US010559742B1

(12) **United States Patent**
**Sting et al.**

(10) **Patent No.: US 10,559,742 B1**
(45) **Date of Patent: *Feb. 11, 2020**

(54) **MOUNTING PAD AND METHOD FOR DETERRING THEFT AND SECURING AIR CONDITIONING UNITS AGAINST HIGH WINDS**

(71) Applicant: **Mainstream Engineering Corporation**, Rockledge, FL (US)

(72) Inventors: **Elliott M. Sting**, Orlando, FL (US); **Robert P. Scaringe**, Rockledge, FL (US)

(73) Assignee: **Mainstream Engineering Corporation**, Rockledge, FL (US)

( * ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **15/685,283**

(22) Filed: **Aug. 24, 2017**

(51) **Int. Cl.**

| | |
|---|---|
| ***H01L 21/00*** | (2006.01) |
| ***H01L 31/036*** | (2006.01) |
| ***H01L 41/273*** | (2013.01) |
| ***H01L 31/18*** | (2006.01) |
| ***H01J 37/305*** | (2006.01) |
| ***H01L 21/477*** | (2006.01) |

(52) **U.S. Cl.**
CPC ..... ***H01L 41/273*** (2013.01); ***H01J 37/305*** (2013.01); ***H01L 21/477*** (2013.01); ***H01L 31/18*** (2013.01)

(58) **Field of Classification Search**
CPC ..... H01L 41/273; H01L 21/477; H01L 31/18; H01J 37/305
USPC ..... 248/545, 678, 679, 156, 346.01, 346.2, 248/346.03, 346.06, 346.5, 499, 507, 508; 220/475, 630, 636, 601
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | | | |
|---|---|---|---|---|
| 3,493,201 | A * | 2/1970 | Marran | F16M 7/00 248/346.03 |
| 3,713,620 | A * | 1/1973 | Tkach | F16M 7/00 188/268 |
| 3,722,845 | A * | 3/1973 | Unger | F24F 1/0003 248/346.03 |
| 3,841,032 | A * | 10/1974 | Grannis, III | E02D 5/80 174/38 |
| 4,829,909 | A * | 5/1989 | Mandel | B65D 19/0012 108/54.1 |
| 6,155,527 | A * | 12/2000 | Muyskens | B65D 19/0002 108/51.3 |

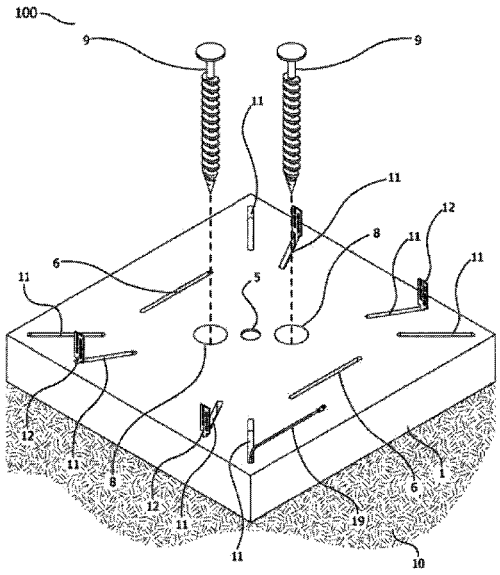
(Continued)

*Primary Examiner* — Terrell L McKinnon
*Assistant Examiner* — Michael McDuffie
(74) *Attorney, Agent, or Firm* — Michael W. O'Neill, Esq.

(57) **ABSTRACT**

A mounting pad system and method for an HVAC outdoor unit that includes providing a lightweight fillable pad shell containing a gelling material and having securing slots extending from an underside surface to an upper side surface of the shell. The shell is filled with water through a port at its upper surface. Prior to leveling the filled pad on the soil at the site and installation of the outdoor unit, securing straps are inserted into the slots from the underside surface of the shell so as to extend through an upper surface thereof. The filling port is covered when the HVAC unit is placed on top of the pad. One or more securing anchors can be used to anchor the pad to the ground, which are also covered when the HVAC unit is place on top of the pad and an anti-theft cable can be employed to further prevent theft.

**16 Claims, 9 Drawing Sheets**



(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | | | |
|---|---|---|---|---|
| 6,651,454 | B1 * | 11/2003 | Spiegel | F24F 13/32 62/259.1 |
| 6,655,648 | B2 * | 12/2003 | Harris | E02D 27/14 220/475 |
| 6,840,487 | B2 * | 1/2005 | Carnevali | A47B 23/002 248/346.06 |
| 7,185,871 | B2 * | 3/2007 | Orozco | E02D 5/80 248/499 |
| 7,334,421 | B1 | 2/2008 | Cantolino | |
| 8,074,952 | B2 * | 12/2011 | Baechle | D06F 39/001 108/51.3 |
| 8,640,632 | B1 | 2/2014 | Odle et al. | |
| 8,959,822 | B2 * | 2/2015 | Kleppe | F16M 11/28 248/346.03 |
| 9,151,315 | B2 * | 10/2015 | McPheeters | F16B 37/14 |
| 2002/0083660 | A1 * | 7/2002 | Oliver | E02D 5/801 52/169.9 |
| 2010/0320360 | A1 * | 12/2010 | McLeod | F16M 5/800 248/678 |
| 2011/0061572 | A1 * | 3/2011 | Liu | B65D 19/001 108/55.5 |
| 2012/0106087 | A1 * | 5/2012 | Feller | H01L 23/13 361/717 |

