June 25, 1957 H. B. FLETCHER 2,797,312

FLUORESCENT LIGHTING FIXTURE

Filed May 12, 1954 2 Sheets-Sheet 1

FIG. 1

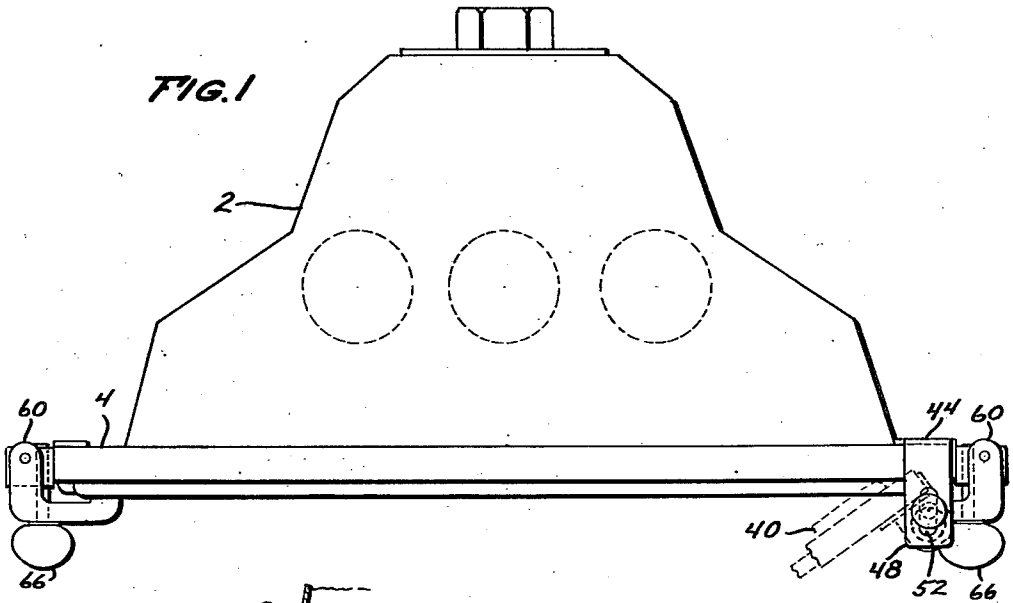


FIG. 2

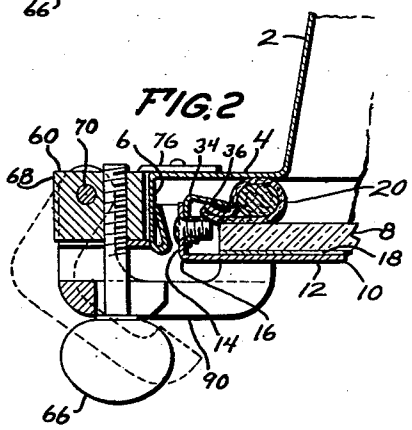


FIG. 3

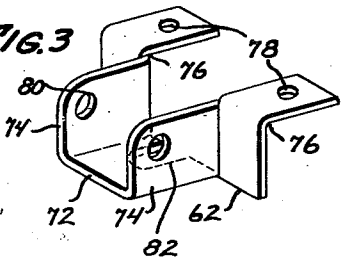


FIG. 4

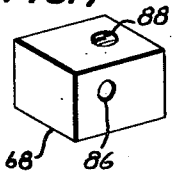


FIG. 5

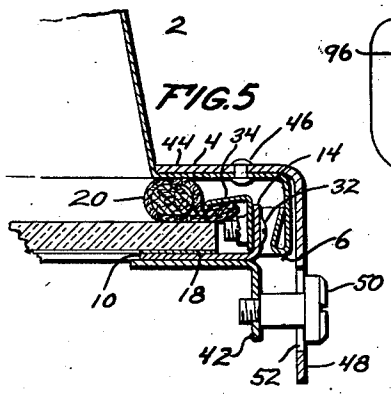


FIG. 6

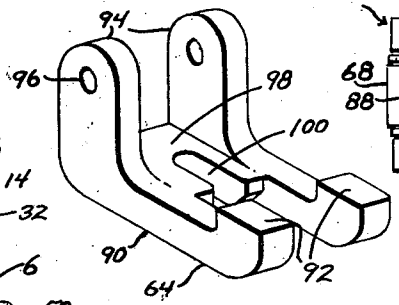
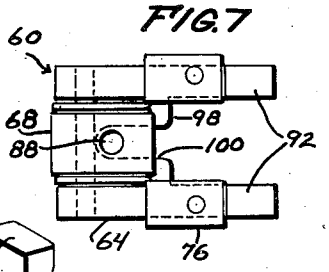


