

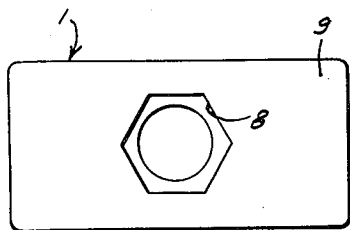
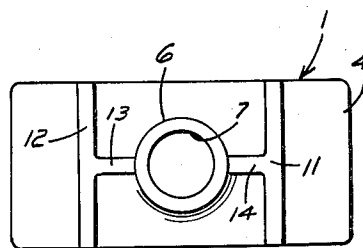
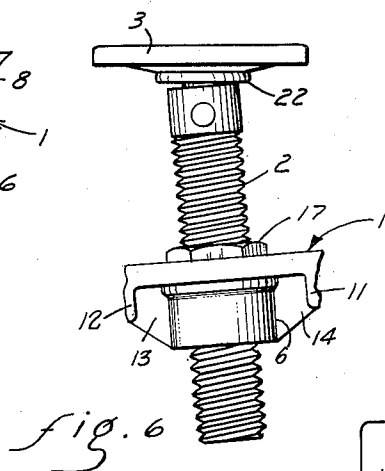
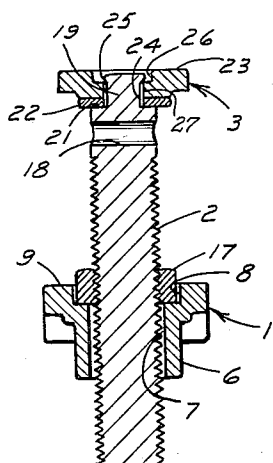
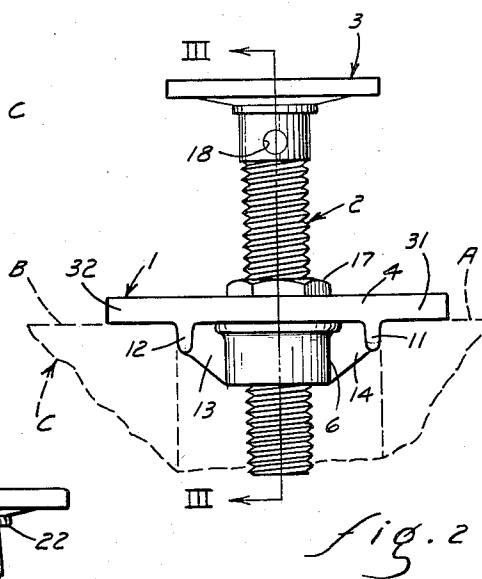
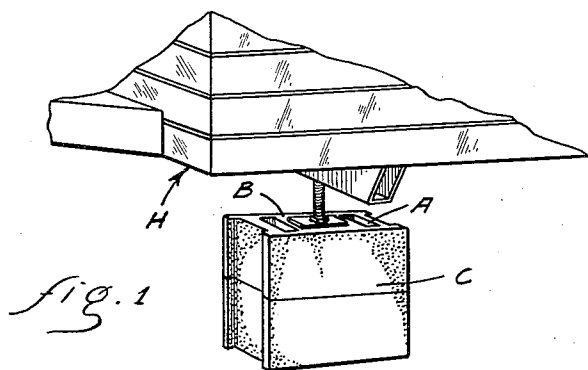
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3,022,980

LEVELING DEVICE FOR MOBILE HOMES

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1

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LEVELING DEVICE FOR MOBILE HOMES

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This invention relates to a lifting device and it relates particularly to a lifting device adaptable for support on and by an ordinary hollow cement block and including one which is adaptable for use in multiple to support a heavy load, such as a mobile home, on a plurality of hollow cement blocks or similar perforated temporary foundation means.

While it will be recognized that the jack constituting the invention is capable of wide use in a large number of applications, the specific use for which this jack has been developed is for supporting a mobile home on a temporary foundation formed of hollow cement blocks and, accordingly, it will be convenient to describe said jack and its function in connection therewith. However, it should be clearly understood that such specific reference to the use in connection with a mobile home is for illustrative purposes only and is not limiting.

In the use of mobile homes, it is common practice where said homes are used for long periods of time in a single location, but not usually permanently, to support same on and by various types of temporary foundations. One form of such temporary foundation is provided by a plurality of cement blocks which are placed under the body of the mobile home and support same firmly a desired distance above the ground which distance is usually sufficient to remove the weight from the wheels of the mobile home. In many cases the wheels will be removed entirely and stored as convenient.

