April 18, 1961 D. H. BASS 2,980,419

DEVICE FOR USE IN INSTALLING FLUORESCENT LIGHT FIXTURES

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Fig. 1.

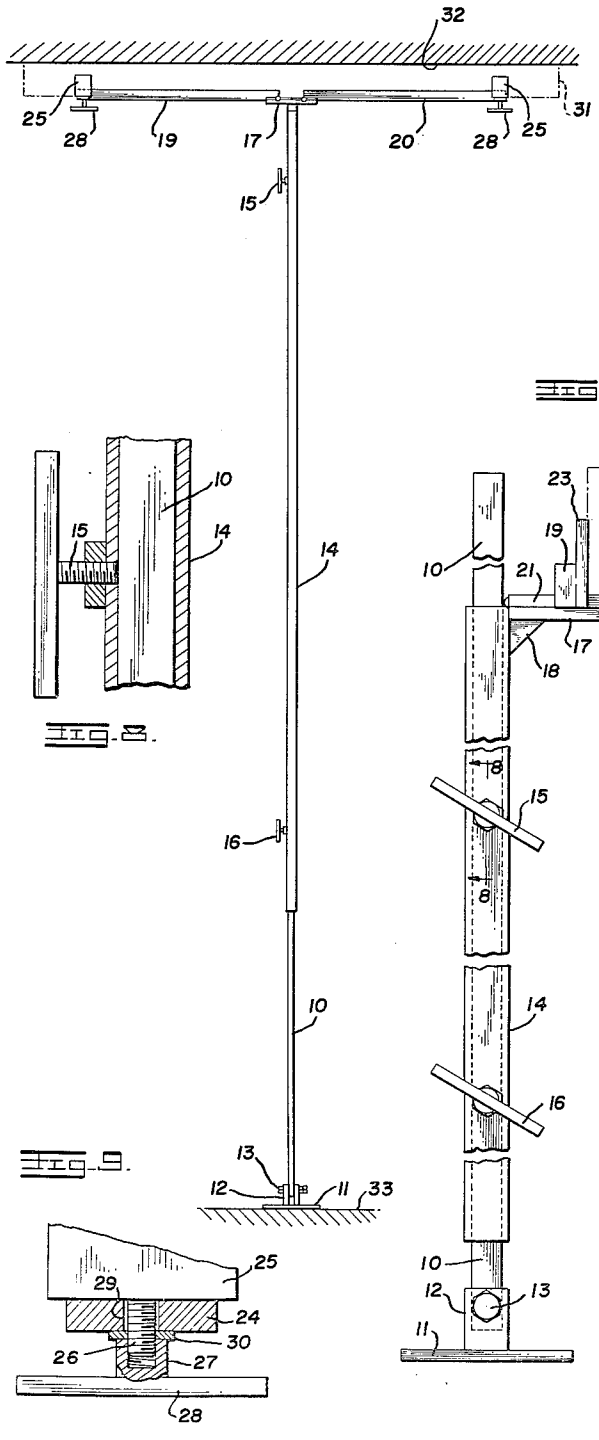


Fig. 2.

Fig. 3.

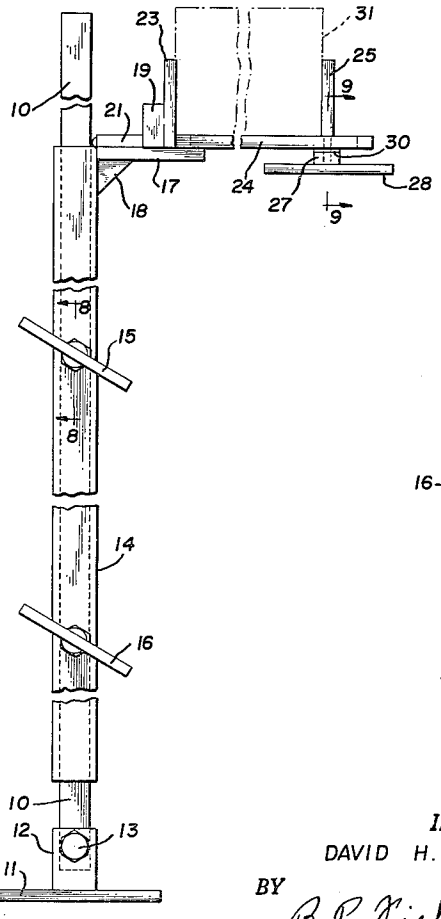


Fig. 4.

