

ABSTRACT

According to an embodiment of the invention, there is provided an adjustable footing for a post, the adjustable footing comprising: a base, the base comprising a base plate, a fixed base nut secured to the base plate and a threaded rod secured to the base nut and extending perpendicular to the base; and a top, the top comprising a post plate having a hole and a fixed post nut secured to the post plate over the hole and dimensioned to engage the threaded rod. The post plate is secured to the post such that the threaded rod passes through the post nut and hole into a cavity in the post, and the overall height of the footing is adjustable by rotation of the base via the base nut.

ADJUSTABLE FOOTING FOR A POST

FIELD OF THE INVENTION

[0001] The present specification relates generally to posts for decks and similar structures, and in particular to footing for a post which is adjustable in place to modifying the height of the post.

BACKGROUND OF THE INVENTION

[0002] Installation of a floating deck requires numerous deck posts to support the structure and balance the load of the deck. One of the challenges of construction is ensuring that the deck posts are positioned and height-adjusted to ensure that the deck surface is level and balanced.

[0003] However, over time, due to issues such as soil settling and deck material warping, particularly in areas with high water tables, the deck posts may no longer maintain their original position and structures. As a consequence, the deck surface may no longer be level, and may even be subject to damage.

[0004] Thus, there is a demand for a deck post which may be height-adjusted during construction as well as after construction, to account for changes over time.

[0005] Accordingly, there remains a need for improvements in the art.

SUMMARY OF THE INVENTION

[0006] In accordance with an aspect of the invention, there is provided an adjustable footing for a post.

[0007] According to an embodiment of the invention, there is provided an adjustable footing for a post, the adjustable footing comprising: a base, the base comprising a base plate, a fixed base nut secured to the base plate and a threaded rod secured to the base nut and extending perpendicular to the base; and a top, the top comprising a post plate having a hole and a fixed post nut secured to the post plate over the hole and dimensioned to engage the threaded rod. The post plate is secured to the post such that the threaded rod passes through the post nut and hole into a cavity in the post, and the overall height of the footing is adjustable by rotation of the base via the base nut.

[0008] According to another embodiment of the invention, there is provided an adjustable deck post, the deck post having a cavity in a bottom surface, the cavity extending perpendicular from the bottom surface along a longitudinal axis of the deck post, a base, the base comprising a base plate, a fixed base nut secured to the base plate and a threaded rod secured to the base nut and extending perpendicular to the base, and a top, the top comprising a post plate having a hole and a fixed post nut secured to the post plate over the hole and dimensioned to engage the threaded rod. The post plate is secured to the deck post such that the threaded rod passes through the post nut and hole into the cavity in the post, and the overall height of the footing is adjustable by rotation of the base via the base nut.

[0009] According to another embodiment of the invention, there is provided a method of securing an adjustable footing to a deck post, the method comprising: boring a cavity into a bottom surface of the deck post, the cavity extending along a longitudinal axis of the deck post; securing a post plate to the bottom surface, the post plate having a hole aligned with the cavity and a post nut secured to the post plate and covering the hole; and connecting a base plate to the post plate by a threaded rod, the threaded rod extending perpendicular to the base plate and secured to the base plate by a fixed base nut. The threaded rod extends into the cavity; and the post plate, post nut, threaded rod, base nut and base plate form the adjustable footing for the deck post

[0010] Other aspects and features according to the present application will become apparent to those ordinarily skilled in the art upon review of the following description of embodiments of the invention in conjunction with the accompanying figures.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Reference will now be made to the accompanying drawings which show, by way of example only, embodiments of the invention, and how they may be carried into effect, and in which:

[0012] Figure 1 is a front view of a deck post and adjustable footing according to an embodiment;

[0013] Figure 2 is a cut-away view of Figure 1 along line A-A; and

[0014] Figure 3 is an exploded view of the adjustable footing of Figure 1.

[0015] Like reference numerals indicated like or corresponding elements in the drawings.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0016] The present invention relates to posts for decks and the like, and in particular, to an adjustable footing for a deck post. In the context of the embodiments herein a deck post is a post which provides support for a structure such as a floating deck, however, similar posts may be used for other structures such as stairs or fences, and would be understood to be equivalent to a deck post as described herein.

[0017] According to an embodiment as shown in Figure 1, a deck post footing 100 may comprise a base 110 with a base plate 120 and a threaded extension rod 130 extending perpendicular to the base plate and secured to base plate 120 by a fixed base

nut 125. Base nut 125 is secured to base plate 120 by welding (for metal) or a permanent adhesive. Alternatively, extension rod 130 may be directly secured to base plate 120 by similar methods. Base nut 125 and extension rod 130 may also be combined into a single bolt which may be welded or otherwise secured to base plate 120.