In placing such cement blocks under the body of the mobile home, it usually happens that the ground on which the mobile home is to be supported is neither exactly level nor exactly even. Therefore, some type of adjusting device is desirable between the upper side of the cement block and the lower side of the mobile body or frame. A variety of devices have been developed for this purpose and the use of such devices is already well established.

However, many of these devices involve relatively complex jack structures and are undesirably expensive. In other instances, where simple wedge-type devices are used, they are not entirely accurate and do not support the mobile home with the required degree of stability. In still other cases, the devices used, though simple and stable, are relatively difficult to install and such installation necessarily proceeds rather slowly.

Accordingly, the objects of the invention are:

(1) To provide a jack structure capable of use with a hollow cement block for supporting an appreciable load, such as the body of a mobile home.

(2) To provide a jack structure, as aforesaid, which can be inserted into a hollow cement block whereby the hollow cement block will constitute the major foundation structure and the jack will constitute merely a spacer of variable magnitude locatable between the cement block and the frame of the mobile home.

(3) To provide a jack structure, as aforesaid, of extreme simplicity and which can be manufactured and sold at low cost.

(4) To provide a jack structure, as aforesaid, which will firmly engage the cement blocks which may be used in order that the cement block will provide a stable and reliable base for said jack structure.

(5) To provide a jack structure, as aforesaid, which is flexible at a point between the upper surface of the

2

cement blocks and the lower surface of the supported object so as to compensate for minor nonparallelism between the lower surface of said supported object and the upper surface of said cement blocks.

(6) To provide a device, as aforesaid, whose operation will be obvious upon inspection thereof and thereby capable of easy convenient use by any and all classes of purchasers.

(7) To provide a jack structure, as aforesaid, which is readily operable for quick adjustment to an approximate position and is then conveniently operable for precise adjustment as desired.

Other objects and purposes of the invention will be apparent to persons acquainted with devices of this general type upon the reading of the following disclosure and inspection of the accompanying drawings.

In the drawings:

FIGURE 1 is an oblique view of a fragment of a mobile home showing a cement block in supporting position and a jack embodying the invention supported on the cement block and in turn supporting the corner of the mobile home.

FIGURE 2 is an end view of the jack embodying the invention.

FIGURE 3 is a section taken on the line III—III of FIGURE 2.

FIGURE 4 is a bottom view of the jack base.

FIGURE 5 is a top view of the jack base.

FIGURE 6 is a fragmentary view generally similar to FIGURE 2 illustrating the action of the parts in a tilted position.

Referring now to the details of the jack, there is provided a base 1 supporting a threaded screw 2 which in turn supports a load-engaging pad 3.

The base structure consists generally of a rectangular body part 4 having a hollow boss 6 extending downwardly therefrom, said boss defining an opening 7 therethrough. A noncircular recess 8 is provided in the upper surface 9 of said body part and extends downwardly through said body part toward said boss. A pair of flanges 11 and 12 extend downwardly from said body part on either side of said boss and are preferably provided with fins 13 and 14 connecting each of said flanges to said boss for reinforcing purposes.

The screw 2 extends through said opening and carries a nut 17 thereon. Said nut is normally received into said recess 8 but is readily removable therefrom. Said nut is of noncircular shape similar to that of said recess so that, while said nut may be readily inserted into said recess and removed therefrom, it cannot when in place within said recess rotate with respect to said base.

At the upper end of said screw, there is provided a transverse opening 18 therethrough for the reception of any convenient bar by which said screw is rotated.

While the length of the boss 6 is a matter of choice, it is apparent that it must in all events be sufficiently long with respect to the diameter of the screw 2 that there will be no appreciable tilting of the axis of said screw with respect to the axis of said boss.

At the upper end of said screw there is provided a stem 19 of reduced diameter extending coaxially with said screw and defining the shoulder 21 therewith. A washer 22 surrounds said stem and is supported on and by said shoulder. A load-engaging pad 23 has an opening 24 substantially therethrough, through which said stem 19 extends whereby said pad rests on the upper side of said washer. The upper end of said stem is preferably provided with any convenient means for preventing removal of said pad therefrom, such as by peening over the end of said stem, as at 25.

