United States Patent [19]

Anderson et al.

[11] **3,784,143**

[45] **Jan. 8, 1974**

[54] **CONNECTION DEVICE FOR ELONGATE LIGHTING FITTINGS**

[75] Inventors: **Charles Henri Joseph Anderson; Henricus Johannes Verwegen,** both of Emmasingel, Netherlands

[73] Assignee: **U.S. Philips Corporation,** New York, N.Y.

[22] Filed: **July 13, 1972**

[21] Appl. No.: **271,349**

[30] **Foreign Application Priority Data**

July 17, 1971 Germany ..... G 71 27 546.2

[52] **U.S. Cl.** ..... **248/316 R**

[51] **Int. Cl.** **F16m 13/02**

[58] **Field of Search** ..... 248/201, 311, 316 A, 248/316 R, 317, 313, 488, 490

[56] **References Cited**

UNITED STATES PATENTS

1,789,740	1/1931	Gelette	248/28
2,297,869	10/1942	Biller	248/243
2,021,065	11/1935	Hurlburt	248/311
2,696,962	12/1954	Goss	248/201 X
2,679,993	6/1954	Christophersen	248/316 R

FOREIGN PATENTS OR APPLICATIONS

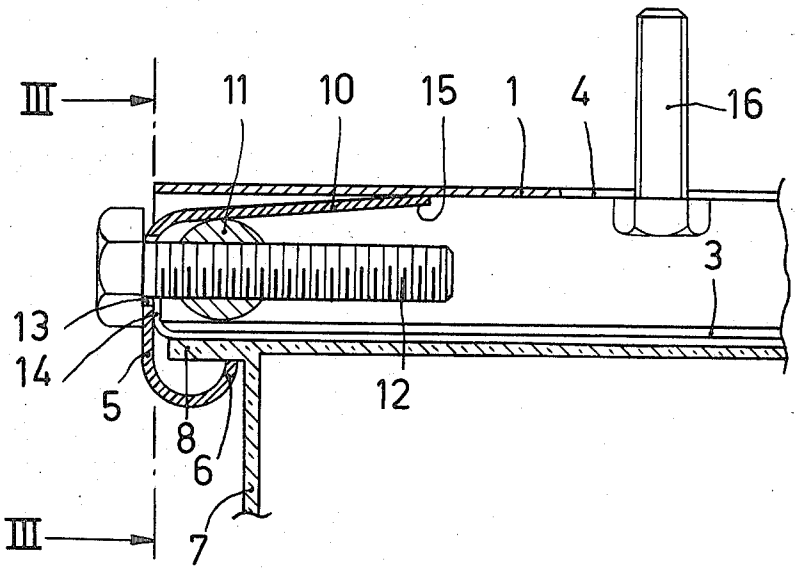
452,193	10/1948	Canada	248/302

Primary Examiner—William H. Schultz
Attorney—Frank R. Trifari

[57] **ABSTRACT**

The invention to a device for securing against a wall an elongate lighting fitting which is provided with projecting edges extending in its longitudinal direction, which device comprises a brace which is provided at its ends with hooks for clamping the edges of the lighting fitting. At least one of the hooks is movable in the longitudinal direction of the brace and can be tightened in the direction transverse to the wall by means of a clamping member.

