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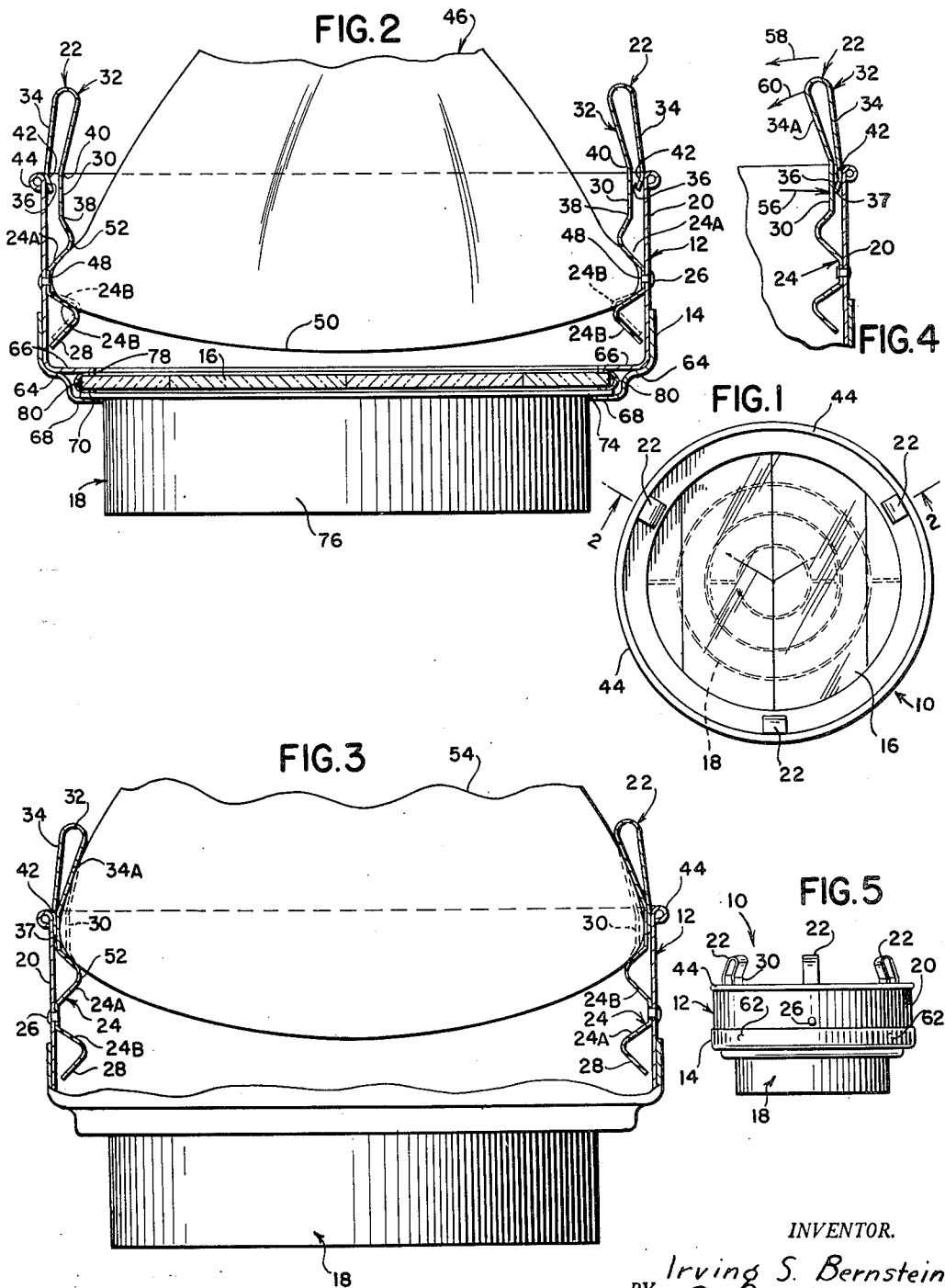
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COLOR SLIDE ADAPTER

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COLOR SLIDE ADAPTER

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6 Claims. (Cl. 240—46.57)

The present invention relates to a color clip of the type which is adapted to be removably secured to a spot-light or display lamp, or the like, for mounting a color lens and/or a light louver in light transmitting relation to the lamp.

The primary object of the present invention is the provision of a generally simplified and improved color clip.

Another object is the provision of a color clip having adjustable lamp attaching means.

Another object is the provision of a color clip adapted to be attached to lamps of different diameters, respectively.

A further object is the provision of a color clip which is adapted to firmly dispose the lamp in position centrally thereof.

A still further object is the provision of a color clip having means to prevent the leakage or spillage of uncolored light about the color lens.

