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DEVELOPMENT AND LEVELING AN
AIR CONDITIONER ON A ROOF

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Fig. 1

Fig. 2

Fig. 3

Fig. 4

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HIS AGENT
DEVICE FOR SUPPORTING AND LEVELING AN AIR CONDITIONER ON A ROOF

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This invention relates to supports and more particularly to adjustable supports for leveling air conditioners and the like on angularly disposed members, such as the roofs of buildings or the like.

Various supports for air conditioners have been proposed heretofore, but these for the most part were not readily adjustable with respect to angularity and as to height, and would not meet all requirements for quickly attaching an air conditioner to roofs with any type of pitch.

The present device enables an air conditioner to be mounted on a pitch type roof and leveled in a minimum of time and at the desired distance therefrom to enable a duct to be connected thereto, and for the necessary sealing to be provided therearound, in a minimum of time.

An object of this invention is to provide a support for supporting air conditioners and the like on pitch type or uneven roofs, so as to maintain the air conditioner in leveled condition.

Another object of the invention is to provide a support for an air conditioner which is simple in construction, easy to attach to the air conditioner, and low in cost of manufacture and installation.

With these objects in mind and others which will become manifest as the description proceeds, reference is to be had to the accompanying drawings in which like reference characters designate like parts in the several views thereof, in which:

FIG. 1 is a fragmentary elevational view of the roof of a building, showing in dashed outline an air conditioner mounted thereon, with the supports for the air conditioner being shown in full outline, with parts broken away and with parts shown in section to bring out the details of construction;

FIG. 2 is a fragmentary elevational view taken at a right angle to FIG. 1, and showing the air conditioner in dashed outline, and showing the supports therefor in full outline;

FIG. 3 is a fragmentary sectional view taken on the line 3—3 of FIG. 2, looking in the direction indicated by the arrows; and

FIG. 4 is an enlarged perspective view of one of the support members apart from the air conditioner.

With more detailed reference to the drawing the numeral 1 designates generally a pitch type roof of a building on which an air conditioner 2 is mounted. The air conditioner 2 is shown to have a duct 4 leading therefrom into the interior of the building, which is designated by the numeral 6, and shown in FIG. 1.

The air conditioner 2 is mounted on support members designated generally by the numeral 8, each of which support members has a base member 10 which is preferably made of structural material having at least one turned flange 12 and an upstanding rib or flange 14. Holes 16 are formed in each flange 12 to receive fastening elements, such as screws 18 to enable the base members 10 to be secured at the desired place on the roof 1 of the building 6. The upstanding flanges or ribs 14 are apertured intermediate the length thereof to receive a screw or pin 20 therethrough, as will be more fully brought out hereinafter.

The support members 8 each comprises a rod 22, which rods 22 are bifurcated, as indicated at 24, and are apertured transversely as indicated at 23, through the bifurcated portions thereof, which bifurcations of the respective rods 22 may be straddled over the upstanding ribs 14 of the respective base members 10, so the apertures 23 in the bifurcated portions 24 will receive apertures in the respective upstanding ribs 14 so that a pin 20 may be inserted through the apertures which are in register to hingeably connect the respective rods 22 with the respective bases 10.

The air conditioner 2 is adapted to receive a corner member, designated generally at 25, each of which comprises two outstanding ears 26 on each lower vertical corner thereof so that fastening elements 28 may be passed through apertures 27 which are formed in ears 26 and secured to the air conditioner 2 in rigid relation.

