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(54) **OCTAGONAL POST ANCHOR TEMPLATE**

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(57) **ABSTRACT**

The invention relates to an apparatus for adjustably suspending and positioning eight post anchors at a time for an octagonal structure regardless of a shape and size of a floor form. The apparatus includes eight trapezoid template panels to form an octagonal template, sixteen "wing" post anchor holders attached to along the anti-parallel sides of said trapezoid template panels, and screws to firmly assemble eight template panels. For a large structure, the apparatus may also include braces which diagonally hold and stabilize each of the template panels to prevent them from shifting. The device facilitates placements of post anchors in octagonal position and the process of permanently securing the post anchors by pouring cement. The device can be easily removed after concrete has hardened, this speeds the construction process of finishing an entire floor.

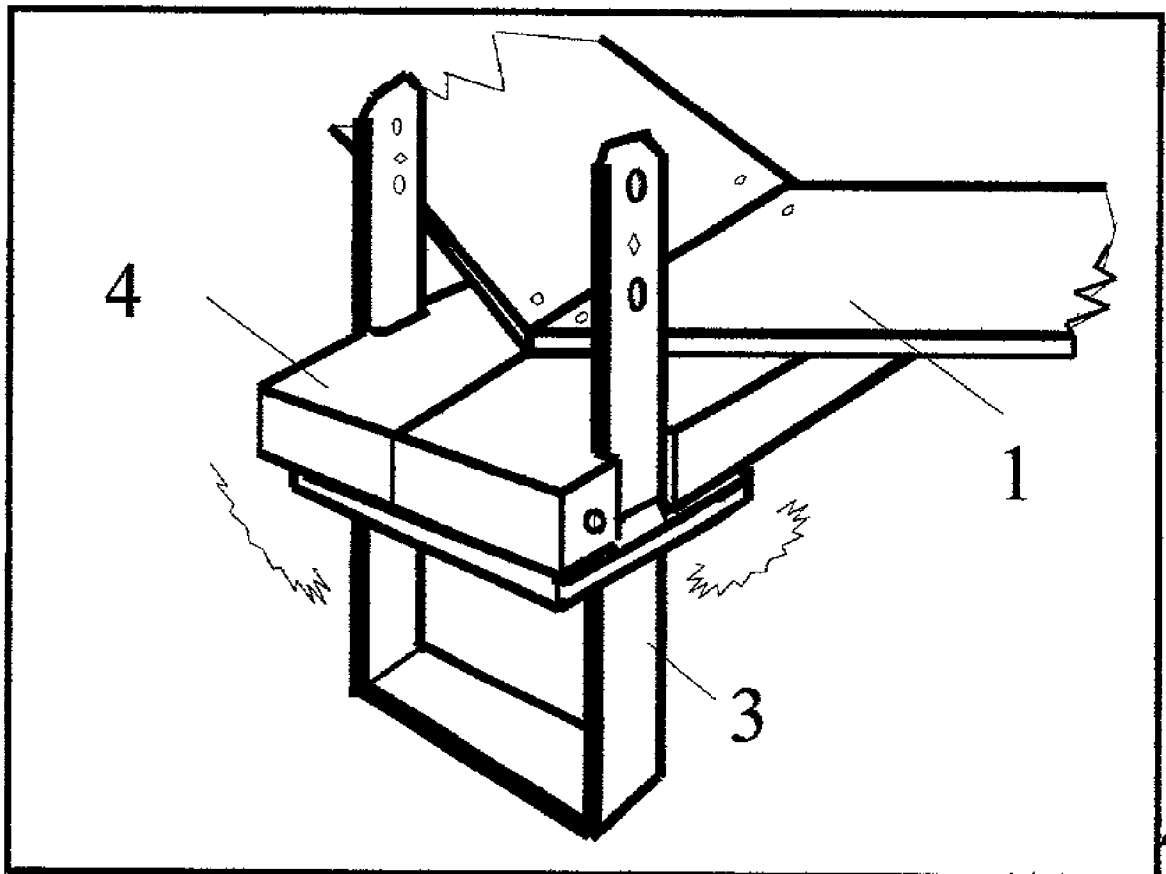


FIG. 1

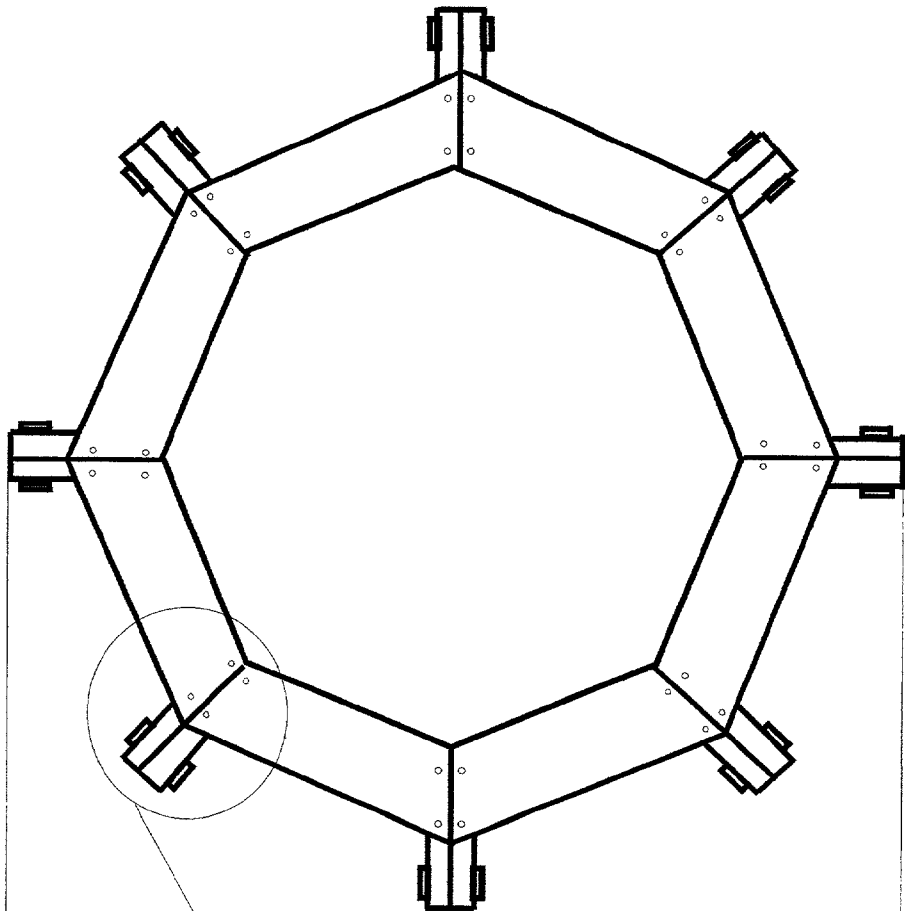


FIG. 2

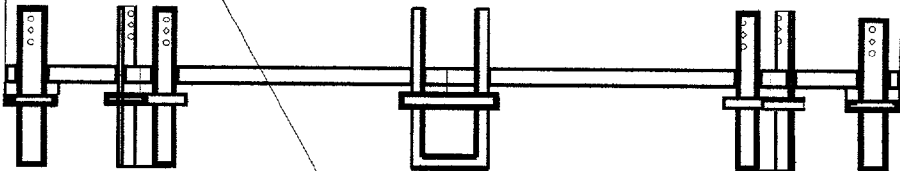
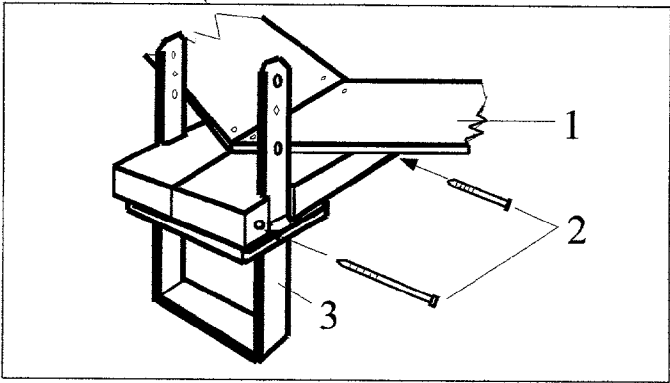