FIG. 7



INVENTOR
HARLAN B. FLETCHER
BY Hearn Smith
Porter & Chittick
ATTORNEYS

June 25, 1957 H. B. FLETCHER 2,797,312

FLUORESCENT LIGHTING FIXTURE

Filed May 12, 1954 2 Sheets-Sheet 2

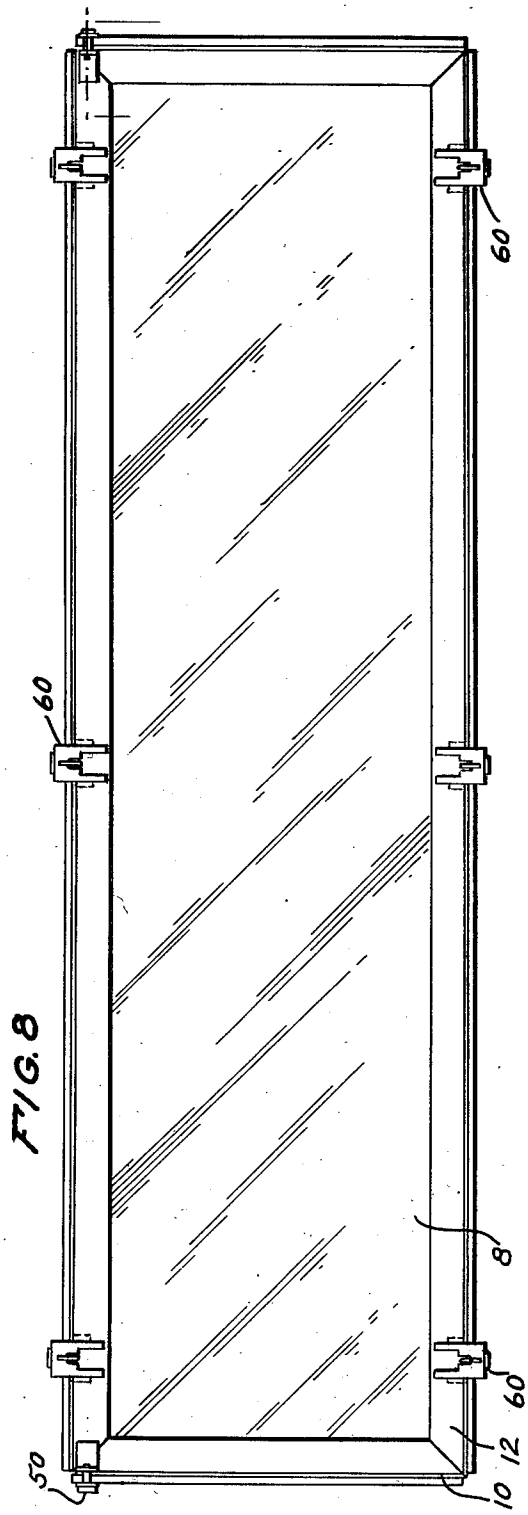


FIG. 8

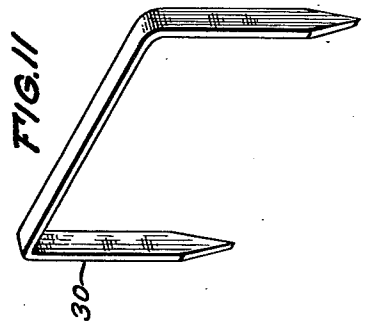


FIG. 11

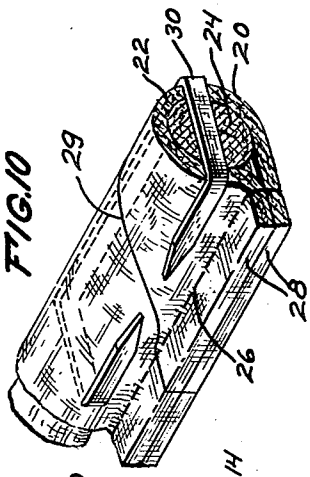


FIG. 10

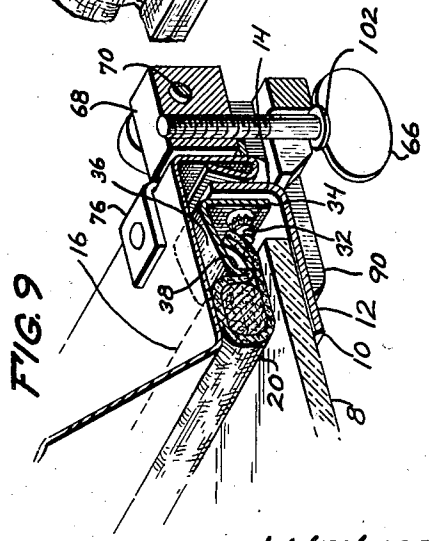


FIG. 9

INVENTOR
HARLAN B. FLETCHER
BY Heard Smith
Porter & Chittick
ATTORNEYS

United States Patent Office 2,797,312 Patented June 25, 1957

2,797,312

FLUORESCENT LIGHTING FIXTURE

Harlan B. Fletcher, Bryantville, Mass., assignor to Wheeler Reflector Company, Boston, Mass., a corporation of Massachusetts

Application May 12, 1954, Serial No. 429,155

3 Claims. (Cl. 240—41.55)

This invention relates to a fluorescent lighting fixture and especially to the closure member for closing the open bottom of the housing in which the lamps, ballast, etc., are located.

An object of the invention is to provide a novel removable closure member which, when closed, is dust tight and vapor tight, and which, when opened to provide access to the lamps, is suspended from one edge in a hanging position from which it can be readily swung into its closed position.

Another object of the invention is to provide novel means for locking or clamping the closure in its closed position.

Other objects and many of the attendant advantages of this invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings, wherein:

Fig. 1 is a general view of a fluorescent fixture having my improvements embodied therein;

Fig. 2 is a vertical sectional view through one edge of the housing and closure member, illustrating the means by which the closure member is detachably clamped to the housing;

Fig. 3 is an enlarged perspective view of a bracket forming part of the clamping means illustrated in Fig. 2;

Fig. 4 is an enlarged perspective view of another element of the clamping means;

