United States Patent

[11] **3,565,399**

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[21] Appl. No. **751,443**
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[45] Patented **Feb. 23, 1971**
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[54] **FLOOR BOX ADJUSTING JACK**
5 Claims, 7 Drawing Figs.

[52] **U.S. Cl.** **254/100;** 248/1
[51] **Int. Cl.** **B66f 3/36**
[50] **Field of Search** ..... 254/100; 29/258, 428; 269/240, 321 (S); 248/(OB Digest), 1; 220/3.2, 3.6; 52/221

[56] **References Cited**

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Assistant Examiner—David R. Melton
Attorney—David Teschner

ABSTRACT: The disclosure is directed to a floor box adjusting jack which can be employed to position a floor box with respect to a floor line in order to properly position, with respect to that floor line, a floor box cover plate. The jack of the invention is comprised of a base member having a threaded aperture therethrough through which is passed a threaded rod such that when the rod is rotated in contact with a subsurface below the floor line the base member will be raised, or lowered, in accordance with the direction of turning of the rod. Coupled to the base member are a plurality of upwardly extending arms each terminating in a floor box receiving cavity. The floor box receiving cavities are positioned adjacent the lower ends of a floor box. By initially positioning the threaded rod with respect to the subsurface the floor box may be raised, tilted, or raised and tilted, in order to properly align its top surface with the floor line. After the jack has been employed to properly position the floor box the floor box will be locked in place and the jack may then be removed through the floor box to be used with other floor box devices or left in the box as a support.