FIG. 3



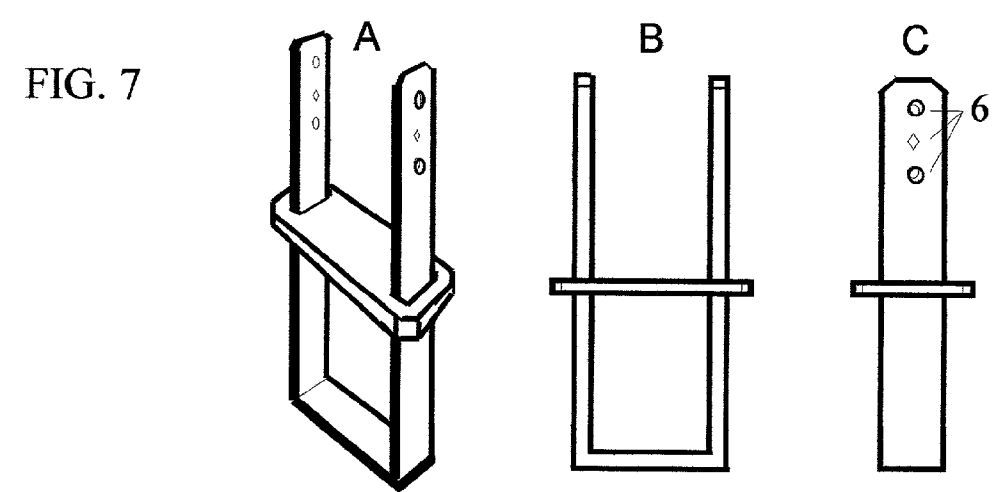
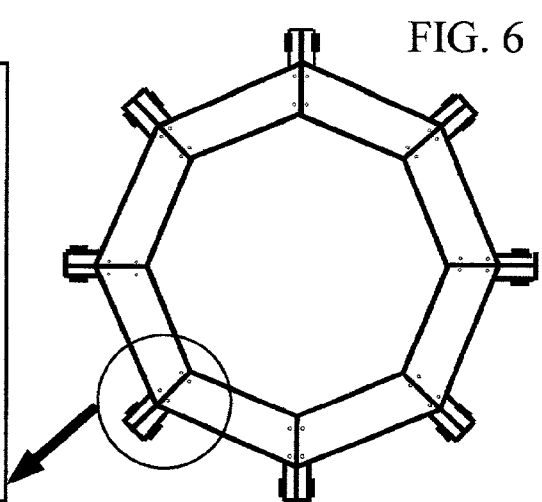
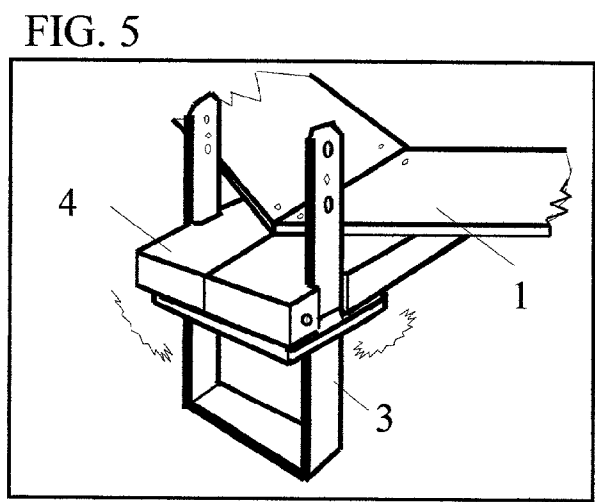
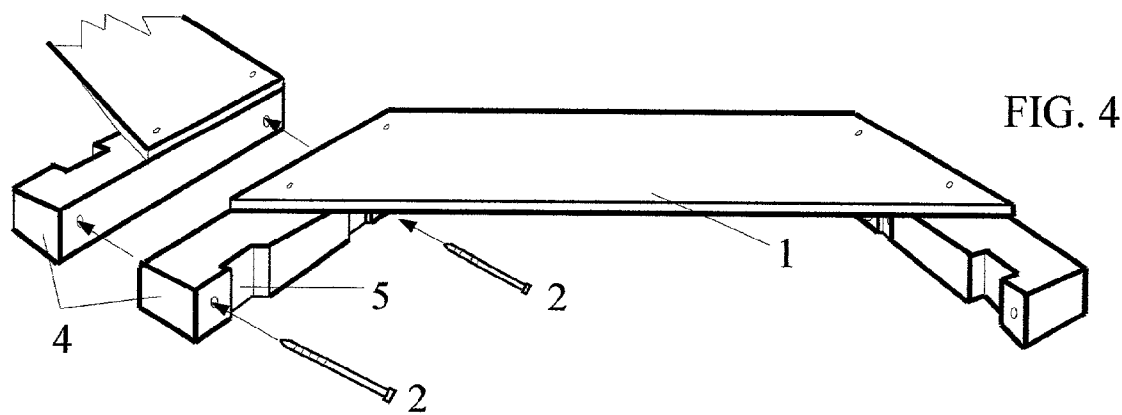


