Fig. 1.

Fig. 2.

Fig. 3.

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This invention relates to lighting fixtures and particularly to improvements in fixtures employed for the illumination of narrow spaces such as the stack bins in libraries or other passageways where illumination of two closely spaced wall-like areas is desired.

In libraries, overhead lights are usually employed to direct light onto the books stored in vertically disposed bins or shelves. The bins are arranged in opposed relation so that a narrow passageway provides access to two tiers. Usually the lamps create a glare that is annoying to persons walking through the passageway and irritating to the eyes of anyone engaged in working in the stacks for an extended period of time.

An object of the present invention is to provide a lighting fixture for use in stack bins or similar narrow areas which, when suspended overhead in a central position, will adequately illuminate opposed bin spaces without producing a glare annoying to a person walking through the areas.

A further object of the invention is the provision of a fixture of the character described constructed in a simple and inexpensive manner that is easy to assemble, maintain and repair.

Further and more specific objects and advantages of the invention are made apparent in the following specification wherein reference is made to the accompanying drawings illustrating a preferred form of the invention.

In the drawings

Fig. 1 is a diagrammatic illustration showing the manner in which the lighting fixture of the present invention is associated with stack bins.

Fig. 2 is a fragmentary perspective view illustrating a portion of the lighting fixture.

Fig. 3 is a view in elevation of a baffle which forms part of the lighting fixture shown in Fig. 2.

Fig. 4 is a fragmentary perspective view illustrating a part of a baffle supporting member.

Fig. 5 is a view in side elevation of the lighting fixture.

Fig. 6 is a bottom plan view of the same lighting fixture.

Fig. 7 is a sectional view taken on the line VII—VII of Fig. 5.

Fig. 8 is a sectional view taken on the line VIII—VIII of Fig. 5, and

Fig. 9 is a perspective view of an end plate which forms a part of the lighting fixture.

In Fig. 1 of the drawings, a lighting fixture illustrated at 10 is shown as supported centrally of the ceiling between opposed tiers 11 of bins or shelves. The arrows in the areaway between the tiers 11 indicate the direction of light rays emanating from the fixture 10.

In Figs. 2, 5 and 6 of the drawings, the lighting fixture 10 is shown as including an elongated luminous tube 12 of conventional form supported on the usual connecting brackets 13 which depend from the conventional service box 14 adapted to contain any necessary electrical fittings not shown. A reflector 16 designed to reflect light downwardly and outwardly from the tube 12 is, as best shown in Fig. 7, secured as by screws 16 to the box 14 just above the luminous tube 12. In order to confine the light radiating from the tube 12 to the desired direction and to prohibit it from being radiated longitudinally of the tube so that it would produce a glare when the fixture was viewed by persons walking through the areaway, a plurality of baffles 18, each of which is illustrated in detail in Fig. 3, are arranged at spaced intervals throughout substantially the entire length of the luminous tube. These baffles 18 are of sheet-metal or similar material and have a U-shaped outline to enable them to embrace the tube. They are carried and held in their spaced relationship by a support 19 having, as shown in Fig. 4, an inverted V-shaped cross-section and provided with spaced slots as indicated at 20.

Each of the baffles 18 has a notch 21 formed centrally of its lower edge and a perforation 22 also centrally disposed directly above the notch 21. In assembly, the notches 21 of the baffles embrace the support 19 and the slots 23 in the support receive those portions of the baffles directly above the notches 21 so that the perforations 22 are aligned within the apex of the V-shaped support 19. A single elongated rod 23 passing through all of the perforations 22 retains the baffles in assembled position on the support. The inverted V-shaped support 19, due to its shape and relationship to the tube 12, does not interfere with radiation of light from the tube onto the stack bins but tends to cast a shadow only upon the floor between stacks where intense illumination is not required.

End plates 25 extend downwardly one from each end of the box 14 and may be secured to the box as by rivets shown at 25 in Fig. 8. These end plates serve as light baffles at the extreme ends of the fixture and also serve to support brackets 27 (see Figs. 5, 6 and 8 and 9) which in turn receive and retain the opposite ends of the support 19.