* cited by examiner

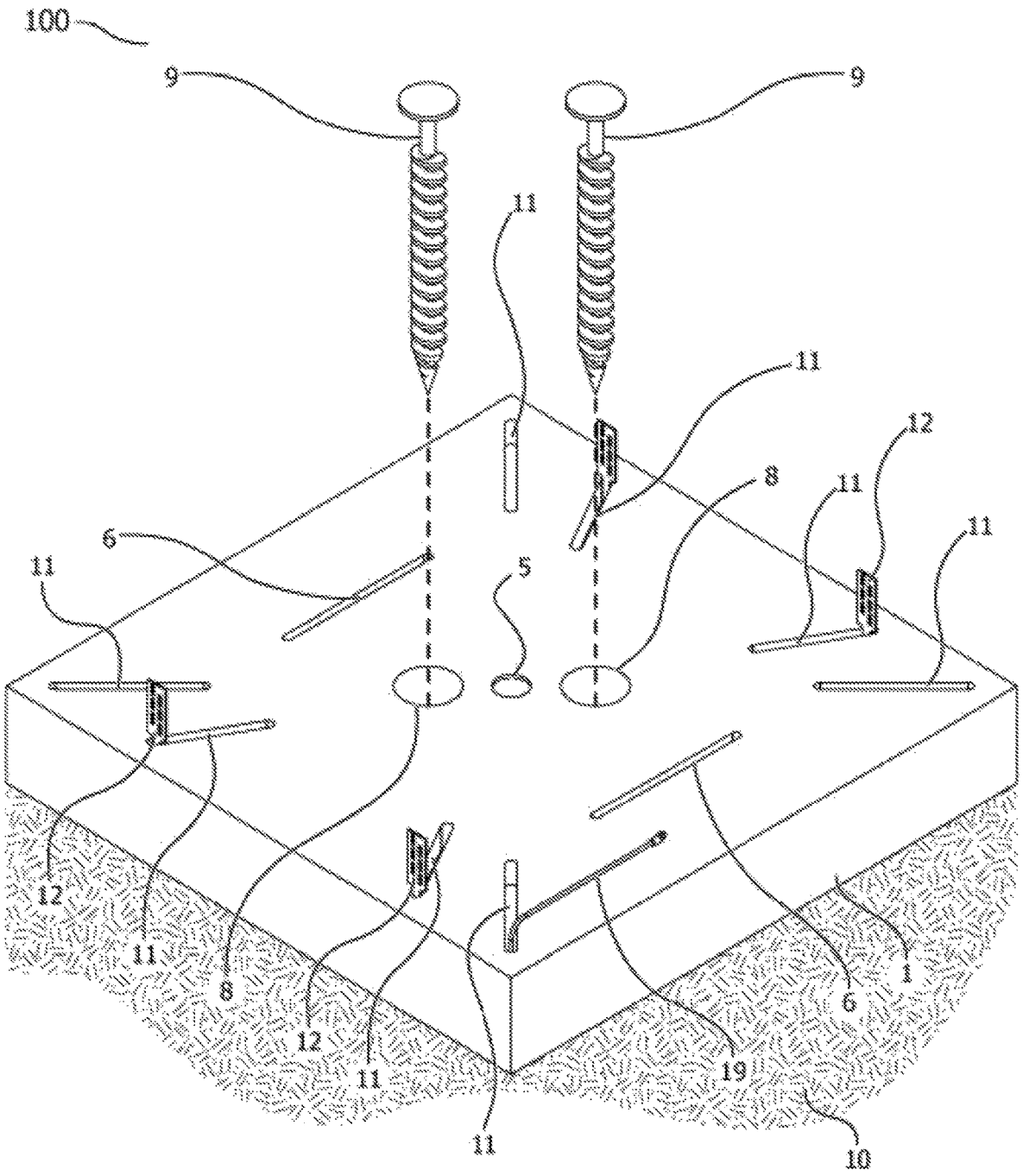



Fig. 1

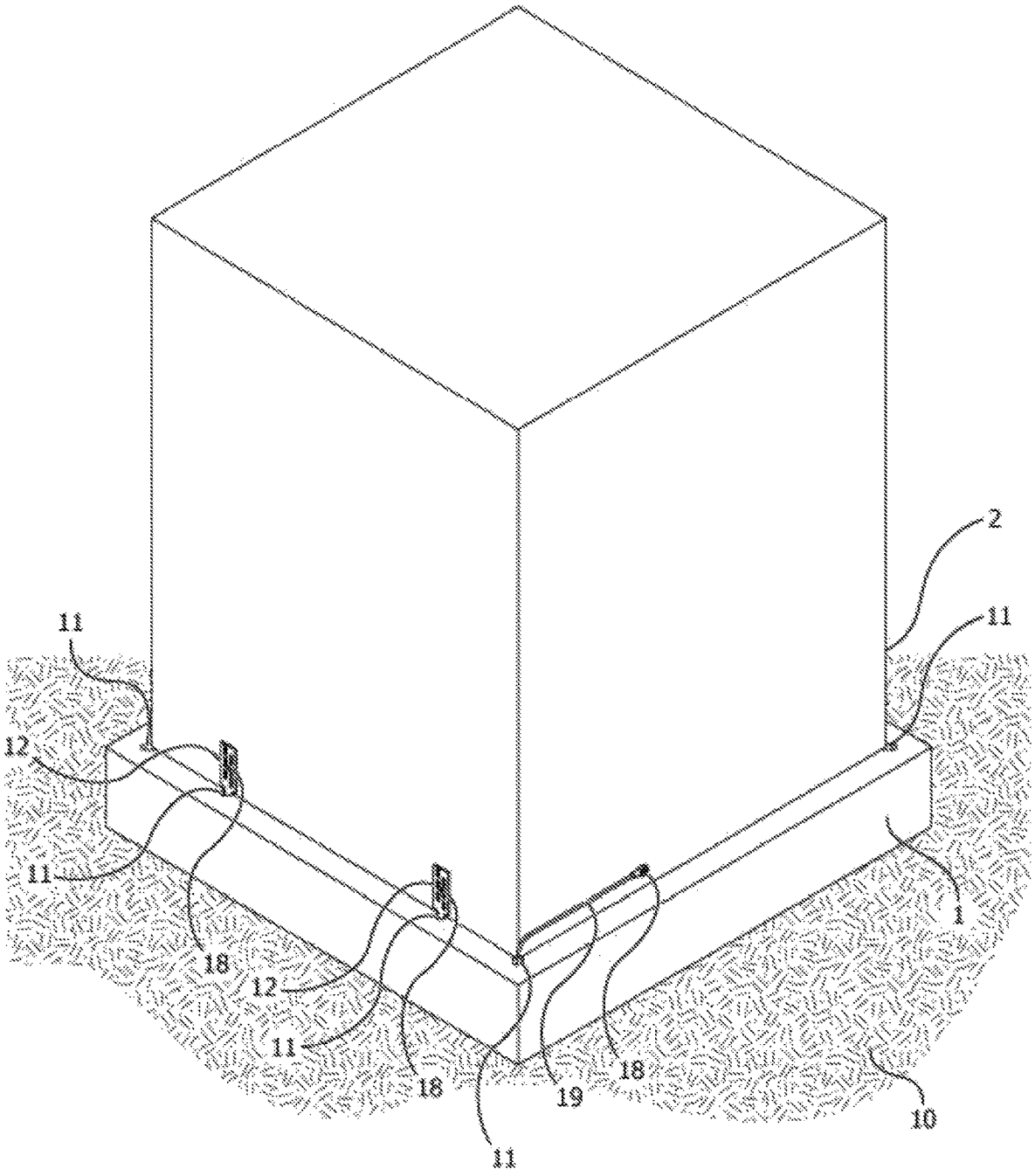



Fig. 2

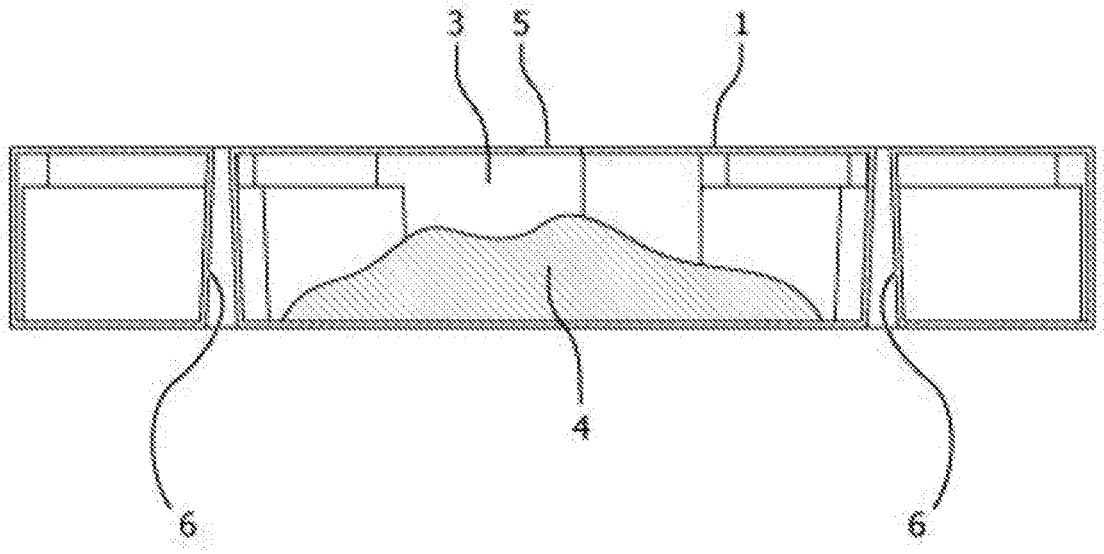



Fig. 3

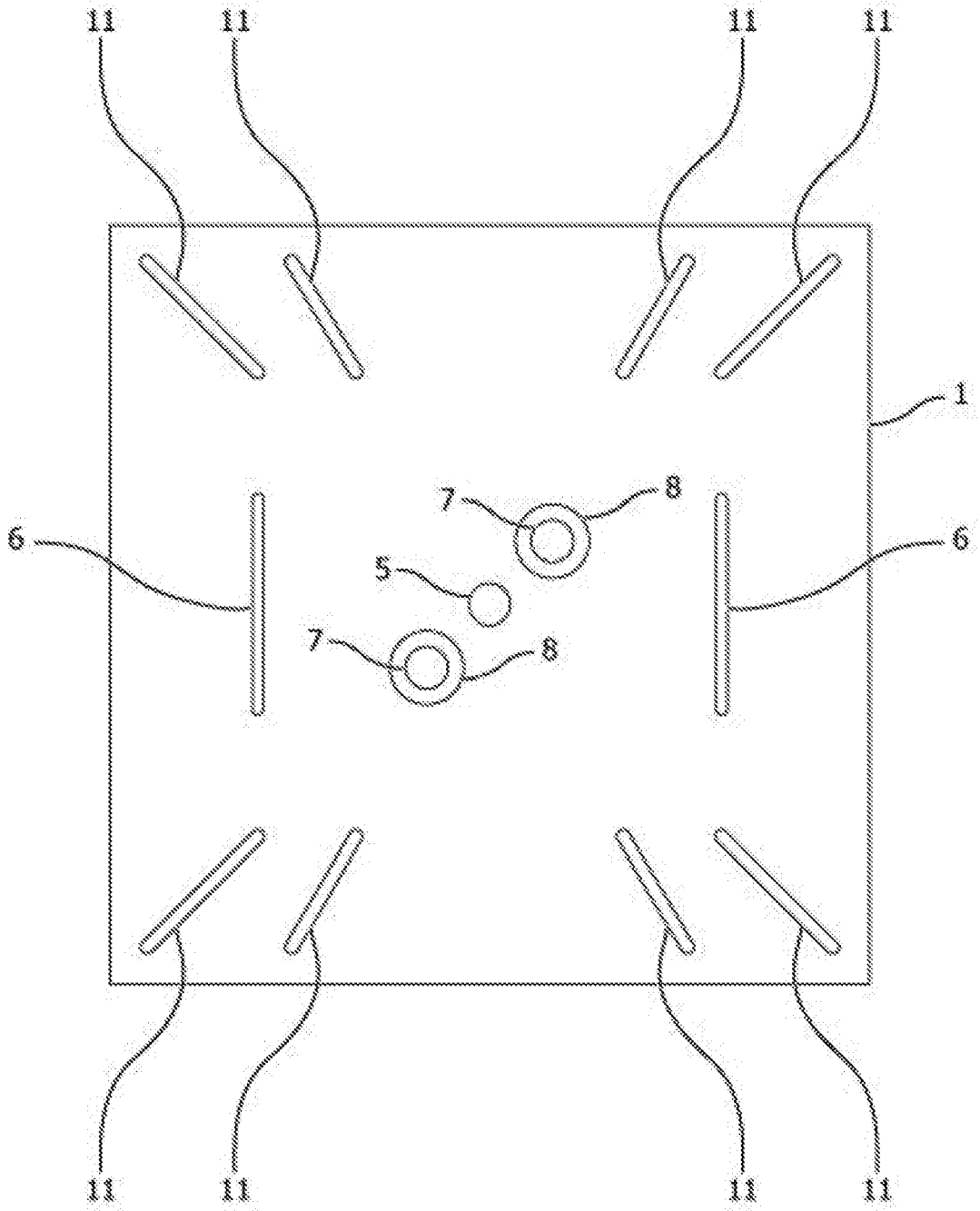



Fig. 4

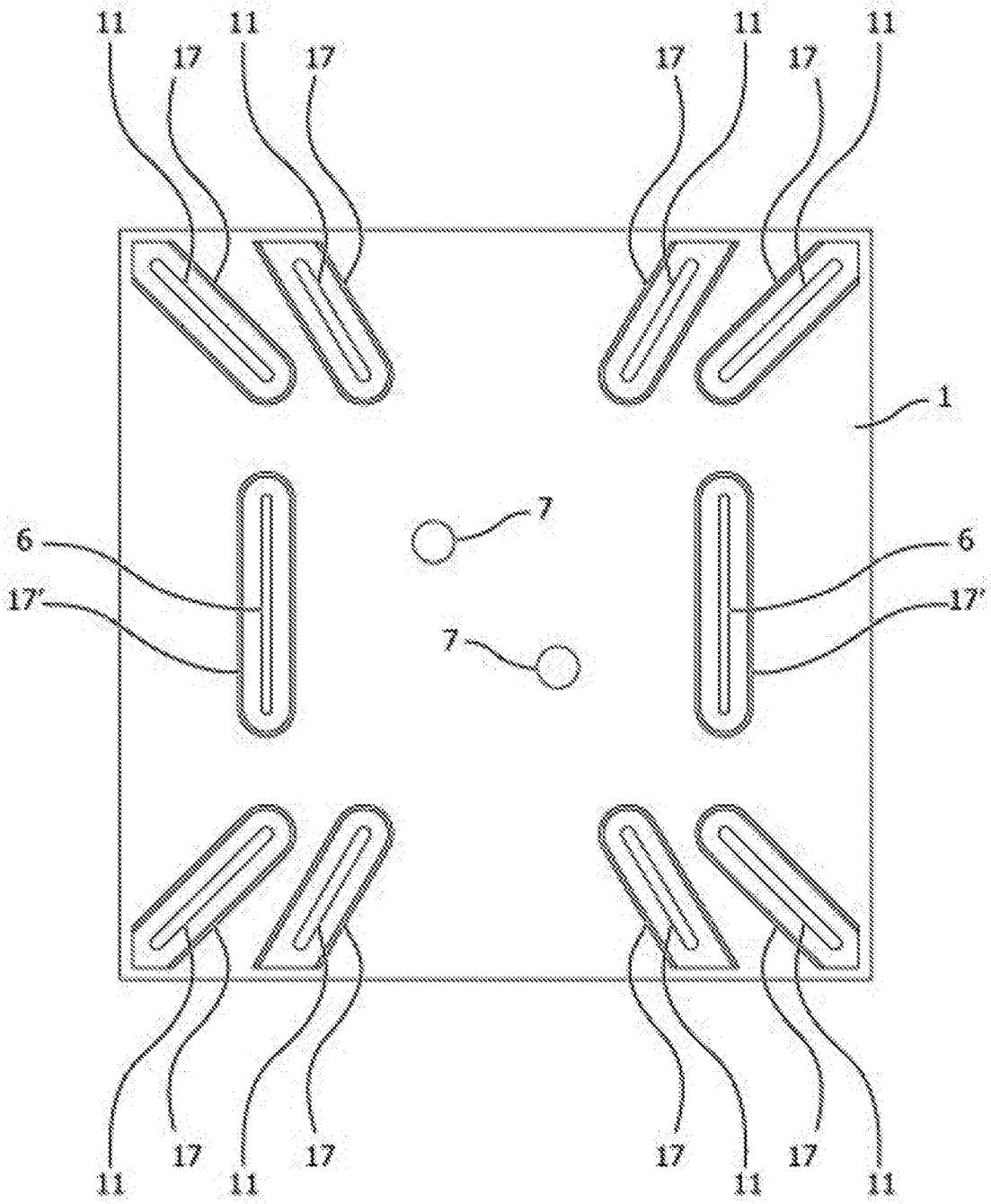



Fig. 5

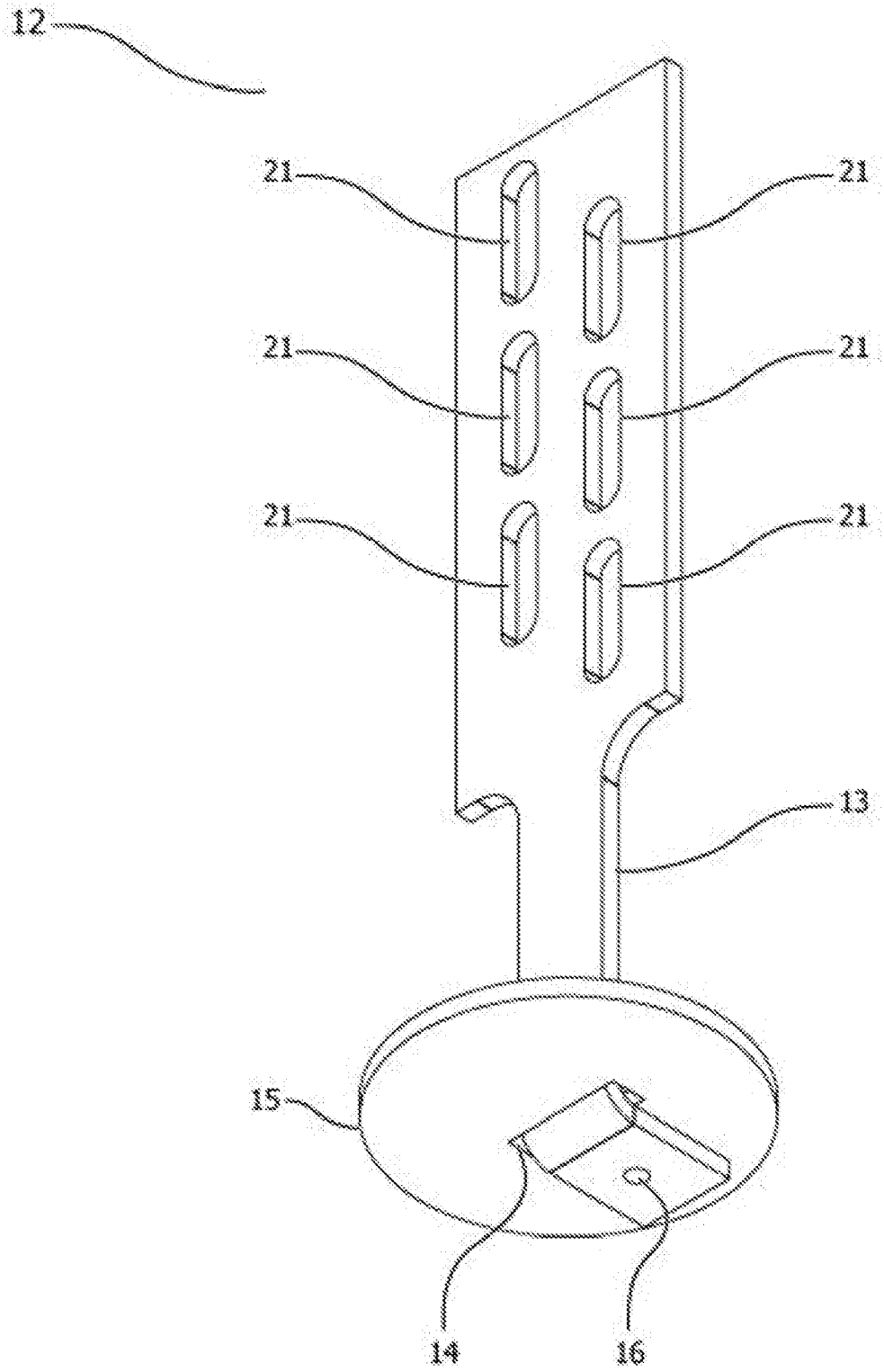



Fig. 6

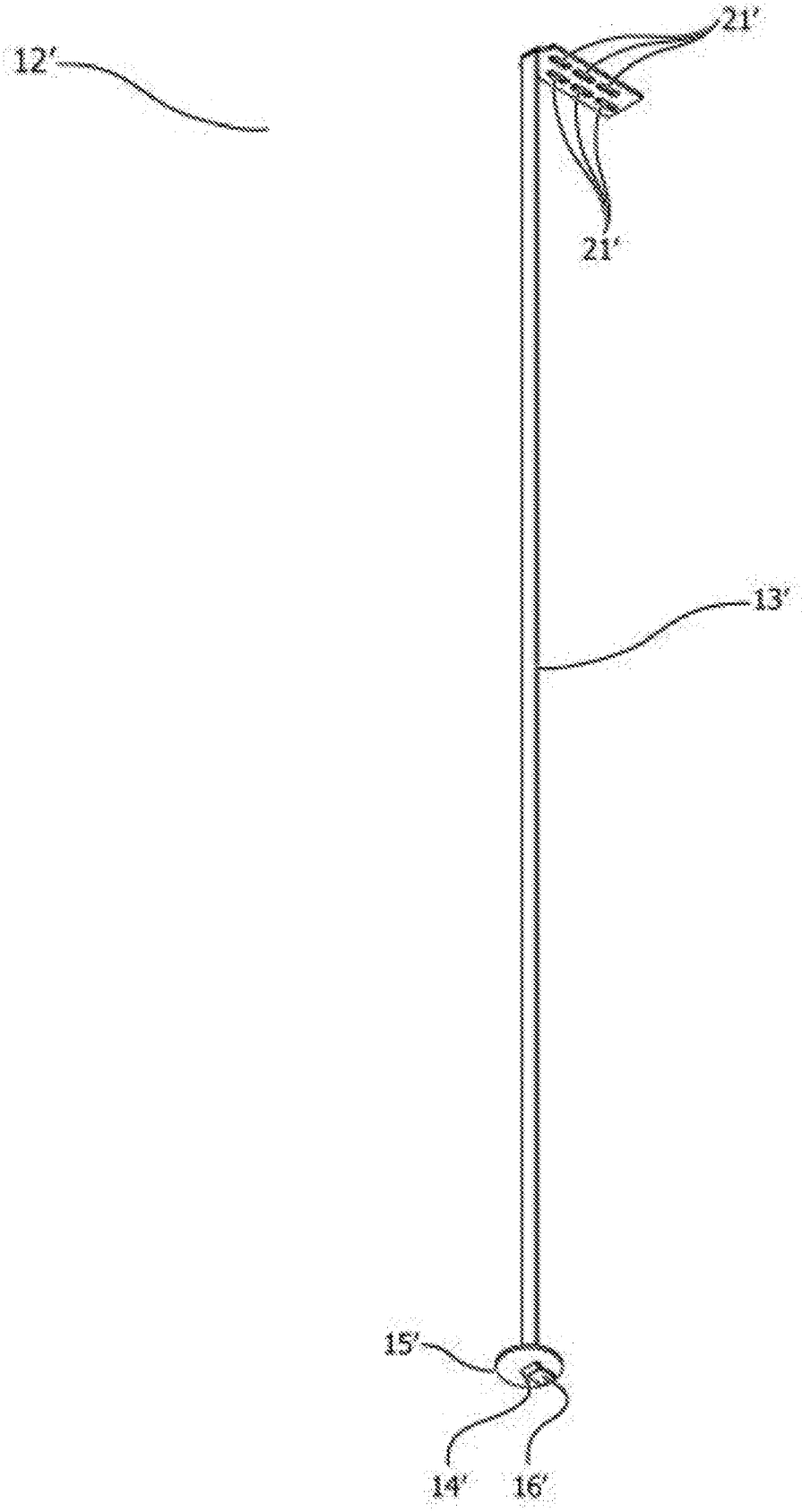



Fig. 7

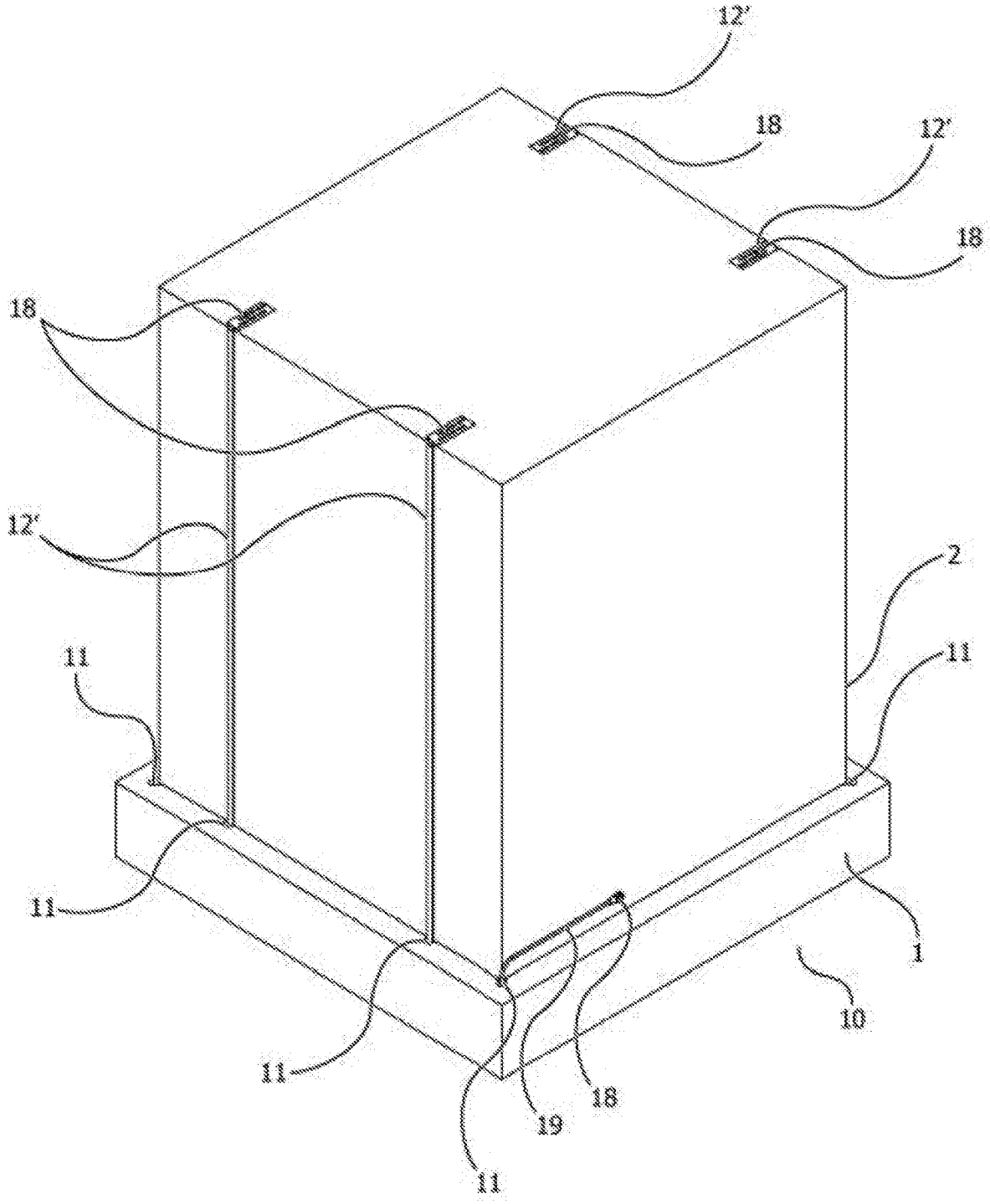



Fig. 8

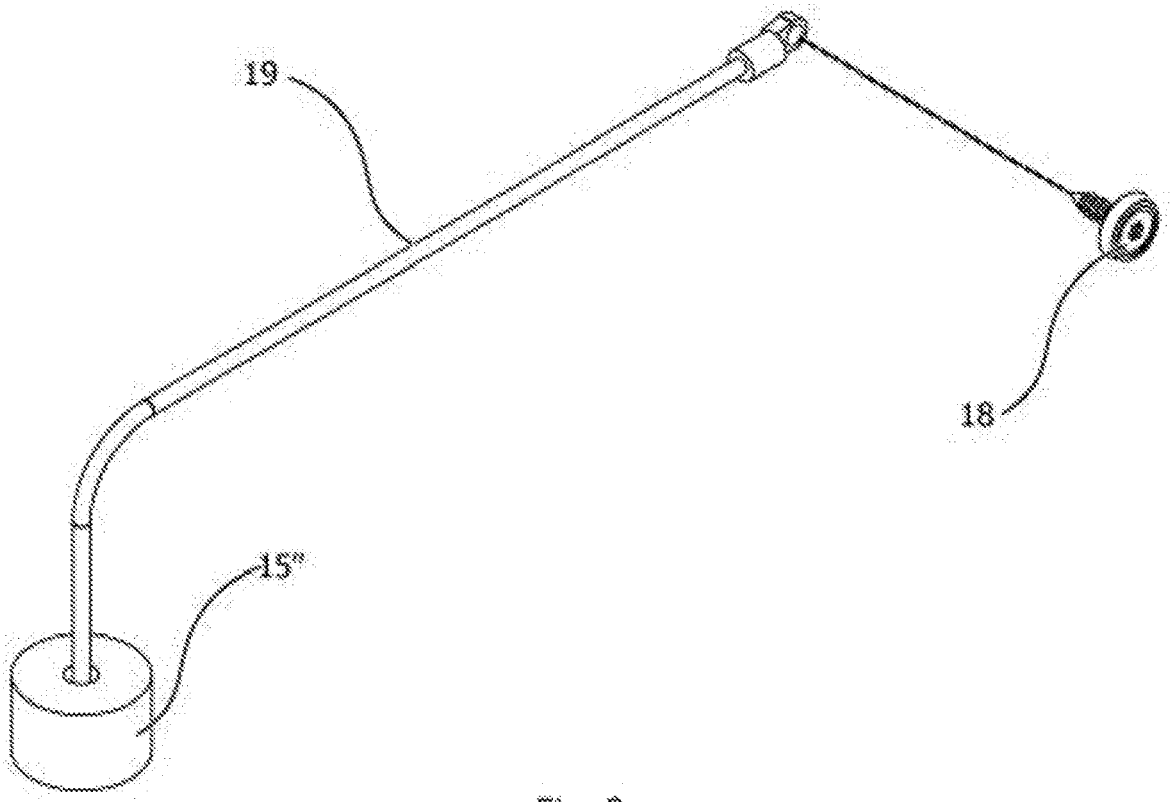



Fig. 9

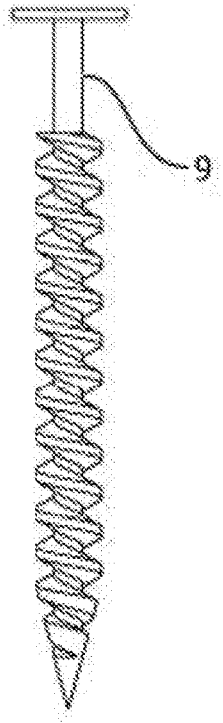



Fig. 10

# MOUNTING PAD AND METHOD FOR DETERRING THEFT AND SECURING AIR CONDITIONING UNITS AGAINST HIGH WINDS

## BACKGROUND AND SUMMARY OF THE INVENTION

The present invention relates to a support pad for the outdoor component of a split air conditioning (AC) system and installation method that not only raises the AC outside unit off the ground at least 4 inches as required by most building codes but that also secures that unit to prevent theft and further to secure the unit in high wind situations, such as hurricanes.

Typically, an AC pad is constructed of poured concrete formed in situ. This may be convenient in some cases, such as when other concrete work is being performed on site. However, an installer would find mixing or purchasing concrete specifically for this small application to be impractical, time consuming, or expensive.