The corner members or ears 26 each has an outwardly extending loop portion 30, as will best be seen in FIGS. 3 and 4, to receive the respective rods 22 therethrough, which rods are in parallel relation with the respective corners of the air conditioner 2, and which rods will slide freely within the respective loop portions 30 but are in close fitting relation therewith. A set collar 32, which set collars each have a screw threaded hole 35 therein, in which the respective screw threaded holes a set screw 34 is screw threadably engaged, which set collar is positioned on each rod 22 below the respective corner members 26 so as to form a support for the respective corner members 26 when the respective set screws 34 are in adjusted relation on the respective rods 22. The rods 22 may be of any desired length, however, the exact length thereof is immaterial, as the height of the air conditioner above the roof on the upper side with respect to the pitch of the roof is adjusted to the desired spaced distance thereabove and the set collars 32 positioned thereunder and set screws 34 secured in place, whereby the side of the air conditioner on the lower-most slant portion of the roof is then raised until the air conditioner is level or plumb, when reckoned by instruments, then the set collars 32 on the respective support rods 22 on the lower-most slant of the roof are adjusted upward against the lower side of the corner members 28 and the set screws tightened so as to hold the air conditioner 2 in supported relation with respect to the roof 1. The height of the air conditioner 2 above the roof may be adjusted as required to accommodate the fitting of duct 4, thereby obviating the necessity of cutting the duct 4 to precision length, thus greatly expediting the installation of the air conditioner.

While the T-shaped base members 10 are shown in the present instance, it is to be understood that an angle iron may be substituted therefor, or the support rods 22 may be positioned between two upstanding rib members or the like and the pin passed therethrough to hingeably support the rod 22 with respect to the base member 10.

With the set collars 32 firmly secured in place by means of set screws 34, and with the rods 22 positioned in tight but sliding relation within loop members 30, and with a rod 22 in bearing relation with each corner of all air conditioner 2, as will best be seen in FIG. 3, the air conditioner 2 will be supported against lateral movement, and will be in rigid relation with respect to roof 1, thereby minimizing vibration and movement because of wind or other weather hazards.

With an air conditioner, which may be either of the washed air or refrigeration type, supported in the manner described, ready access may be had to all sides of the cabinet thereof, and to the top so air may be directed.
into the desired room or rooms with a minimum of duct work. Furthermore, the air conditioner may be readily removed and replaced, either by removing pins 20 and disconnecting duct 4, or by disconnecting duct 4 and lifting the air conditioner 2 vertically upward without disturbing the adjustment of set collars 32, thereby enabling the ready replacement of the air conditioner 2 in the exact relation with respect to the roof as previously existed, and without the necessity of readjusting the length of the duct 4.

In utilizing supports as shown in the present drawing, and as described herein, an air conditioner of the washed air type with four evaporative pads may be mounted on the roof, which will give greater cooling capacity than an air conditioner of the same capacity and the same size pads were mounted in a window or other opening. Furthermore, an air conditioner mounted in this manner enables the air to be brought into the room at the desired place in the ceiling without utilizing window space, which is usually needed for lighting purposes.

While the invention has been illustrated and described in some detail as to one embodiment thereof, it is to be understood that changes may be made in the minor details of construction and adaptations made to different installations without departing from the scope of the invention as set out in the appended claim.

Having thus clearly shown and described the invention, what is claimed as new and desired to be secured by Letters Patent is:

A device for supporting and leveling an air conditioner or the like on a roof, which device comprises base members, each of which base members has an out-turned flange and an upstanding rib, said out-turned flanges and said upstanding ribs each having at least one aperture formed therein, elongated, bifurcated, cylindrical support members, one of which is mounted on each said upstanding rib so said bifurcated portion of each elongated, cylindrical member will straddle one said upstanding rib, said bifurcated portions of said elongated members being transversely apertured in such manner that said apertures will register with said aperture in said upstanding respective ribs, a set collar positioned on each said elongated cylindrical member, each said set collar being secured in fixed relation along the length of said respective elongated, cylindrical member, a loop support member mounted on each elongated, cylindrical support member in close fitting relation, said respective loop support members being adapted to seat on said respective set collars on said elongated, cylindrical members, said loop support members being apertured and so formed that the outstanding flanges thereof form a right angle, said loop support members being adapted to fit, one on each corner, of said air conditioner, and fastening means adapted to pass through said apertures in said respective loop support members and to engage the walls of said air conditioner to secure said support members to said air conditioner.

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