Jan. 8, 1946. D. J. BILLER 2,392,306

ELECTRIC LIGHTING FIXTURE

Filed Sept. 11, 1944

Fig. 1.

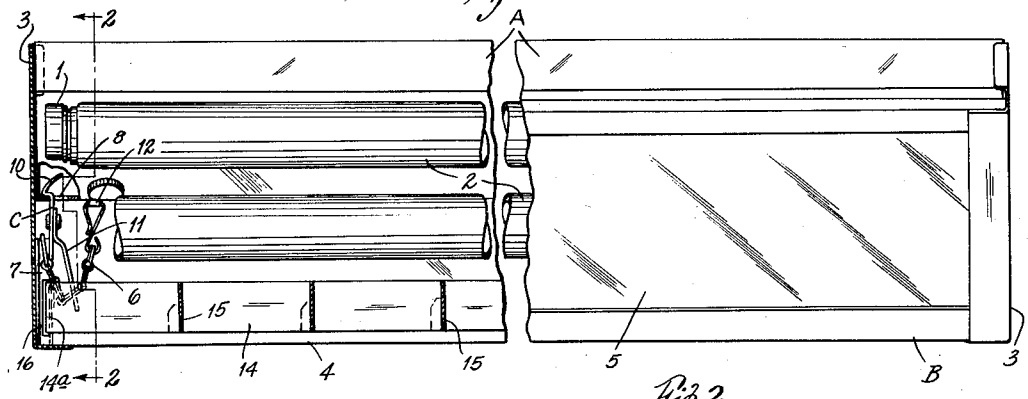


Fig. 2.

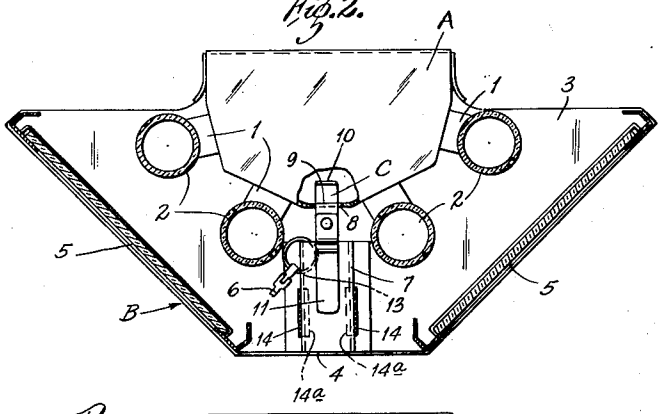


Fig. 3.

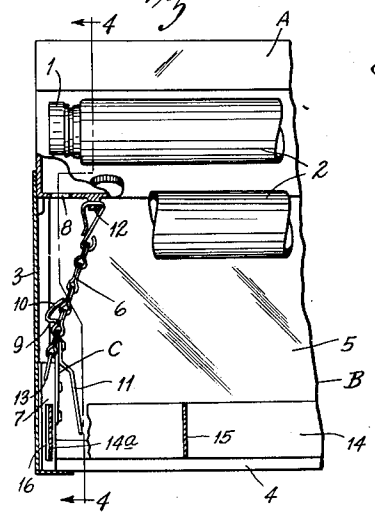


Fig. 4.

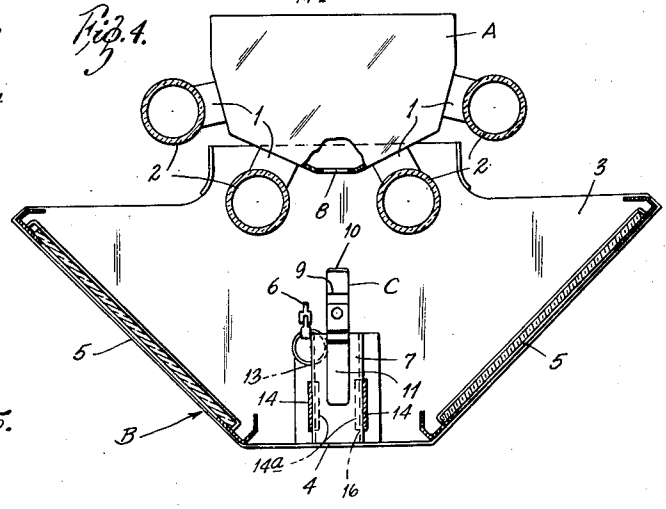
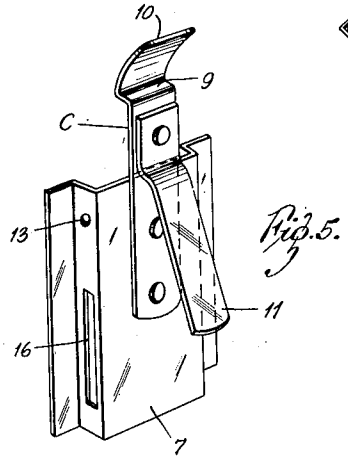


Fig. 5.