The above and other objects, features and advantages of the present invention will be more fully understood from the following description considered in connection with the accompanying illustrative drawings.

In the drawings:

Fig. 1 is a top plan view of a color clip pursuant to the present invention, a color lens and a light louver being in position therein;

Fig. 2 is a sectional view, on a larger scale, taken on the line 2—2 of Fig. 1, the clip being illustrated as attached to a spot-light or display lamp;

Fig. 3 is a view similar to Fig. 2, showing the clip on a spot-light of larger diameter than that illustrated in Fig. 2;

Fig. 4 is a detail view of one spring element of the color clip, illustrating the operation thereof with a spot-light of the type illustrated in Fig. 3; and

Fig. 5 is a side elevation of the color clip, on a reduced scale.

Referring now to the drawings in detail, the color clip 10, of the present invention, comprises the hollow cylindrical member 12 which is adapted to be attached to a spot-light or lamp 46 or 54, and a member 14 which is removably secured to the member 12 and which is adapted to mount a color filter or the like 16 and/or a light louver 18. In order to provide for the removable attachment of the preferably metallic body member 12, of the clip 10, to a spot-light, said member is provided, on the inner surface of the circular wall 20 thereof with the three equally spaced, circumferentially disposed, spring clip members or fingers 22, as best illustrated in Fig. 1.

Each spring clip 22 is formed of a flat strip of spring metal, and is provided with a generally V-shaped portion 24, the apex of which is secured to the inner surface of the circular wall 20, in any suitable manner, for example, as here shown, by means of the rivet 26. Below said V-shaped portion 24, the spring member terminates in a reflexed free end portion 28. Above said portion 24 thereof, the spring member is provided with a substantially linear portion 30 from which there extends the loop 32 having the return portion 34 which terminates in the sub-

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stantially linear free end portion 36. It will be noted that there are, bend lines 38 and 40, at the opposite ends, respectively, of the linear portion 30, and an additional bend line 42 between the looped portion 34 and the end portion 36, which latter bend line is adjacent the circular rim 44 provided at the upper end of the wall 20.

Referring now to Fig. 2 in detail, the color clip 10 is shown mounted on a display lamp or spot-light 46 having a circular bead 48 about the light-transmitting face 50 thereof. It will be apparent that the maximum diametrical dimension of the lamp 46 extends through the bead 48, and that said dimension is less than the diameter of the clip body member 12. As herein shown, the bead 48 snaps into the V-shaped portions 24 of the spring clips 22, which portions define a first seat for attaching the clip body 12 to the lamp 46. It will be understood that the opposing arms 24A and 24B, of the V-shaped portion 24, are originally adjusted or tensioned so as to provide for the mutual displacement thereof by the bead 48, upon insertion therein, to provide a resilient spring pressure at opposite surface portions of the bead for releasably attaching the member 12 to the bead, at three equally spaced portions circumferentially thereof. In this connection, it will be noted from Fig. 2, that the insertion of the bead 48 into the V-shaped portion 24 results in the widening of the latter due to the displacement of the arm 24B from the broken line position thereof, to the full line position thereof, to provide the necessary resilient pressure. Due to said widening or enlargement of portions 24, it will be readily apparent that said portion is adapted to accommodate beads 48 which are larger than a predetermined dimension thereof, in order to provide for variations in manufacturing tolerances. However, in the event that the arms 24A and 24B are so disposed relative to each other as to cause a loose fit for the bead therebetween, either due to an original adjustment thereof, or as a result of prior use of the color clip on a larger bead, it will be readily apparent that the V-shaped portion 24 may be made smaller manually by pressing the top of loop 32 down toward the center of member 12 or by moving the free end portion 28 from the full line position thereof to the broken line position thereof, as illustrated in Fig. 2, to decrease the width of said V-shaped portion. Thereafter, if larger beads are inserted, the V-shaped portion will automatically expand to accommodate them. From the foregoing, it will be readily apparent that the V-shaped portion 24 automatically adjusts in a direction longitudinally of member 12 for larger sized beads 48, and is manually adjustable to accommodate smaller sized beads 48. In either case, it will be noted that the lamp 46 is disposed in position centrally of the body member 12, in which position it is securely and resiliently releasably retained by said V-shaped portions 24. The lamp 46 may be readily inserted into the color clip by first tilting either the lamp or the member 12 to engage the bead 48 into the portions 24 of any two of the spring members 22, and then applying the required pressure to snap the bead 48 past the inwardly extending curved portion 52 of the third spring member 22 to engage in the portion 24 of the latter. In order to remove the lamp 46, the lamp is pivoted outwardly of the clip on two of the V-shaped portions 24, for snapping the bead past the curved portion 52 on the third spring member.

