ALL IN ONE GUTTER SYSTEM

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ABSTRACT

An embodiment of the invention provides for a gutter. The gutter includes a front portion, a rear portion, a bottom portion, and an attachment feature for hanging or securing an item to the gutter. In another embodiment, the invention provides for a gutter system. The gutter system includes a gutter and a mounting device. The gutter includes a front portion, a rear portion, a bottom portion, an attachment feature for hanging or securing an item to the gutter, and a channel in the rear portion of the gutter.
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CROSS-REFERENCE TO RELATED APPLICATIONS

This non-provisional patent application claims the benefit of U.S. Provisional Patent Application No. 60/784,882, entitled “ALL IN ONE GUTTER,” filed Mar. 22, 2006, which is hereby incorporated in its entirety.

FIELD OF THE INVENTION

The present invention generally relates to gutters and gutter systems, and more particularly, the present invention relates to gutters and gutter systems that facilitate the hanging and securing of items, articles, and accessories to the gutter.

BACKGROUND OF THE INVENTION

It is well known that gutter systems are utilized to collect water runoff from rooftops of structures and to direct such water runoff into or onto the ground surrounding the structure. Gutter systems may be used with many types of structures such as, for example, residential homes, warehouses, industrial buildings, commercial buildings, and the like. Rainfall and melting snow are common sources of water runoff collected from rooftops. The collection and redirection of water from rooftops serves a very important function. Excess water settling on rooftops may lead to significant damage to a rooftop. For example, standing water may result in leaks forming in a rooftop, which in turn may lead to significant damage to the interior of a structure. In addition, water that is not properly redirected from the rooftop into or onto the ground may cause significant damage. For example, water that pools or collects at the base of a structure may lead to damage to the foundation or walls of the structure. In another example, water that is improperly directed from rooftops may settle on pedestrian or vehicle pathways, which may result in hazardous conditions on such pathways for pedestrians or vehicles.

There is a continuing need to improve the design and functionality of gutters and gutter systems. Although prior art gutter designs are generally effective, such designs are susceptible to a number of unwanted conditions and results. For example, gutters are typically attached to structures through the use of bolts. The head of such an attachment bolt typically remains exposed upon attachment and is visible to observers. Under such conditions, if the head of a bolt does not complement the color or appearance of the gutter, an unattractive or otherwise displeasing appearance may result.

Another unwanted condition is the collection of leaves or other such debris that enter a gutter, causing blockages and clogs in the gutter or downspouts. Such blockages often impede the flow of water through gutters and downspouts and result in water overflowing from the gutter or downspout at the point at which the debris collects. Such overflows may cause damage to rooftops by allowing water to pool on a rooftop, leading to leaks and damage to the interior of the structure. In addition, a blockage may cause water to overflow onto unwanted areas, such as pedestrian or vehicle pathways. For gutters utilized in colder climates, similar damage and unwanted results may occur when water freezes in gutters or downspouts. In addition to overflows due to such “ice dams,” the expansion of water upon freezing may cause structural damage to gutters and downspouts.

Gutters and gutter systems are commonly used in residential homes. Homeowners often desire to utilize gutters to hang, secure, or otherwise display items or articles, such as holiday lights, holiday decorations, plants, and the like. In addition, homeowners may desire to utilize gutters to secure practical items, such as television cable wiring, satellite television wiring, or other such wiring for utilities. However, prior art gutters do not readily provide a means for attachment of such items and articles.

As discussed herein, prior art gutters and gutter systems are susceptible to a number of unwanted conditions and results; therefore, there exists a need in the art for apparatus and methods to improve gutters and gutter systems.

SUMMARY OF INVENTION

An embodiment of the invention provides for a gutter. The gutter includes a front portion, a rear portion, a bottom portion, and an attachment feature for hanging or securing an item to the gutter. In another embodiment, the invention provides for a gutter system. The gutter system includes a gutter and a mounting device. The gutter includes a front portion, a rear portion, a bottom portion, an attachment feature for hanging or securing an item to the gutter, and a channel in the rear portion of the gutter.

