Jan. 6, 1970 J. DALTON, JR 3,488,487

LIGHTING FIXTURE

Filed June 17, 1966 2 Sheets-Sheet 1

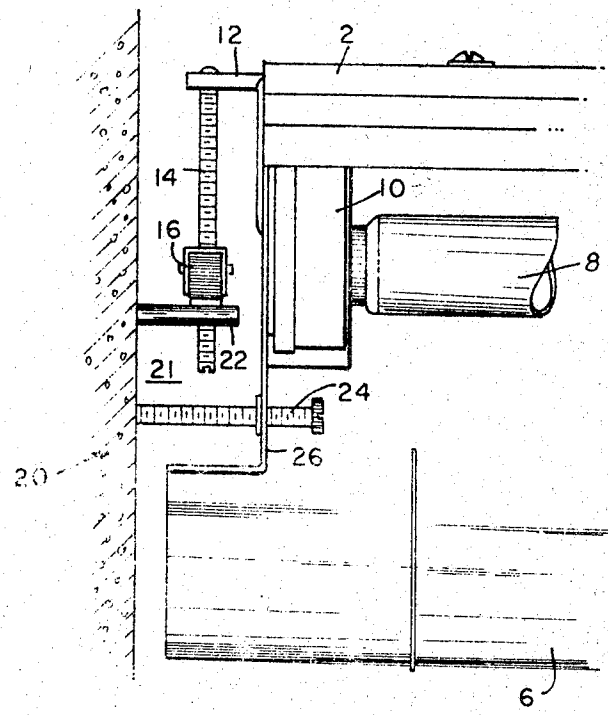

FIG. 1

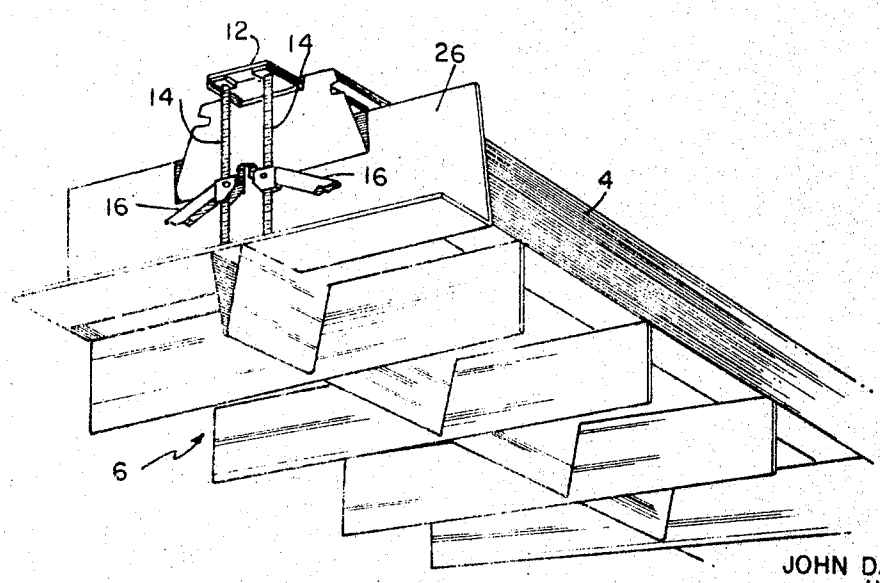

FIG. 2

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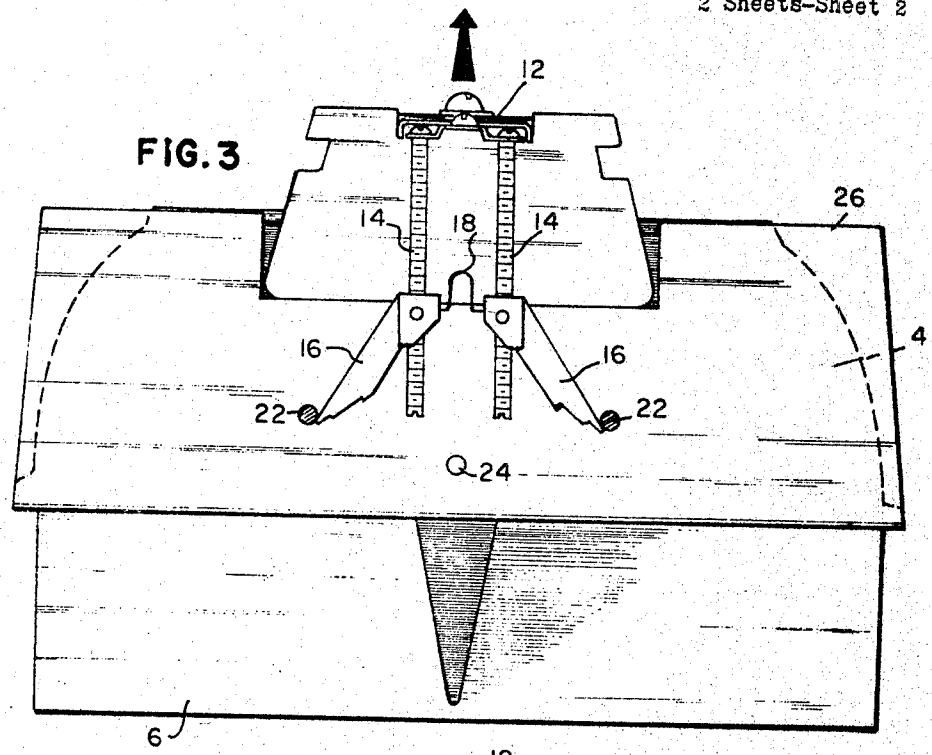
FIG. 3



