April 14, 1959 M. L. BANK 2,882,100

JACK DEVICE FOR LIFTING FIXTURES AND THE LIKE

Filed Oct. 24. 1956 2 Sheets-Sheet 1

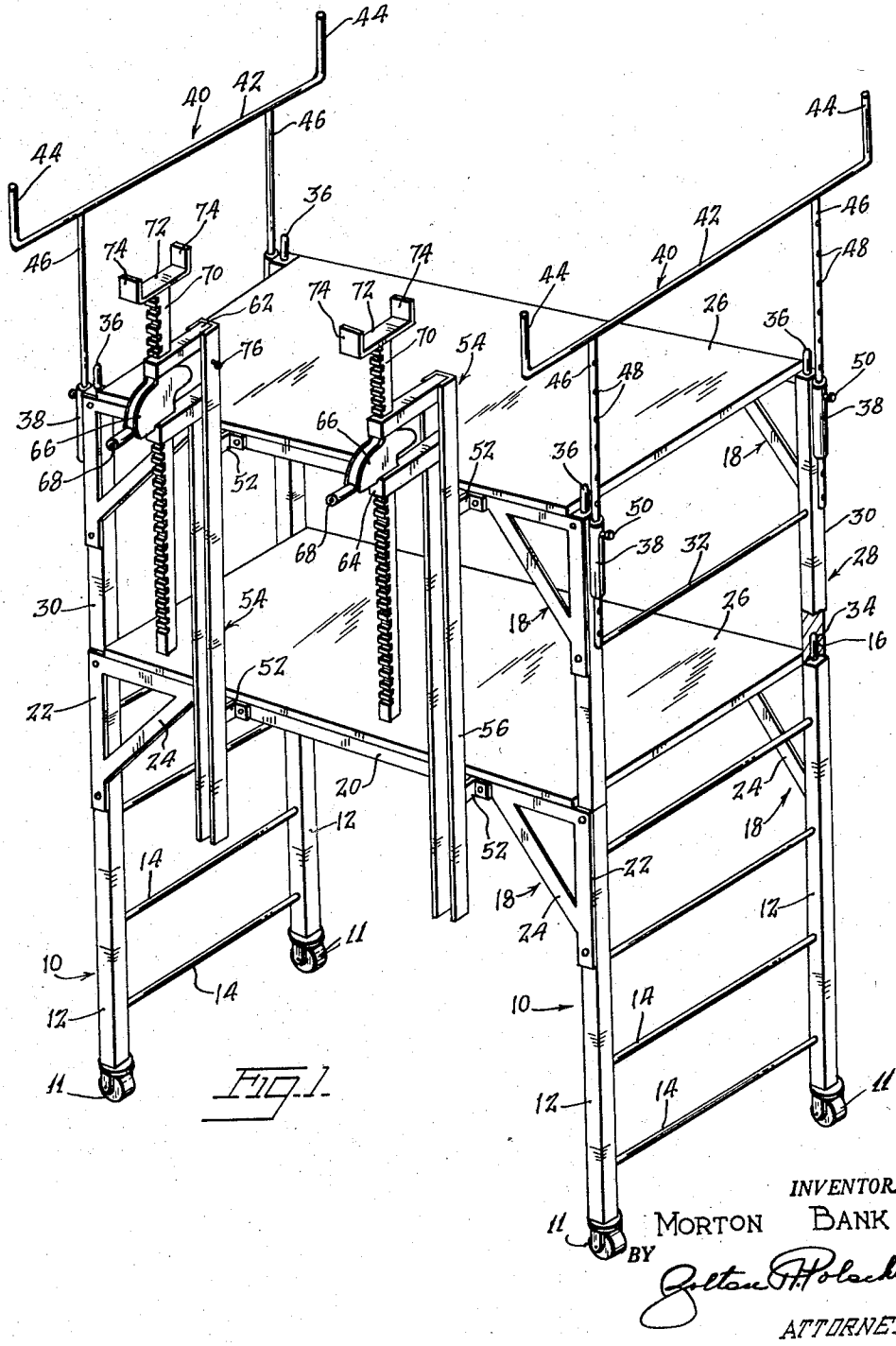


FIG. 1

INVENTOR.
MORTON BANK
BY Gilbert H. Polachek
ATTORNEY

April 14, 1959 M. L. BANK 2,882,100

JACK DEVICE FOR LIFTING FIXTURES AND THE LIKE

Filed Oct. 24, 1956 2 Sheets-Sheet 2

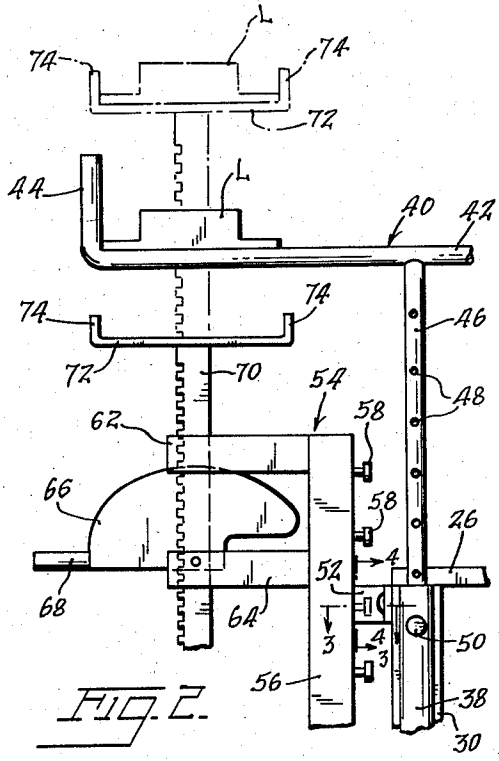


FIG. 2.

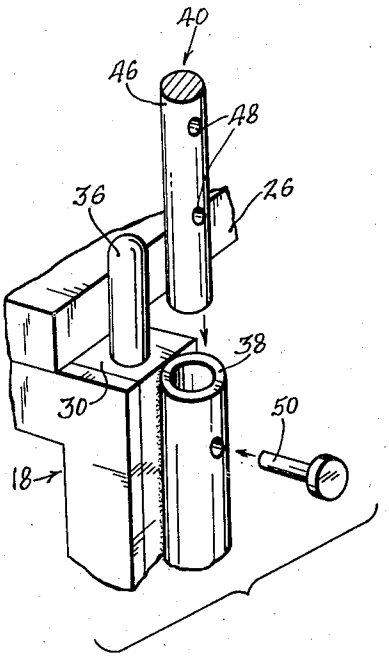


FIG. 5.

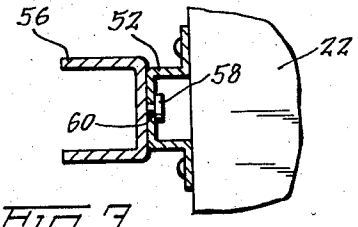


FIG. 3.

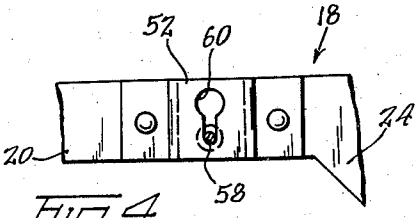


FIG. 4.

INVENTOR.
MORTON BANK
BY Zoltan Polachek
ATTORNEY

United States Patent Office 2,882,100 Patented Apr. 14, 1959

2,882,100

JACK DEVICE FOR LIFTING FIXTURES AND THE LIKE

Morton L. Bank, Malverne, N.Y.

Application October 24, 1956, Serial No. 617,960

1 Claim. (Cl. 304—2)

This invention relates to a scaffold-mounted jack device, particularly adapted for elevating lighting fixtures and like objects into position adjacent a ceiling, so that they may be secured to the ceiling with minimum difficulty.