FIG. 8

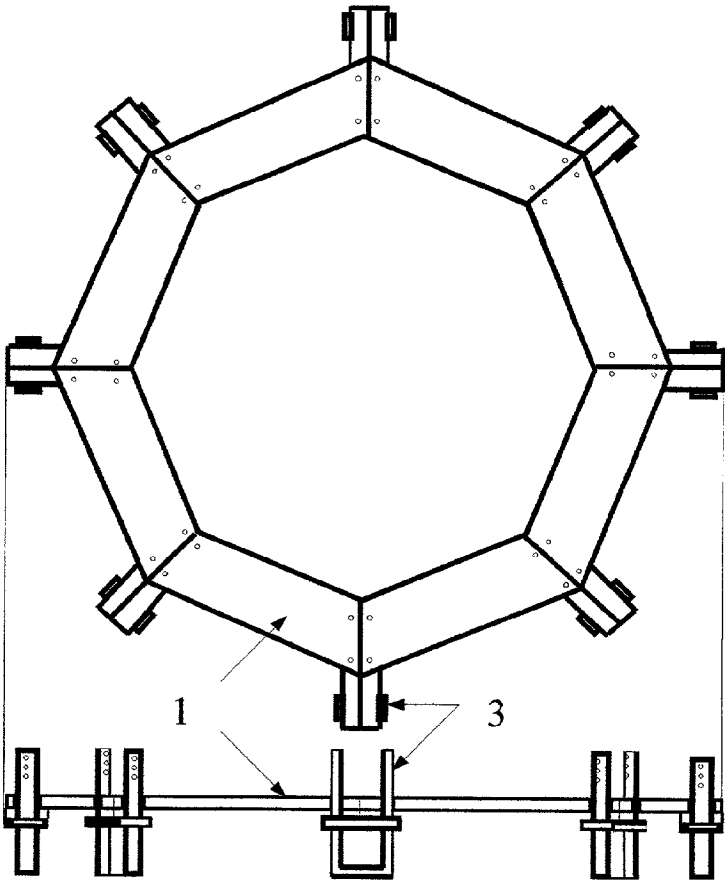


FIG. 9

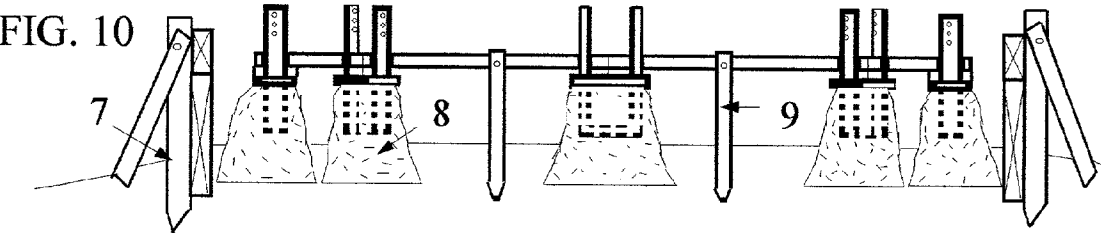
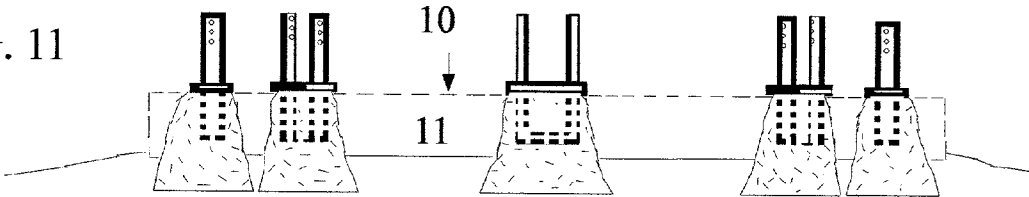