2 Claims, 3 Drawing Figures



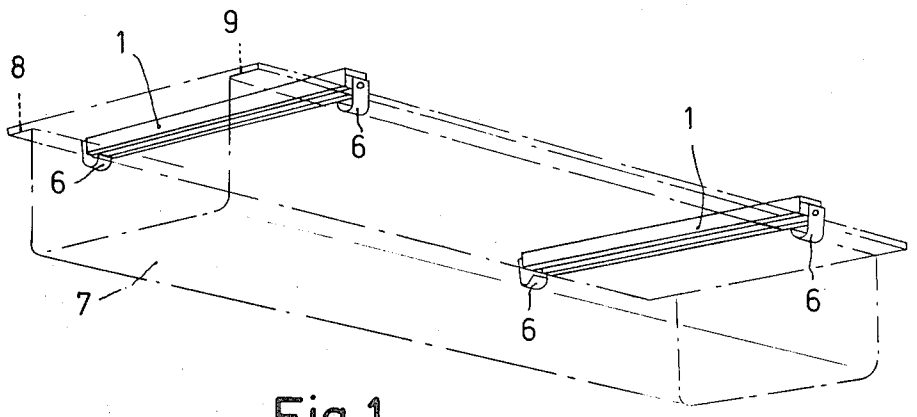


Fig.1

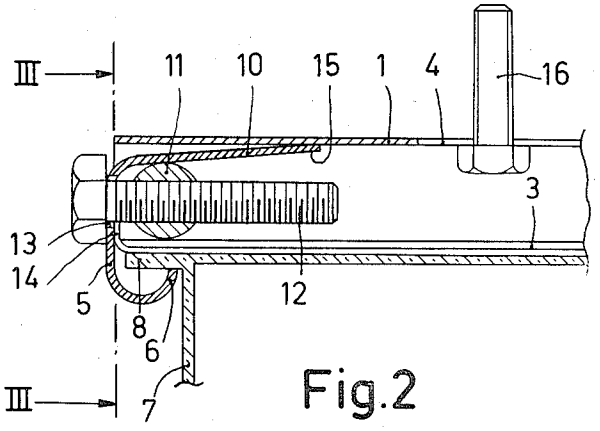


Fig.2

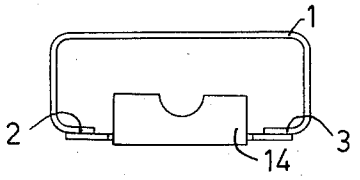


Fig.3

CONNECTION DEVICE FOR ELONGATE LIGHTING FITTINGS

The invention relates to a device for securing against a wall or ceiling a preferably elongate lighting fitting which is provided with projecting edges extending in the longitudinal direction of the lighting fitting, said device comprising a brace which can be secured to the wall and which comprises at its ends bent hooks for clamping the edges of the lighting fitting. Such a device is known.

In a lighting fitting which can be secured by means of said known device, the projecting edges can be moved towards each other for clamping between the bent hooks of the brace. This device can be readily used for small lighting fittings.

In the case of larger lighting fittings as they are used for the illumination of tunnels, however, a rigid housing of the fitting is desirable so that the known device cannot be used as such. The projecting edges of said larger lighting fittings therefore are usually provided with predrilled holes with which the lighting fitting is secured by means of, for example, wedge bolts. A drawback in this case is that a great accuracy is required when the holes for said wedge bolts are drilled in the wall, which impedes a rapid mounting.

It is the object of the invention to provide a device with which the lighting fitting having a rigid housing of the fitting can be rapidly mounted.

For that purpose, the device according to the invention is characterized in that at least one of the bent hooks is movable in the longitudinal direction of the brace, a clamping member being present with which the bent hook can be tightened in a direction transverse to the longitudinal direction of the brace.

In mounting a lighting fitting to a brace secured to a wall, the lighting fitting is moved between the hooks to the brace until the hooks engage behind the projecting edge. The armature is now suspended from the hooks when it is released and can then be secured by pulling the hook or hooks in the direction of the wall by means of the clamping member.

A favourable embodiment of the device according to the invention is characterized in that the brace, at least at its ends, shows a U-shaped profile the side walls of which are provided on their free ends with flanges facing each other, the bent hook comprising a part extending within the profile between the clamping member and the bottom of the profile, the clamping member being furthermore movable by means of a screw bolt in the longitudinal direction of the profile. By moving the clamping member in the direction of the end of the brace by means of the screw bolt, the said part of the hook is pressed against the bottom of the profile so that the hook is drawn in the direction of the wall thereby clamping the edge of the lighting fitting.

The clamping member is preferably formed by a cylinder the axis of which extends transverse to the longitudinal direction of the brace and in which an aperture is recessed for passing the screw bolt, said aperture extending in a direction transverse to the longitudinal axis of the cylinder.