[0018] The threaded extension rod 130 is threaded through a top formed from a post plate 145 with a hole covered by a post nut 140 which is secured to post plate 145 similarly to base plate 120 and base nut 125. Post plate 145 is secured to the bottom of a deck post 150 by screws 165 (e.g. #8 deck screws), nails or equivalent fasteners. Alternatively, plate 145 may be secured by a permanent adhesive, or welded, for a metal deck post.

[0019] Extension rod 130 thus extends through the hole in post plate 145 and post nut 140 into a cavity 155 (as shown in Figure 2) inside deck post 150 which is dimensioned to permit the extension rod 130 to both fit within the cavity, as well as to be extended vertically to adjust the overall height of the deck post 150 via rotation of the base 110 via the base nut 125.

[0020] In operation, base plate 120 rests upon a concrete slab 160 or patio stone to support the weight of deck post 150 and the deck (not shown) which it supports. Base plate 120 is not secured to the slab 160 in order to permit rotation of base 110 to adjust the height of the footing 100 and deck post 150. To further facilitate rotation, an anti-seize compound may be applied to extension rod 130 and/or post nut 140 prior to assembly.

[0021] The height of the deck post 150 may be adjusted by adjusting the height of base 110 via the rotation of base nut 125 using a wrench or even by hand, depending on the amount of weight supported by the footing 100. The amount of weight may effectively be reduced by use of props or supports on the deck or other structure supported by deck post 150.

[0022] The cavity 160 inside deck post 150 is, as discussed above, dimensioned to be

slightly larger in diameter than extension rod 130. Thus, extension rod 130 is protected from weather and debris by both the body of deck post 150, as well as post nut 140 and post plate 145. Additional weather resistance may be provided by the selection of material for extension rod 130. For example, a grade 5 zinc-coated bolt has been shown to demonstrate suitable weather and rust-resistant qualities. With proper material, there may be no need for any cap or cover to be applied to extension rod 130, simplifying installation.

[0023] Footing 100 may be adjusted to level the deck or other structure support by deck post 150. Additionally, adjustments may be further made over the life of the structure to account for changes from settling over time, material warpage or shrinkage, and soil erosion, particularly in areas with high water tables.

[0024] As shown, both base nut 125 and post nut 140 are hexagonal nuts of similar dimension, which is considered aesthetically pleasing and permits the use of standard wrenches for assembly and adjustment. However, base nut 125 and post nut 140 need not be of similar dimension, nor of the same nut type, to enable adjustment. For example, base nut 125 may be a square nut, to enable greater leverage for rotation during adjustment. As another example, post nut 140 may be slightly rounded, to provide greater visual clarity that base nut 125 is meant to be rotated to make height adjustments to footing 100.

[0025] According to an embodiment, for a standard 4x4 deck post, extension rod 130 is approximately 3 inches long and 1 inch in diameter, with cavity 155 being approximately 4 inches long and 1-1/4 inches in diameter. As an example, base plate 120 and post plate 145 may be 1-3/8" washers having a 3-1/4" outside diameter. Thus, base nut 125 and post nut 140 may be 1" nuts which fit to the washers. Alternatively, as discussed above, base nut 125 and extension rod 130 may be combined using a 1" by 3" bolt. Other dimensions are possible depending on the size and materials of the deck post 150 and the adjustable footing 100.

[0026] According to a further embodiment, the deck post 150 is made of wood and the adjustable footing 100 is made of steel, with extension rod 130 zinc-coated for weather resistance (for example, a grade 5 zinc-coated bolt). Alternatively, deck post 150 may be made from a composite material, or concrete or steel.

[0027] The present invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. Certain adaptations and modifications of the invention will be obvious to those skilled in the art. Therefore, the presently discussed embodiments are considered to be illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than the foregoing description and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What is claimed is:

1. An adjustable footing for a post, comprising:

a base, the base comprising a base plate, a fixed base nut secured to the base plate and a threaded rod secured to the base nut and extending perpendicular to the base, wherein the threaded rod does not pass through the base plate, the base plate resting unsecured upon a support surface for the post and capable of rotation while resting on said support surface; and

a top, the top comprising a post plate having a hole and a fixed post nut secured to the post plate over the hole external to the post and dimensioned to engage the threaded rod,

wherein the post plate is secured to the post such that the threaded rod passes through the post nut and the hole into a cavity in the post, wherein the threaded rod does not engage the post, and the overall height of the footing is adjustable by rotation of the base via the base nut; and

wherein the rotation of the base via the base nut does not require any external support for the post during rotation; and

wherein the base nut and the post nut are of the same dimensions.