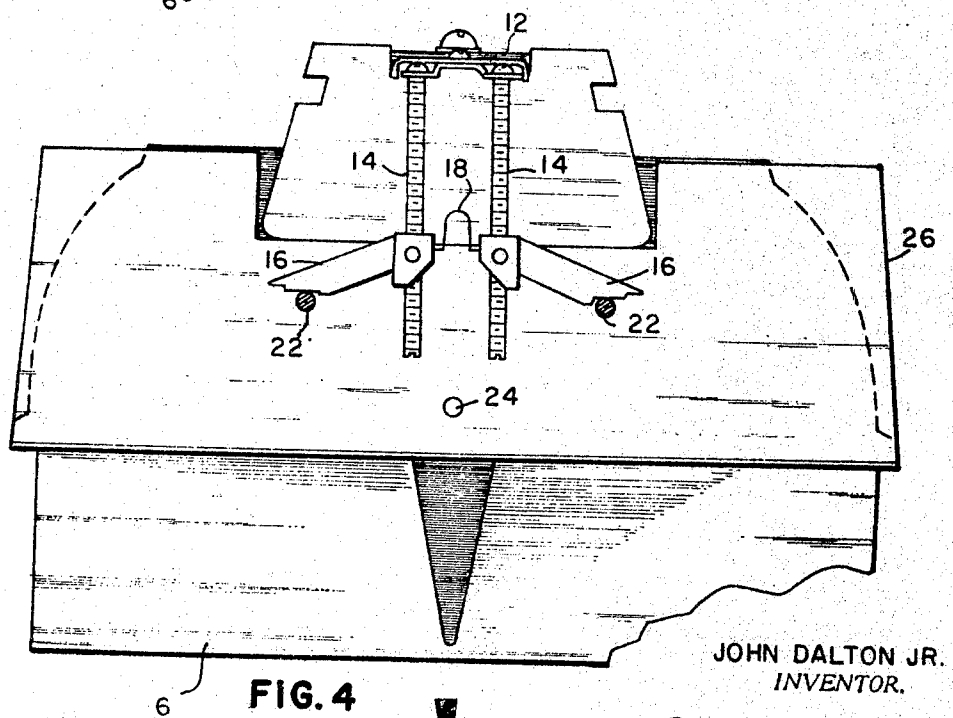


FIG. 4

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3,488,487

LIGHTING FIXTURE

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U.S. Cl. 240—51.11 3 Claims

ABSTRACT OF THE DISCLOSURE

A fluorescent lighting fixture having an elongated rectangular channel, a reflector secured to the channel, fluorescent lamps disposed within the reflector, and a vertically adjustable support assembly at each end of the fixture. The vertically adjustable support assembly is made up of a pair of spaced parallel screws having a pair of spring loaded toggles mounted thereon which are adjustable along a vertical plane. When the lighting fixture is inserted into a ceiling coffer, the spring loaded toggles are first deflected by opposed pairs of bolts projecting from the end walls of the coffer, and subsequently biased to their normal near-horizontal position to thereby engage the bolts and support the lamp in the coffer.

This invention relates to lighting fixtures and more particularly to structural features thereof which facilitate and expedite their installation.

Structural features of a lighting fixture, and particularly those features relating to the means provided for hanging or supporting the fixture are significant factors contributing to the initial installation costs and the subsequent maintenance expenses. Since fluorescent lamps are linear light sources, the installation of fluorescent lighting fixtures usually requires the services of two men and the use of several tools.

The principal object of this invention is to provide a fluorescent lighting fixture characterized by structural features which enable the installation to be made by one man using a single tool.

In the specific embodiment of the invention illustrated in the accompanying drawings and described below, the particular application involves the installation of fluorescent lighting fixtures in recesses or coffers which characterize the ceiling of the room or area to be illuminated. Each end of the lighting fixture is provided with a pair of spring-loaded metal toggles, each toggle being affixed by means of a trunnion nut to a vertically disposed screw held in a fixed vertical position by a bracket mounted on and extending from the end of the lighting fixture channel. Each end wall of each ceiling coffer has a pair of bolts seated therein and extending into the lighting fixture chamber defined by the coffer. These bolts lie in the path of the toggles which are deflected thereby as the lighting fixture is moved into position. When the lighting fixture has been inserted into its coffer far enough for the toggles to have moved past the bolts, the toggles spring back to their normal, substantially horizontal disposition and the fixture is then lowered so that it is supported on the bolts through the toggles.

