screwed on to a socket shell or the like and then turned relative to the shell to adjust the position of the reflector without loosening it on the shell.

Another object is to provide a means having the characteristic stated and which does not detract from the appearance of the reflector, is of simple and economical construction, and through the use of which the operation of applying or removing a reflector to or from a socket shell is not complicated but are the same as applying or removing any ordinary reflector support.

Other objects and advantages will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawing wherein a satisfactory embodiment of the invention is shown. However, it will be understood that the invention is not limited to the details disclosed but includes all such variations and modifications as fall within the spirit of the invention and the scope of the appended claims.

In the drawing:

Fig. 1 is a sectional view taken substantially along the line 1—1 of Fig. 2, a portion of a reflector being shown;

Fig. 2 is an enlarged plan view of a portion of the adjustable neck, parts being broken away;

Fig. 3 is a bottom plan view of the inner member or socket shell receiving portion of the neck;

Fig. 4 is a plan view of a spring member employed;

Fig. 5 is an edge view of the member of Fig. 4;

Fig. 6 is a sectional view illustrating the method of assembly of the adjustable neck;

Fig. 7 is a side elevational view showing the improved means in use; and

Fig. 8 is a sectional view taken substantially along the line 8—8 of Fig. 7, the bulb being omitted.

Referring in detail to the drawing, the improved adjustable neck construction as here shown includes an outer member 10 and an inner member 11 which members are connected for movement together and for relative movement as will later be more fully described. Any suitable reflector 12 is rigidly secured to the outer neck member 10 as by rivets or the like 13

passing through the inner portion of the reflector and through openings 14 in the neck member. In addition to its outer or side wall 15 member 10 includes an inwardly extending end wall 16 and an outwardly folded flange 17.

The inner member 11 is threaded as at 18 for engagement with the threads 19a of a socket shell 19 as will be understood and this inner member has its lower or inner portion bent outwardly as at 18a and then downwardly as at 20 and then inwardly as at 21 providing a channel receiving the flange 17 of member 10 whereby the members 10 and 11 are secured against separation but in a manner to permit of one turning relative to the other. Between the end wall 16 and the inwardly directed channel wall 21 there is arranged a spring ring 22 including one or more upwardly pressed portions 23 as shown most clearly in Fig. 5. This spring ring maintains the channel wall 21 in engagement with flange 17 to the end that the members 10 and 11 are frictionally held against casual relative turning movement and against rattle, but the frictional connection is such that the members 10 and 11 may have relative turning movement.

Means are provided to limit relative turning movement between members 10 and 11 and to this end member 11 is notched in one edge as at 24 and the spring ring 22 is provided with an upstanding lug 25 extending into said notch when the parts are assembled. With this arrangement it will be apparent that the spring ring turns with the inner member. Ring 22 is also provided with a laterally extending projection 26 lying against the end wall 16 of the outer member. This end wall carries an upstanding lug or projection 27 which may be pressed from the wall or formed separately therefrom and secured thereto, as desired. From an inspection of Fig. 2 it will be apparent that the raised portion or projection 27 on the end wall of the outer member 10 is in the path of movement of the projection 26 of the ring 22, and since owing to the notch 24 and lug 25, the ring moves with the inner member it will be apparent that the inner and outer members are capable of but a limited relative turning movement, in the present case one complete revolution.

Fig. 6 illustrates the method of assembling the parts forming the adjustable neck and in this figure it will be noted that the flange 17 is not bent horizontal and that the inner member has a flange 21a arranged at an incline. The spring ring 22 is dropped over the upturned portion carrying the flange 17 and then the inner member 11 is dis-

posed to have the flange 17 arranged within its inclined portion 21a. Thereafter the parts are placed in a die and pressed to form the channel opening through the inner side of the inner member 11 with the flange 17 of member 10 located in such channel, the parts being then disposed as shown in Figs. 1 and 2.