The invention will be described in greater detail with reference to the drawing of an embodiment, in which:

FIG. 1 shows two devices in a position mounted to a ceiling, and a lighting fitting shown in broken lines which has been secured by means of said devices,

FIG. 2 shows the connection of the lighting fitting to the brace, and

FIG. 3 shows an elevation III — III of FIG. 2 of the brace and the end plate secured thereto.

The device comprises a brace 1 which has a U-shaped profile (see FIG. 3) the side walls of which are provided with flanges 2 and 3. Two slotted holes 4 are provided in the bottom of the profile. The brace comprises at either end a J-shaped hook 5 which is manufactured from sheet material and the bent portion 6 of which cooperates with one of the edges 8 and 9 formed on the elongate lighting fitting 7. (shown in broken lines in FIG. 1). The hook 5 comprises a portion 10 which supports against the bottom of the profile with its free end 15. Between said portion to and the flanges 2 and 3 of the profile is present a cylinder 11 which is movable in the longitudinal direction of the brace 1 by means of a screw bolt 12. The bolt 12 projects through an aperture 13 provided in the hook 5. The end of the brace is partly covered by an end plate 14 which prevents the cylinder 11 from dropping out of the profile.

The assembly of the lighting fitting is carried out as follows: the bolt 12 is unscrewed so that same, together with the hook 5 and the cylinder 11, can be manually pulled out until the cylinder 11 bears afainst the end plate 14. The bolt 12 should be unscrewed sufficiently for the hook 5 to be movable over such a distance that the lighting fitting with its edges 8 and 9 can be guided between the bent ends 6 of the hooks 5. The lighting fitting is then held in the desirable position against the brace, after which the bolt 12, the cylinder 11 and the hook 5 are manually pushed inwards, so that the bent end 6 engages behind the edge 8. In this embodiment the same procedure should be carried out of course for the other end of the brace. When the lighting fitting is released, it will be suspended from the hooks by its edges 8 and 9. The lighting fitting is then clamped by tightening the bolt 12. The cylinder 11 is drawn in the direction of the end plate 14, so that the hook 5 rotates to the right, pivoting about the end 15 of portion 10. As a result of this the lighting fitting is clamped against the brace.

In this example the brace is secured to the ceiling with two edge bolts 16 which cooperate with the slotted holes 4. Because the brace is adjustable in its longitudinal direction by means of the slotted holes 4, and because the place of the brace taken in the longitudinal direction of the lighting fitting, can freely be chosen within certain limits, no stringent accuracy requirements need be imposed when placing the wedge bolts in the ceiling. This is advantageous in particular when holes for the wedge bolts have to be drilled in concrete which is usually the case in tunnels.

If the device is used for securing a lighting fitting against, for example, a vertical wall, it is recommendable to provide the device with a fixed hook to support the lower edge of the lighting fitting and a movable hook as described above to support the upper edge of the lighting fitting.

The hooks are preferably formed from a resilient material.

What is claimed is:

1. A device for securing an elongate lighting fitting against a wall or ceiling which fitting is provided with projecting edges extending in the longitudinal direction of the fitting, said device comprising a brace which is securable to the wall or ceiling and includes bent hooks

at its ends to clamp the edge of the lighting fitting, at least one of the bent hooks being moveable in the longitudinal direction of the brace, a clamping member within said brace cooperating with the bent hook to tighten the hook in a direction transverse to the longitudinal direction of the brace, the brace also comprising, at least at its ends, a U-shaped profile including a top wall and two side walls, the side walls being provided on their free ends with flanges facing each other, the bent hook including a portion extending within the profile between the clamping member and the bottom

of the open bottom portion of the U-shaped profile, the clamping member being moveable in the longitudinal direction of the brace by means of a screw bolt.

2. A device as claimed in claim **1** wherein the clamping member is formed by a cylinder the axis of which extends transverse to the longitudinal direction of the brace and in which an aperture is recessed for passing the screw bolt, said aperture extending in a direction transverse to the longitudinal axis of the cylinder.

* * * * *