Oct. 28, 1952 D. WILMAN ET AL 2,616,027

LIGHTING FIXTURE FOR ELONGATED TUBULAR LAMPS

Filed May 17, 1949 2 SHEETS—SHEET 1

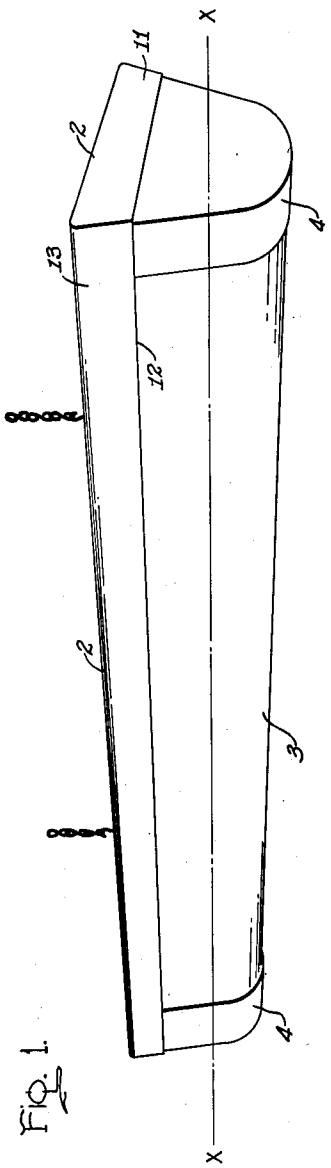


Fig. 1.

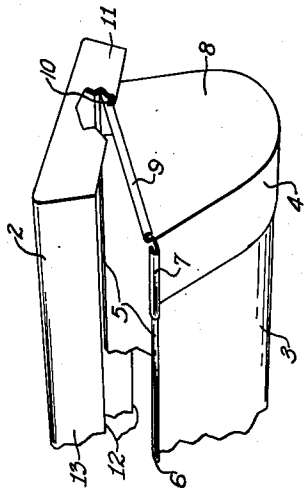


Fig. 2.

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Fig. 3.

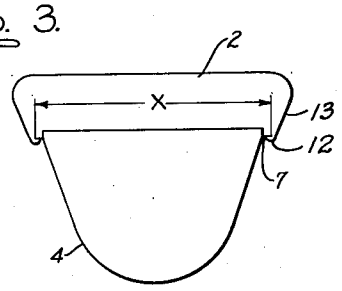


Fig. 3a.

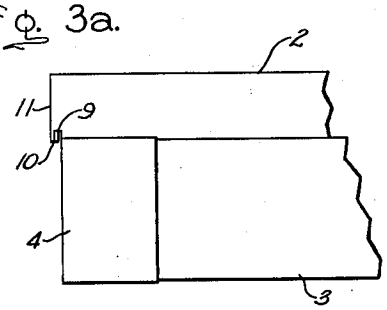


Fig. 4.

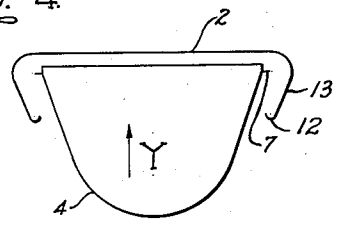


Fig. 4a.

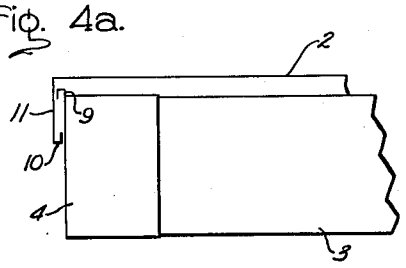


Fig. 5.

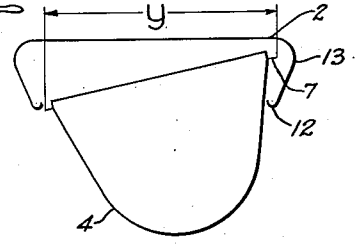


Fig. 5a.

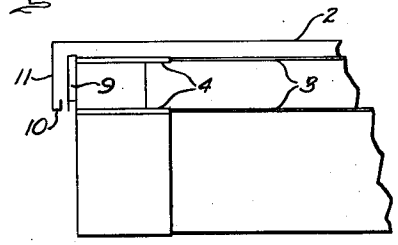


Fig. 6.

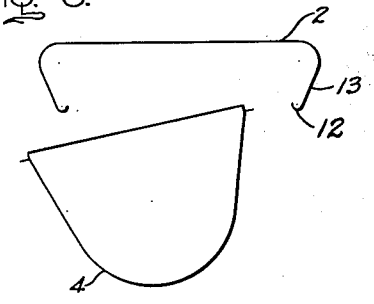


Fig. 6a.

