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Fox et al.

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[54] **BASE FOR AIR CONDITIONING CONDENSER APPARATUS**

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[52] **U.S. Cl.** **248/19**, 52/295, 248/346

[51] **Int. Cl.** **F16m 5/00**

[58] **Field of Search** 248/19, 20, 21, 22, 23, 346, 248/350, 346.1, 146, 152; 52/295, 714; 62/295

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[57] **ABSTRACT**

A base for restingly supporting an operative air conditioning condenser apparatus. The base is intended to be restingly placed on a level planar support surface and includes a main body member having a canted upper surface which slopes downwardly and outwardly in several directions from a centrally located high point. The base also includes a plurality of elevated support pads which support the condenser apparatus in a manner that allows for air circulation subjacent the condenser apparatus. The upper surface of the support pads are canted to slope inwardly and downwardly and include self-lubricating structure to cause the condenser apparatus to slidably gravitate to a substantially level position. An anchoring and/or grounding rod is included which is received in a vertical extending aperture in the base and may be driven into certain of the support surfaces, e. g., the earth.

10 Claims, 4 Drawing Figures

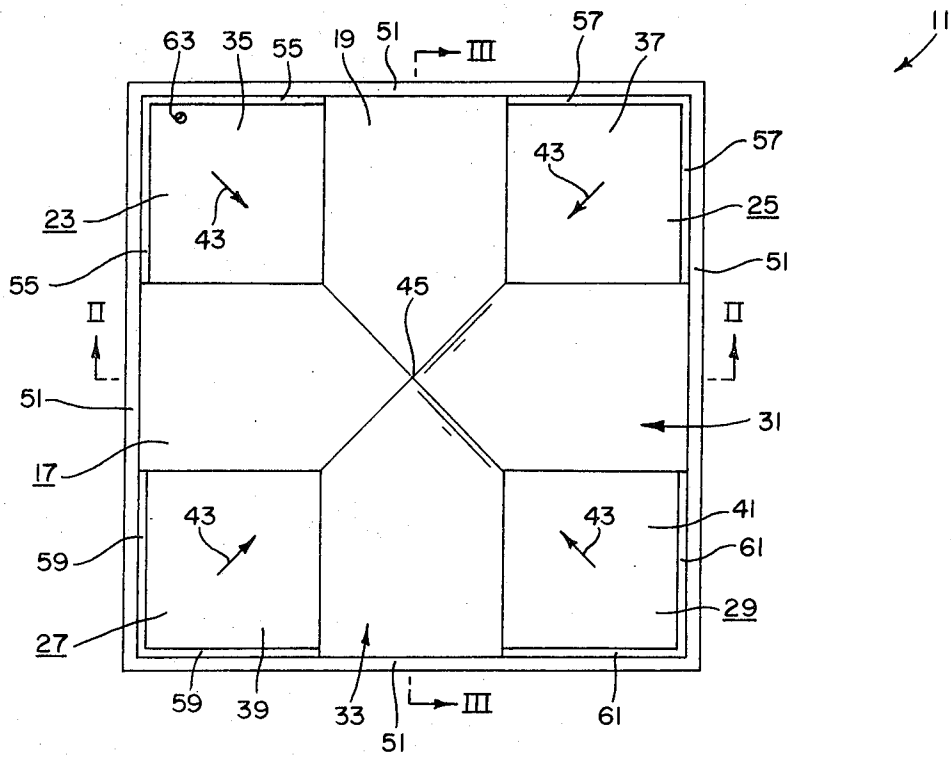


FIG. 1

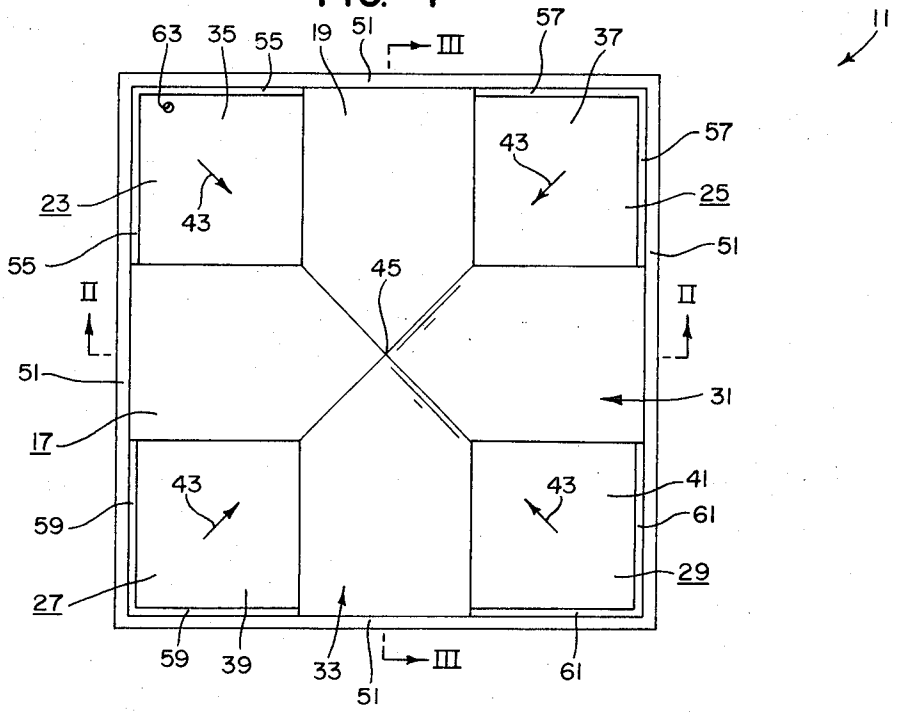


FIG. 2

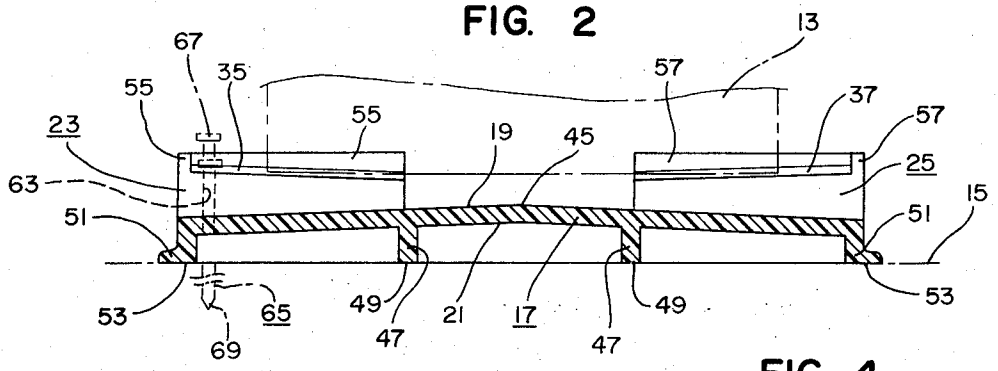


FIG. 3

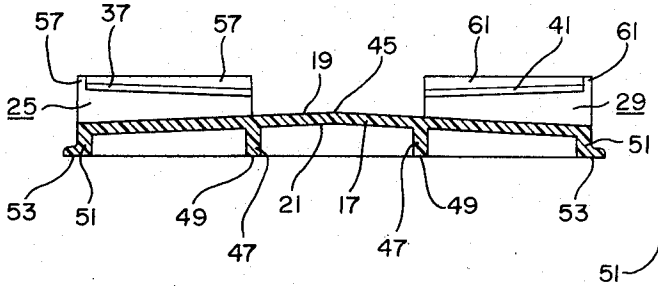
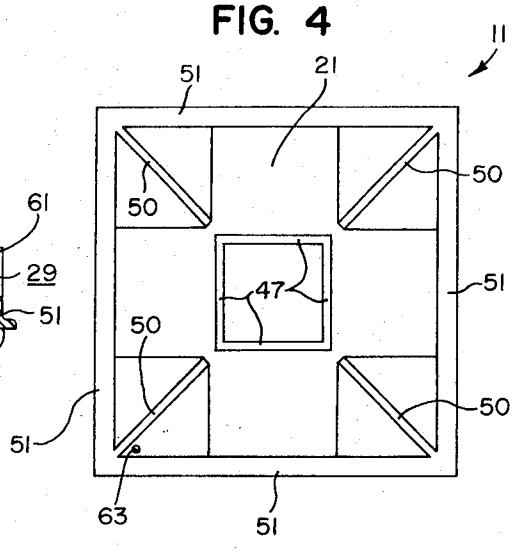


FIG. 4



BASE FOR AIR CONDITIONING CONDENSER APPARATUS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to base structure for supporting air conditioning condenser apparatus.