Comparing the lamp 54 of Fig. 3 with the lamp 46, it will be noted that the lamp 54 is of generally larger body diameter than the lamp 46, it being understood that said lamps are representative of the two different sizes now generally in use. In order to retain the lamp 54 in position in the color clip, the linear portions 30 of the spring members are utilized rather than the portions 24, said linear portions defining a second lamp seat. More specifically, it will be noted that when the lamp 54 is

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out of the clip, each linear portion 30 is spaced from the free end portion 36, as illustrated in Fig. 2. Upon insertion of the lamp 54, the linear portions 30 are moved thereby outwardly toward the adjacent surface of the wall 20 from the broken line position thereof to the full line position thereof, as in Fig. 3. This results in an initial movement of the looped portion 32 in a direction outwardly of the wall 20, and causes the downwardly extending portion 34 to pivot in said direction about the bend line 42 which, being in abutment with the wall 20, serves as a fulcrum about which the free end portion 36 then pivots in the opposite direction inwardly of the wall until the marginal edge 37 thereof engages the linear portion 30, at the surface of the latter opposite the surface which is engaged by the lamp 54. This intermediate position of the spring portions is illustrated in Fig. 4. The arrow head 56 represents the direction of the component of force which operates upon the linear portion 30 due to the insertion of the lamp 54 into the body member 12, whereby to move said linear portion toward the adjacent wall 20 to the position thereof illustrated in Fig. 3. As the linear portion 30 is forced beyond the position thereof illustrated in Fig. 4, it forces the edge 37 back toward the wall until the end portion 36 abuts the wall, as illustrated in Fig. 3. During said return movement of the end portion 36, the loop portion 34 now pivots in the opposite direction, about the bend line 42 as a fulcrum, so that the loop 32 now moves inwardly toward the center of the body member 12, as illustrated by the arrowhead 58 in Fig. 4, the opposing loop portion 34A now engaging the side of the lamp 54 and the loop 32 applying a component of force to the lamp which is generally in the direction of the arrowhead 60 so as to securely and resiliently seat and retain the lamp 54 in the body member 12. This resilient pressure at three equally spaced points circumferentially of the body member 12 serves to releasably and securely retain the lamp 54 in position centrally of the body part 12. It will be understood that the extent of movement or adjustment of the linear portion 30 transversely of the member 12 toward the adjacent wall surface 20 will depend upon the maximum diameter of the lamp 54, so that the component of force 60 will be greatest for lamps of maximum diameter and the spring member 32 being thereby adjustable for variations in the diameter of the lamp 54 to compensate for manufacturing tolerances. The lamp 54 may be readily inserted into the body part 12 by first engaging the lamp about the face thereof with the linear portions 30 on two of the spring clips 22 and then pivoting in a direction inwardly of the body part 12 to snap engage the lamp and the portion 30 on the third clip spring, the spring portion 52 serving as a detent to limit movement of the lamp into the clip member 12. In the same manner the lamp 54 may be readily removed by pivoting outwardly of the body part 12 on two of the spring members 22.

The member 14 may be releasably secured to the body part 12, in any suitable manner. As presently constructed, the body member 12 is provided with a plurality of bayonet slots into which the inwardly pressed portions 62 provided on the member 14 may removably engage. The member 14 is provided with an inwardly extending circumferential portion 64 for defining a shoulder therein on which the inwardly extending flange 66 of the body part 12 is adapted to be disposed. The member 14 is also provided with an inwardly disposed circumferentially extending flange 68 which is spaced below the shoulder 64, and which provides a seat for either the color filter 16 or for the outwardly extending circular flange 70 provided on the light diffusing louver 18. However, it will be understood that there is sufficient space between the companion flanges 66 and 68 to accommodate both the color filter 16 and the louver flange 70, as best illustrated in Fig. 2. In this connection, it will

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be further understood that the member 14 is provided with a circular opening 74, which is defined by the flange 68 thereof, and the body portion 76 of the louver extends through said opening. As illustrated in Fig. 2, it will be noted that the diameter of the circular color filter 16 is larger than the diameter of the circular opening 78, which is defined by the flange 66 on the body member 12, as well as being larger than the diameter of the opening 74. Consequently, the outer circumferential portion 80 of the color lens is disposed between the companion flanges, which flanges thereby prevent the projection or passage of any light rays outwardly of said marginal portion 80. All the light projected from the color clip 10 is transmitted through the lens and light spillage about the lens is eliminated.

From the foregoing, it will be apparent that through the provision of the compound or double acting spring means 22, the color clip of the present invention is well adapted to fulfill the previously stated objects.