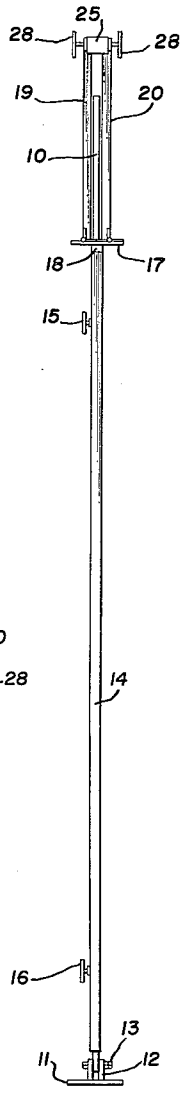


Fig. 5.

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Fig. 4.

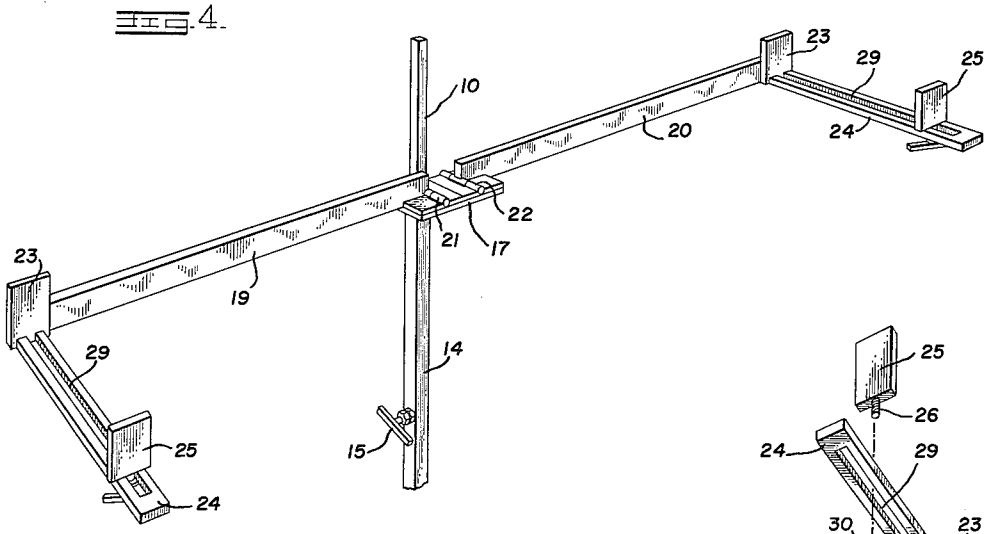


Fig. 5.

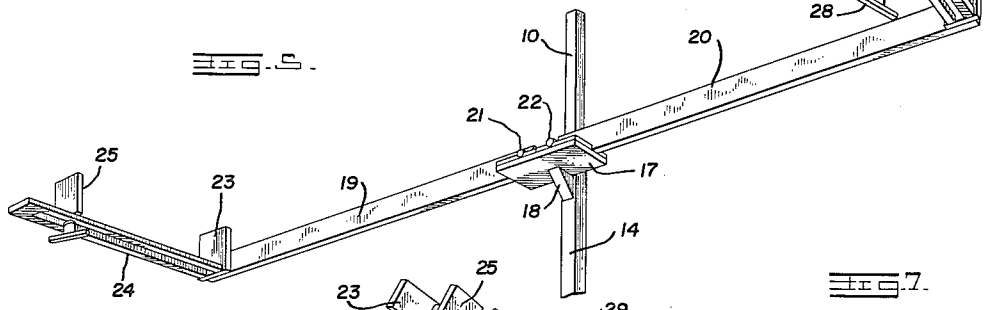
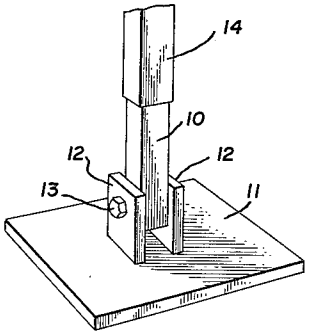


Fig. 7.