Lighting fixtures, in particular fluorescent lamps, are difficult to mount on a ceiling, due to the difficulty of holding the same in proper position against the ceiling while screws or equivalent elements are being used to make a permanent connection of the fixture to the ceiling, or while electrical connections are being completed. Often, particularly in the case of large, elongated fixtures, the services of two or more men are required.

The main object of the present invention, in view of the difficulties that have heretofore persisted, is to provide a scaffold-like device that will permit even one worker to swiftly position a large, elongated fixture against the ceiling, ready for attachment thereto, with the device further being designed to support the worker after the fixture has been so positioned, in a manner to permit the connection of the fixture to the ceiling to be carried out without difficulty and in a minimum amount of time.

Another object is to permit the adjustment of the device through a wide range of different positions, so as to permit the attachment of fixtures to ceilings varying widely from one another as regards the height of the same above the floor surface.

Still another object is to permit the device to be incorporated in any of various scaffolds already in use, to lower the cost of manufacture.

A further object of the invention is to so mount the device on the scaffold that the scaffold will still be available for other purposes, with or without the jack means thereon, whichever is desired.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claim in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of a jack device according to the present invention.

Fig. 2 is an enlarged, fragmentary, end elevational view in which the dotted lines show a fixture in one of various positions to which it may be elevated.

Fig. 3 is a detail sectional view, still further enlarged, on line 3—3 of Fig. 2.

Fig. 4 is a detail sectional view, on the same scale as Fig. 3, taken substantially on line 4—4 of Fig. 2.

Fig. 5 is a fragmentary, partially exploded perspective view, still further enlarged, showing the connection of the fixture support assembly to the scaffold.

The device constituting the present invention includes as one of its components a support structure which may be a scaffold conventional per se. Various types of scaffolds may be used, and that illustrated is one that includes end frames generally designated **10**, each including

standards **12** connected by vertically spaced ladder rungs **14**. Projecting upwardly from the standards of the end frames or ladders **10** are vertical pins or dowels **16**, the purpose of which will be presently made apparent.

Fixedly but detachably connected to the end frames are elongated, horizontal trusses generally designated **18**. Each of these includes a horizontal support bar **20** integral at its ends with depending legs **22** braced by inclined brace bars **24** and attached at selected elevations to the standards by suitable pins. A lower platform **26**, which may be omitted if desired, is supported removably upon the trusses.

A scaffold extension **28** is supported upon the main scaffold hereinbefore described, and includes standards **30** connected by rungs **32**. The end frames of the extension **28** are connected by additional trusses **18**, and have downwardly opening sockets **34** receiving the pins or dowels **16**. Pins **36** project upwardly from the scaffold extension to permit erection of the support structure to a still greater height by the addition of one or more other extensions. An upper platform **26** is supported on the trusses of the extension **28**.

The components so far described are per se conventional. In accordance with the invention, welded to the upper ends of the legs or standards of the scaffold extension are vertical, elongated sleeves **38**, the sleeves at each end receiving a fixture support assembly generally designated **40**.

The support assemblies **40** each include a horizontal crossbar **42** the length of which is substantially greater than the width of the support structure. Integral with and projecting upwardly from the ends of the crossbar are vertical stops **44** adapted, as shown in Fig. 2, to prevent movement of a fluorescent lamp L or similar fixture off the crossbar.

Rigid with and depending from the crossbar inwardly from the stops **44** are vertical legs **46** each of which is formed with regularly spaced openings **48**. Legs **46** are slidably adjustable in and wholly removable from the sleeves **38**. Thus, each support assembly, when desired, can be removed bodily from the support structure. Alternatively, when mounted on said structure, each support assembly can be vertically adjusted to a selected elevation, and the adjustment can be maintained by extension of a removable pin **50** through an opening of the sleeve (see Fig. 5).

Secured to the upper and lower trusses are pairs of vertically spaced brackets **52** on which are removably supported identical, horizontally spaced, vertically extending jack assemblies **54**. Any number of said assemblies can be provided at each side of the scaffold, and they can of course be provided at both sides of the scaffold if desired.

