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Protective awning for air conditioning units

INVENTOR: Comanescu, Michael - Phoenix, Arizona, United States (US); Comanescu, Joan - Phoenix, Arizona, United States (US)**APPL-NO:** 064090 (10)**FILED-DATE:** June 10, 2002**LEGAL-REP:** GREENBERG & LIEBERMAN - 314 PHILADELPHIA AVE., TAKOMA PARK, Maryland, 20912**PUB-TYPE:** December 11, 2003 - Utility Patent Application Publication (A1)**PUB-COUNTRY:** United States (US)**US-MAIN-CL:** 62#259.1**CL:** 62**IPC-MAIN-CL:** [7] F25D 023#12**ENGLISH-ABST:**

The present invention is a protective awning system for air conditioning units and heat pumps on residences or businesses. The present invention creates a weather and sunlight shield for the condenser coils on these units decreasing power usage, and increasing the life of the air conditioning unit or heat pump. There are a series of rectangular members manufactured from styrene or other durable plastic material. Each rectangular member has detachable pieces that allow the user to create an angle to easily fit to the rectangular piece to its side on the air conditioning unit. Alternately, the user can leave the edges on the rectangular pieces and stack the pieces at the edge, protecting the air conditioning unit from weather and debris such as falling leaves. The rectangular pieces are attached to the air conditioning unit by use of two-sided adhesive tape. The two-sided adhesive tape is acrylic based and has stronger adhesion as the temperature rises outdoors.

EXMPL-FIGURE: 2**NO-DRWNG-PP:** 5

SUMMARY:**BACKGROUND OF INVENTION**

[0001] The present invention is a removable awning for air conditioning units, specifically to protect the coil mechanisms from heat and weather exposure.

[0002] Today, most homes and businesses have air conditioning, and/or heat pumps to regulate the interior temperature of their buildings. Air conditioning units work with a mechanism of coils that remove condensation from the machine allowing the air to be cooled, and heated air to be removed. Air conditioning installation texts suggest that the units be placed in the shade, to keep the air conditioning units from overworking. However, in many parts of the United States air conditioning units are placed on the roofs of buildings, and are exposed to direct sunlight during daylight hours. This presents an additional problem when the homes or businesses are located in desert areas such as the southwest United States. Temperatures can reach over 100 degrees Fahrenheit everyday for months at a time. This temperature extreme can lead to the air conditioning taxing itself to make the outer coils cool properly. This taxing leads to high power bills and lessened life of the air conditioning unit.

[0003] U.S. Pat. No. 5,870,902 issued to Garrett, Jr., on Feb. 16, 1999 exhibits a rain shield for outdoor appliances. The rain shield invented by Garrett is unlike the present invention because it is permanently attached to the air conditioning or heating unit, it has cavities cut specifically to expose the electrical circuitry, and it is intended to adhere closely to the existent casing of the air conditioning or heating unit. Also, it has no method for ventilation.

[0004] U.S. Pat. No. 5,605,055 issued to Salgado, et al., exhibits a roof-mounted air conditioner. The roof-mounted air conditioner invented by Salgado is unlike the present invention because it is a roof mounted air conditioning unit for buses and the like, and it is not a weather or ventilation cover for stationary rooftop air conditioning units.

[0005] U.S. Pat. No. 5,501,634 issued to Wilder on Mar. 26, 1996 exhibits an air conditioning cover assembly. The air conditioning cover assembly invented by Wilder is unlike the present invention because it is a one-piece cover, it is not an awning system, and the cover is manufactured with vents that are moveable as the means of ventilation.

[0006] U.S. Pat. No. 4,048,910 issued to Weir on Sep. 20, 1977 exhibits a plenum cover for roof mounted vehicle air conditioner. The plenum cover invented by Weir is unlike the present invention because it is intended for vehicle air conditioning units only, and it is for air conditioning a partitioned cab of a vehicle such as a taxi. Also it is not suitable for use on stationary air conditioning units such as on a residence or business building.