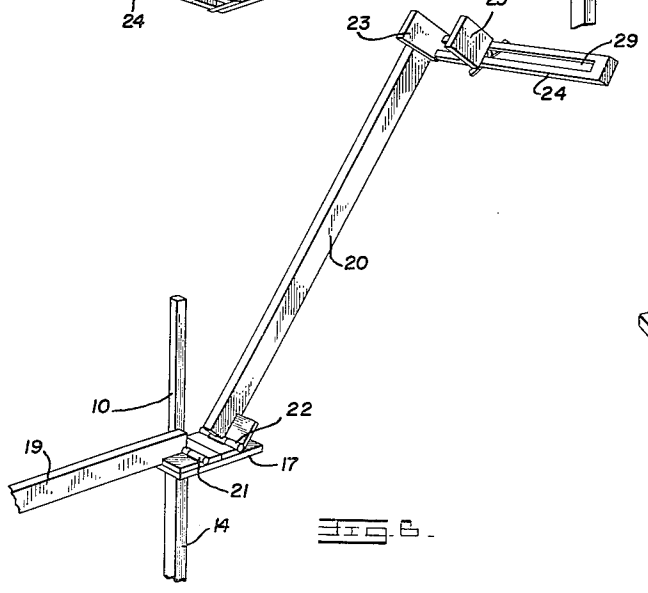


Fig. 6.

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DEVICE FOR USE IN INSTALLING FLUORESCENT LIGHT FIXTURES

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2 Claims. (Cl. 269—140)

This invention relates to a device for use in installing fluorescent light fixtures, and the like.

A primary object of the invention is to provide a simplified and inexpensive device to greatly facilitate the installation of various types of fluorescent light fixtures on ceilings.

A further object of the invention is to provide a device of the above-mentioned character, the use of which will enable a single workman to install fluorescent light fixtures upon high ceilings, in an expeditious manner and with a minimum of labor.

A further object is to provide a device of the above-mentioned character which is readily adjustable through a wide range to accommodate various types and sizes of fluorescent light fixtures, and to facilitate installing the same upon ceilings of varying heights.

A further and more specific object is to provide a fluorescent light fixture installing device, including adjustable means to grip and hold the light fixture and extensible means to support the light fixture in contact with the ceiling, and stationary, so that the workman may readily complete the installation of the fixture.

Other objects and advantages of the invention will become apparent during the course of the following detailed description.

In the accompanying drawings, forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevation of a device for use in installing fluorescent light fixtures according to the invention, and showing the device in use.

Figure 2 is a further side elevation of the device in a retracted and folded condition.

Figure 3 is an enlarged fragmentary side elevation taken from the left-hand side of Figure 1.

Figure 4 is a perspective view showing the upper portion and adjustable clamping parts of the device.

Figure 5 is a further fragmentary perspective view, partly exploded, showing the upper portion of the device.

Figure 6 is a fragmentary perspective view of the device showing one support arm in a partly folded position.

Figure 7 is a fragmentary perspective view of the lower portion of the device.

Figure 8 is an enlarged fragmentary vertical section taken on line 8—8 of Figure 3.

Figure 9 is a similar section taken on line 9—9 of Figure 3.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of the invention, the numeral 10 designates an elongated straight bar or standard, preferably square in cross section, and being of considerable length, such as eight feet. The length of the standard 10 is not critical however and may be varied somewhat as found desirable to conform to the use of the device for installing fluorescent light fixtures at various ceiling heights.

A flat base plate 11 is provided, and this base plate

has a pair of spaced upstanding apertured lugs 12 rigidly secured thereto, and between which the lower extremity of the standard 10 is pivotally secured by means of a bolt 13, or the like.