FIG. 11



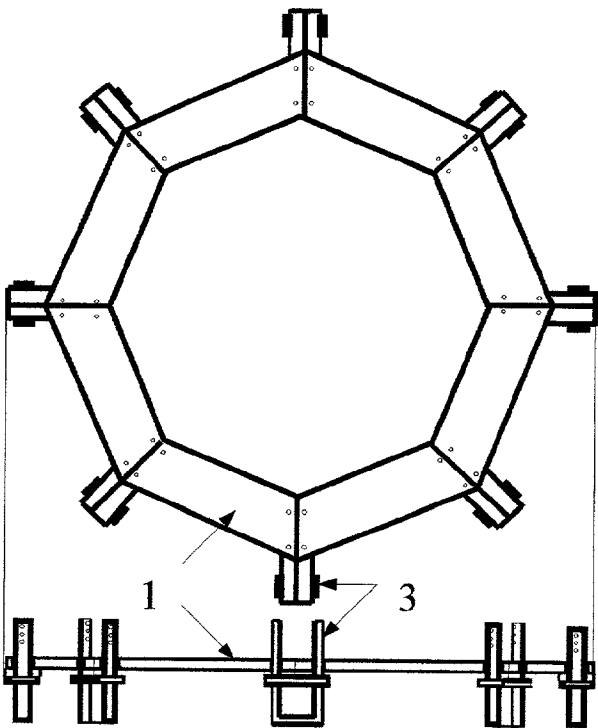
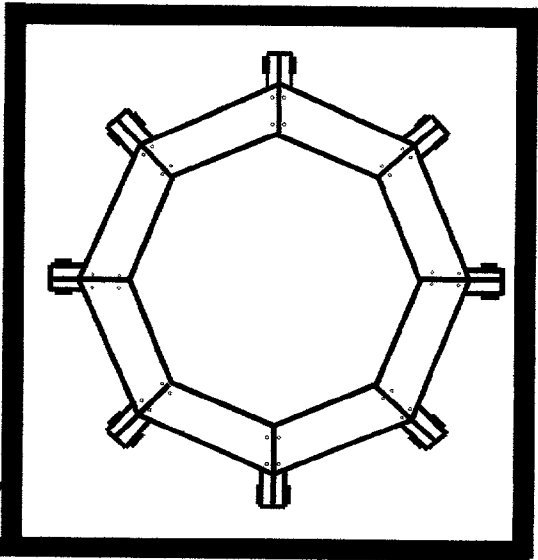
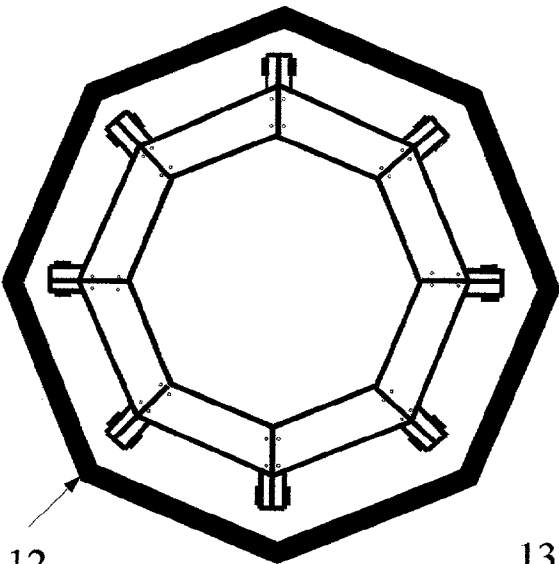


FIG. 12

FIG. 13

FIG. 14



OCTAGONAL POST ANCHOR TEMPLATE

RELATED APPLICATION

[0001] This applications is based upon, and claims priority to prior-filed provisional application Ser. No. 60/141,958; filed Jul. 1, 1999.