2. The footing of claim 1, wherein the threaded rod is further secured to the base plate.
3. The footing of claim 1, wherein the base plate and the post plate are of the same dimensions.

4. The footing of claim 1, wherein the base plate, the base nut, the post plate and the post nut are composed of the same materials.

5. The footing of claim 1, wherein the post plate is secured to the post by one or more screws.

6. A method of securing an adjustable footing to a deck post, comprising:

boring a cavity into a bottom surface of the deck post, the cavity extending along a longitudinal axis of the deck post;

securing a post plate to the bottom surface, the post plate having a hole aligned with the cavity and a post nut secured to the post plate external to the post and covering the hole; and

connecting a base plate to the post plate by a threaded rod, the threaded rod extending perpendicular to the base plate, wherein the threaded rod does not pass through the base plate and secured to the base plate by a fixed base nut, the base plate resting unsecured upon a support surface for the deck post and capable of rotation while resting on said support surface;

wherein the threaded rod extends into the cavity and the threaded rod does not engage the post within the cavity;

wherein the base nut and the post nut are of the same dimensions; and

wherein the post plate, the post nut, the threaded rod, the base nut and the base plate form the adjustable footing for the deck post, with adjustment performed via rotation of the base plate.

7. The method of claim 6, wherein the height of the deck post is adjusted by rotation of the base nut and the post does not require any external support during rotation.
8. The method of claim 6, further comprising applying an anti-seize compound to the threaded rod prior to the connecting step.
9. The method of claim 6, wherein the post plate is secured by one or more screws.
10. The method of claim 6, wherein the base plate and the post plate are of the same dimensions.
11. The method of claim 6, wherein the base plate, the base nut, the post plate and the post nut are composed of the same materials.