As an alternative, prefabricated plastic and concrete pads are available for transport and placement on site. Available plastic pads, however, are typically lightweight and do not provide the required wind resistance once a AC unit is mounted on the pad. Similarly, preformed solid concrete pads are heavy and difficult to handle. Concrete pads with lightweight foam interiors such as the "The Hurricane Pad™" manufactured by DiversiTech (Duluth, Ga.) are somewhat fragile. As a result, these foam interior pads can be damaged, if dropped. In other cases, foam-cored pads are too light to secure an air conditioner in high winds.

A hurricane-wind rated AC pad must be able to keep the AC outdoor unit in place during high winds and also prevent the AC unit from toppling over or moving. The minimum necessary weight of the pad is dependent on the size and weight of the AC unit and the wind speed. Hurricane resistant AC pads must survive wind speeds up to 180 mph, with the actual required wind speed dependent on the location.

For example, Table 1 below provides the minimum weight necessary for a 36 inch×36 inch pad to secure various sizes and weights of AC units. The wind load is calculated from the methods presented in American Society of Civil Engineers (ASCE) Standard 7-16. The AC unit is an assumed to be a rigid structure and on flat ground in a moderately open area. The dimensions and weights of the AC units listed in Table 1 are based on actual commercially available outdoor units used in current split AC units and represent an example of the range of currently available actual AC outdoor units that could be mounted to such pads. Modern