Figs. 7 and 8 illustrate the manner in which the improved adjustable neck construction may be used and in these figures the socket shell 19 is shown as carried by any suitable bracket 28 and as having a bulb 29 therein. Before the bulb is applied the reflector and neck are screwed onto the socket shell and this is accomplished by engaging the threads 18 of the inner neck member 11 with the threads of the socket shell and then turning the reflector to thread the neck onto the socket shell. As the neck is threaded on the socket shell the outer neck member 10 may move independent of the inner neck member 11 until the projection 27 on said outer neck member engages the lug 26 of the spring ring as shown in Fig. 2. Thereafter, as the reflector and outer shell member are further turned they are positively connected to the inner neck member through the spring ring whereupon the inner neck member 11 will be screwed up tight on the socket shell 19. When the neck is tight on the socket shell the reflector may be disposed to one side of the light bulb 29 as suggested by the dotted lines in Figs. 7 and 8 which ordinarily is not the desired position. With the ordinary construction where the reflector is simply threaded onto the socket shell it is seldom in the correct position when it becomes tight and should the reflector be turned back from the dotted line positions of Figs. 7 and 8 to the full line positions of said figures, which is the correct position, then the reflector would be partly unthreaded from the socket shell and would be loose and likely to rattle and casually move out of proper position. However, with the present arrangement to adjust the reflector over the bulb from the dotted line positions of Figs. 7 and 8 to the full line positions of said figures the reflector is merely turned backward or in a direction to carry the projection 27 away from the projection 26 so that the outer neck member 10 moves with the reflector, but the inner neck member 11 remains in place tightly threaded onto the socket shell. This backward movement may be a whole revolution if desired without unscrewing the inner member 11 at all from the shell 19.

Owing to the presence of the spring ring 22 the frictional connection between the neck members prevents them from rattling and prevents casual turning movement of the members relatively so that the reflector is retained in its adjusted position. Without in the least loosening the inner neck member 11 on the socket shell the reflector may be adjusted for substantially one complete turn or until the projection 27 is carried from the position in Fig. 2 to a position wherein it engages the opposite edge of the projection 26. When the projections are in this last relative position further turning movement of the reflector and outer neck member 10 in a counter-clockwise direction will result in an unscrewing of the neck from the socket shell.

From the foregoing taken in connection with the accompanying drawing it will be apparent that with the present arrangement the reflector is tightly threaded onto the socket shell, and that the reflector may be adjusted for substantially a complete revolution without in any way loosening its connection with the socket shell. Fur-

ther, it will be seen that the improved adjustable neck includes but a relatively few parts whereby it may be made at low cost and that the operation of applying or removing a reflector is substantially the same as that previously followed, and that the device is inconspicuous and is not unsightly or cumbersome.

Having thus set forth the nature of my invention, what I claim is:

1. In combination, a reflector, an outer member rigid with the reflector, an inner member threaded for engagement with a socket shell, overlapping portions on said members, and spring means urging said portions into frictional engagement whereby the members are held against casual relative movement but may be turned relatively for adjustment of the reflector after the inner member is tightened on a socket shell.

2. In combination, a reflector, an outer member rigid with the reflector, an inner member threaded for engagement with a socket shell, friction generating means between said members whereby they are held against relative casual movement but may be turned relatively for adjustment of the reflector after the inner member is tightened on a socket shell, a projection movable with each of said members, and said projections arranged one in the path of movement of the other and limiting relative turning movement of the members.

3. In combination, a reflector, an outer member rigid with the reflector, an inner member threaded for engagement with a socket shell, overlapping portions on said members, spring means urging said portions into frictional engagement whereby the members are held against casual relative turning movement but may be turned relatively for adjustment of the reflector after the inner member is tightened on a socket shell, means positively connecting said spring means with one of said members for movement therewith, a projection on said spring means, and a projection on the other of said members and in the path of movement of the spring carried projection whereby said members have only limited turning movement relatively.

4. In combination, a reflector, a member carrying said reflector, a second member, threads on the second of said members to screw onto a socket shell, a frictional connection between said members whereby they are held against casual relative turning movement but may turn relatively to each other, and cooperating means on said members permitting limited relative turning movements between them and positively limiting said movements in both directions so that further turning movement of the first member in either direction beyond the limits of the relative movement will turn the second member in that direction.

5. In combination, a reflector, an outer member rigid with said reflector, an inner member threaded for engagement with a socket shell, said inner member including a channel portion, a flange on the outer member and extending into said channel whereby the members are secured together against separation but for turning movement one on the other, a spring means normally tending to separate said members and forcing one side of the channel against the flange whereby the members are frictionally secured against casual relative turning movement, said inner member having a notch therein, a lug on said spring means and entering said notch whereby the inner member and spring means are connected for

movement together, a projection on said spring means, and a projection on said outer member in the path of movement of the spring means carried projection whereby said members have only a limited movement relatively.

5 6. In combination, a reflector, a member on which the reflector is mounted, a second member threaded to screw onto a socket shell, overlapping portions on said members securing them together and permitting relative turning movements between them, stops movable with the members with the stops on one member in the path of movement of those on the other member,

said stops being arranged to permit limited relative turning movements between the members and cooperating by rotating movement of the first member in one direction to rotate the second member to screw it onto a socket shell, said stops being also arranged to then permit limited turning movement of the first member in the opposite direction without turning the second member and cooperating on further movement of the first member in the same direction to unscrew the second member from the shell.

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