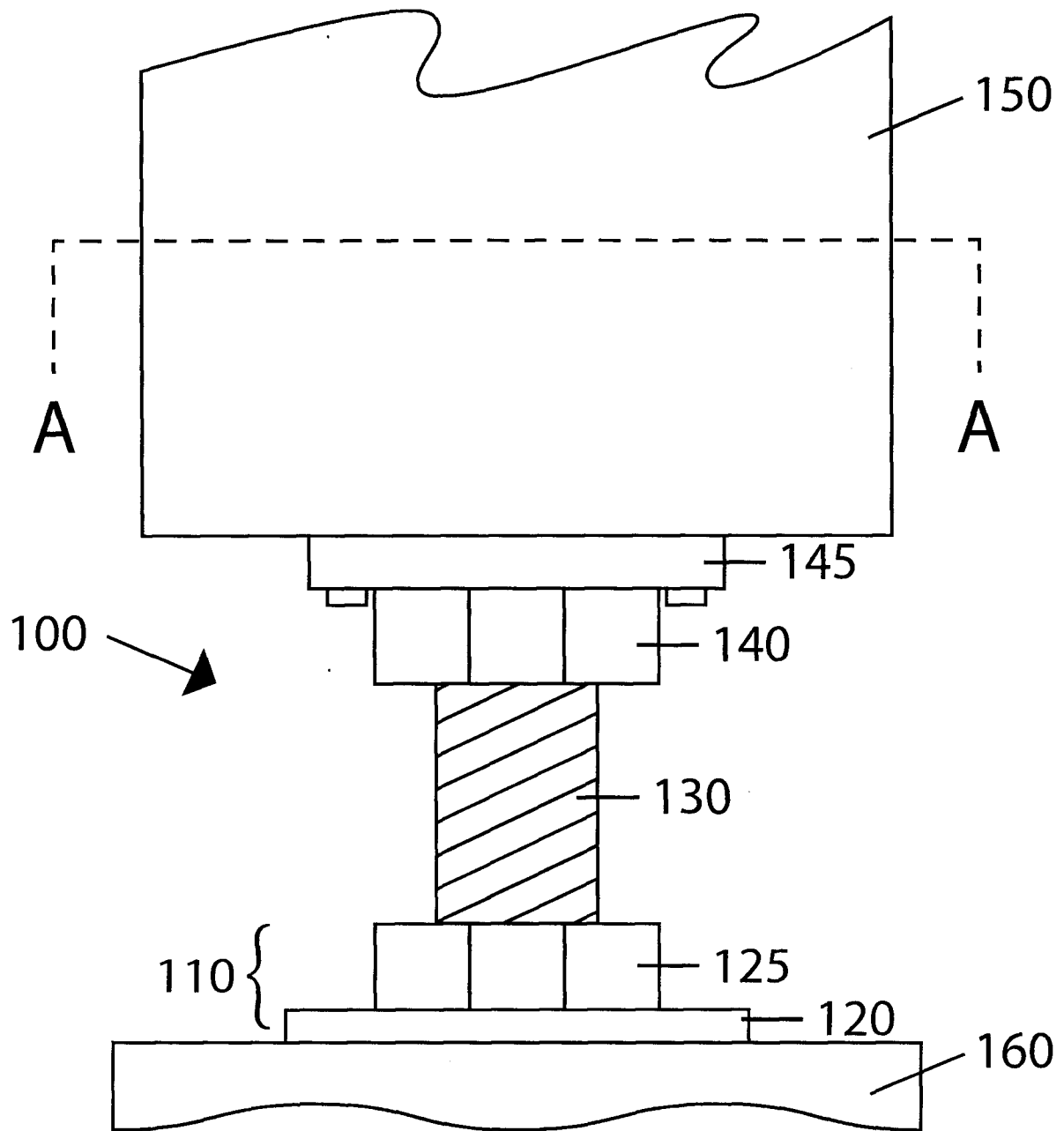


FIGURE 1

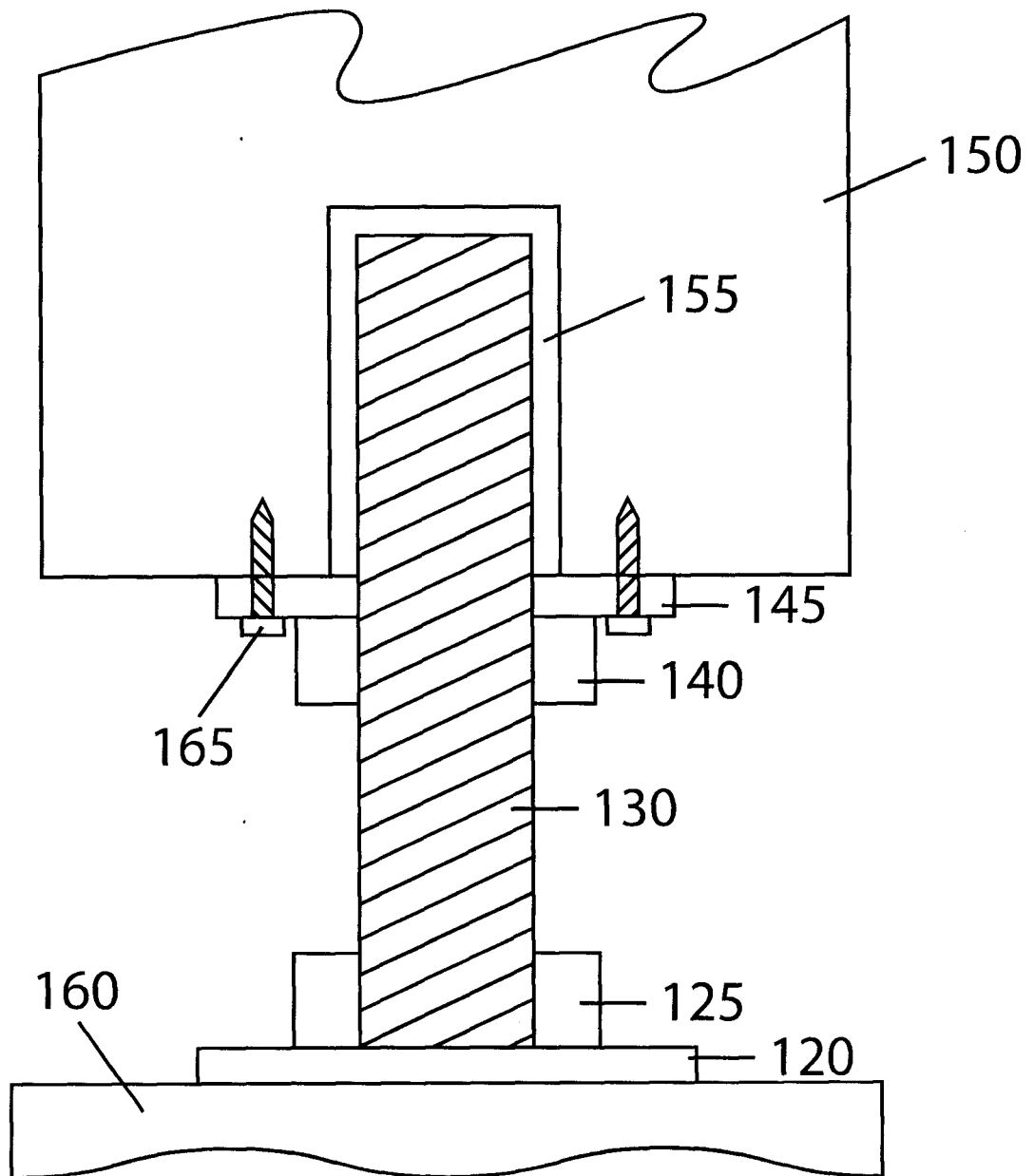