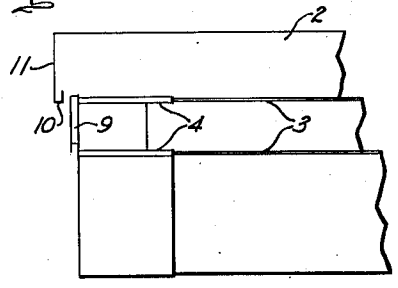
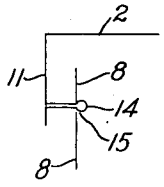


Fig. 7



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UNITED STATES PATENT OFFICE

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LIGHTING FIXTURE FOR ELONGATED TUBULAR LAMPS

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4 Claims. (Cl. 240—51.11)

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This invention relates to an improved detachable cover for a lighting fixture, and is more particularly directed toward detachable covers for lighting fixtures adapted to receive one or more tubular elongated light sources, such as the well known fluorescent lamp.

Such lighting fixtures are usually of the kind having a channel or backbone which supports the lamp or lamps, the backbone providing, or forming a part of, a housing which has an opening capable of receiving the detachable cover, the housing then retaining the cover in its final mounted position.

It has been proposed to provide in combination a substantially rectangular support and a substantially rectangular device for attachment thereto, the support and the device being each provided with a pair of parallel channel-shaped rims which interfit with one another and which are so relatively spaced and arranged that transverse movement of the device with respect to the support enables the edge of one channel-shaped rim of the device to clear the adjacent edge of the rim of the support, whereafter a swinging or pivotal movement of the device with relation to the support can take place.

It is the object of the present invention, however, to provide a detachable cover, for a fitting of the kind referred to, which is capable of being locked to and readily detachable from, the housing of the fitting by simple movement of the cover and parts thereof within the housing. Further objects and advantages of the invention will appear from the following description of species thereof.

Accordingly we provide a detachable cover of transparent or translucent material, for a lighting fixture of the kind set forth wherein the cover is provided with end caps adapted to retain and lock the cover in its final mounted position, the end caps being axially movable of the cover and having a portion thereof adapted to engage and interlock with a portion of the housing of the fixture.

In carrying the invention into effect the said portions of the end caps may be so constucted as to permit unlocking of the end caps from the said portions of the housing by an upward movement of the cover and the end caps whereby the interlocking portions of the end caps and the housing are disengaged, and a movement of the end caps toward each other axially of the cover thereby permitting the cover and the end caps to pass freely through the opening in the housing.

It is a further feature of the invention that we

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may arrange for the end caps to be provided with ridges extending along the uppermost edges thereof and parallel to the axis of the cover, the ridges being adapted to support the end caps along their uppermost edges and to retain them in the final mounted position, the maximum width of the end caps over the ridges being greater than the maximum width of the opening in the housing, and the removal of the cover and the end caps from the housing being effected by a tilting movement so that the maximum width of the end caps over the ridges is foreshortened in the plane of the open end of the housing, thereby allowing the cover and the end caps to pass freely therethrough.

Alternatively the cover may be provided with ridges extending along the uppermost edges thereof and the end caps may be adapted to interfit with and slide along the said ridges axially of the cover. In such a case the cover is retained and supported in the housing along its entire length. Removal of the cover and end caps from the housing is again effected by an upward movement of the cover and caps to unlock the caps from the housing, a movement of the caps toward each other axially of the housing, and a tilting movement of the cover and caps so that the maximum width over the ridges of the cover and end caps is foreshortened in the plane of the open end of the housing, thereby allowing the cover and end caps to pass freely therethrough.

It will be appreciated, that by the use of any of the arrangements hereinbefore referred to, dimensional changes owing to the thermal expansion of the cover relative to the housing and the interlocked end caps may freely take place in that the cover is adapted to move within the end caps.

The foregoing and other features of the invention will be clearly appreciated from the following description of one embodiment of the invention, reference being had to the accompanying drawings forming part of this specification in which:

Figs. 1 and 2 are perspective views of a fixture for a tubular elongated lamp having a detachable cover in accordance with the invention.

Figs. 3, 3a, 4, 4a 5, 5a, 6 and 6a show schematically the operations necessary for the removal of the cover from the housing and Fig. 7 is a schematic representation of an interlocking structure different than that shown in Figs. 1 to 6a and also useful in the fixture.