In the specific embodiment of the invention illustrated in the accompanying drawings, FIGURE 1 is a fragmentary, side elevational view of one end of a lighting fixture of this invention, installed in a ceiling coffer.

FIGURE 2 is a fragmentary end perspective view, viewed from below, of a lighting fixture embodying the features of the invention.

FIGURE 3 is an end elevational view of the lighting fixture of FIGURE 2 showing the disposition of the toggles thereof as the fixture is moving past the coffer bolts.

FIGURE 4 is an end elevational view of the lighting fixture of FIGURE 2 showing the fixture in its installed position with the toggles bearing on the coffer bolts to thereby support the fixture.

The lighting fixture illustrated in the accompanying drawings and described below is similar in many respects to conventional fluorescent lighting fixtures in that it comprises a channel **2**, a reflector **4** and a louver **6**. The channel **2** houses the electrical apparatus normally employed in fluorescent lighting fixtures. Fluorescent lamps **8** are supported in lampholders **10** attached to and depending from the channel **2** at the ends thereof. The reflector **4** and the louver **6** are both attached to and supported by the channel **2**, the reflector **4** overlying the lamps **8** and the louver **6** being disposed therebeneath.

Each end of channel **2** is recessed to provide for flush seating therein of a bracket **12** which projects beyond the end of the channel and supports a pair of screws **14** depending therefrom. Toggles **16**, loaded by and connected to one another by spring **18**, are secured to the screws **14** by trunnion nuts. In their normal rest position, the toggles **16** are disposed as shown in FIG. 2.

As noted above, the particular application involves the installation of fluorescent lighting fixtures in recesses or coffers which characterize the ceiling of the room or area to be illuminated. One end wall of a concrete coffer **20** is shown in FIG. 1. Each end wall of each coffer **20** has a pair of ram-set bolts **22** projecting therefrom and into the fixture chamber **21** defined by the coffer **20**. These bolts are located so that they will be disposed in cooperative relationship with respect to the toggles **16** as shown in FIGS. 3 and 4.

As noted above, one of the features of this fixture is that it can be installed by one man working with one tool, a screw-driver. Installation of the fixture is effected by lifting it up and inserting it into the fixture chamber **21** defined by the coffer **20**. During insertion of the fixture into the chamber, it will be noted that the bolts **22** lie in the path of the toggles **16** and cause their deflection from the FIG. 2 to the FIG. 3 disposition. However, when the fixture has been inserted deeply enough into its chamber so that the toggles **16** have cleared the bolts **22**, then the spring **18**, loaded by the deflection just described, will return the toggles to their normal near-horizontal position. The fixture is then lowered until the toggles rest on the bolts as shown in FIG. 4 and thus support the fixture in position in its chamber **21** in the coffer **20**.

To this point, the fixture has been installed by one man without the use of any tools. With the aid of a screwdriver, the installer can now adjust the vertical position of the fixture in its chamber by turning up or turning down the screws **14** on which the toggles are supported. Thus, in terms of a final adjustment, the fixture can be raised, lowered or tilted within the limits of the length of the screws and the overall clearance of the fixture within the chamber **21**.

With the fixture now located within the chamber **21** and its position therein adjusted as just described, it is now locked in position. Here again, the only tool needed is a screwdriver. A locking screw **24** extends through a bracket **26** at each end of the fixture. Thus, as shown in FIG. 1, the locking screw **24** is turned down until it is brought to bear in a binding manner against the end wall of the coffer **20**. When this is done at each end of the fixture, the fixture is then locked in position.

In view of the foregoing, it will be readily apparent to those skilled in the art that the lighting fixture of this invention facilitates and expedites the fixture installation task because it makes it possible for one man to install, adjust and lock the fixture in position with the aid of but one hand tool, viz, a screwdriver.

While there has been shown and described what is at present considered the preferred embodiment of the in-

vention, it will be obvious to those skilled in the art that various changes and modifications may be made therein without departing from the invention as defined by the appended claims.

What I claim is:

1. A fluorescent lighting fixture comprising: an elongated, substantially rectangular channel; a reflector secured to said channel; fluorescent lamps disposed within said reflector and supported from said channel; a bracket secured to said channel at each end thereof and extending therebeyond; and means, depending from said bracket, for supporting said fixture, said means comprising a pair of elongated, spaced, substantially parallel screws and a pair of spring-loaded toggles mounted on said screws.

2. In combination: a ceiling coffer having walls defining a chamber; a pair of spaced projections on each of the end walls of said coffer and extending into said chamber; and a fluorescent lighting fixture disposed in said chamber, said lighting fixture having support means depending therefrom at the ends thereof and resting on said projections.

3. The combination of claim 2 in which said projections are bolts and the fixture supporting means comprises a pair of elongated, spaced, substantially parallel screws and a pair of spring-loaded toggles mounted on said screws.

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240—78; 248—343