The present invention is directed to a height adjustable window air conditioner support that is rotatably adjusted to fit between a window air conditioner and a window ledge. In one embodiment, the support consists of two conjoined and threaded plastic cylindrical shafts, each of which, have a support platform on the opposing end.
HEIGHT-ADJUSTABLE WINDOW AIR CONDITIONER SUPPORT
CROSS-REFERENCE TO RELATED APPLICATIONS

U.S. Pat. Nos. 6,173,930; 5,636,816; 5,112,015; 2,628,052; 1,224,127; 1,627,241.

FEDERALLY SPONSORED RESEARCH

None.

SEQUENCE LISTING

None.

BACKGROUND

1. Field of the Invention

This invention relates to window air conditioners, specifically window air conditioners that are mounted in windows with a window ledge.

2. Description of the Prior Art and Objectives of the Invention

Window-mounted air conditioners are very common in many older houses, multi-unit buildings, trailers and the like. These window-mounted air conditioners unfortunately frequently require support in addition to the window sill. Several attempts in the past have been made to meet this need as demonstrated by U.S. Pat. Nos. 6,173,930; 5,636,816; 5,112,015; 2,628,052; 1,224,127; 1,627,241; among others. While these older devices perform adequately for their purpose, improvements are still sought. One problem that remains with the prior art devices is that the space in between the air conditioners and the windows ledge come in a myriad of heights. Thus, with the above-mentioned concern, it is an objective of the present invention to provide a simple, easy-to-use window support, which adjusts in height so as to fit securely within the majority of conventional window ledges.

SUMMARY

The invention, a height-adjustable window air conditioner support, can be adjusted to fit between most window ledges and the air conditioner. The support consists of four pieces, two of which are joined by a central shaft that have a support platform on each end. The pieces are threaded and the lower threaded piece screws into the female-threaded piece. This is what allows the support to be height-adjustable. The lower support platform also features a ball and socket design, which allows the platform to swivel and remain flush in an instance where the air conditioner is not parallel to the window ledge. The support also contains a locking nut that will prevent it from loosening up due to the vibrations of the air conditioner. In addition to providing the convenience of adjusting to the appropriate height, the support also provides a more stable fitting by using an adhered magnet on the top support platform to attach to the metal of the air conditioner and a rubber surface on the lower support platform to grip the surface of the window ledge.

DRAWINGS

FIG. 1 is a side view of the support extended.
FIG. 2 is a side view of the support collapsed.
FIG. 3 is a top view of the support showing the magnet.
FIG. 4 is a bottom view of the support showing the rubber grip surface.
FIG. 5 is a side view of the support in use on a window ledge bracing an air conditioner.
FIG. 6 is a front view of a pair of supports bracing a window air conditioner mounted in a window with a window ledge.
FIG. 7 is a side view of the support in use on an angled window ledge bracing an air conditioner.
FIG. 8 is a side view of the support extended. The drawing shows how the top half of the support 9, 10, 15 unscrews outwards from the bottom half 12, 13 to fit various heights.
FIG. 9 is a side view of the support collapsed showing how the top half of the support 9, 10, 15 screws downward onto the bottom half of the support 12, 13 to create the lowest height possible.
FIG. 10 is a top view of the support showing the magnet 11 that is adhered to the top of the upper support platform 10.
FIG. 11 is a bottom view of the support showing the rubber grip surface 14 that is adhered to the lower support platform 13.
FIG. 12 is a side view of the support in use, bracing a window air conditioner 16 that is mounted in a window 18 that has a window ledge 17.
FIG. 13 is a side view of two supports in use, bracing a window air conditioner 16 that is mounted in a window 18 that has a window ledge 17.
FIG. 14 is a side view of the support in use, bracing a window air conditioner 16 that is mounted in a window 18 that has an angled window ledge 17. It demonstrates how the ball and socket design 9 allows both the upper support platform 10 and lower support platform 13 to remain flush with the air conditioner 16 and the window ledge 17.

REFERENCE NUMERALS

9 ball and socket swivel
10 upper support platform
11 magnetic surface
12 lower male-threaded shaft of support
13 lower support platform
14 rubberized surface
15 upper female-threaded shaft of support
16 window air conditioner
17 window ledge
18 window
19 locking nut

OPERATION

In operation one uses the support in a normal manner by placing the support in between the window air conditioner 16 and the window ledge 17. The support, or supports, is then adjusted to the proper height. The proper height is obtained when the top section of the support 10, 11, 15 makes contact with bottom of the window air conditioner 16 and the lower portion of the support 9, 12, 13, 14 makes contact with the window ledge 17. In order to adjust the height of the support the top support platform 10 is first placed so that the magnet 11 connects to the underside of the window air conditioner. The lower support platform 13 and the lower portion
of the support 12 are then twisted clockwise to raise the height of the support or twisted counterclockwise to lower the height of the support. This is made possible due to the threading on both the upper portion of the support 15 and the lower portion of the support 12. Once the desired height has been obtained, the lower support platform 13 will sit firmly on the window ledge 17 due to the rubberized surface 14 attached to it. To ensure that the two pieces do not loosen, the locking nut 19 can be screwed upward to meet the upper female-threaded shaft of support 15. If the support is to be used with a window ledge 17 that is on an angle, or not parallel with the window air conditioner 16, the lower support platform 13 can be angled due to the ball and socket swivel 9. The ball and socket swivel 9 allows the both the upper support platform 10 and lower support platform 13 to remain flush with both the window air conditioner 16 and the window ledge 17 due to it’s ability to swivel in all directions.

1. A height-adjustable window air conditioner support, comprising:
   (a) a female-threaded shaft having a first support platform attached thereto;
   (b) a male-threaded shaft having a second support platform attached thereto by a ball and socket swivel, said male-threaded shaft rotatably engaging said female-threaded shaft to provide a rotatably height adjustable conioined shaft having said first and second support platforms at opposing ends, said first support platform and said second support platform spanning the gap between a window air conditioner and a window ledge in response to said male-threaded shaft being rotated, and
   (c) a female-threaded locking nut sized for rotationally engaging said male-threaded shaft and pressing against said female-threaded shaft to lock the male and female-threaded shafts relative to one another, thereby providing a height-adjustable window air conditioner support.

2. The height-adjustable window air conditioner support of claim 1, wherein said first support platform is magnetized.

3. The height-adjustable window air conditioner support of claim 1, wherein said second support platform comprises a rubberized surface for engaging said window ledge.

4. The height-adjustable window air conditioner support of claim 2, wherein said second support platform comprises a rubberized surface for engaging said window ledge.

5. The height-adjustable window air conditioner support of claim 1, wherein said male-threaded shaft and said female threaded shaft are plastic.

6. The height-adjustable window air conditioner support of claim 5, wherein said first support platform is magnetized.

7. The height-adjustable window air conditioner support of claim 6, wherein said second support platform comprises a rubberized surface for engaging said window ledge.