FIELD OF THE INVENTION

[0002] The present invention relates generally to building construction and more specifically to an apparatus and method for aiding the placement of eight post anchors in octagonal position at a time for concrete to be poured, and more particularly, to a reusable post anchor template for adjustably suspending post anchors with respect to a surface concrete material or building requirements, and corresponding method for accomplishing the same.

BACKGROUND OF INVENTION

[0003] Post Anchors are hardware commonly used in the construction industry to secure various parts of buildings and structures to a concrete footing or foundation. For example, it is common to use post anchors to securely attach posts of a structure to the concrete foundation. Use of post anchors are particularly important in the construction of outdoor structures such as patio covers and gazebos. In such applications, it is necessary to secure post anchors to the concrete footings at right position and angle, so that posts will be properly secured.

[0004] Post Anchors are normally constructed of metal and available in variety of styles depending on its use. In application, H type post anchors are particularly used. It is a U-shaped post anchors with an additional steel plate in the middle to separate a portion above concrete pad from another imbedded in concrete pad. In the placement of post anchors, it is critical that each post anchor is set level to each other, at right position and angle. Setting post anchors for 4-sided structures might be doable. It is the most typical shape in the construction, each corner forms 90 degrees. However, it is tremendously demanding task and time consuming to set post anchors for octagonal structures; eight posts need to be not only level to each other but also evenly positioned while equally angled each other. Unlike anchor bolts which will be concealed within walls in the end, post anchors are usually set for all-exposed structures holding posts from the sides. Although octagons are the most typical shape for gazebos built today, setting post anchors for octagonal structures is a demanding task requiring higher level of precision and skills. It is a tremendous work to position and hold eight post anchors while pouring concrete to secure them. It usually takes a couple of people for several days to set post anchors on site, figuring out where each post will be, marking with strings and stakes, building a floor form, and digging and pouring concrete for a foundation, only to find that they are off and useless. Besides workers are not used to octagonal shapes, it is hard to measure precise distance outdoor because measure tapes are too flexible and the ground is far from level, there are many obstacles, such as bushes and stones. A foundation plan with precise dimensions and angles just won't help. Building an octagonal structure with off-positioned posts will be an extreme challenge, if not nearly impossible, but it is also nuisance and time-consuming when it comes to redo post anchors.

[0005] Thus, there exists a need in the art for a reusable post anchor template for octagonal structures and method for suspending post anchors at right position and angle before cement has hardened. None of the previous inventions fulfilled the need.

BRIEF SUMMERY OF INVENTION

[0006] It is an object of this invention to allow for eight post anchors to be set at right position and angle for an octagonal structure after forms have been built but before the concrete has been placed in these forms. This allows for inspection and correction of the placement and position of these post anchors.

[0007] Another object of the present invention is to provide exact position of foundation for where to dig and pour concrete. Knowing the exact position of foundation is very important to meet foundation size criteria for building industry.

[0008] Another object of the present invention is to provide a way to hold eight post anchors in place at a time so that they are consistently in a useful position to speed the construction process.

[0009] A further object of this invention is to do away with a template that is free from a floor form. Doing away with this template eliminates the labor that is required to float and finish the surface of the concrete under it.

[0010] Another object of the present invention is to provide a post anchor template that is useful regardless of shape or size of floor form. Unlike the previous inventions for anchor bolts which work with a floor form, the device offers freedom for a size of floor, shape, and surface material. The template can be also used as a form guide.

[0011] Another object is to make use of this invention when using a typical two pour method of slab construction. After securing post anchors in place with concrete, the template and stakes used to hold it may be removed, easing the finishing process.

[0012] A further object of the present invention disclosed herein is to provide a post anchor template which is reversible, and can be easily adjusted to accommodate placing post anchors with respect to a surface poured concrete material and building requirements.

[0013] Another object of the present invention is to provide a flat seat upon which a level is properly placed and observed while the template is temporally staked onto the ground.