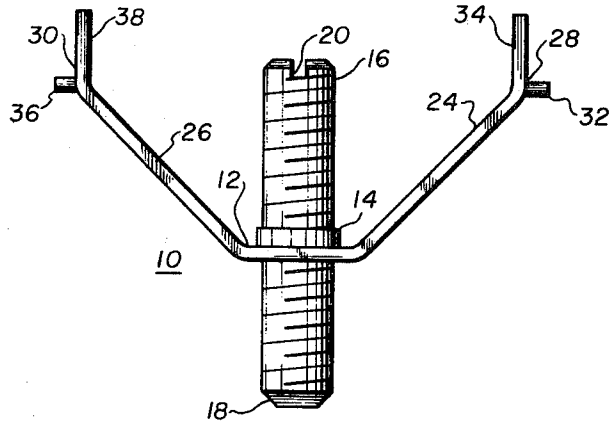


FIG. 1

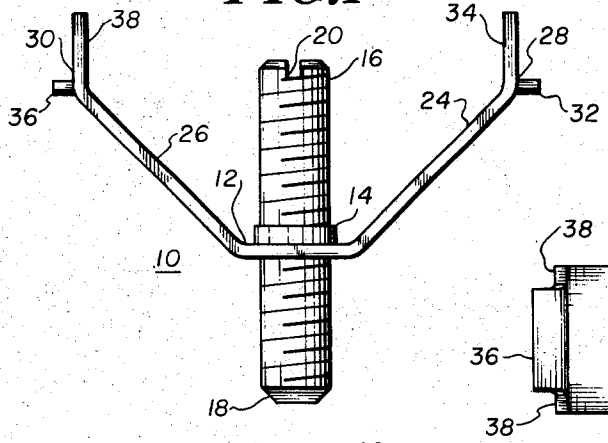


FIG. 2

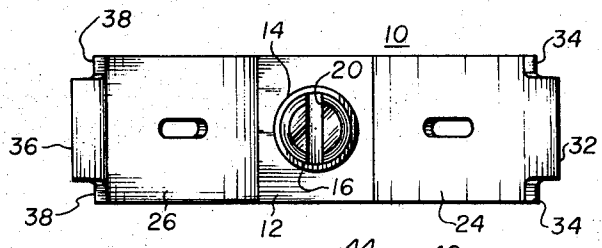
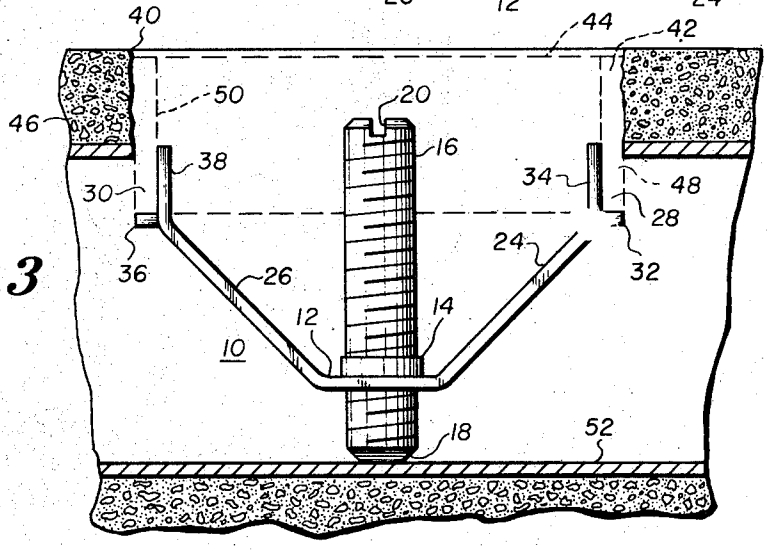


FIG. 3



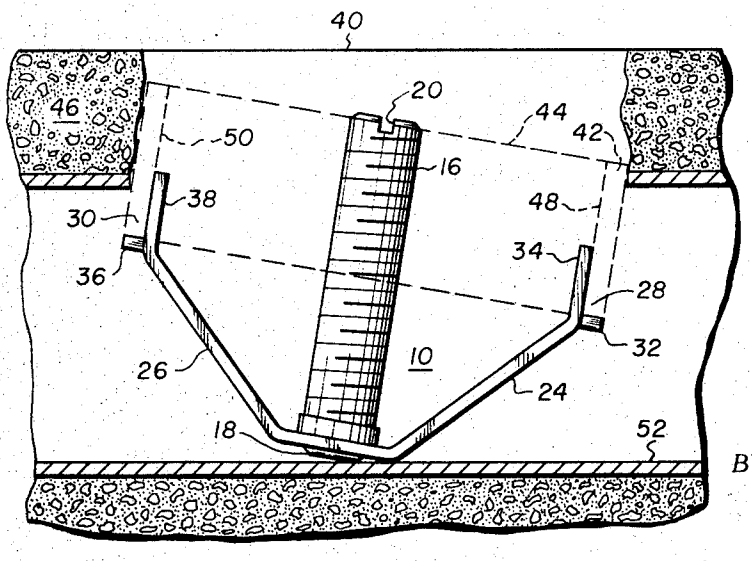


FIG. 4

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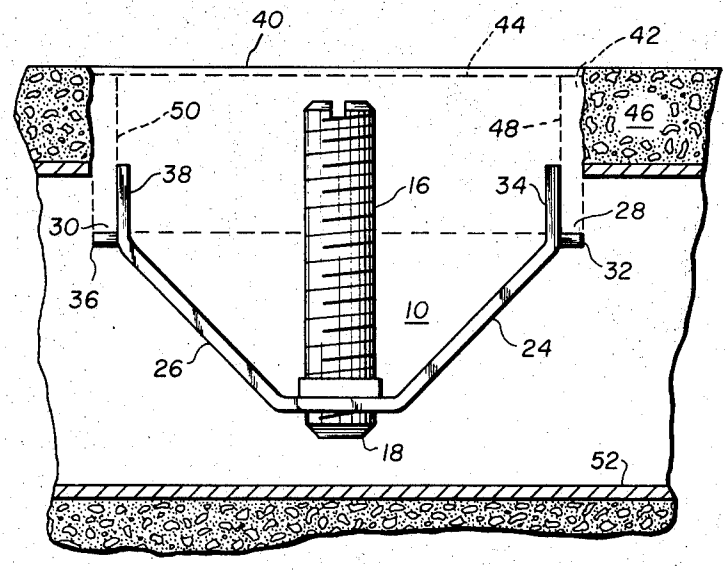

