Oct. 3, 1950 A. O. LOCKE 2,524,353

LIGHTING FIXTURE

Filed Sept. 13, 1947 2 Sheets-Sheet 1

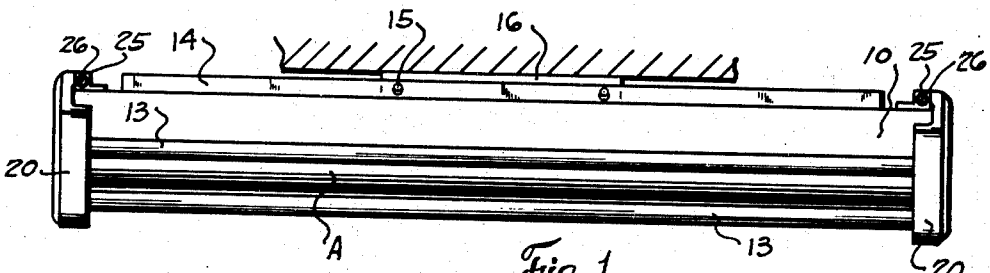

Fig. 1

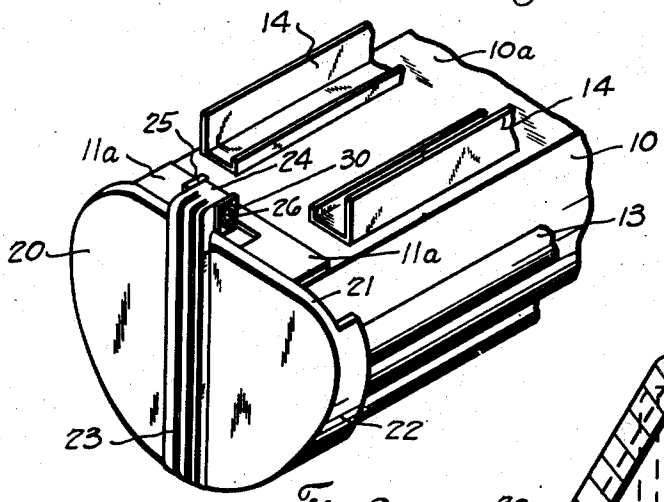

Fig. 2

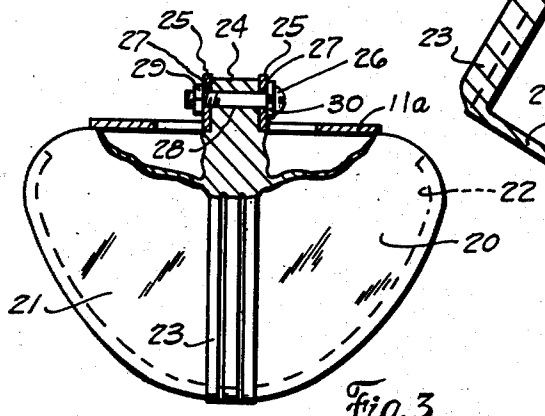

Fig. 3

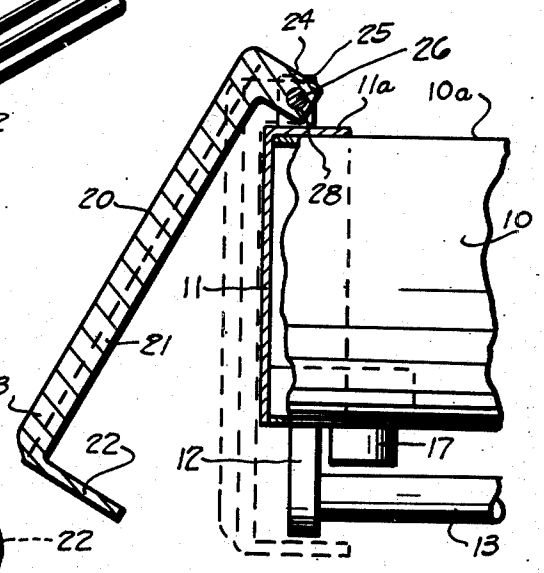

Fig. 4

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LIGHTING FIXTURE

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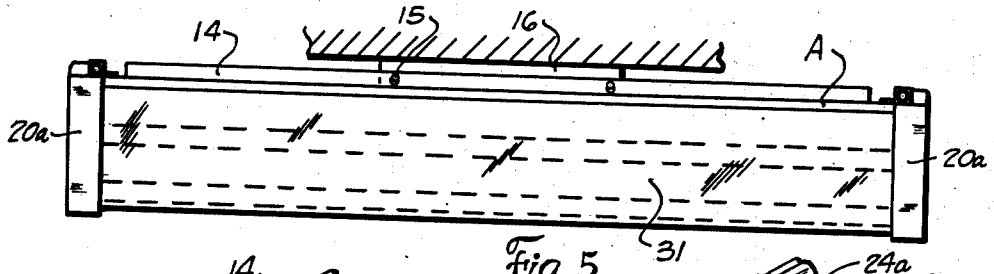

Fig. 5

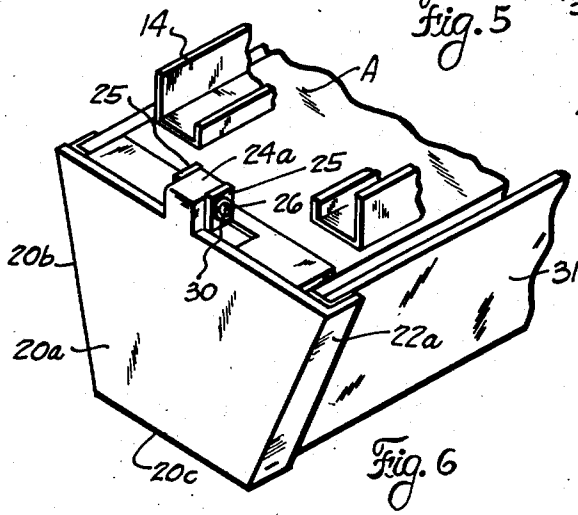

Fig. 6

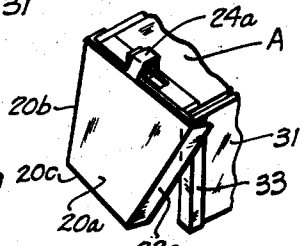