[0014] Another object of this invention is to provide a simple device that assures easy handling and a consistent result. The placement of post anchors made possible with this invention also allows for their installation without a problem of voids forming around post anchors.

[0015] A further object of the present invention is to provide a reusable post anchor template that may be disassembled for storage after use and reused in later projects.

[0016] A further object is to make use of this invention is to accomplish all of the above with the creation of a device that is relatively inexpensive to make and ship, and cost effective to use.

[0017] Other objects, features and advantages of the present invention will be apparent to those skilled in the art. A more thorough understanding of the invention will be gained through a review of the detailed description set forth below, when taken in conjunction with the accompanying drawings, which are briefly described as follows.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] **FIG. 1** Top view of an octagonal Post Anchor Template with post anchors attached

[0019] **FIG. 2:** Side view of **FIG. 1**, the Post Anchor Template with post anchors attached

[0020] **FIG. 3:** Exploded and sectional view of **FIG. 1**, the Post Anchor Template with a post anchor attached

[0021] **FIG. 4:** Exploded and sectional view of unassembled template panels

[0022] **FIG. 5:** Exploded and sectional view of the template panels with a post anchor attached

[0023] **FIG. 6:** Top view of the Post Anchor Template with post anchors attached A reduced version of **FIG. 1**

[0024] **FIG. 7:** Exploded view of a typical post anchor used.

[0025] **FIG. 8** Top view of the post anchor template with post anchors attached

[0026] **FIG. 9** Side view of the post anchor template with post anchors attached

[0027] **FIG. 10** Side view of the post anchor template with post anchors attached

[0028] **FIG. 11** Side view of the post anchors halfway imbedded into the concrete after removing the template panels when the cement hardens.

[0029] **FIG. 12.** Top view and side view of an Octagonal Post Anchor Template

[0030] **FIG. 13.** Top view of an Octagonal Post Anchor Template with an octagonal floor frame built around

[0031] **FIG. 14** Top view of an Octagonal Post Anchor Template with a square floor form built around it.

[0032] 1 template panel

[0033] 2 screws to firmly assemble template panels

[0034] 3 post anchor

[0035] 4 post anchor holders

[0036] 5 notch on a side on a post anchor holder

[0037] 6 typical screw holes

[0038] 7 floor frame

[0039] 8 concrete to secure the post anchors

[0040] 9 stakes to hold the template

[0041] 10 floor line after completion of a floor

[0042] 11 cement pad

[0043] 12 top view of an octagonal floor frame

[0044] 13 top view of a square floor frame

[0045] A perspective view of a post anchor

[0046] B side view of a post anchor

[0047] C side view of a post anchor

DESCRIPTION OF THE INVENTION

[0048] The present invention of **FIG. 1** is a post anchor template for an octagonal structure, which consists of eight trapezoid template panels **1**, sixteen post anchor holders **4** and screws **2** to assemble the eight template panels. Each trapezoid template panel **1** has two post anchor holders **4** which stick out like wings towards the base angles. The attachment of this connection can be achieved by gluing, nailing, or screwing. Each of post anchor holders **4** has a square notch **5** on a side, attached to the anti-parallel sides of the template panels **4** with a notch **5** towards inside, so that each notch faces each other as illustrated in **FIG. 4**. When firmly screw **2** the post anchor holder wings **4**, an octagonal template is formed with a post anchor holder attached to each corner. **FIG. 6** illustrates a top view of the invention with post anchors **3** attached to post anchor holder wings **4**. **FIG. 5** illustrates how a post anchor fits into notches **5** and is held.

Preferred Embodiment

[0049] A preferred embodiment of post anchor template panels **1** and post anchor holders **4** are wooden material. A plywood is especially suitable for template panels **1** for small structures. Each of eight post anchor template panels **1** is identical trapezoid, with base angle $67\frac{1}{2}$ degree in order to form an octagon when assembled. Along each anti-parallel side of trapezoid template panels, sixteen post anchor holders **4** are attached and stick out like wings towards base angle of the trapezoid panels. This attachment can be accomplished by nailing, gluing, or screwing. On a side of each of the post anchor holders, a rectangular notch **5** is made by a band saw or comparable tool, and each post anchor is attached to the template panels with its notch **5** facing each other towards inside. Each post anchor holder **4** has a couple of pre-drilled holes for screws **2** in order to facilitate to assemble eight template panels at horizontal position. **FIG. 1** illustrates a top view of the post anchor template, each corner of the octagonal template has a horn, a post anchor holder **4**.