The brackets 27 comprise, as shown in Figs. 8 and 9, a flat plate portion 25 secured as by spot welding or the like to the end plates 25 and having outwardly projecting side flanges 29 angularly disposed with relation to each other to receive between them the inverted V-shaped support 18. At their lower ends, the flanges 29 are bent inwardly to provide lips shown at 30 to underlie the bottom edges of the support 19 adjacent its ends. The support 19 is sufficiently resilient to permit of its being slightly compressed so that it may readily be inserted or removed from its
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position in the brackets 27. Consequently, when it becomes necessary to clean or replace the luminous tube 12, the support 19 is grasped adjacent both ends and compressed slightly until its bottom edges clear the lips 30 and the support together with all of the baffles 18 assembled with it can be lowered away from the fixture. The unit which includes the support and baffles may be replaced simply by lifting it upwardly toward the fixture and pressing it adjacent its ends until it snaps into position within the brackets 27.

The lighting fixture herein described is of inexpensive manufacture in that it may be made of simple sheet-metal stampings. It performs the function of directing light toward the desired areas and it is easily maintained because of the simplicity with which it may be assembled and disassembled.

I claim:

1. In a lighting fixture in combination, an elongated support, an elongated luminous tube mounted on the support to extend along the underside thereof, end plates extending downwardly from the ends of said support, an elongated member of inverted V-shape form extending longitudinally below the luminous tube having at intervals along the same vertical slots extending inwardly from the apex thereof, means on the end plates at the inner side thereof for detachably connecting said member at its ends to said end plates, and a plurality of transverse baffle plates supported by said member, each of said baffle plates being provided with a notch in the lower part thereof to embrace said member and each baffle plate having an aperture therein above said notch, the baffle plates fitting into the slots of said member with opposite side edges of their notches fitting upon opposite sides of said member, and a rod extending longitudinally through the apex portion of said member and through the apertures in the baffle plates, said rod fastening the baffle plates to said member.

2. In a lighting fixture in combination, an elongated support, an elongated luminous tube mounted on the support to extend along the underside thereof, end plates extending downwardly from the ends of the support, an elongated member of inverted V-shaped form extending longitudinally below the luminous tube, a plurality of transverse baffle plates supported at intervals on said member, and means on the end plates at the inner side thereof for detachably connecting said member at its ends to the end plates, said means including a pair of oppositely disposed inwardly projecting seat portions, said baffle plate supporting member being resilient and adapted to be engaged with said spaced seat portions by springing the lower end portions of said member inwardly toward each other and then permitting said lower portions to expand outwardly.

3. In a lighting fixture in combination, an elongated support, an elongated luminous tube mounted on the support to extend along the underside thereof, end plates extending downwardly from the ends of the support, an elongated member of inverted V-shape form extending longitudinally below the luminous tube, a plurality of transverse baffle plates supported at intervals on said member, and means on the end plates at the inner side thereof for detachably connecting said member at its ends to the end plates, said means including a pair of oppositely spaced outwardly projecting flanges extending at an upward inclination toward each other, said baffle plate supporting member being resilient and adapted to be engaged with said spaced flanges by springing the lower end portions of said member inwardly toward each other and then permitting said lower portions to expand outwardly.

4. In a lighting fixture in combination, an elongated support, an elongated luminous tube mounted on the support to extend along the underside thereof, end plates extending downwardly from the ends of the support, an elongated member thereof for detachably connecting said member at its ends to the end plates, said means including a pair of oppositely spaced outwardly projecting flanges extending at an upward inclination toward each other, said flanges each having an inwardly turned lip portion at its lower end, said baffle plate supporting member being resilient and adapted to be engaged with said spaced flanges by springing the lower end portions of said member inwardly toward each other and then permitting said lower portions to expand outwardly.

5. In a lighting fixture in combination, an elongated support, an elongated luminous tube mounted on the support to extend along the underside thereof, end plates extending downwardly from the ends of said support, an elongated member of V-shape form extending longitudinally below the luminous tube having at intervals along the same vertical slots extending inwardly from the apex thereof, a plurality of transverse baffle plates supported by said member, each of said baffle plates being provided with a notch in the lower part thereof to embrace said member, and each baffle plate having an aperture therein above said notch, the baffle plates fitting into the slots of said member with opposite side edges of their notches fitting upon opposite sides of said member, a rod extending longitudinally through the apex portion of said member and through the apertures in the baffle plate, said rod fastening the baffle plates to said member, and means on the end plates at the inner side thereof for detachably connecting said member at its ends to the end plates, said means including spaced oppositely disposed inwardly projecting seat portions, said member being resilient and adapted to be engaged with said spaced seat portions by springing the lower end portions of said member inwardly toward each other and then permitting said lower portions to expand outwardly.

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