2. Description of the Prior Art

Air conditioning condenser apparatus usually are supported on a poured concrete slab. This practice has certain disadvantages, a few of which are as follows:

1. Considerable manhours are expended in preparing the base site which includes cutting and fitting form structure to hold the concrete while it cures.

2. Additional manhours are expended in removing the form structure subsequent to the concrete curing.

3. Ready-mixed concrete is not practical or usually available in such small quantities as is needed for a condenser base. Therefore, hand-mixing of concrete is usually the only recourse for the contractor. This, too, is costly in manhours and is unwieldy since a mixing container and other well known paraphernalia for mixing the concrete must be readily available at the base site.

4. Subsequent to pouring and finishing the surface of the concrete, the workman is unable to proceed with the task of installing the air conditioning condensing apparatus until the concrete has cured, i.e., a period of several days. This usually results in additional lost manhours since the workman must gather together his tools and equipment and proceed to a job usually at a different location.

The above problems and disadvantages have long been recognized and a recent practice in rooftop installations is to fabricate a base which may be carried to the base site and simply placed on the roof. This portable base is constructed from wood which is covered with sheet metal. Obviously, the metal must be made watertight, therefore, the seams must be soldered or the like. This portable base has certain disadvantages: First, the metal eventually is overcome by rust which exposes the wood to insects and moisture which quickly decomposes the wood. This results in a rather expensive replacement procedure which includes resetting the condenser apparatus. Secondly, construction costs of the portable base are excessive, i.e., considerable manhours are expended in the fabrication thereof.

Also, it has been a recent practice to fabricate concrete slabs that can be manually carried to the job site. This type base has certain disadvantages: First, there is the limitation as to the maximum weight that can be handled with safety and/or excessive breakage. Secondly, there is the problem relative to the formation of condensate on the concrete. This moisture tends to aid in the deterioration of the metal cabinet of the unit.

A preliminary patentability search revealed the following U. S. patents: Tilson et al. U.S. Pat. No. 2,545,320; Ecker U.S. Pat. No. 2,916,233; and Smith et al. U.S. Pat. No. 3,524,329. None of the above references show or suggest applicant's base structure.

SUMMARY OF THE INVENTION

The present invention is directed towards overcoming the disadvantages and problems relative to previous bases for supporting air conditioning condenser apparatus. The concept of the present invention is to provide a portable base for supporting operable air conditioning condenser apparatus which is non-corrosive and relatively inexpensive. I have found that a substance well suited for the construction of the base of the present invention is expanded polyethylene resin presently being offered by the Amoco Chemical Corporation under the tradename of "Amoco High-Density Polyethylene." Typical properties of Amoco's high-density polyethylene resins, etc., are available from the Plastics Division, 130 East Randolph Drive, Chicago, Ill. 60601. Therefore, no attempt will herein be made to fully describe the Amoco 670 B-4 High-Density Polyethylene. However, it should be stated that one inherent property of expanded polyethylene is that it has a self-lubricating surface which is made use of in the base of the present invention in a manner yet to be described. Additionally, this substance is expanded under extremely high heat and pressure which gives it optimum strength and durability for the purpose herein described. In addition, it should be pointed out that in place of expanded polyethylene, solid polyethylene with self-lubricating properties may be used without departing from the spirit and scope of the present invention.

The base of the present invention is intended to be restingly placed on a level planar support surface, e.g., a level area of earth or a rooftop, etc. The base includes a main body member having a canted upper surface which slopes downwardly and outwardly in several directions from a centrally located high point, thus encompassing a means for carrying fluid, e.g., rainwater, which may accumulate on the condenser apparatus outwardly to the surrounding support surface. The base also includes a plurality of elevated support pads which support the condenser apparatus in a manner that allows for air circulation subjacent the condenser apparatus, thus prolonging the life of the usual metal cabinet which houses the apparatus.

The upper surface of the support pads are canted to slope inwardly and downwardly to cause the condenser apparatus to slidably gravitate to a substantially level position. The inherent self-lubricating property of the above-mentioned expanded polyethylene is made use of in achieving this level position. In other words, the cabinet structure of the condenser apparatus merely rests upon the support pads requiring no anchoring bolts or the like.

An anchoring and/or grounding metallic rod is included which is received in a vertical extending aperture in the base and may be driven into the earth to receive an electrical grounding strap to facilitate grounding of the condenser apparatus.

The base of the present invention preferably includes integral riblike structure symmetrically arranged in an optimum pattern for structurally strengthening the base with a minimum quantity of polyethylene and for distributing the load of the condenser apparatus over the area of the base.