Fig. 11

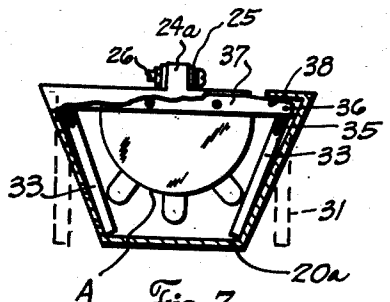

Fig. 7

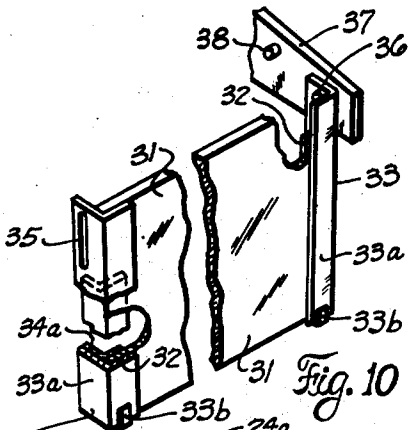

Fig. 10

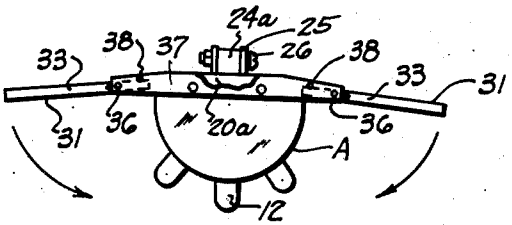

Fig. 8

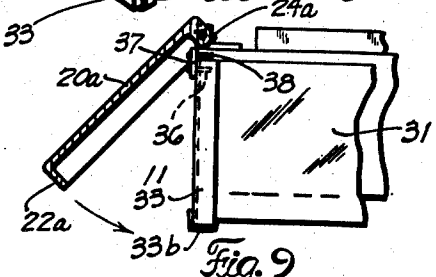

Fig. 9

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LIGHTING FIXTURE

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Application September 13, 1947, Serial No. 773,745

5 Claims. (Cl. 240—51.11)

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This invention relates to new and useful improvements in lighting fixtures.