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UNITED STATES PATENT OFFICE

2,392,306

ELECTRIC LIGHTING FIXTURE

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Application September 11, 1944, Serial No. 553,553

4 Claims. (Cl. 240—78)

This invention relates to electric lighting fixtures, particularly overhead fluorescent electric lighting fixtures of the kind having light modifying covers or troughs for the lamps. The principal object of the present invention is to provide for suspending the light modifying member from the fixture in either of two vertically spaced positions; that is, in normal or fully raised position or in a lowered position which provides access to the interior of the trough for the purpose of inspection, cleaning or lamp removal. Other objects are to provide ready attachable and detachable fastening means for holding the trough in normal or fully raised position and to provide for simplicity and cheapness of construction and economy of design. The invention consists in providing the electric lighting fixture with quick releasable snap fastening means for suspending the trough in raised or normal position and flexible means for suspending said trough in lowered position upon release of said snap fastening means. The invention also consists in the electric lighting fixture and in the construction, combinations and arrangements of parts hereinafter described and claimed.

In the accompanying drawing, which forms part of this specification and wherein like symbols refer to like parts wherever they occur,

Fig. 1 is a part central vertical longitudinal sectional view and part side elevational view of an overhead fluorescent lighting fixture embodying my invention,

Fig. 2 is an enlarged vertical cross-sectional view on the line 2—2 in Fig. 1,

Fig. 3 is a central vertical longitudinal sectional view through one end of the fixture, showing the lighting trough in lowered position,

Fig. 4 is a vertical cross-sectional view on the line 4—4 in Fig. 3; and

Fig. 5 is a perspective view of one of the lighting trough supporting clips and the mounting channel therefor.

In the accompanying drawing, my invention is shown embodied in an overhead fluorescent lighting fixture comprising an upper wiring housing A adapted to be fixedly secured in any desired manner to a ceiling, beam or other overhead support (not shown). Supported exteriorly of the wiring housing A by means of suitable lampholders 1 projecting therefrom near the ends thereof are tubular fluorescent lamps 2. A lower light modifying member in the form of a trough or channel B embraces the wiring housing A and the lamps 2 and is provided with end walls 3, a louvered bottom 4, and upwardly diverging light transmitting side panels 5. The fluorescent lighting fixture thus far described is of well known construction and it is considered unnecessary to illustrate it in detail.

The above lighting fixture is provided adjacent to each end thereof with means for suspending the lighting trough B from the wiring channel or lamp supporting housing A in either of two vertically spaced positions; that is, in a normal or fully raised position or in a lowered position in which sufficient space is provided between said lighting trough and said wiring housing to permit access to be had to the fixture for the purpose of cleaning the parts and inspection, removal and replacement of the lamps. The suspension means for each end of the lighting trough B comprises a quick detachable spring clip C for rigidly securing said trough in normal or fully raised position to the wiring housing A and a flexible member in the form of a cord, cable or chain 6 for suspending said trough from said housing at a lower elevation when said clip is detached from said housing.

The spring clip C has its lower end portion secured flatwise to the outer face of the web portion of an upright mounting channel 7 having outstanding side flanges that are welded or otherwise permanently secured flatwise to the inner face of the end wall 3 of the lighting trough near the bottom thereof. The spring clip C terminates above the upper edge of the mounting channel 7 in a free end portion that is spaced from the end wall 3 of the lighting trough B and is adapted, in the normal or fully raised position of the lighting trough, to extend into the wiring housing A through a slot 8 in the bottom thereof. The free, resilient upper end portion of the clip C is offset laterally towards the end wall of the lighting trough B to provide a hook 9 adapted to seat on the bottom of said trough adjacent to the slot 8 therein; and said clip terminates above said hook in an upwardly curved upper end portion 10 which forms a cam surface above said hook for guiding the clip into said slot when said cam surface is forced upwardly into engagement with the outer hook engaging edge thereof. As shown in the drawing, the hook portion 9 of the spring clip C is adapted to be manually disengaged from the edge of the slot 8 in the housing A preferably by means of a finger piece 11 that is fixed at its upper end to the free upper end portion of said clip just below said hook and extends downwardly alongside the fixed lower end portion of said clip at a diverging angle thereto.

In the normal or fully raised position of the lighting trough B, the shoulder or hook portion 9 of the spring clip C snaps over the edge of the slot 8 in the wiring housing A and seats on the bottom thereof and thus serves to securely fasten said lighting trough in such position. When, however, the hook portion 9 of the clip C is bent clear of the edge of the slot 8 in the bottom of the wiring housing A, by pressing inwardly on the finger piece 11 fixed to said clip, the free up-

per end portion of said clip may be drawn downwardly through said slot and the lighting trough lowered away from said housing.