The advantages of the base of the present invention over the above-mentioned poured concrete slab are: First, elimination of the manhours in preparing the base site, particularly the time and materials spent in setting the forms irrespective of the weather. Secondly, the savings in manhours in removing the forms. Thirdly, the aggravation of mixing the concrete is obviated. Fourthly, the workman can pick up a portable base of the present invention and proceed to the installation site and after quickly leveling an area for resting the

base of the present invention thereon, he can immediately proceed with the task of installing the air conditioning system including the condenser apparatus. Fifthly, the homeowner, with the use of the present invention, can readily change the location of the condenser, if he desires, whereas, with a poured concrete slab this is not possible.

The advantages of the base of the present invention over the above-described metal clad wood base are: First, the cost of manhours is greatly reduced, i.e., particularly the cost of manually soldering the seams of the metal cladding. Secondly, the base of the present invention is practically indestructible, e.g., not subject to rust and/or decomposure. In other words, the base of the present invention does not break down from extreme temperature changes nor is it adversely affected by solar radiation. Stated another way, problems common to most prior plastics are non-existent in the substance from which the base of the present invention is constructed.

An additional advantage of the base of the present invention is that it should be sound-absorbing so that the noise generated by the compressor or other associated components within the condenser apparatus should be absorbed or reduced rather than amplified. In other words, the base of the present invention can be thought of as a cushion for restingly supporting the operating air conditioning condenser apparatus.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top or plan view looking down on the base of the present invention.

FIG. 2 is a sectional view taken as on the line II—II of FIG. 1.

FIG. 3 is a sectional view taken as on the line III—III of FIG. 1.

FIG. 4 is a bottom view of the base of the present invention showing the riblike reinforcing structure thereof.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The base **11** of the present invention is intended for restingly supporting an operative air conditioning condenser apparatus **13**, i.e., precluding the use of anchoring bolts or the like. The base **11** is intended to be restingly placed on a level planar support surface **15**, e.g., a leveled area of earth or a rooftop, etc. The base **11** includes a main body member **17** having upper and lower substantially horizontal surfaces **19, 21** thereto. A plurality of support pads **23, 25, 27, 29** are included and preferably are integrally attached to the main body member **17** for supporting the condenser apparatus **13** a spaced distance above the surface **15.** From FIG. **1** of the drawings, it may clearly be seen that the support pads **23, 25, 27, 29** are arranged a spaced apart distance one from the other and are disposed adjacent the perimeter of the main body member **17.** From FIGS. **2** and **3** of the drawings, it may be seen that the support pads **23, 25, 27, 29** project upwardly from the upper horizontal surface **19,** thus defining perpendicularly disposed channels **31, 33** which allow for air circulation subjacent the condenser apparatus **13.** The support pads **23, 25, 27, 29** respectively include canted upper surfaces **35, 37, 39, 41** arranged to slope inwardly and downwardly in the direction of arrows **43** towards a common point **45** for reasons yet to be disclosed. The inherent self-lubricating property of the expanded polyethylene and/or solid polyethylene above disclosed under the "Summary of the Invention" and the cooperating canted surfaces **35, 37, 39, 41** cause the condenser apparatus **13** to slidably gravitate to a substantially level position as depicted in FIG. **2** of the drawings. An important feature of the present invention is that the condenser apparatus **13** will remain in place during the operation thereof without the usual anchoring bolts or the like.

It should be pointed out that the cabinet structure for a typical condenser apparatus **13** includes support members (not shown) for packing and shipping purposes which usually are constructed of teflon or the like. Accordingly, the support members preferably are left attached to the cabinet and, in fact, become the only structure of the condenser apparatus **13** to engage the base **11.** However, it should be understood that the support members are optional since the corners of the cabinet structure for the condenser apparatus **13** may restingly engage the base **11.** In this regard, it should be pointed out that the angular slope of the surfaces **35, 37, 39, 41** preferably is very slight, e.g., approximately 5°.

It should also be understood that the overall shape of the base **11,** as depicted in the drawings, is a preferred embodiment for illustrative purposes only. In other words, the top view of the base **11** may resemble a geometric figure other than a square, e.g., circular, semicircular, or rectangular, etc.