The invention relates particularly to fluorescent light fixtures which, as is well known, usually comprise an elongate body portion having a reflecting surface adjacent which elongate tubular lamps are mounted. The tubular lamps have their ends supported in sockets which are suitably mounted at the opposite ends of the body of the fixture. It is the usual practice to cover the ends of the fixture with end caps or members which enclose and conceal the sockets and which add a decorative touch to the fixture. These end caps or members are ordinarily secured in position by screws, clips or other removable mounting means which entail removal of the entire cap member whenever access to the sockets or other parts at the end of the fixture unit is desired.

Further, many fluorescent fixtures employ glass panels in conjunction therewith which usually extend the entire length of the fixture on the sides and sometimes along the bottom thereof. These glass panels may be employed for the purpose of shielding or diffusing the light or may be used only for their decorative value. Ordinarily, the panels are separate from the fixture and are arranged to be demountably secured in position, whereby access to the tubular lamps behind the panels can be had only by completely detaching or removing said panels from the fixture.

It is one object of the present invention to provide an improved fluorescent lighting fixture having its end members or caps pivotally mounted on the fixture whereby said members may be quickly and easily swung from their normal position enclosing the ends of the fixture to permit free access to the lamp sockets, fixture starters or other mechanism without the necessity of entirely detaching or removing the caps from said fixture.

An important object of the invention is to provide an improved lighting fixture wherein the end caps or members are so mounted that said members will automatically remain in any outward position to which they are swung, whereby the necessity of manually holding said members in their outer positions is obviated.

Another object of the invention is to provide an improved fixture, of the character described, wherein each end cap or member is formed with a central pivot lug which is frictionally confined and pivoted between elements formed on the fixture, whereby the frictional engagement of

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said elements with the pivot lug functions to maintain the member in any position to which it may be swung; the particular arrangement being such that swinging or rotative movement of the lug between said element will not loosen the pivot bolt on which the member is mounted so that the necessary frictional engagement for holding the member in its various positions is maintained at all times.

A particular object of the invention is to provide a fluorescent lighting fixture having the improved end caps or members, of the character described, and in addition having glass panels mounted on the sides of said fixture, with said end caps co-acting with said panels to hold the latter in position on the fixture.

A further object of the invention is to provide an improved fixture wherein elongate glass panels extend longitudinally on each side of the fixture in a position overlying the tubular lamps of said fixture; each panel being pivoted to the fixture at the upper portion of each end of the panel and normally hanging free and being arranged to have their ends engaged and confined by the pivotally mounted end caps of the fixture, whereby so long as the end caps are in a normal position covering the ends of the fixture, the glass panels are maintained in proper position overlying the lamps of said fixture; outward swinging of the end caps releasing the panels to permit said panels to be manually swung on their pivots to a position which allows the fixture lamps to be readily accessible without the necessity of entirely removing said panels.

Still another object of the invention is to provide an improved fixture, of the character described, wherein the glass panels are so mounted with respect to the end caps that swinging of the end caps into position covering the fixture ends automatically swing the panels into their proper position on the fixture whereby said panels are returned to and confined in such proper position without the necessity of manually swinging said panels independently of the end caps.

A still further object of the invention is to provide an improved fixture wherein each glass panel is pivotally mounted by means of a pin and slot connection and also wherein means is provided for co-acting with the panel when it is swung outwardly to hold said panel in its extended position, whereby the panel need not be manually held in such extended position.

The construction designed to carry out the invention will be hereinafter described together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawing, wherein an example of the invention is shown, and wherein:

Figure 1 is an elevation of a fixture, constructed in accordance with the invention, and illustrating the improved end members,

Figure 2 is an enlarged isometric view of one of the end members,

Figure 3 is an enlarged elevation of the end member with a portion thereof broken away to show the pivotal mounting thereof,

Figure 4 is an enlarged vertical sectional view of the end portion of the fixture,

Figure 5 is a view, similar to Figure 1, and illustrates glass panels mounted on the fixture,

Figure 6 is an enlarged, isometric view of the end portion of the fixture shown in Figure 5,

Figure 7 is an end view of the fixture with a portion of the end member broken away to illustrate the glass panels confined in their proper position,

Figure 8 is a similar view, with the glass panels swung to an extended position,

Figure 9 is an elevation of the end portion of the fixture with the end member swung outwardly and shown in section,

Figure 10 is an isometric view, illustrating the mounting of the glass panel, and

Figure 11 is a sectional detail showing the co-action between the end member and glass panel.