An elongated tube 14, square in cross section, engages telescopically and slidably over the standard 10 as shown in the drawings, and this tube is somewhat shorter than the standard 10 and may be approximately six and one-half feet long, although this length is not critical and may be varied somewhat.

Near its upper and lower ends, the tube 14 carries clamping set screws 15 and 16, operable to releasably secure the standard 10 and tube 14 in selected longitudinally adjusted positions. The inner ends of the set screws are adapted to bear against one side of the standard 10 for locking the same to the tube 14, as shown, and the set screws 15 and 16 are equipped with relatively large handles to facilitate operating them, as shown.

A support plate 17 is rigidly secured by welding or the like to one side of the rectangular tube 14 at its upper end, and the support plate 17 projects outwardly of the tube and standard at right angles thereto. A stiffening gusset 18 may be provided beneath the support plate 17 and welded thereto and to the adjacent side of the tube 14, as shown. The support plate 17 is arranged so that it does not obstruct the top open end of the tube 14, through which the upper portion of the standard 10 may project as shown in Figures 2 and 3.

A pair of relatively long bracket arms or bars 19 and 20 are provided, and the inner end portions of these bars overlie the support plate 17 and are permanently hingedly secured thereto by means of suitable hinges 21 and 22. The arms 19 and 20 may be approximately twenty inches long, although this length may be varied somewhat as found desirable. The arms 19 and 20 are freely swingable upon the hinges 21 and 22 between positions at right angles to the standard 10, Figures 1 and 4, and positions parallel thereto, Figure 2. When the arms 19 and 20 are separated and extending at right angles to the standard, their inner end portions bear upon the rigid support plate 17, which plate serves as a positive stop to prevent the arms 19 and 20 from swinging below the horizontal, Figure 4.

At their outer ends, the arms 19 and 20 have stationary clamp elements or plates 23 rigidly secured by welding or the like to their sides remote from the standard 10. Slotted bars 24 have corresponding ends permanently rigidly secured to the clamp plates 23 and extend at right angles to the arms 19 and 20, beyond corresponding sides thereof, as shown. The slotted bars 24 may be approximately nine inches long, although this length may be varied somewhat as found desirable. As shown in Figure 4, the slotted bars 24 are horizontally disposed when the arms 19 and 20 are horizontal and the standard 10 is arranged vertically. The slotted bars are bodily carried by the arms 19 and 20.

Adjustable clamp plates 25 are provided, and each clamp plate 25 has a screw-threaded stud 26 rigid therewith, engagable within a screw-threaded nut 27, having a handle 28.

Each adjustable clamp plate 25 extends above one of the slotted bars 24 at right angles thereto and has its screw-threaded stud 26 engaging slidably through the longitudinal slot 29 of the particular bar 24. Each nut 27 has screw-threaded engagement with the stud 26 below the bar 24, and each nut bears against the lower side of the bar 24. The lower transverse edge of each clamp plate 25 slidably contacts the upper face of the bar 24, as shown in the drawings. A flat washer 30, Figure 5, may be interposed between the nut 27 and the bottom of the slotted bar 24, upon the stud 26 if desired. The

slot 29 of each bar 24 extends throughout the major portion of the length of the bar 24, as shown. The arrangement is such that each adjustable clamp plate 25 may be releasably secured in the selected adjusted position longitudinally of the bar 24, in spaced opposed relation to the associated fixed clamp plate 23. This adjustment of each clamp plate 25 is obtained through manipulation of the clamping nut 27 having the handle 28, as should be obvious.

In use, the tube 14 is initially lowered on the standard 10 and assumes the position shown generally in Figure 2. The arms 19 and 20 are swung outwardly to their positions shown in Figures 4 and 5 and the clamping nuts 27 are loosened. The fluorescent light fixture 31 to be installed upon the ceiling 32 is now brought to rest upon the bars 24 and preferably centered with respect to the standard as shown in Figure 1. The sides of the fixture 31, Figure 3, are disposed between the fixed and movable clamp plates 23 and 25. The clamp plates 25 are now moved into clamping engagement with the outer side of the fixture 31 and locked in the clamping position by tightening of the nuts 27. This serves to securely hold the fixture 31 between the pairs of clamp plates 23 and 25, and the fixture is firmly supported from below by the bars 24.