The upper surface **19** of the main body member **17** preferably is canted to slope downwardly and outwardly in a plurality of directions from the common point **45,** i.e., the common point **45** being the centralmost high point of the surface **19.** More specifically, the lower surface of the channel **31** slopes outwardly from the common point **45** in opposite directions and the lower surface of the channel **33** slopes outwardly from the common point **45** in opposite directions for carrying fluid, e.g., water, which may flow thereon outwardly to the surrounding supporting surface **15.**

The base **11** also includes riblike structure **47** integrally attached to the main body member **17** and preferably being arranged thereon in a square configuration substantially as depicted in FIG. **4** of the drawings. The riblike structure **47** projects downwardly from the lower surface **21** of the main body member **17,** thus establishing lower surfaces **49** thereof which pass through a single plane for restingly engaging the supporting surface **15.** It should be understood that the grid structure **47** may be arranged in other geometric figures without departing from the spirit and scope of the present invention. Also, diagonal ribs **50** are preferably integrally provided respectively on the lower surfaces of support pads **23, 25, 27, 29** for adding structural strength thereto.

Additionally, the base **11** preferably includes perimeter support structure **51** having a cross section similar in shape to that depicted in FIGS. **2** and **3** of the drawings. The perimeter support structure **51** has a lower surface **53** thereof which passes through the single plane alluded to above in which the lower surfaces **49** pass through. In other words, the lower surfaces **53** also restingly engage the planar supporting surface **15.**

The base **11** also includes a plurality of retaining edge ridges **55, 57, 59, 61** which project upwardly from the

respective upper surfaces **35, 37, 39, 41** of the support pads **23, 25, 27, 29.**

The base **11** preferably is provided with a vertical extending aperture **63** for receiving a metallic rod **65.** The rod **65** preferably includes a double headed portion **67** adjacent the one end thereof and a pointed portion **69** at the opposite end. The lower of the two heads adjacent the end **67** is intended to contiguously engage the surface **35** when the rod **65** extends through the aperture **63.** The pointed end **69** thereof is intended to be driven into the earth or the support surface **15.** Accordingly, the space between the two heads is provided for attaching a grounding strap (not shown) for suitably electrically grounding the cabinet structure associated with the condenser apparatus. Thus, the rod **65** serves a dual function, i.e., electrically grounding the condenser apparatus **13** and provides a means for anchoring the base **11** to the supporting surface **15.**

Although the invention has been described and illustrated with respect to a preferred embodiment thereof, it is not to be so limited since changes and modifications may be made therein which are within the full intended scope of the invention.

We claim:

1. A base for restingly supporting an operative air conditioner condenser apparatus, said base comprising a main body member having upper and lower substantially horizontal surfaces thereto, said upper surface having a common point disposed substantially centrally of the area thereof, said lower surface including structure for restingly engaging a level planar supporting surface, a plurality of at least three support pad means attached to said main body member for supporting the condenser apparatus a spaced distance above said upper surface, said plurality of pad means projecting upwardly from said upper surface a spaced apart distance from the other and being disposed adjacent the perimeter of said main body member, said plurality of pad means including self-lubricating upper surfaces, and said upper surfaces of said pad means being canted to slope inwardly and downwardly towards said common point for causing the condenser apparatus to slidably gravitate to a substantially level position.

2. The base of claim **1** in which is included drain means for carrying fluid which may accumulate thereon outwardly to the surrounding supporting surface.

3. The base of claim **2** in which said drain means includes canting said upper surface of said main body member to slope downwardly and outwardly in a plurality of directions from a centralmost high point thereof.

4. The base of claim **3** in which is included reinforcing means for structurally strengthening said main body member and for distributing the load of the condenser apparatus over the area of said base.

5. The base of claim **4** in which said reinforcing means includes rib-like structure integrally attached to said main body member and being symmetrically arranged thereof in a grid-like pattern, said grid structure projecting downwardly from said lower surface of said main body member and having the lower surfaces thereof passing through a single plane for restingly engaging the planar supporting surface.

6. The base of claim **1** in which is included means for anchoring said base to the supporting surface.

7. The base of claim **6** in which is included means for electrically grounding the condenser apparatus.

8. The base of claim **7** in which said anchoring means and said grounding means includes metallic rod means which may be driven into certain of the supporting surfaces, and said base being provided with a vertical extending aperture for receiving said rod means.

9. The base of claim **1** in which said self-lubricating surfaces consist of expanded polyethylene.

10. The base of claim **5** in which said main body member, said plurality of pad means, and said grid structure are integrally molded from expanded high density polyethylene.

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