In the drawings, the letter A designates a fluorescent lighting fixture which comprises the usual hollow body or shell 10 which has a generally semi-circular shape in cross section, with its upper surface 10*a* substantially flat. Flanged closure plates 11 are secured to the ends of the body or shell and have radially disposed lamp sockets 12 suitably fastened therein. Tubular lamps 13 have their ends engaged within the sockets and extend longitudinally on the outer surface of the fixture in the usual manner. The fixture may be mounted on the ceiling or other supporting surface in any desired manner, but as illustrated, the body portion or shell 10 is formed with longitudinal channel bars 14 which are suitably secured to the upper surface 10*a*. The channel bars are connected by screws 15 or otherwise to a hanger plate 16 but it is understood that the particular mounting of the fixture is subject to variation.

The closure plates or elements 11 which are secured to the ends of the body or shell 10 of the fixture have the electrical sockets 12 secured thereto and these plates, as well as the socket members are clearly visible from the end of the fixture. In order to cover the fixture end and to enclose the sockets 12 so as to give the fixture A a decorative appearance, it is the general practice to cover the end portions with end members or caps. Ordinarily, these caps are mounted on the fixture by means of screws, clips or other means which make the end caps wholly detachable and removable from the fixture. The use of end caps which may be entirely removed from the fixture presents certain disadvantages since the entire end cap must be detached in order to gain access to the sockets 12 or to the starter 17 (Figure 4) of the fixture which may be accessible from the end thereof.

In carrying out the present invention, end caps or members 20 are provided and are mounted at each end of the fixture as is clearly shown

in Figure 1. Since each end cap 20 is identical in construction, it is believed that a description of one will suffice. Each cap member comprises a relatively flat plate 21 which has a shape generally conforming to the cross sectional shape of the fixture. The plate is provided with an inwardly directed flange 22 which extends around the sides and bottom of the plate 21 and when the cap or member 20 is in a position covering the end of the fixture, the flange 22 encloses the sockets 12 and end portions of the tubular lamps 13.

A central rib 23 is preferably made integral with the plate 21 and is provided primarily for decorative purposes. The rib is formed with a pivot lug 24 at its upper end, this lug being disposed adjacent the central portion of the upper end of the plate 21. The lug 24 is adapted to be disposed between upstanding metallic projections or ears 25 which ears are preferably formed by cutting out a section of the inwardly directed flange 11*a* of the closure 11 and then bending the material upwardly, as is clearly shown in Figure 2. The metallic ears 25 have a certain inherent resiliency and the transverse width of the pivot lug 24 is such that said lug fits snugly between said ears. In order to provide a frictional engagement between the ears and said lug, a pivot bolt 26 extends through openings 27 in the ears and a transverse opening 28 in the lug. The outer end of the pivot screw or bolt 26 receives a nut 29 and a suitable split washer 30 is interposed between the head of the bolt 26 and the adjacent ear 25.

It will be evident that when the bolt 26 is tightened, the ears 25 are urged into a close frictional engagement with the pivot lug 24 and such frictional engagement is maintained because of the split washer 30. With this arrangement, each end member or cap is pivotally mounted on the end of the body or shell 10 of the fixture and when swung inwardly to the position shown in dotted lines in Figure 4, covers the end of the fixture and its flange 22 encloses the sockets 12 and end portions of the tubular lamps 13 to hide the same. When it is desired to gain access to the lamp sockets or to the starters 17 if the starters are accessible from the end, it is only necessary to manually swing the cap member 20 outwardly to the position shown in full lines in Figure 4. Because of the particular mounting of the cap, whereby the upright ears 25 frictionally engage the pivot lug 24, the cap will be held or maintained in any position to which it is swung. Because of the provision of the upright ears, swinging of the cap 20 causes a rotation of the pivot lug around its supporting pivot bolt 26 and therefore there is no tendency for said bolt to become loosened by swinging of the cap. The frictional engagement of the ears 25 with the lug 24 is sufficient to support the weight of the cap 20 and for this reason, the cap will be maintained or held in any position to which it is swung, thereby obviating the necessity of manually holding the cap in its outer positions. It is noted that the split washer functions to constantly urge the ears into frictional engagement with the lug and therefore, any wear which might ordinarily tend to reduce the frictional contact is automatically compensated for. It is also noted that the pivot bolt could, if desired, be welded or otherwise permanently attached in position, rather than using the removable nut 29.