FIG. 5

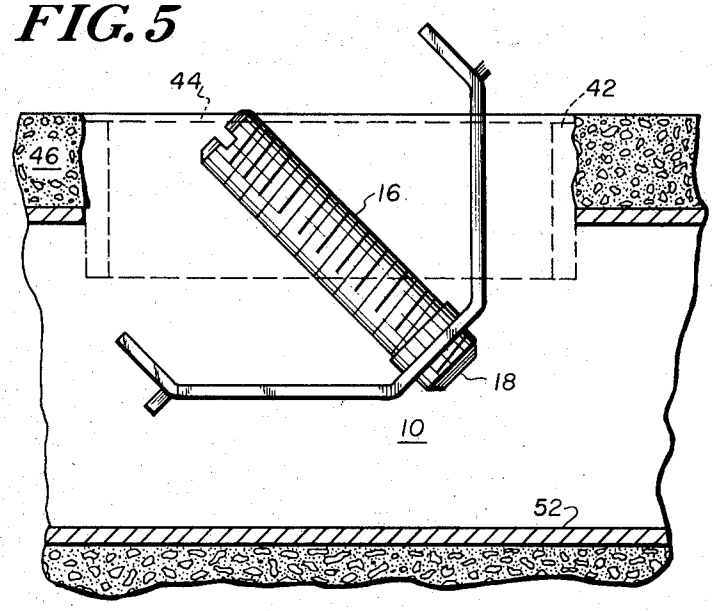

FIG. 6

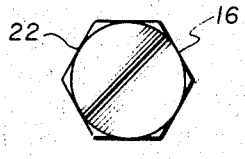

FIG. 7

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FLOOR BOX ADJUSTING JACK

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention is directed to the field of positioning floor installed floor boxes to compensate for variations in the position of the floor box, or floor line, which occur during construction or due to after installation additions to the base floor by the inclusion of tile, rugs, etc. The invention also finds utility wherever a removable type of jack is employed to move an element with respect to a surface.

2. Description of the Prior Art

Prior art devices for the repositioning, or adjustment of the position of floor boxes generally involve the use of an involved collar arrangement, coupling a floor plate to a floor box. Various telescoping parts were necessary in order that the box once set might have its floor plate positioned adjacent and in line with the desired final surface of a floor. Some devices of this type employed a plurality of screws to which the floor plate was coupled and which were required to be adjusted in order to raise, or lower, the floor plate with respect to the finished floor. In others shims were employed whereby it was necessary to disassemble and reassemble the floor plate arrangement to match it to the new surface or the altered surface of the floor line. In others, portions of the box were allowed to tilt, or raise, depending on the setting of plurality of screws which provide an arcuate path of movement of the floor plate with respect to the floor box itself. These caused some degree of difficulty in that they were mounted external of the floor box and were limited in the degree of tilt which could be achieved. Devices of this type often necessitated the enlargement of the mounting hole in which the floor box itself was located.

SUMMARY OF THE INVENTION

The present invention seeks to overcome the difficulties noted above with respect to prior art devices for adjusting the position of a floor plate. This is achieved by the use of a novel removable jack arrangement which can be positioned adjacent the bottom surface of the floor box and by properly positioning the jack member itself against the under floor surface, the box may be raised or tilted, or both in order to place the floor plate in correct relationship with respect to the final finished floor. Once the adjustment is completed and the floor box is locked into position the jack can then be disengaged from the floor box, or removed, for use with other floor box arrangements. The novel floor box adjusting jack, as described herein, is fabricated from a base member with two upstanding arms which terminate in floor box receiving cavities to be coupled to the floor box itself in temporary supporting relationship. The base member has therein a threaded aperture for receipt of a threaded rod which extends through such aperture and upon advancement of the rod will cause the base member and upstanding arms to advance the floor box to the desired position. The opposite direction of turning of the threaded rod disengages the floor box receiving cavities from the floor box whereby the jack may then be removed through the service entrance to the floor box or retained as a support. It is therefore an object of this invention to provide an improved form of floor box adjusting device.