[0007] Japanese patent no. 11,159,809 issued to Katsutoshi, on Jun. 15, 1999 exhibits a screen attachment for outdoor air conditioning units. The screen attachment invented by Katsutoshi is unlike the present invention because it is a hinge able screen mounted above the air conditioning unit, it is not an awning system, and it will not weatherproof the air conditioning unit from precipitation.

SUMMARY OF INVENTION

[0008] The present invention is a removable awning system for roof air conditioning units as in residences or businesses. The awning can be fitted on as many sides as is necessary to fit different types of air conditioning units. The present invention is mounted with removable double sided adhesive on the sides adjacent to the condenser coils. For example, if the condenser coils were only on the south side of the unit, then the awning would be positioned on the top of that side, and to the right and left of that side. The awning can then protect the coils from sunlight and from precipitation. The awning prevents buildup of precipitation next to the air conditioning unit because it presents a horizontal barrier. Also, the awning does not impede the function of the air conditioning coils as would a full side cover.

[0009] The present invention is made of a sturdy material, such as recycled plastic and is simple to fit and attach. In different embodiments of the present invention, it may be constructed of wood, fabric, or metal. It is fashioned in a rectangular manner to be cut to size by removing triangle portions if necessary from the ends to fit the rectangular portions together in a water-resistant fashion. The user can cut the ends in a straight fashion as well, and should use their discretion for a secure fit. The ends of the awning pieces are sealed together with an adhesive at the joints, and are attached to the air conditioning unit by means of double sided adhesive or other such attachment pieces.

[0010] The present invention will work equally well with heat pumps as well as the air conditioning units. In addition, the present invention works equally well for units located anywhere, not just on rooftops. Heat pumps are constructed to have alternating evaporative and condenser coils. The condenser coils are located on the exterior of the unit, outside the building where freezing precipitation may adhere to them greatly reducing the ability of the heat pump to heat a building. The present invention creates a protective awning for an area immediately surrounding the heat pump, to protect the pump from frozen precipitation.

DRWDESC:

BRIEF DESCRIPTION OF DRAWINGS

[0011]FIG. 1 shows an environmental view of the present invention as attached to an air conditioning unit with three sides of condenser coils.

[0012]FIG. 2 shows an environmental view of the present invention as attached to an air conditioning unit with two sides of condenser coils.

[0013]FIG. 3 shows an environmental view of the present invention as attached to an air conditioning unit with one side.

[0014]FIG. 4 shows a top view of the present invention unattached to an air conditioning unit.

DETDESC:

DETAILED DESCRIPTION

[0015] The present invention is an awning system for protection of condenser coils on air conditioning and heating units installed on the roofs of buildings. It is made of rectangular pieces of a styrene plastic with an extrusion method. However an injection method could also be used to produce the rectangular pieces. The rectangular pieces are fashioned to have removable triangles along the edges that can be detached to allow the awning to fit in a secure fashion on the air conditioning or heating unit. Alternately, the user can remove a square or rectangular piece along the edge for the best fit. The rectangular pieces, in the preferred embodiment, are applied to the air conditioning or heat pump unit by means of a two-sided acrylic tape.

[0016]FIG. 1 shows a view of the present invention (10,12,14) as attached to an air conditioning unit with three sides of condenser coils. The first member (10), second member (12) and third member (14) are attached to the air conditioning unit (30) above first condenser side (20), second condenser side (22) and third condenser side (24), respectively. The first member (10), second member (12) and third member are attached to the air conditioning unit by means of conventional two-sided adhesive tape (not shown). Additionally, the awning system (10, 12, 14) has an top cover (35) that is attached to the top of the air conditioning unit (30). The top cover (35) is attached to the top of the air conditioning unit (30) by two-sided acrylic tape (not shown). The top cover (35) would be cut to fit the top of the air

conditioning unit (30) and would not cover any intake or outtake valve for airflow. FIG. 2 shows the present invention attached to an air conditioning unit (30) with two sides of condenser coils (20,22). The first member (10) is attached by two-sided tape (not shown) above first condenser side (20) of the air conditioning unit (30). The second member (12) of the present invention is attached by two-sided tape (not shown) above the second condenser side (22) of the air conditioning unit (30). FIG. 2 also shows the top cover (30) attached to the top of the air conditioning unit (30).