In many instances side panels, which are usual-

ly constructed of glass are mounted on fluorescent fixtures for the purpose of shielding or diffusing the light rays or for decorative purposes. It has been the practice in the past to mount these panels in such manner that they must be removed in order to permit replacement of the tubular lamps which they cover. The particular end member and its mounting arrangement, hereinbefore described, is especially adapted for co-acting with side panels to maintain said panels in position on the fixture and in Figures 5 to 10 an arrangement is shown wherein a modified form of end member or cap is combined with glass side panels mounted on the fixture.

As illustrated, the fixture A has end caps **20***a*, similar in construction to the end caps **20** mounted thereon by means of pivot lugs **24***a* and the upstanding ears **25** and pivot bolt **26**. The end caps **20***a* have a slightly different shape than the caps **20**, being provided with straight sides **20***b* and a straight bottom **20***c*. The sides and bottom are formed with an inwardly directed flange **22***a*. Each cap member **20***a* functions in the same manner as the caps **20** to cover the ends of the fixture and said caps **20***a* have the same feature of being held or maintained in any outward position to which they are swung.

Glass side panels **31** are mounted on each side of the fixture and said panels are identical in construction. As is clearly shown in Figure 10 each panel **31** has its vertical edge portions confined within a groove **32** of a channeled, angular retaining bar **33**. The bar may be formed by securing two angle bars **33***a* and **34***a* together with their lateral angles spaced from each other to form the groove or channel **32**. The inner angle bar **34***a* terminates short of the upper end of the outer bar **33***a* (Figure 10) and the bottom edge of the panel is supported upon straps **33***b* which span the lower end of each groove **32**.

The outer bar **33***a* of each retaining member **33** is provided or formed with an elongate slot **35** and this slot is adapted to receive a pivot screw **36** which is mounted in the end of a horizontal support **37**. As is shown in Figures 7 and 8 the support **37** is suitably fastened to the closure plate **11** of the body or shell **10** of the fixture. Thus, it will be seen that each glass panel **31** is pivotally suspended from the support **37** and normally hangs in a substantially vertical position. The supporting bar **37** is disposed immediately adjacent the inner surface of the end cap **20***a* and this locates the upper end of the retaining bar **33** contiguous to and inside the plane of the inwardly directed flange **22***a* of the end cap **20***a*. When the end cap is swung completely outwardly the upper portion of the flange **22***a* is swung clear of the upper end of the retaining members **33** whereby the glass panels may be swung outwardly and upwardly. However, when the side panels are hanging in a normally vertical position, the disposition of the upper ends of the members **33** with respect to the flange **22***a* of each end cap **20***a* allows the inward swinging of the end caps **20***a* to cause an engagement of the flanges **22***a* with the retaining members **33** of the panels, as shown in Figure 11. This results in said panels being swung inwardly into a position covering the tubular lamps and as shown in Figure 7.

When it is desired to gain access to the tubular lamps, it is only necessary to swing the end caps **20***a* outwardly and said caps will be automatically maintained in their outer position. The caps are swung outwardly a sufficient distance to allow the flange **22***a* thereof to clear the retaining members or bars **33** of the side panels **31**. When this is done, the side panels **31** will swing to a vertical position as illustrated in dotted lines in Figure 7. By grasping the lower end of each panel, the operator may swing said panel upwardly and due to the elongate slots **35** may then move said panels inwardly until the upper ends of the retaining members or bars **33** of each panel are engaged beneath supporting screws **38** which are mounted in the support **37**. Engagement of the upper ends of the channel bars **33** of each side panel with the screws **38**, as shown in Figure 8, causes the panels to be firmly supported in an extended position. The operator is then free to remove the tubular lamps or to do any other work necessary on the fixture. At this time, both the side panels **31**, as well as the end caps **20***a* are swung to an outward position and are automatically held in such position.