It is still another object of this invention to provide an improved form of jack for use with a floor box.

It is still another object of this invention to provide an improved form of floor box adjusting device which consists of a jack member which may be employed to position the floor box and then removed to be employed with other floor boxes.

It is yet another object of this invention to provide a floor box adjusting device which is simple to manufacture, simple to use and which may be continually reused.

Other objects and features of the invention will be pointed out in the following description and claims and illustrated in the accompanying drawings, which disclose, by way of example, the principle of the invention, and the best mode which has been contemplated for carrying it out.

BRIEF DESCRIPTION OF THE DRAWING

In the FIGS.:

FIG. 1 is a side elevation of a floor box adjusting jack constructed in accordance with the concepts of the invention;

FIG. 2 is a top plan view of the floor box adjusting jack of FIG. 1;

FIG. 3 is a side elevation, partially in section, showing the manner of employment of the floor box adjusting jack of FIG. 1;

FIG. 4 is a side elevation, partially in section, showing an alternative use of the jack of FIG. 1;

FIG. 5 is a side elevation, partially in section, showing the manner of release of the jack from a floor box which has been properly positioned;

FIG. 6 is a side elevation, partially in section, showing the manner in which the jack may be removed after the floor box and has been properly positioned with respect to the floor line; and

FIG. 7 is a top plan view of a modified jack rod.

Similar elements will be given similar reference characters in each of the respective FIGS.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning now to FIG. 1 there is shown a floor box adjusting jack **10** constructed in accordance with the concepts of the invention. Jack **10** has a base member **12** having a threaded aperture **14** therethrough. Positioned within the threaded aperture **14** is a threaded rod **16**. At a first end of the threaded rod **16** is provided a frustroconical section **18** so as to permit the rod **16** to engage a surface at varying degrees of tilt of the rod **16** with respect to said surfaces. At a second end of the rod **16** is a slot **20** for the receipt therein of the blade of a screw driver. Alternatively, as is shown in FIG. 7 rod **16** may be provided with a series of wrench flats **22** so that a wrench or socket could be employed to rotate the threaded rod **16**. Coupled to the base member **12** are two upstanding arms **24** and **26**, each terminating in a floor box receiving cavity **28** and **30** respectively. Floor box receiving cavity **29** is made up of a first wall **32** which as will be seen with respect to FIGS. 3 and 4 extends in parallel with the base of the floor box and a second wall **34** which extends perpendicular to the base of the floor box. In a similar fashion, cavity **30** has a first wall **36** also parallel to the base of a floor box and a second wall **38** perpendicular to such base. As can better be appreciated from FIG. 2, first walls **32** and **36** are formed from the material of the second walls **34** and **38** by striking the first walls **32** and **36** therefrom.

Turning now to FIG. 3 there is shown the arrangement wherein a floor box **42** which is positioned with its top surface **44** too low with respect to a floor line **40** may be raised to the proper position. This may occur due to the addition of material such as a rug, tile, or the like above the original floor surface **40** or may be caused by the shifting of the floor box **42** within the material of the floor **46**. At the bottom end of the floor box **42** there is positioned the jack **10** such that cavity **28** engages sidewall **48** of the floor box **42** while cavity **30** engages sidewall **50** of the floor box **42**. Tip **18** of the threaded rod **16** is arranged to engage the sub floor surface **52** and does so in a position perpendicular to the sub floor surface **52**. Rotation of a screw driver (not shown) into the slot **20** of the threaded rod **16** permits rotation of the thread rod **16** in such a manner as to raise the entire jack **10** taking with it the floor box **42** until its top surface **44** is in line with respect to the floor line **40**. At this time, the floor box **42** will then be locked in its position by means (not shown) and the jack may be disassembled from its coupling with the floor box **42** as is better shown in FIGS. **5** and **6**. The threaded rod **16** is rotated in a direction opposite to that required to lift the floor box **42** until such time as the majority of the threaded rod **16** extends up into the floor box