As shown in the drawing, the flexible supporting element or chain 6 has one end anchored, as at 12, to the underside of the wiring housing A, while its other end is anchored in a hole 13 provided therefor in one side wall of the mounting channel 7 for the spring clip C; whereby said chain is adapted to suspend the lighting trough B from said wiring housing upon release of the spring clip C therefrom. The suspension chain 6 is made long enough to support the lighting trough B far enough below the wiring housing A to permit access to be had to the fixture for inspection, cleaning and for removal and replacement of the lamps, a bight or loop being formed in said chain in the normal or fully raised position of said lighting trough.

As shown in the drawing, the louvered bottom 4 of the trough B includes a series of longitudinal and cross louver plates 14 and 15, respectively; and the longitudinal louver plates have laterally bent end flanges 14a that extend into supporting slots 16 provided therefor in the side walls of the clip mounting channel 7.

The hereinbefore described construction has several important advantages. It permits the lighting trough B to be quickly and easily locked to the wiring housing A merely by pushing the lighting trough upwardly around said housing until the cam shaped end of the spring clip C is guided through the slot 8 and the hook 9 snaps over the edge of said slot. When it is desired to lower the lighting trough B for purposes of inspection, cleaning or lamp removal, the operator inserts a finger or thumb into said trough through the louvered bottom 4 thereof and presses the free lower end of the finger or thumb piece 11 of the clip C against the fixed lower end of the latter, thereby swinging the hook 9 on the free upper end of said clip clear of the edge of the slot 8 and permitting said clip to be withdrawn from said slot and the trough to drop downwardly until the suspension chain 6 becomes taut and thus suspends the trough in lowered position from the housing A. The lighting trough B may be removed entirely from the fixture by disengaging the suspension chains from the wiring housing A. The above double or two level suspension device may be quickly and easily incorporated in a conventional fluorescent lighting fixture without material alteration thereof.

What I claim is:

1. An overhead lighting fixture comprising a fixed upper lamp supporting housing, a lower lighting trough and means for securing said lighting trough from said housing in either of two vertically spaced positions, said means comprising a spring clip fixed to said trough and adapted for snap engagement with the bottom of said housing for securing said trough to said housing in the uppermost position of said trough and a flexible member fixed at one end to said housing and at the other end to said trough for suspending said trough from said housing in the lowermost position of said trough upon disengagement of said clip from said housing, said housing having an opening in the bottom thereof through which access may be had to said clip for disengaging the latter from said housing.

2. An overhead lighting fixture comprising a fixed upper lamp supporting housing, a lower lighting trough and means for securing said lighting trough from said housing in raised and lowered positions, said means comprising a spring clip fixed to said trough and adapted for snap engagement with said housing for securing said trough thereto in raised position and a flexible member for suspending said trough from said housing in the lowermost position of said trough, said clip having a finger portion and said trough having a louvered bottom through which access may be had to said finger portion for disengaging said clip from said housing.

3. An overhead lighting fixture comprising a fixed upper lamp supporting housing having a slot through the bottom thereof, a lower lighting trough and means for suspending said trough from said housing in either of two vertically spaced positions, said means comprising a spring clip fixed at its lower end to said trough and having a free upper end portion adapted to be inserted upwardly through said slot, said portion of said clip having a hook portion adapted to snap over the edge of said slot to thereby suspend said trough from said housing in raised position and a flexible member connecting said trough to said housing for suspending said trough therefrom in lowered position upon release of said clip from said opening, said clip terminating above the hook portion thereof in a cam surface adapted to guide said hook portion into said slot, and said clip having a finger piece rigid with the free upper end portion thereof and extending downwardly at a diverging angle thereto towards the fixed lower end thereof, said clip being located in said trough and said trough having an opening in the bottom thereof through which access may be had to said finger piece.

4. An overhead lighting fixture comprising a fixed upper lamp supporting housing having a slot through the bottom thereof near each end thereof, a lower lighting trough, an upright channel member located in said trough and permanently secured to each end thereof, a clip rigidly fixed at its lower end to said channel member and having a free upper end portion extending thereabove and adapted to be inserted upwardly through said slot, said portion of said clip having a hook portion adapted to snap over the edge of said slot to thereby suspend said trough from said housing in raised position, said clip terminating above said hook portion in a cam surface adapted to guide said hook portion into said slot, said clip having a finger portion rigid with the free upper end thereof and terminating in a free lower end portion located opposite to but spaced from the fixed lower end of said clip, said trough having a louvered bottom through which access may be had to said finger portion of said clip, and a chain fixed at one end to said channel member and at the other end to the bottom of said housing for suspending said trough therefrom at a lower elevation, said louvered bottom of said trough including a series of vertically disposed spaced apart louver plates, and said channel member having a slot extending horizontally therethrough adapted to receive and support one of said plates.

DAVID J. BILLER.