United States Patent [19]

Zeller

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[54] **LUMINAIRE**

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[52] **U.S. Cl.** **240/64,** 240/88, 240/90

[51] **Int. Cl.**.....**F21v 21/38**

[58] **Field of Search**.....240/63, 64, 88, 89, 90

[56] **References Cited**

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[57] **ABSTRACT**

A lighting fixture having a mast upon which a mount carrying one or more luminaires is supported and upon which the mount can be raised and lowered. To hold the mount in position on the top of the mast there is provided a latch mechanism which is operable automatically by a hoisting line upon which the mount is raised and lowered.

3 Claims, 2 Drawing Figures

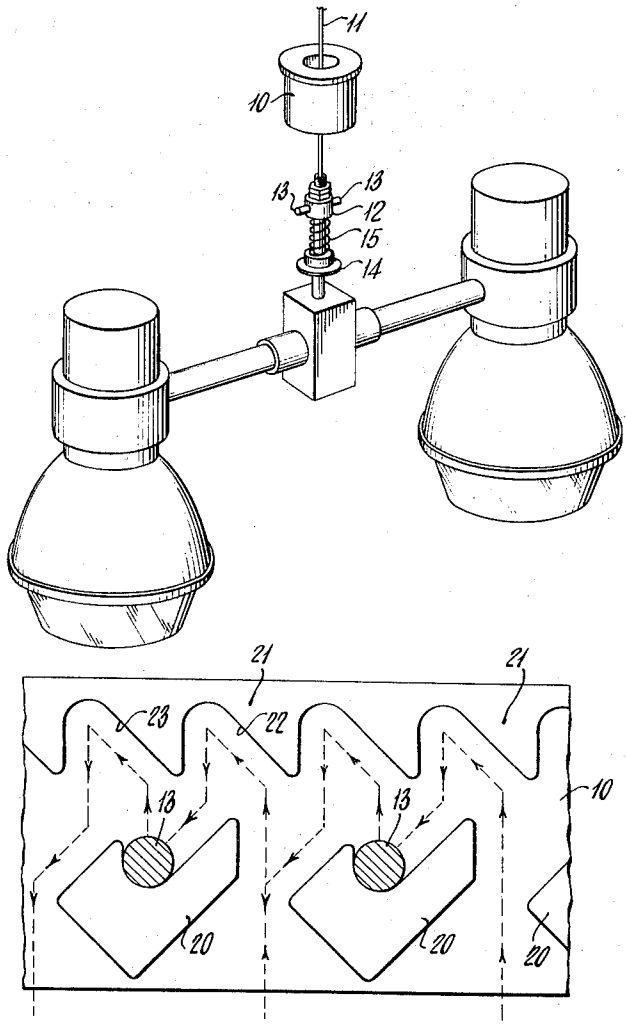
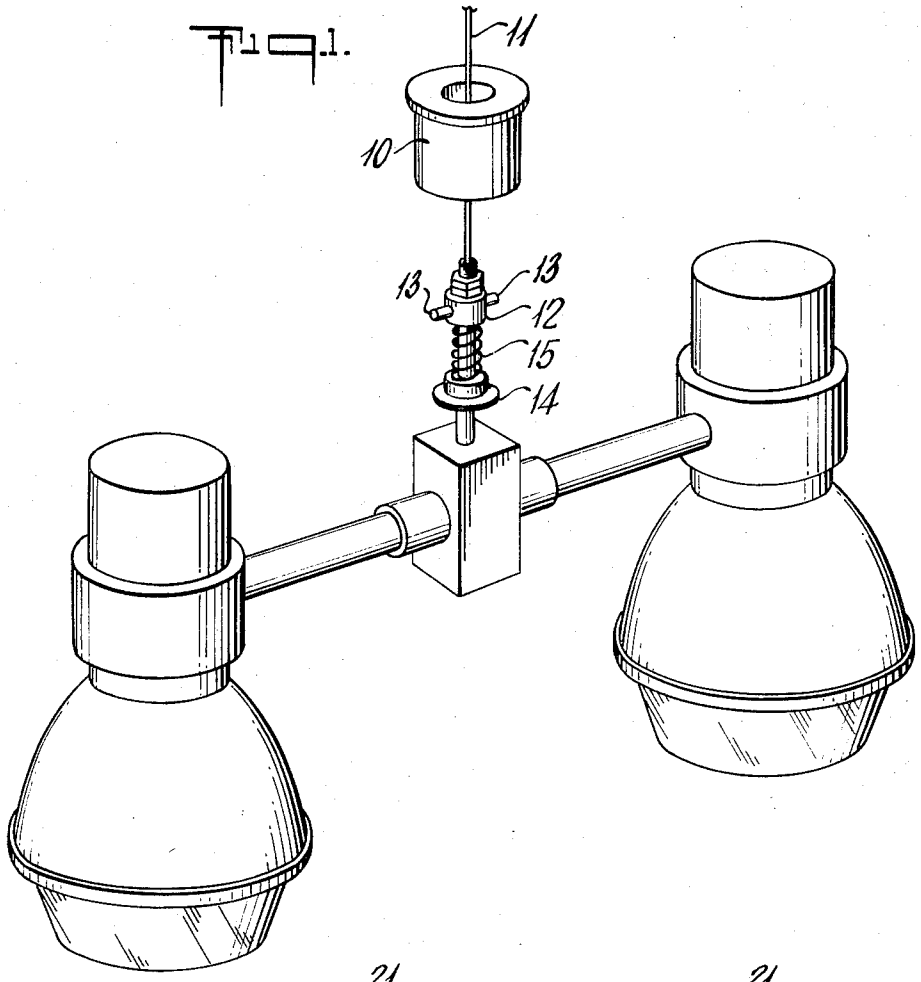