Fig. 5 is a vertical sectional view through the opposite edge of the housing and closure member at right angles to the view of Fig. 2, illustrating how the closure member is pivotally secured to the housing;

Fig. 6 is a perspective view of another element of the clamping means;

Fig. 7 is a plan view of the clamping means of Fig. 2 removed from the housing;

Fig. 8 is a bottom view of the fixture of Fig. 1;

Fig. 9 is a sectional view through the same edge of the housing and closure member as Fig. 2, but as seen in perspective from the other side;

Fig. 10 illustrates the construction of the resilient sealing member held between the housing and closure member; and,

Fig. 11 illustrates a metallic staple employed in constructing the resilient sealing member of Fig. 10.

In the drawings, 2 illustrates the housing of a fluorescent lighting fixture in which is housed the usual ballast and fluorescent lamps. The housing is formed at its lower edge with an outwardly directed flange 4 which terminates in a downwardly directed skirt 6.

The closure member for the open bottom of the housing includes a pane 8 of glass, or other suitable transparent material, which is carried by a frame 10 having a horizontal body portion 12 on which the edge of pane 8 rests and also having a plurality of upturned portions 14 (Fig. 9) selectively spaced along the edge 16 of body portion 12. Alternatively the several upturned portions 14 may be replaced by an upturned rim extending completely around the frame at edge 16 just as skirt 6 extends around the housing 2. Preferably a suitable rubber packing 18 is interposed between pane 8 and body portion 12 and secured to both elements by a suitable adhesive or cement.

The closure member also includes a gasket 20 which as seen in Fig. 10 comprises a sheet 22 of rubber or other suitable compressible material wrapped around an elongated rounded piece 24 of similar compressible material and secured to itself by suitable stitching 26 to form lips 28.