Each jack assembly includes an elongated channel member **56** and projecting rearwardly from the web thereof are headed pins **58**, spaced uniformly along the full length of the member.

In each bracket **52** a keyhole slot **60** (Fig. 4) is formed, and thus, the jack assemblies can be bodily adjusted vertically at the side of the scaffold, and selected pins **58** engaged in the slots **60** of the vertically spaced brackets **52**.

Rigid with and projecting laterally from the channel member **56** of each jack assembly is a pair of vertically spaced arms **62**, **64** on which is mounted a rack-adjusting mechanism **66** rocked by a handle, not shown, inserted in a socket **68**. The mechanism **66** is conventional per se and hence need not be described in detail herein.

The rack of the jack assembly has been designated at **70** and suitably mounted on the upper end thereof is a flat, transverse head **72** having upwardly projecting stops **74** on its ends. The outer stop **74** is in a vertical plane

substantially common to that of the stops **44** at the same side of the scaffold as shown in Fig. 2.

In use, a lighting fixture L is supported at its ends on the respective support assemblies **40**, and is abutted against stops **44**. Then, it is merely necessary to elevate the racks **70**. After the racks have moved upwardly a short distance, they will engage under the light fixture and further upward movement of the racks will now cause the fixture to be lifted off the supporting crossbars **42** and raised to the ceiling by the jack assemblies **54**. Ultimately the fixture will be properly located and held against the ceiling, so that thereafter, a worker standing on the upper platform will be able to secure it to the ceiling, make the necesary wiring connections, etc.

If one should so desire, he may extend a tool box between the jack assemblies. This is sufficiently obvious as not to require special illustration herein. The channel members may, as shown, be provided with confronting pins **76** for engaging the ends of the tool box.

It is to be noted that the device is also adapted for properly locating fixtures when the ceiling is uneven, since the jack assemblies are vertically adjustable independently of each other and can be adjusted different distances. Further, any of various conventional scaffolds can be used and erected to desired heights and lengths. Any number of jacks can be mounted thereon at one or both sides of the scaffold. A single man can perform the whole operation, as will be readily perceived.

It is to be understood that suitable casters **11** may be provided at the bottom of the standard **12**.

Still further, the scaffold may still be swiftly moved from place to place and can be moved through doorways or other narrow spaces easily, merely by removal of the jack assemblies **54** and the fixture support assemblies **40**.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claim.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

A jack device for lifting a light fixture to a ceiling comprising, in combination with a rectangular-shaped scaffold, a pair of fixture support assemblies one at each end of the scaffold, means for adjustably mounting said assemblies on the scaffold, a plurality of jack assemblies disposed at least at one side of the scaffold and adapted for lifting said fixture from the support assemblies, and means for adjustably connecting said jack assemblies to the scaffold, said first means comprising a pair of sleeves spaced transversely of the scaffold at each end thereof, each support assembly including a pair of vertical legs slidably mounted in the sleeves, each sleeve including a removable pin, the legs each having a series of spaced openings selectively adapted to receive said pin, each support assembly further including a horizontally disposed crossbar extending between and beyond the legs on which the fixture is supported, and fixture-engaging stops projecting upwardly from the ends of the crossbar, the jack assemblies each including a crosshead disposed in a horizontal plane below the plane of the first-named crosshead for engaging under the fixture, said jack assembly crosshead having an outer end substantially in a common vertical plane with the stops at the same side of the scaffold, the crosshead of each jack assembly being formed with upwardly projecting stops at its outer and inner ends.

References Cited in the file of this patent

UNITED STATES PATENTS

428,769	Dodge	May 27, 1890
2,253,649	Price	Aug. 26, 1941
2,285,901	Chenoweth	June 9, 1942

FOREIGN PATENTS

80,801	Norway	Oct. 6, 1952
152,908	Australia	Aug. 21, 1953