When the side panels are to be returned to their normal overlying position on the fixture, each panel is moved outwardly from beneath the screw **38** and is then permitted to swing downwardly to its substantially vertical position. The end caps are then swung inwardly and as explained, the co-action between the flanges **22***a* and the upper portions of the retaining bars **33** of the side panels, cause said side panels to be swung inwardly into their normal position confined within the flanges **22***a* of the end caps.

From the foregoing it will be evident that a fixture having side panels and end caps which are readily swung out of position to permit free access to the working parts of the fixture is provided. The arrangement permits both the end caps and the side panels to be maintained or held in their outer position without the necessity of manually holding the same in such position. Also the side panels, as well as the end caps are attached to the fixture so that they need never be completely removed therefrom to permit access to the various parts of said fixture.

The foregoing description of the invention is explanatory thereof and various changes in the size, shape and materials, as well as in the details of the illustrated construction may be made, within the scope of the appended claims, without departing from the spirit of the invention.

What I claim and desire to secure by Letters Patent is:

1. A lighting fixture including, an elongate main body having lamp sockets secured adjacent its ends, a plurality of tubular lamps extending longitudinally of the body and having their ends engaged within and supported by the sockets, a pair of panels disposed one on each side of the fixture and having their upper ends pivotally connected to the body, each panel being adapted to normally hang vertically from its pivotal point and being movable either inwardly from such vertical position to overlie the tubular lamps or outwardly from such vertical position to permit access to said lamps, end members pivotally mounted at each end of the body for covering said body and enclosing the sockets, and means on each end member for engaging the panels to confine said panels against outward swinging movement when the end members are in a normal position covering the ends of the body, said last named means coacting with the ends of the panels when said panels are in a vertical position to automatically effect inward swinging movement of said panels when the end members are swung inwardly to a position covering the ends of the body.

2. A lighting fixture including, an elongate main body having lamp sockets secured adjacent its ends, a plurality of tubular lamps extending longitudinally of the body and having their ends engaged within and supported by the sockets, a pair of panels disposed one on each side of the fixture and having their upper ends pivotally connected to the body, each panel being adapted to normally hang vertically from its pivotal point and being movable either inwardly from such vertical position to overlie the tubular lamps or outwardly from such vertical position to permit access to said lamps, end members pivotally mounted at each end of the body for covering said body and enclosing the sockets, an inwardly directed flange on each end member adapted to confine the end portions of the panels therein to maintain the same in an inner position overlying the tubular lamps, said flange also engaging and co-acting with the end portions of the panels when the latter are in a normal vertically hanging position to automatically swing said panels into an inner position upon swinging of the end members into a position covering the ends of the body.

3. A lighting fixture as set forth in claim 2, together with friction means forming part of the pivotal mounting of each end member for maintaining said member in any position to which it is swung.

4. A lighting fixture as set forth in claim 2, together with friction means forming part of the pivotal mounting of each end member for maintaining said member in any position to which it is swung, and means on the fixture coacting with each panel when the same is swung to the limits of its outer movement for holding said panel in such outward position.

5. A lighting fixture including, an elongate main body having lamp sockets secured adjacent its ends, a plurality of tubular lamps extending longitudinally of the body and having their ends engaged within and supported by the sockets, end members mounted on the end portions of the body for covering said end portions and for enclosing the sockets, each end member having a single pivot lug at its upper central portion with said lug having flat side surfaces, a pair of upstanding projections upset from the material of which the body is constructed and located on each end of the body between which the pivot lug of each end member is disposed, said projections having flat surfaces which engage the flat side surfaces of the pivot lug, and a pivot bolt extending through said projections and lug to pivotally mount each end member on said body, each pivot bolt being tightened to urge its respective projections into close frictional engagement with the lug between said projections, whereby each end member may be swung outwardly to uncover the end portion of the body and may be retained in the position to which it is swung by the frictional engagement of the projections with its pivot lug.

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