The recess 26 is preferably provided in the upper surface of said pad for the reception of said peened portion

of the stem in order that said stem will not extend upwardly beyond the upper surface of said pad. The diameter of the opening 24 is somewhat larger than that of said stem 19 and the flange 27 defined between said recess and the lower surface of said pad is somewhat thinner vertically than the distance between the lower surface of the peened over flange 25 and the upper surface of said washer 22. Thus, said pad is enabled to move somewhat away from a perpendicular relationship with the axis of said stem whereby it can engage the lower surface of a mobile home even though the ground on which the cement block is supported is somewhat irregular. The washer 22 assists in distributing forces between the pad and the shoulder 21 when the pad 3 is at an angle with respect to said shoulder. Further, particularly where the washer 22 and a screw 2 are made of steel and a pad 3 is made of aluminum, the washer prevents galling which would otherwise exist if the pad 3 were permitted to bear directly against the shoulder 21.

It is desirable, but not essential for all purposes of the invention, that the outside diameter of the washer 22 and the portion of the pad being contacted by the washer be of larger diameter than the outside diameter of the shoulder 21, while the inside diameter of the washer is about equal to the diameter of the opening 24. Thus, as shown in FIGURE 6, tilting of the pad 3 with respect to the screw 2 will effect a similar tilting of the washer and thereby assist the washer in supporting a larger portion of the underside of the pad than would be supported if the pad would bear directly against the shoulder 21.

Operation

The operation of the jack of the present invention has been somewhat indicated above and is obvious from the foregoing description. However, it will be reviewed briefly in the interest of insuring a complete disclosure.

Assuming the jack of the invention is to be used for supporting a mobile home H above a foundation including the cement block C and assuming that the frame of the mobile home is already supported in any convenient manner, such as by temporary jacks (not shown), above the cement block which is to be used as the foundation, the screw 2 is withdrawn from the base 1 sufficiently so that the nut 17 is removed from the recess 8. The nut is then run upwardly on said screw sufficiently that the pad 3 will clear the lower surface of the mobile home frame when the base of the jack is properly inserted into the cement block. The entire jack is then placed onto the cement block with the downwardly extending flanges 11 and 12 extending into the opening of the cement block and the ends 31 and 32 of said base resting on the side edges A and B of the cement block.

A suitable bar or other lever is then inserted into the opening 18 and the screw rotated to move the pad 3 upwardly to engage the lower surface of the mobile home and to hold same in the desired position.

It will be recognized that the flanges 11 and 12 will not only hold the base firmly in position with respect

to the cement block but, will also prevent same from rotating with respect to said cement block. Hence the jack is maintained firmly in position and the adjustability of the pad 3 with respect to the axis of the stem 19 will enable it to accommodate itself to any ordinary non-parallelity between the lower surface of the mobile home and the upper surface of the cement block.

Although particular preferred embodiments of the invention have been disclosed above for illustrative purposes, it will be understood that variations or modifications of such disclosure which lie within the scope of the appended claims are fully contemplated.

What is claimed is:

1. In combination with a cement block having wall means defining a substantially rectangular opening therein, a jack structure comprising a base structure having a substantially planar lower surface with a pair of substantially parallel, transversely elongated, vertical flanges extending downwardly therefrom, said flanges being received in said opening closely adjacent opposite sides of said opening and extending therealong, said base structure including a pair of end sections extending side-wardly from the upper ends of said flanges and resting on said wall means; a threaded member removably mounted in non-rotatable position on said base structure; a jack screw threaded through said threaded member and extending substantially vertically from said base structure; and a load-engaging pad mounted on the upper end of said screw.

2. A jack structure adapted for support on a cement block or the like, comprising: a base structure having a substantially planar lower surface and a pair of substantially parallel, transversely elongated, vertical flanges extending downwardly therefrom, said flanges being spaced apart a distance such that same may be snugly received within an opening in a cement block, said base structure including a pair of end sections extending sidewardly from the upper ends of said flanges and adapted to overlie the walls of a cement block, said base structure having a central opening therethrough and an enlarged recess of out-of-round cross section at the upper end of said central opening; an out-of-round nut removably disposed in said recess in nonrotatable relationship therewith, said nut having an internal threaded opening of smaller diameter than said central opening; a jack screw threaded through said nut and extending through said central opening and being spaced from the wall thereof; and a load-engaging pad mounted on the upper end of said jack screw.

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