high efficiency AC of units have become much taller, to allow greater heat exchanger area on the same footprint, and this has exacerbated the wind-driven tipping issue. For example, in Table 1, the Required Pad Weight has increased from 130 pounds for a 24×24×30-inch-high outdoor unit to 540 pounds for a 32×32×50 inch high outdoor unit. Building codes also require a minimum of a 2 inch border around the perimeter of any AC outdoor unit, so that a 32 inch base is the largest AC that can be placed on a 36 inch pad. Another common pad size is 42×42 inches., and by following the calculation procedures outlined in ASCE Standard 7-16, one skilled in the art could calculate the required weight to prevent tipping for an pad size and air conditioner geometry.



TABLE 1

Required AC unit pad weight to resist tipping.

| AC Unit Dimensions | | | | Required Pad Weight | |
|---|---|---|---|---|---|
| Width (in) | Length (in) | Height (in) | Weight (lb) | 150 mph Wind (lb) | 180 mph Wind (lb) |
| 24 | 24 | 30 | 100 | 59 | 130 |
| 24 | 24 | 35 | 120 | 97 | 193 |
| 26 | 26 | 30 | 120 | 53 | 129 |
| 26 | 26 | 35 | 140 | 95 | 199 |
| 28 | 28 | 30 | 140 | 46 | 128 |
| 28 | 28 | 35 | 160 | 93 | 205 |
| 28 | 28 | 40 | 190 | 141 | 286 |
| 30 | 30 | 30 | 160 | 39 | 127 |
| 30 | 30 | 35 | 190 | 81 | 201 |
| 30 | 30 | 40 | 220 | 134 | 290 |
| 30 | 30 | 45 | 240 | 208 | 406 |
| 32 | 32 | 35 | 220 | 69 | 197 |
| 32 | 32 | 40 | 250 | 128 | 294 |
| 32 | 32 | 45 | 280 | 198 | 409 |
| 32 | 32 | 50 | 310 | 281 | 540 |