Gasket 20 rests upon the edge of a pane 8, as shown in Figs. 2, 5, and 9, and is preferably one continuous piece extending around the edge of pane 8. The ends of the gasket are brought together to form a miter joint 29, as shown in Fig. 10, and the ends of a metal staple 30 are forced through the gasket on either side of the joint to keep the ends together in sealed relationship. The ends of the staple are bent as shown to keep it in place.

Removably secured by means of screws 32 to each upturned portion 14 of frame 10 are gasket-retaining elements 34 having a sloping inwardly extending portion 36 provided with a downwardly extending edge 38. Elements 34 are so constructed that when mounted, as shown in Figs. 2, 5, and 9, their downwardly extending edges 38 pinch lips 28 of gasket 20 against pane 8, thereby holding the gasket in place when the closure member is unclamped and allowed to drop open, as shown by the dotted lines 40 in Fig. 1.

Frame 10 of the closure member is pivotally connected to housing 2 by means of L-shaped angle members 42 cooperating with brackets 44. An angle member 42 depends from body portion 12 of frame 10 at each of the shorter sides of the frame adjacent one of the longer sides. Brackets 44 are secured to the housing by rivets 46 and are so positioned as to have their downwardly extending arms 48 in alinement with the depending portions of angle members 42. Each of the depending portions of angle members 42 is provided with a tapped hole for receiving the threaded end of screw 50. Screws 50 are slidably carried in slots 52 of arms 48 of brackets 44. By this arrangement frame 10 can be pivoted about the housing on screws 50 and at its pivoted side can be raised or lowered relative to the housing a distance equal to the permissible travel of screws 50 lengthwise of slots 52.

The closure member is clamped to the housing by means of a plurality of clamping devices 60, three such clamping devices being shown at each longitudinal edge of the housing in Fig. 8.

Each clamping device comprises a clamping bracket 62, a clamping element 64, a screw 66, a perforated block 68 for holding screw 66, and a pin 70. Clamping bracket 62 includes a rectangular channel portion formed from base 72 and sides 74. Integral with sides 74 at their rear vertical edges are angle members 76 each provided with holes 78. Sides 74 are also provided with holes 80 and base 72 has a slot 82 shown in dotted lines in Fig. 3. Bracket 62 is secured by rivets 84 passing through holes 78 to the flange 4 of the housing. When so secured the channel portion of the bracket is on the outside of skirt 6, as illustrated in Fig. 2.

Perforated block 68 seats within the channel portion of bracket 62. Block 68 has first hole 86 extending therethrough for receiving pin 70 that passes through holes 80 in sides 74 of the bracket member. Pin 70 maintains block 68 within the channel portion of the bracket. Block 68 has a second hole 88 at right angles to hole 86. Hole 88 is tapped to receive and hold the end of screw 66. The bracket 62 and block 68 may be regarded as one clamping element of the clamping device which is stationarily mounted on the housing or hood 2, the other clamping element being the part 64 above referred to and which is the movable element of the clamping device.

Clamping element **64** is also secured to bracket **62** by pin **70**. However, whereas block **68** is substantially nonrotatable relative the bracket, clamping element **64** is pivoted about pin **70**, as shown in dotted lines in Fig. 2.

Clamping element **64** comprises a pair of arms **90** each having at one end a raised clamping surface **92** and at the other end a pair of ears **94**. Ears **94** are each provided with holes **96** for receiving pin **70**. Arms **90** are joined to each other at the ends carrying ears **94** by a connecting portion **98** having a slot **100**.

Figs. 2, 7 and 9 illustrate the clamping means as assembled. Block **68** is seated within the channel defined by base **72** and sides **74** and ears **94** are positioned outside of sides **74**, being held in this position by **70** as described above. Screw **66** is held in hole **88** of block **68**, passing through slot **82** of base **72** of bracket **62**. Screw **66** also passes through slot **100** when clamping element **64** is positioned with its arms **90** substantially parallel to flange **4** of the housing. Screw **66** is provided with a collar **102** that is wider than slot **100** and which engages the under surface of connecting portion **98** of clamping element **64**, when the latter is positioned with its arms **90** parallel to flange **4**. When so engaged clamping element **64** is no longer free to pivot about pin **70**. Upon loosening of screw **66**, clamping element **64** is free to pivot to its open inoperative position shown in dotted lines in Fig. 2.