[0017]FIG. 3 shows the present invention attached to an air conditioning unit (30) with one side of condenser coils (20). The first member (10) is attached to the left side of the air conditioning unit (30). The second member (12) of the present invention is attached to the top of the air conditioning unit (30), and the third member (14) of the present invention is attached to the right side of the air conditioning unit (30). As is shown, the three members (10,12,14) of the present invention protect the condenser coil side (20) of the air conditioning unit (30) from weather elements blowing from either horizontal direction and falling directly on the air conditioning unit (30). The top cover (35) is also shown attached to the air conditioning unit (30).

[0018]FIG. 4 shows the present invention as disassembled, and before attachment to an air conditioning unit (30). The first member (10), second member (12), and third member (14) have detachable members (60) at the corners. The detachable members (60) allow the first member (10), second member (12), and third member (14) to be fitted together around the condenser side (20) of the air conditioning unit (30) in a secure, and watertight manner (See FIG. 3).

[0019] The first member (10), second member (12), and third member (14) are attached by two-sided adhesive tape (not shown). The user can detach one side of the paper backing and attach to the appropriate space on the awning and then remove the second paper backing from the tape as the awning is aligned to the appropriate position on the air conditioning unit (30). The adhesive or tape strips (not shown) are a conventional, yet non-intrusive means of attaching the first member (10), second member (12) and the third member (14) to the air conditioning unit (30) without puncturing or damaging coils in the air conditioning unit (30).

[0020] The present invention can be created of materials other than styrene plastic, and is not limited thereto. A sealant may also be used to join the first member (10), second member (12) and third member (14) to one another as positioned in FIG. 3. Alternately the user may leave the detachable pieces (FIG. 4, 60) attached to the first member (10), second member (12), and third member (14) and attach the members (10,12,14) in a stacked manner at each edge, creating a waterproof section on each edge without the use of a sealant. The first member (10), second member (12) and third member (14), in the present embodiment are 36 inches long, and 15 inches wide, but can be manufactured to fit any size air conditioning unit. The first member (10) second member (12), the third member (14), and the top cover (35) provide shade for the coiled sides and top of the air conditioning unit (30) to keep the unit from overworking and unnecessary power usage.

[0021] The present invention is not limited to the embodiments described above, but instead includes any and all embodiments of the following claims.

ENGLISH-CLAIMS:

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I claim:

1. An awning system for an air conditioning system, comprising: a top cover piece; an attachment means, for attaching said top cover piece to the air conditioning; and at least one member, removably communicating with said attachment means.
2. An awning system as in claim 1, wherein said at least one member is rectangular.
3. An awning system as in claim 1, wherein said attachment means is a two-sided adhesive tape.

4. An awning system as in claim 2, wherein said at least one rectangular member is removably attached to the air conditioning system.

5. An awning system as in claim 4, wherein said at least one rectangular member is removably attached at a parallel fashion from the top side of the air conditioning system.

6. An awning system as in claim 1, wherein said at least one rectangular member protects the air conditioning system from weather conditions by extending in a planar fashion from the top of the air conditioning system.

7. An awning system as in claim 1, wherein said top cover piece protects the air conditioning system from sun exposure and overheating by extending in a planar fashion above the top of the air conditioning system.

8. An awning system as in claim 1, wherein said at least one rectangular member is disposed above the conventional coil sections of the air conditioning systems.

9. An awning system as in claim 1, wherein said at least one rectangular member is installed on above the sides of the conventional coil sections of the air conditioning system as well as on top of the air conditioning system.

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