Referring to Fig. 1 there is shown generally at 1, a lighting fixture having a housing 2 forming a

supporting channel or backbone for the fixture, and a cover 3 of translucent material, such as glass or an organic plastic, retained and locked thereto in its final mounted position, by means of the end caps 4. The longitudinal axis of the cover is represented by the chain dotted lines X—X. In Fig. 2 a portion of the cover 3 and one end cap 4 is partly removed from the housing 2 and this facilitates a consideration of the manner in which the cover and the end caps are retained in and locked to the housing 2. The uppermost edges 5 of the cover 3 parallel with the axis X—X (Fig. 1) are provided with ridges 6 upon which the end caps 4 slide axially of the cover, the end caps having ridges 7 which interfit with the ridges 6 of the cover. The uppermost edge of the end wall 8 of the end caps is L-shaped to form a channel portion 9 which interlocks with an inverted L-shaped portion 10 of the end walls 11 of the housing 2 thereby locking the end cap to the housing. The lower edges 12 of the side walls 13 of the housing are turned inwardly as shown in Figs. 3 to 6*a*.

It is to be understood that the locking of the end caps to the housing may be effected by other well known methods, for example as shown in Fig. 7 bulbous headed members 14 may be attached to the housing 2 and adapted to interfit and interlock with suitable holes and/or slots 15 in the upper portion of the walls 8 of the end caps.

Referring now to Figs. 3–6*a* it will be noted that in Figs. 3, 3*a* the cover 3 and end caps 4 are in their final mounted position within the housing 2, the distance X over the ridges 6 and 7 being larger than the opening between the inturned edges 12 of the housing 2 thereby retaining the cover and the end caps, the L-shaped portions 9 of the cover and the L-shaped portions 10 of the housing being in interlocking relationship, Fig. 3*a*.

To remove the cover 3 from the housing 2 the cover and the end caps are lifted in the direction of arrow Y (Fig. 4, 4*a*) so that the L-shaped portions 9 of the end caps are disengaged from the inverted L-shaped portions 10 of the housing.

The end caps are now moved together axially of the cover (Fig. 5*a*) and the cover and the end caps are tilted as shown in Fig. 5, so that the distance X over the ridges is foreshortened to the distance Y in the plane of the opening of the housing thereby permitting the cover to pass freely therethrough (Fig. 6, 6*a*).

What we claim as new and desire to secure by Letters Patent of the United States is:

1. In a lighting fixture of the type having an elongated housing provided with a longitudinal opening defined by side walls and end walls, illuminating means supported by said housing and an elongated cover for the opening in the housing and supported by said housing, that improvement in the mounting of the cover on the housing which comprises end caps mounted on the cover and movable longitudinally thereof into a first position in which the overall length of said cover and said caps is less than the length of said opening to facilitate mounting and dismounting said cover and into a second position in which the caps engage the end walls of the opening, and interlocking support means on the said caps and on the inner side of the end walls of said opening, said means being engageable when said caps are in said second position and being disengageable by inward movement of the cover with respect to the housing.

2. That improvement in the mounting of the cover on the housing as claimed in claim 1 wherein the end caps are provided with ridges along the sides thereof extending longitudinally of the cover, said ridges extending outwardly to increase the width of the caps to a width greater than that of the opening in the housing, and wherein the side walls of the housing have inturned edges engaging said ridges and the housing is of sufficient depth and width to provide space above the opening for sideward tilting therewithin of the cover and the caps to foreshorten the width of the caps in the plane of the opening to less than the width of the opening to facilitate mounting and dismounting of said cover.

3. That improvement in the mounting of the cover on the housing as claimed in claim 1 wherein the end caps and the cover are provided with ridges along the sides thereof extending longitudinally of the cover, said ridges extending outwardly to increase the width of the caps and the cover to a width greater than that of the opening in the housing, and wherein the side walls and end walls of the housing have inturned edges engaging said ridges and the housing is of sufficient depth and width to provide space above the opening for sideward tilting therewithin of the cover and the caps to foreshorten the width of the caps and the cover in the plane of the opening to less than the width of the opening to facilitate mounting and dismounting of said cover.

4. A lighting fixture for elongated lamps comprising in combination, a trough-shaped housing having end walls and side walls defining an opening and being adapted for mounting in a downwardly opening position, a light transmitting cover of generally channel form for the said opening and end caps mounted on the cover and supporting said cover on said housing, the lower edges of the said end walls of said housing being turned inwardly and upwardly of said housing and the upper edges of said caps being turned outwardly and downwardly of said cover and releasably engaging and interlocking with the said turned edges of said housing, said caps being movable toward each other longitudinally of said cover whereby movement of the cover and the caps inward of the housing is effective for releasing said cover from said housing and movement of the caps toward each other on the cover is effective for reducing the overall length of these members to less than that of the opening in the housing for removal of the cover from the housing.

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