Raised clamping surfaces **92** engage frame **10** of the closure member and force it toward flange **4** when screw **66** is caused to tightly engage clamping element **64**. As a result gasket **20** is compressed between pane **8** and flange **4**, sealing the interior of the fixture from dust and moisture.

With this construction it is readily seen that when the clamps are all released in order to open the closure member, the latter will be supported by screws **50** and will hang from its pivoted edge, as shown in dotted lines in Fig. 1.

The closure member thus remains hingedly connected to the housing while it is open and while any work is done inside of said housing such as replacing the fluorescent tubes.

When it is desired to again close the housing, the closure member is again swung into its closed position, the pivoted clamping elements **64** are each swung into their operative clamping positions, and clamping screws **66** manipulated to clamp the closure member firmly against flange **4** of the housing. The pivoted end of the closure member carrying screws **50** is permitted by slots **52** to be moved against flange **4** to render the housing tightly sealed by gasket **20**.

Obviously many modifications and variations of the present invention are possible in the light of the above teachings. Therefore it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts specifically described and illustrated and that within the scope of the appended claims it may be practiced otherwise than as specifically described or illustrated.

I claim:

1. A lighting fixture comprising a hood member open at the bottom and adapted to house a lighting unit, said hood member having a flat closure-engaging face, a closure member for closing the open bottom of said hood member, said closure member comprising a body of transparent material and a frame surrounding and supporting said transparent body, means pivotally connecting the closure member to the hood member, means clamping the closure member against the flat closure-engaging face of the hood member, a gasket element between the transparent body of the closure member and said flat face of the hood member, said gasket element comprising an elongated resilient core, an envelope enclosing the core and having its two edge portions stitched together by a line of stitching parallel and closely adjacent to the core, said edge portions extending outwardly beyond the line of stitching to provide an elongated lip which extends throughout the length of the core, gasket retaining means mounted on the frame of the closure member and having clamping portions engaging said lip outside of the line of stitching and clamping the gasket to the transparent body of the closure member.

2. A lighting fixture as defined in claim 1 in which the gasket retaining means comprises angle shaped members, and means securing one leg of each angle shaped member to the frame of the closure member with the other leg of the angle member engaging the lip of the gasket and clamping it against the transparent body of the closure member.

3. A lighting fixture comprising a hood member open at the bottom and adapted to house a lighting unit, said hood member having a flat closure-engaging face, a closure member for closing the open bottom of the hood member, a plurality of clamping devices for clamping the closure member to said closure-engaging face, each clamping device including a stationary clamping element secured to the hood, and a cooperating pivotally mounted clamping element, said stationary clamping element including a clamping bracket which is secured to the outer edge portion of the hood member and has a channel shaped portion extending beyond said outer edge, and also including a block occupying said channel shaped portion, said pivotally mounted clamping element having a pair of parallel clamping arms spaced from each other and each provided with a free clamping end, said arms being connected together at their other ends by a connecting portion, each arm having a supporting ear extending at right angles thereto at said other end, said ears embracing the channel shaped portion of said bracket, a pivot pin extending through said ears, the sides of said channel shaped portion of said bracket and said block and serving both to retain the block in place and to provide a pivoted connection between the two clamping elements, whereby the pivoted clamping element may swing from a lowered inoperative position to a raised operative clamping position with the free ends of the arms in engagement with the closure member, said connecting portion having a slot communicating with the space between said clamping arms, said slot being narrower than said space, a clamping screw screw-threaded into said block and depending therefrom, the lower end of the screw having a head by which it may be turned and which is smaller than said space, and also having a collar which has a diameter greater than the width of said slot, the head of the screw being situated to occupy said space when the pivoted clamping element is in its lowered inoperative position and said screw occupying said slot when the pivoted clamping element is in its raised clamping position with the collar in position to engage the under face of the connecting portion, whereby when the screw is tightened after the pivoted clamping element has been swung into its clamping position, said collar will engage the said clamping element on opposite sides of the slot and thus clamp the free end of the clamping arms tightly against the closure member.

References Cited in the file of this patent

UNITED STATES PATENTS

2,291,495	Beals	July 28, 1942
2,327,552	Poehling	Aug. 24, 1943
2,644,709	Diesel	July 7, 1953
2,679,419	Borland	May 25, 1954

FOREIGN PATENTS

628,739	Great Britain	Sept. 5, 1949