Operation

[0050] Once the template is properly assembled and positioned, a level is placed on the template. Each octagonal corner of the template is staked **9** one by one as leveled. Under the template, ditches are dug for foundation, a floor form **7** is built around the template, and eight post anchors are attached to the post anchor holders **4**. **FIG. 7** illustrates several views of post anchors preferably used. It is a H shaped hardware with an extra plate around the middle, this middle plate is a seat for a post defining a floor level. As illustrated in **FIG. 5**, when post anchors are attached to the assembled template, notches **5** on the sides of post anchor holders **4** practically grip post anchors from the sides, and the post seat plate helps maintain its proper position of post anchors. Because the template functions alone and it is not necessary to connect a template and a floor form. A floor form can be in any shape, octagon, circular, square, or rectangle as illustrated in **FIG. 13** and **FIG. 14**.

[0051] In typical two pour method of construction, concrete 8 is poured to secure post anchors first. When it hardens, the template is easily unscrewed and removed, leaving eight post anchors properly in place. Once the template and holding stakes are removed, it is easier to complete a cement pad. The template kit can be stored for future projects.

Summary, Ramifications, and Scope

[0052] Thus the reader will see that the post anchor template provides economical way to accurately set eight post anchors in octagonal position in foundation construction. Additionally he will see that the added benefit of completing the foundation for less time and less labor, and less cost.

[0053] While the above description contains many specifications, these should not be construed as limiting the scope of my invention but as merely providing illustrations of some of the presently preferred embodiments of this invention. While the embodiments described above are fabricated from plywood and lumber, other embodiments could be made of plastic, fiberglass, sheet metal. While the embodiments described above use friction to hold post anchors in place in between notches, the post anchors could be screwed to the device. While the embodiments described above particularly use H type post anchors featuring a post seat in the middle, other comparable post anchors may be used. While the embodiments described above don't contain braces, diagonal braces can be attached to the assembled template for large structures.

[0054] It would be apparent to one skilled in the art that many variations and modifications may be made to the preferred embodiments as described above without substantially departing from the principals of the present invention. All such variations and modifications are intended to be included herein and are within the scope of the present invention, as set forth in the following claims.

What is claimed is:

1. A reusable post anchor template for vertically positioning and securely holding eight post anchors at a time for

all-exposed octagonal structures, prior to and during placement of a concrete mixture to secure said post anchors, said device comprising:

- (a) eight trapezoid template panels with base angle of $67\frac{1}{2}$ degrees to form an octagonal shape when assembled,
- (b) sixteen post anchor holders attached to the anti-parallel sides of said eight trapezoid template panels, forming eight horns on octagonal corners towards outside when said template panels are assembled,
- (c) screws to assemble and secure said eight template panels.

2. The post anchor template of claim 1, wherein said post anchor holders comprising:

- (a) a notch on a side of each post anchor towards outside, a means for adjustably holding and suspending said eight post anchors with said side notches below a level of poured concrete,
- (b) pre-drilled screw holes to facilitate assembly and disassembly of said template at horizontal position.

3. The post anchor template of claim 1 wherein said post anchor holders suspend post anchors at adequate level, and top end of said post anchors to support posts will protrude sufficiently from the generally level plane of the top surface of said concrete foundation when said template is temporally set with stakes.

4. The post anchor template of claim 1 wherein said trapezoid template panels are formed from a plywood.

5. The post anchor template of claim 1 wherein said post anchor holders are formed from lumber.

6. The post anchor template of claim 1 wherein said attachment means of said template panels and post anchor holders is screws, nail, or glue.

7. The post anchor template of claim 1 wherein said template provides a solid flat seat on which a level is properly placed and observed when said template is temporally staked onto the ground.

8. The post anchor template of claim 2, wherein said holding means of post anchors is a friction of side notches on post anchor holders.

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