Table 1 makes clear that a concrete pad would need to be quite heavy to prevent tipping due to the moment caused by wind, making it very difficult to carry one into place at the installation site.

One known approach proposed the use of a hollow pad with a hollow interior chamber filled with sand, other granular materials, or water so as to achieve the necessary weight required to prevent the pad from tipping in the case of hurricane winds. With water, the pad was not intended to be completely filled so that in colder climates, the expansion of frozen water would not damage the pad. Even if such a pad were completely filled with water and a height increased to 6 inches, for certain tall outdoor AC unit geometries, the water alone would not provide sufficient weight to keep the pad in place in the highest possible winds, such as 180 mph winds. Another way to secure the pad such as the use of higher density materials inside the hollow pad, such as the use of sand, are known in the art. At least one central support has also been proposed to prevent sagging, but that would limit the ability of a granular material like sand to completely fill the hollow core and reduce the fill volume and therefor the weight of the filled pad. If the central support is large, it can significantly reduce the volume of fill material available for weighing the pad down.

One of the objects of our invention is to provide an easily transportable, lightweight, rugged, and low-cost AC pad and installation method that, once located and leveled on site, can be secured to prevent theft and tipping, even in high wind loads. Our novel AC pad can be configured as a hollow plastic shell that can be rotationally molded to reduce cost and minimize weight. If the pad is formed by conventional rotational molding, the molded pad will typically be formed from one of a variety of thermoformed plastics. The currently preferred embodiment uses a linear low-density polyethylene (LLDPE)) to form a rigid structure with uniform wall thickness. However, any thermoform-capable material such as low density polyethylene (LDPE), medium density polyethylene (MDPE), high density polyethylene (HDPE), cross linked polyethylene (XLPE) nylon, polypropylene, and polyvinyl chloride (PVC) are acceptable alternatives. While the currently preferred material wall thickness for the pad is 0.2 inches throughout the pad, alternative embodiments can use material thicknesses from 0.1 inches to 0.75 inches with, if desired to reduce costs, non-uniform wall thickness by using well known shielding on the rotational mold to adjust cooling times and thereby obtain non-uniform

wall thicknesses. For example, the side-walls could be 0.1 inches, the top AC bearing surface 0.5 inches and the bottom soil facing surface 0.2 inches. Of course, support structures can be used to ensure sufficient support without the need to thicken an entire surface. As pointed out herein, these support structures can also serve as adjustable securing locations for tie-down straps.