While I have shown and described the preferred embodiments of my invention, it will be understood that various changes may be made in the present invention without departing from the underlying idea or principles of the invention within the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A clip for mounting a light transmitting element on a lamp, said clip comprising a hollow cylindrical body member open at the opposite ends thereof for mounting on said lamp, means for mounting the light transmitting element at one end of said body member, a plurality of equally spaced resilient strips secured to the inner surface of said body member, said strips extending longitudinally of said body member in a direction rearwardly from said one end thereof, each strip having a pair of seat defining portions of varying depth and contour, and said seat portions being spaced longitudinally of each strip and being disposed within the longitudinal extent of said body member, whereby to define within said body member a pair of lamp engaging seats which are spaced at different intervals rearwardly from the light transmitting element for accommodating through the other end of the body member lamps of different diametrical dimensions, respectively.

2. A clip for mounting a light transmitting element on a lamp, said clip comprising a hollow cylindrical body member open at the opposite ends thereof for mounting on said lamp, means for mounting the light transmitting element at one end of said body member, a plurality of equally spaced resilient strips secured to the inner surface of said body member, said strips extending longitudinally of said body member in a direction rearwardly from said one end thereof, each strip having a pair of seat defining portions of varying depth and contour, and said seat portions being spaced longitudinally of each strip and being disposed within the longitudinal extent of said body member, whereby to define within said body member a pair of lamp engaging seats which are spaced at different intervals rearwardly from the light transmitting element for accommodating through the other end of the body member lamps of different diametrical dimensions, respectively, the seat defining portion of each strip which is closer to the other end of said body member being normally spaced from said inner surface and being resiliently displaceable toward said inner surface when engaged by the lamp, and each strip having a portion which extends from said latter seat defining portion thereof outwardly of said other end, said extending portion being fulcrumed on said inner surface for movement in a direction inwardly of said body member in response to the displacement of the associated displaceable seat defining portion for resiliently pressing against the lamp in a direction inwardly of said body member.

3. A clip for mounting a light transmitting element on a lamp, said clip comprising a hollow cylindrical body

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member open at the opposite ends thereof for mounting on said lamp, means for mounting the light transmitting element at one end of said body member, a plurality of equally spaced resilient strips secured to the inner surface of said body member, said strips extending longitudinally of said body member in a direction rearwardly from said one end thereof, each strip having a pair of seat defining portions of varying depth and contour, and said seat portions being spaced longitudinally of each strip to provide a pair of lamp engaging seats which are spaced at different intervals rearwardly from the light transmitting element for accommodating through the other end of the body member lamps of different diametrical dimensions, respectively, the securement of each strip to the body member being effected at the seat defining portion thereof which is closer to said one end, the other seat defining portion of each strip being normally spaced from said inner surface and being resiliently displaceable toward said inner surface when engaged by the lamp, and each strip having a portion which extends from said latter seat defining portion thereof, said extending portion being fulcrumed on said inner surface for movement in a direction inwardly of said body member in response to the displacement of the associated displaceable seat defining portion for resiliently pressing against the lamp in a direction inwardly of said body member.

4. A clip, as defined in claim 2, further characterized in that said extending portion is reflexed to constitute a loop, the free end of said loop being disposed between the associated displaceable seat portion and said inner surface, and said free end having a portion extending toward the associated displaceable seat portion for engagement thereby to lever the associated loop inwardly of said body member in response to the displacement of the associated displaceable seat portion.

5. In a color slide adapter for electric light bulbs, the combination with a reflector spot electric light globe having an enlarged head; an adapter comprising an open ended tubular body portion positioned around and spaced from the enlarged head of said globe; a plurality of resilient spring clips connected to one end to said body

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portion and extending rearwardly of the body portion to engage and frictionally grip the globe head, whereby to support the adaptor on, and in front of, said globe; a frame secured to the other open end of said tubular body portion and provided along opposite sides with retaining guideways; and a color slide removably mounted in said guideways.

6. In a color slide adapter for spot electric light globes of the type having an enlarged head, an adapter comprising an open ended tubular body portion adapted to be positioned around and spaced from the enlarged head of an electric light globe, a plurality of resilient spring clips connected at one end to said body portion and extending rearwardly of the body portion to engage and frictionally grip the globe head, whereby to support the adaptor on and in front of the globe, a frame secured to the other open end of said tubular body portion and provided along opposite sides with retaining guideways, and a color slide removably mounted in side guideways, each of said spring clips having a pair of seat defining portions of varying depth and contour which are spaced longitudinally of the spring clip whereby said spring clips are adapted to engage and frictionally grip globe heads of different diametrical dimensions, respectively.

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