FIGURE 2

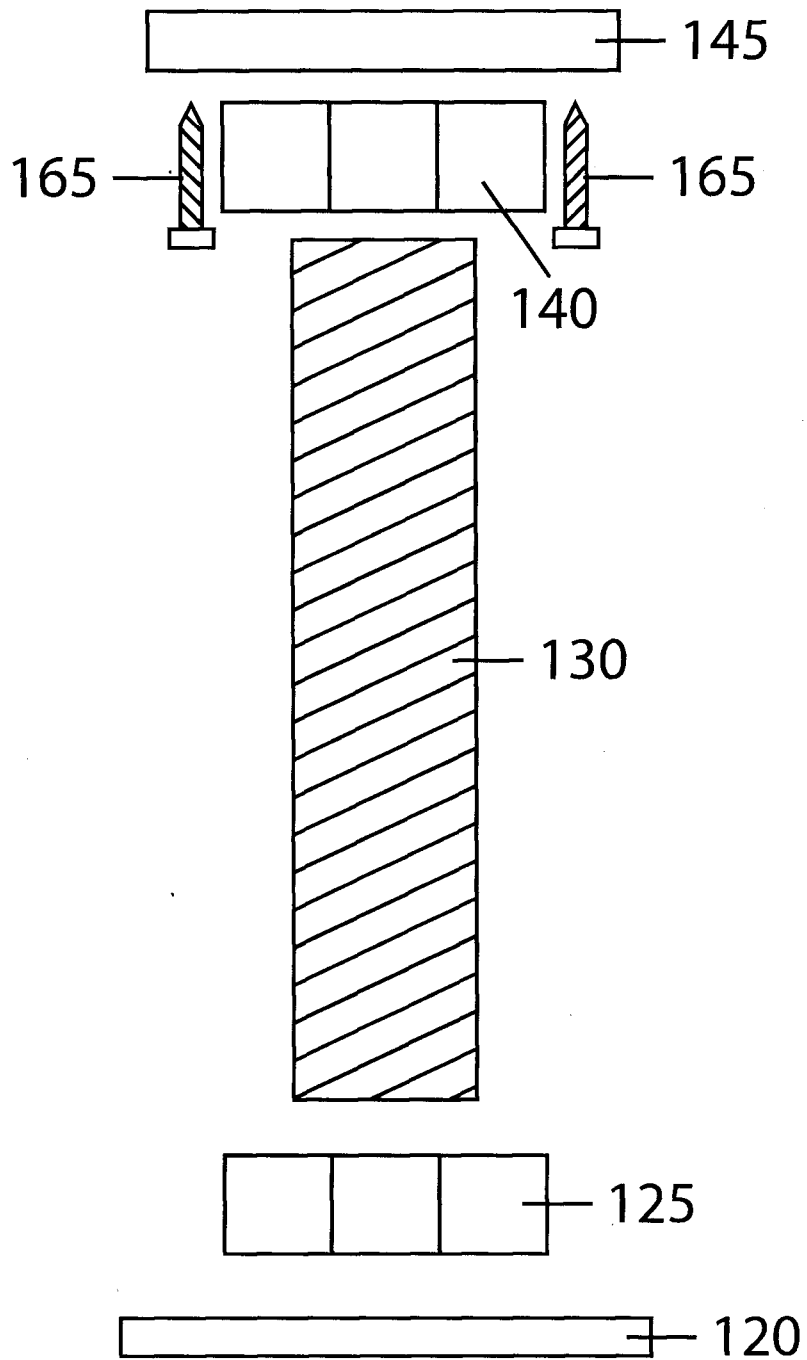


FIGURE 3