Once located and leveled, the empty shell that contains a gelling formulation of known composition according to our invention can be filled with water and sealed, and securing straps installed in the pad before the AC outdoor unit is located on the pad can be attached to the AC unit to secure the unit to the pad. The filling water is converted to a solidus or gel state due to the gelling formulation already present inside the empty pad structure. The gel/solidus conversion will be used to prevent weight loss, even if the leak-tight seal is compromised. Additionally, if a super absorbent polymer (SAP), such as sodium polyacrylate, sodium polycarbonate, polyacrylamide copolymers, ethylene maleic anhydride, carboxymethylcellulose, polyvinyl alcohol copolymers, or polyethylene oxide, is used in the gelling compound formulation, then the resulting mixture will not expand upon freezing, thereby allowing the pad to be completely filled with water, with the added benefit of avoiding the need for an expansion void space. Filling the interior volume completely with the gelled water also allows the filling mixture to provide support to the pad, thereby serving to prevent deformation and avoiding the need for any internal structure, since the required support to prevent deflection can be supplied by the filled interior volume of the entire pad. This novel approach provides a uniform support and avoids any localized deflections in regions distant from a central support if a central support is used.

In the event the AC pad according to our invention were increased to heights above 4 inches and arguably, when filled, may still not be considered to provide sufficient weight to prevent tipping in the highest wind conditions, anchors can be screwed or driven into the soil in order to add additional tipping resistance.

Our novel AC pad will connect to the outdoor AC unit through easily adjustable securing straps that, once installed though the bottom of the pad, cannot be removed without first lifting the air conditioning unit and pad. Of course, lifting the pad is much more difficult after the pad is secured to the underlying soil and filled with water. The securing straps are installed through slots open to the bottom of the AC pad and connected directly to the AC unit. The straps are able to rotate and move to accommodate various sizes and shapes of AC units. Additionally, extra slots and slots at various slot angles can be made available for use without departing from the scope of our invention.

In addition, theft of the AC unit will be deterred because of the combined weight of the AC pad and the AC outdoor unit, and if used, the lifting strength of the anchors driven into the ground. Moreover, our invention contemplates that the AC outdoor unit can be connected to the AC pad with known types of anti-theft fasteners, such as machine or sheet metal screws with unique heads that can only be unscrewed with a special tool. An anti-theft cable can also be installed. Similar to the securing straps, the anti-theft cable connects to the pad using one of the unused slots and is installed though the bottom of the pad (before the pad is secured in place). Like the securing straps, the cable cannot be removed without first lifting the pad. The other end of the anti-theft strap is connected to some portion of the AC outdoor unit using anti-theft fasteners, similar to those used for the straps.

## BRIEF DESCRIPTION OF THE DRAWINGS

These and further features, objects, and advantages of the present invention will become more readily apparent from the following detailed description when taken in conjunction with the accompanying drawings wherein:

FIG. **1** is a perspective view of a currently preferred embodiment of the AC pad according to the present invention.

FIG. **2** is a perspective view of the AC pad shown in FIG. **1**, with an AC outdoor unit secured to the pad.

FIG. **3** is a side sectional view of the currently preferred embodiment of the AC pad shown in FIG. **1**.

FIG. **4** is a top view of the AC pad shows in FIG. **1**.

FIG. **5** is a bottom view of the AC pad shown in FIG. **1**.

FIG. **6** is a perspective view of one embodiment of an adjustable securing strap usable with the AC pad of the present invention.

FIG. **7** is a perspective view of another embodiment of the adjustable securing strap.

FIG. **8** is a perspective view of the AC pad of FIG. **1**, with an AC unit secured to the pad using the securing straps of FIG. **7**.

FIG. **9** is a perspective view of a currently preferred embodiment of an anti-theft security cable for the AC pad of FIG. **1**.

FIG. **10** is a side view on one contemplated securing anchor for the AC pad of FIG. **1**.

## DETAILED DESCRIPTION OF THE DRAWINGS

Referring now to FIG. **1**, an AC securing system **100**, shown where a hollow AC pad **1** of approximately square or rectangular configuration and possibly rounded corners has eight securing slots **11** that can accommodate a desired number of securing straps **12**, in a currently preferred embodiment, the straps **12** can be slid inwardly and outwardly, and can also be rotated tangentially to the AC unit **2** (FIG. **2**) and thereby conform to a wide variety of AC outdoor unit sizes and shapes. That is, the straps **12** are able to slide inwardly and outwardly to adapt to the length and width of the AC outdoor unit **2**. Once the straps **12** are installed into the pad **1** from the bottom of the pad (FIG. **5**), they cannot be removed from the pad **1** without extreme difficulty. It is currently contemplated that only four securing straps **12** would be necessary for any one installation; however, eight location slots **11** are shown to provide design flexibility. The slots can be tapered or have a recess **17** (FIG. **5**) to allow the associated securing strap **12** to slide inwardly or outwardly without being restrained by the soil **10** the pad has been placed against.

The currently preferred embodiment can also contain one or more optional securing anchors **9** that are secured to the soil **10** (two are shown in FIG. **1**) through by-pass holes **7** having recesses **8** at the pad's upper surface so that the anchors **9**, one embodiment of which is shown in FIG. **10**, will be screwed or driven into the ground after the securing straps **12** and anti-theft strap **19** of the type shown in FIG. **9** (if used) are installed into the pad **1** and the pad has been located at the desired location and leveled. Because of the central location of the by-pass holes **7** inside the footprint of the unit **2**, the anchors **9** will not be accessible after the AC unit **2** is installed as seen in FIG. **2**. Although the strap securing slots **11** will also serve as central supporting

structures in most applications, additional supporting structures **6** can also be utilized if desired. Once the pad **1** is filled completely with water (i.e., filled before the AC outdoor unit **2** is located on the pad), the pad will also be supported by the interior fill volume. The filling port **5** for the pad is located under the footprint of the AC outdoor unit **2**, which in the currently preferred embodiment, is near the center of the pad **1**. The port **5** is specifically located to be hidden from access or view once the AC unit **2** is secured on the pad **1**. The anti-theft cable **19** is installed in one of the unused location slots **11** so that, when inserted from the bottom of the pad **1** through one of the slots **11** and connected with anti-theft fasteners **18** of generally known construction to the AC unit **2**, the cable **19** will become restrained to the pad **1**.

FIG. **2**. is a perspective view of the AC pad **1** of FIG. **1**, with an AC outdoor unit **2** secured to the top of the pad **1**. The AC unit **2** is sized so that there is at least 2 inches of the pad **1** around the exterior that is not covered as may be required by building codes. As shown, the anchors **9** and fill port **5** shown in FIG. **1** are completely covered when the unit **2** has been installed.

FIG. **3** is a side sectional view of the AC pad **1** and shows that the AC pad has a hollow interior region **3** that will be filled with water and sealed when installed. The hollow region **3** will also have a super absorbent polymer material **4** that will combine with the water and form a gel or solidus media filling the interior volume **3** to prevent leakage if the seal integrity is compromised. As above noted, the shell can be provided with optional support structures **6** to prevent sagging. It will be understood, of course, that the slots **11** for the securing straps **12** will themselves also provide support.