42. At this point the jack 10 may then be depressed in order that the cavities 30 and 28 disengage from the sidewalls 50 and 48 respectively. This disengagement, due to the fact that the threaded rod is mostly within the limits of the arms 24 and 26, permits the entire jack 10 to be rotated as is shown in FIG. 7 and removed through the opening at the top of the floor box 42. If desired the jack 10 may be retained in the floor box 42 and employed as a support.

As is described above with reference to FIG. 3 the jack 10 is employed in order to move a floor box 42 which has its top edge 44 in parallel relationship with the floor line 40 but which was below it into proper alignment with the floor line 40. In FIG. 4 it is desired not only to raise the level of the surface 44 of the floor 42 but it is also desired to compensate for the tilted position of the surface 44 with respect to floor line 40. To accomplish this the tip 18 of the threaded rod 16 is positioned in an off center position as is shown and the jack 10 is then raised as was described above with reference to the FIG. 3. After the floor box line 44 is in proper position with respect to the floor line 40 and the floor box 42 has been permanently affixed to the floor line 40 the jack 10 will be removed as was described above with reference to FIGS. 5 and 6.

While there have been shown and described and pointed out the fundamental novel features of the invention as applied to the preferred embodiments, it will be understood that various omissions and substitutions and changes of the form and details of the devices illustrated and in their operation may be made by those skilled in the art without departing from the spirit of the invention.

I claim:

1. A removable floor box jack for adjusting the position of an in floor floor box with respect to a floor line, comprising: a substantially elongated base member having a threaded aperture intermediate the ends thereof, and first and second arms coupled to opposite ends of said base member and and extending outwardly therefrom in generally oblique angular relationship therewith, the free ends of said first and second arms in opposing spaced-apart relationship and formed to provide a floor box receiving cavity at each of said free ends to engage and laterally confine therebetween associated opposing upstanding sides of said floor box; a threaded rod engaging said threaded aperture in said base member; said threaded rod having a first end to engage a first surface and a second end formed to accept a drive member for rotating said threaded rod and positioning said base member accordingly; whereby the rotation of said threaded rod causes said base member, said first and second arms and a floor box laterally confined between said first and second arms to be displaced substantially axially parallel to the longitudinal axis of said threaded rod.

2. A jack, as defined in claim 1, wherein said cavities each have a first wall which extends parallel with the base of said floor box and a second wall which extends perpendicular thereto.

3. A jack, as defined in claim 1 wherein said second end of said threaded rod has a slot therein.

4. A jack, as defined in claim 1, wherein said second end of said threaded rod is selectively flatted to permit said threaded rod to be rotated by use of a wrench or similar tool.

5. A jack, as defined in claim 1, wherein the structure comprising said jack may be positioned in oblique angular relationship to said first surface and said threaded rod selectively rotated, wherein a floor box laterally confined between said free ends of said first and second arms may be raised or tilted as said base member traverses said threaded rod; and wherein said base member is removable from said floor box without the repositioning thereof.

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,565,399 Dated March 16, 1971

Inventor(s) W. E. Kelly

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 2, line 43, "29" should be -- 28 --.

Column 3, line 6, "FIG. 7" should be -- FIG. 6 --.

Signed and sealed this 25th day of May 1971.

(SEAL)
Attest:

EDWARD M.FLETCHER,JR.
Attesting Officer

WILLIAM E. SCHUYLER, JR.
Commissioner of Patents