The base plate 11 is now placed upon the floor 33, and the tube 14 is shifted upwardly for elevating the horizontal fixture 31 into contact with the ceiling 32. By manipulation of the device, the fixture 31 is located in substantially the exact spot where it is to be installed upon the ceiling. The clamping set screws 15 and 16 are now tightened to firmly secure the tube 14 in the adjusted elevated position, with the fixture 31 bearing against the ceiling. The device may now be left unattended and will serve to adequately support the fixture 31 until the workman upon a ladder or the like completes the installation of the same, after which the clamp plates 25 are merely released from gripping engagement with the fixture and the tube 14 is lowered.

The arms 19 and 20 are readily foldable to extend parallel to the standard 10 and tube 14 as shown in Figure 2, and when the tube 14 is fully lowered, the upper portion of the standard 10 extends between the folded arms 19 and 20. This arrangement renders the device compact and easy to transport.

The arrangement of the arms 19 and 20, the slotted bars 24 and adjustable clamp plates 25 renders the device adaptable to a wide variety of types and sizes of fluorescent light fixtures. The use of the device makes it entirely practical for only one workman to completely manipulate and install a fluorescent light fixture upon a high ceiling.

The pivotal connection at 13 between the base plate 11 and standard 10 compensates for irregularities in the floor or lack of parallelism between the floor and ceiling. The entire device is extremely simplified, relatively lightweight, rugged and durable, easy to adjust and inexpensive to build. Its use greatly simplifies the installation of ceiling light fixtures of the fluorescent type and also greatly reduces the expense of the installation.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A device for use in installing fluorescent light fixtures on a ceiling; said device comprising a single substantially vertical support, said support including a bar, a sleeve slidably mounted upon the bar, adjustable means to clamp the sleeve upon the bar; a base plate secured to the lower end of the bar to engage the floor; a horizontal support plate secured to the upper end of said sleeve; arms arranged in end-to-end relation when in the open position and having their inner ends arranged above the horizontal support plate; hinges connecting the inner ends of the arms with the support plate so that the arms may be collapsed to extend longitudinally of said support, said arms engaging the upper face of the support plate so that said support plate supports said arms when they are swung to the outer substantially horizontal position; bars mounted upon the outer ends of said arms and extending transversely thereof and being horizontally arranged when said arms are horizontal, said second-named bars having longitudinal slots; clamp plates secured to the outer ends of the arms adjacent to the inner ends of said second-named bars; adjustable clamp plates mounted upon the upper faces of said second-named bars; screw-threaded elements carried by the adjustable clamp plates and extending through the longitudinal slots of said second-named bars; and clamping elements arranged beneath the second-named bars and engaging the screw-threaded elements.

2. A device for use in installing fluorescent light fixtures on a ceiling; said device comprising a single substantially vertical support, said support including a bar, a sleeve slidably mounted upon the bar, said sleeve being shorter than the bar so that the upper end of the sleeve may be positioned beneath the upper end of the bar when the sleeve is in the lowered position, adjustable means to clamp the sleeve upon the bar; a base plate secured to the lower end of the bar to engage the floor; a horizontal support plate rigidly secured to the upper end of the sleeve and arranged entirely upon one side of the sleeve so that the support plate may assume a position below the upper end of said bar; arms arranged in end-to-end relation when in the open position and having their inner ends arranged above the horizontal support plate; hinges connecting the inner ends of the arms with the support plate so that the arms may be collapsed to extend longitudinally of said support, said arms engaging the upper face of the support plate so that said support plate supports said arms when they are swung to the outer substantially horizontal position; bars mounted upon the outer ends of said arms and extending transversely thereof and being horizontally arranged when said arms are horizontal, said second-named bars having longitudinal slots; clamp plates secured to the outer ends of the arms adjacent to the inner ends of said second-named bars; adjustable clamp plates mounted upon the upper faces of said second-named bars; screw-threaded elements carried by the adjustable clamp plates and extending through the longitudinal slots of said second-named bars; and clamping elements arranged beneath the second-named bars and engaging the screw-threaded elements.

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