Fig. 1.



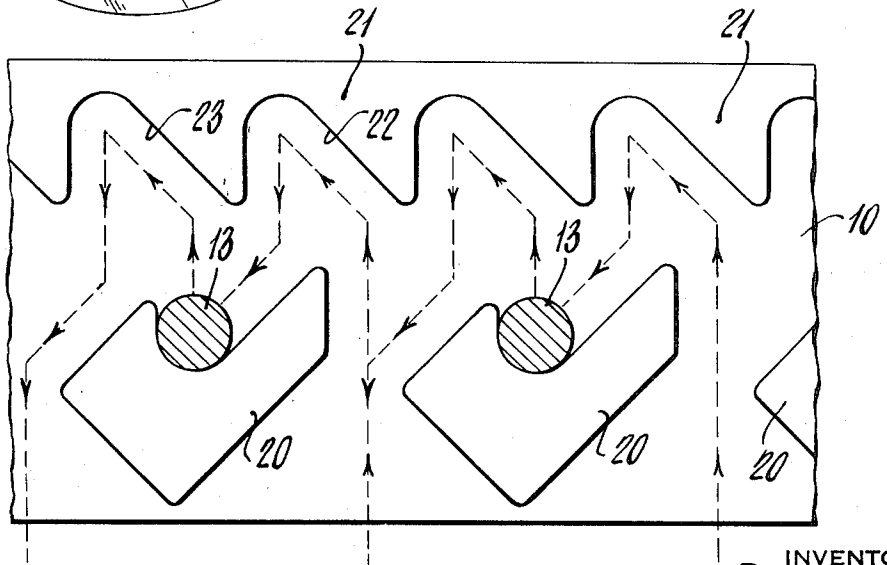


Fig. 2.

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LUMINAIRE

The invention is disclosed in Disclosure Document No. 004315, filed Feb. 22, 1971.

The purpose of this invention is positively to latch a cluster of outdoor luminaires to the top of a mast and to allow the cluster to be released and lowered to the ground for servicing as required. While this invention is primarily concerned with luminaires, it is to be appreciated that the latch mechanism may find application in other situations.