FIG. **4** is a top view of the AC pad **1** showing the holes **7** for the anchors **9**, eight slots **11** for the straps **12** that are used to secure the AC unit **2** to the pad **1** and prevent any movement of the AC unit on the pad. The holes **7** have a recess **8** so that the anchors, once installed, will be recessed into the surface of the pad allowing the AC outdoor unit **2** to sit flat on the pad.

FIG. **5** is a bottom view of the AC pad **1**. The recess **17** surrounding the slots **11** provide space for the securing straps **12** or optional anti-theft cable **19** to be adjusted without resistance from the soil **10** that could potentially impede motion. The support structures **6** that are used to prevent deflection of the pad due to the weight of the AC outdoor unit **2** can also be configured with a recess **17'** to also function similar to the slots **11** and recesses **17** so that they can accommodate the straps **12** or anti-theft cable **19**. The centrally located pass-thru holes **7** for the anchors **9** are also shown.

FIG. **6** shows a currently preferred embodiment of one of the adjustable securing straps **12**. In this configuration, the securing portion **13** will be inserted into the slot **14** in the rigid circular base **15**, bent and spot welded **16** to form a permanent connection. This securing strap **12** will be installable from the bottom of the pad **1**. The straps will not be removable from the pad once the pad is on the ground. Known types of anti-theft fasteners **18** can also be used to secure the straps **12** to the AC unit **2**. The circular base **15** of FIG. **6** or **15'** of FIG. **7** used for the securing strap assembly **12** and **12'** and the circular base **15"** used the anti-theft assembly **19** (shown in FIG. **9**) are configured to be circular so that the strap or cable can rotate in the slot **14** and in the case of the strap, allow the securing portion of the strap **13** to lay flat (be tangent) against the surface of the AC unit **2** where it is located.

FIG. **7** is an alternate embodiment of an adjustable securing strap **12'**. In this configuration, the securing portion **13'** will be inserted into the slot **14'** in the base **15'**, bent and spot welded **16'** to form a permanent connection. Like the embodiment of FIG. **6**, the securing strap **12'** will be installable from the bottom of the pad **1** so as not to be removable from the pad **1** once the pad is on the ground. And-theft fasteners can also be used to secure the straps to the AC unit **2**. As shown in FIG. **8**, the security straps **12'** will extend the securing portion of the strap **13'** to the top of the AC unit **2** in order to further deter theft. This embodiment can also use anti-theft fasteners **18** connected to the top of the AC unit **2** to prevent opening of the unit.

FIG. **9** is an embodiment of the anti-theft cable **19** shown installed in FIGS. **2** and **8**. This cable has a restraining feature **15"** that, when inserted from the bottom of the pad **1** through one of the slots **11** or central support strictures **6** and connected with anti-theft fasteners **18** to the AC unit **2**, it will become restrained to the pad **1** as shown in FIGS. **2** and **8**.

FIG. **10** is an embodiment of the securing anchor **9** shown in FIG. **1**. This anchor is driven or screwed into the soil to further secure the pad **1** to the underlying soil (**10** in FIG. **1**).

While we have shown and described our invention above, it should be understood that the same is susceptible to changes and modifications that will now be apparent to one skilled in the art. Therefore, we do not intend to be limited to the details shown and described herein but contemplate that all such changes and modifications will be covered to the extent encompassed by the appended claims.

We claim:

**1**. A mounting pad system for an outdoor unit, comprising a lightweight fillable pad member having a plurality of securing straps configured to be insertable into the pad member, and a filling port on an upper surface of the pad member, wherein the pad member is configured as a molded hollow shell containing a gelling material selected to prevent a mixture of the gelling material with water both from expanding upon freezing and leaking of the internal contents of the fillable pad in the event of an unintended breach in the hollow shell as well as providing reduced deflection of the pad member caused by the weight of the unit secured to the pad.

**2**. The system of claim **1**, wherein the pad member is provided with at least one through-hole for allowing a securing anchor to be inserted therethrough into the ground at the installation site, without disturbing the sealing integrity of the hollow shell, the at least one through-hole being located so as to cover the securing anchor by the unit after installation of the latter.

**3**. The system of claim **1**, wherein the at least one through-hole has a recessed portion to allow the associated securing anchor to be flush with an upperside surface of the pad member.

**4**. The system of claim **1**, wherein a plurality of securing slots extend from an underside surface to an upperside surface of the pad member, and at least one of the securing straps is configured to be insertable into at least one of the securing slots.

**5**. The system of claim **4**, wherein the securing slots are provided with a portion at the underside surface of the pad member configured to allow movement of the securing straps therein relative to the ground at the installation site.

**6**. The system of claim **1**, wherein the securing slots form through-slots configured also to function as load bearing supports for the pad member and reduce deflection of the pad caused by the weight of the unit.

7. The system of claim 5, wherein the portion is configured as one of a taper and a recess.

8. The system of claim 1, wherein the pad member is provided with supporting members to provide additional structural rigidity after the pad member has been filled.

9. The system of claim 1, wherein the gelling material comprises a super absorbent polymer material.

10. The system of claim 9, wherein the super absorbent polymer material is selected from the group comprised of sodium polyacrylate, sodium polycarbonate, polyacrylamide copolymers, ethylene maleic anhydride, carboxymethylcellulose, polyvinyl alcohol copolymers, and polyethylene oxide.

11. The system of claim 4, wherein the securing straps are configured to be adjustable, the straps comprising a circular base sized to fit within an associated one of the securing slots and having an aperture, and a securing portion configured to be insertable into the slot of the base and thereafter permanently connected to the latter at one end of the securing portion with another end of the securing portion configured to be secured to the outdoor unit.

12. The system of claim 11, wherein anti-theft fasteners connect the another end with the outdoor unit.

13. A method of installing an outdoor unit on a lightweight mounting pad, comprising at an installation site providing a hollow mounting pad containing a gelling material, inserting a plurality of securing straps in the pad, filling the hollow member with water and causing the gelling material to solidify so that the pad is completely filled so as not to expand upon freezing, securing the filled pad at the installation site with at least one securing anchor, placing the outdoor unit on the pad to cover the securing anchor, optionally adjusting the securing straps to be flush against sides of the outdoor unit, and connecting the securing straps to the outdoor unit with anti-theft fasteners.

14. A method of installing an outdoor unit on a lightweight mounting pad, comprising providing a hollow mounting pad containing a gelling material at an installation site, inserting a plurality of securing straps through slots in the pad from a bottom surface of the pad so as to extend upwardly from a top surface of the pad, filling the hollow member with water so that the pad is completely filled so as not to expand upon freezing, placing the outdoor unit on the pad to cover the filling port, and connecting the securing straps to the outdoor unit.

15. A mounting pad for a unit, comprising a lightweight fillable pad member containing a gelling material and having a plurality of securing slots extending from an underside surface to an upperside surface of the pad member to allow insertion of a plurality of securing straps from a bottom surface of the pad member so as to extend outwardly from a top surface of the pad member, and a filling port on an upper surface of the pad member, whereby the gelling material is selected so that when the pad is filled with water through the filling port the resulting mixture is prevented from freezing upon expanding.

16. The system of claim 15, wherein the securing slots and securing straps are configured to allow movement of the latter relative to the outdoor unit after being placed on the pad member.

* * * * *