It is an object of this invention to provide a unit having the following advantages:

1. The cluster of luminaires or the mount upon which they are held is supported by a structural member as opposed to the conventional system of having the luminaires continually suspended on the hoisting cables used to lower and raise it into position.

2. The need for separate control cables or electrical circuits to actuate a latching mechanism as in conventional systems, is avoided.

3. There are no moving parts of the mechanism which is secured permanently to the top of the mast.

4. Integral shock absorbing means may be incorporated in the unit to avoid breaking the latch or luminaires as the mount for the luminaire is raised to the top of the mast.

5. The unit is one which will not be inadvertently disengaged should the mount be shifted.

An embodiment of this invention is illustrated, schematically, in the accompanying drawings of which:

FIG. 1 is a perspective view of a latching mechanism according to this invention; and

FIG. 2 is a development of a part of the mechanism secured to the mast.

The mechanism comprises a support barrel **10** which is secured to a mast and constitutes one element of the latch. A hoisting cable **11** carries a latch cylinder **12** having a pair of latch pins **13** secured to it. Between the latch cylinder **12** and a mounting bracket **14** to which the luminaires are directly secured is a shock absorbing spring **15**.

Referring specifically to FIG. **2**, the interior of the support barrel **10** is shown in development. It comprises a plurality of upwardly open hooks **20** circumferentially spaced about the interior surface of the barrel and a corresponding number of cams **21** each of which comprises surfaces **22** and **23** for cooperation with the latch pins **13**.

It will be appreciated that as the mount comprised of latch cylinder **12** and bracket **14** is raised from a lowered position to an uppermost position the pins **13** will strike a surface **22** of the cam **21** and will move along that surface to be directly above the upwardly open hook **20**. Any shock caused by the latch pins striking the uppermost part of the cam surface **22** will, at least in part, be absorbed by spring **15**.

Thereafter, as the mount is lowered the latch pins will engage in hook **20** and support the mount in the raised position. Clearly, because of the enclosed form of the support barrel, the pins **13** cannot inadvertently be disengaged from hooks **20**.

Upon raising the pins **13** from the position illustrated in FIG. **2** by hoisting the mount by means of cable **11**, the pins will strike cam surface **23** of cam **21** ride up that surface to the uppermost portion thereof to be in a position so as the mount is lowered the pins will clear the hook opening and so the mount and luminaires may be lowered to the ground or a working position at which maintenance work may be carried out.

What is claimed is:

1. A system for raising or lowering luminaires including a fixed support means, a mount for carrying at least one luminaire, hoisting means for raising and lowering the mount and a latching arrangement comprised of a hook member rigidly attached to said support means, a latch member for cooperation with said hook member to hold said mount in a raised position, cam means rigidly attached to said support means, said cam means having a first surface for cooperation with said latch as said mount is raised to an uppermost position by shifting said latch member along said first surface, said latch member engaging said hook member upon being lowered from said uppermost position and said cam means having a second surface for cooperation with said latch member as the mount is raised from the latched position to shift said latch member along said second surface to a position from which, as said mount is lowered, said latch clears said hook member and all other surfaces protruding from said support means.

2. A luminaire as claimed in claim **1** in which said mount is in two relatively movable parts, one part carrying said latch and the other part supporting said luminaires and shock absorbing means located between said two parts.

3. A system for raising or lowering luminaires including a mount member for carrying at least one luminaire, a latch member positioned on said mount, a fixed support means for holding said mount in a raised position, said support means comprised of a barrel which is substantially circular in cross section and having cam means and upwardly open hook means disposed in a substantially circular array and rigidly attached to the interior surface of said barrel, said cam means having a first surface for cooperation with said latch member as said mount is raised to an uppermost position by shifting said latch member along said first surface, said latch member engaging said hook member upon being lowered from said uppermost position and said cam means having a second surface for cooperation with said latch member as the mount is raised from the latched position to shift said latch along said second surface from which, as said mount is lowered, said latch member clears said hook member whereby all movable parts of said system are lowered upon lowering said mount from said support means.

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