DESCRIPTION OF THE DRAWINGS

In the accompanying drawings, which are incorporated in and constitute a part of this specification, embodiments of the invention are illustrated, which, together with a general description of the invention given above and the detailed description given below, serve to illustrate the principles of this invention. The drawings and detailed description are not intended to and do not limit the scope of the invention or the claims in any way. Instead, the drawings and detailed description only describe embodiments of the invention, and other embodiments of the invention not described are encompassed by the claims.

FIG. 1 is a cross-sectional view of a gutter arranged in accordance with the present invention; and
FIG. 2 is a side view of a mounting device for use with the gutter of FIG. 1 and arranged in accordance with the present invention.

DETAILED DESCRIPTION

The Detailed Description of the Invention merely describes preferred embodiments of the invention and is not intended to limit the scope of the claims in any way. Indeed, the invention as described by the claims is broader than and unlimited by the preferred embodiments, and the terms in the claims have their full ordinary meaning.

Reference will now be made in detail to embodiments as illustrated in the accompanying figures. FIG. 1 illustrates a cross-sectional view of a gutter 10 in accordance with the present invention. The gutter 10 includes a front portion 12, a rear portion 14, a bottom portion 16, and a top portion 18. The top portion 18 includes a forward section
18A extending from the front portion 12, a rearward section 18B extending from the rear portion 14, and an opening 20 extending between the forward section 18A to the rearward section 18B.

[0014] The gutter 10 is arranged to be attached to or otherwise secured to a home, building, or other such structure. Typically, the gutter 10 is secured to a structure such that the rear portion 14 is facing the structure, the front portion 12 is exposed and unencumbered, and the gutter 10 is located generally proximate to the roofline of the structure. When the gutter 10 is attached in such a manner, water runoff flows from the rooftop, over the rearward section 18B of the top portion 18, through the opening 20 in the top portion 18, and into the gutter 10. Water then typically travels along the interior of the gutter 10 to a downspout (not shown), where it is then carried into or onto the ground surrounding the building.

[0015] The gutter 10 may be constructed or fabricated from any type of material, provided the material has sufficient structural integrity to allow the gutter 10 to be secured to a building and carry water from the rooftop of such a building. In one embodiment, the gutter 10 may be constructed or fabricated from a plastic material. Any fabrication method may be used to form a plastic gutter. For example, a plastic gutter may be fabricated by extrusion, molding, vacuum forming, or the like. In another embodiment, a metal gutter 10 may be constructed or fabricated from metal such as, for example, copper or aluminum. Any fabrication method may be used to form a metal gutter. For example, a metal gutter may be fabricated by stamping, cutting, drawing, casting, or the like.

[0016] Gutters 10 may be fabricated in a variety of colors or with a variety of surface treatments to create a visually pleasing gutter 10 that complements various aesthetic features of structures. For example, plastic gutters may be formed from dyed or tinted raw materials. Colors may be chosen to compliment common colors of vinyl siding used for residential homes. Metal gutters may be coated or painted to similarly compliment siding used for residential homes. In another example, a metal gutter may be fabricated from copper to compliment the exterior of a home with a copper roof or accents.

[0017] In an embodiment, the front portion 12 of the gutter 10 is arranged to include an attachment feature 22. The attachment feature 22 may be arranged to hang or secure a variety of items or articles. As shown in FIG. 1, the attachment feature 22 may be an aperture with an opening along the perimeter of the aperture. As also shown in FIG. 1, the gutter 10 may include multiple attachment features 22 along the front portion 12 of the gutter 10. Although three attachment features 22 are shown in FIG. 1, it will be readily understood by those skilled in the art that any number of attachment features 22 may be practiced with this invention.

[0018] The attachment features 22 may be sized and arranged to accommodate a variety of articles and items. In an embodiment, the attachment features 22 are sized and shaped to receive cables or wiring strung along the front portion 12 of the gutter 10. In such an embodiment, the cable or wiring could be, for example, a fiber optic strand, a heating coil for de-icing the gutter, strands of holiday lighting or decorations, television cable or satellite television wiring, a gutter accent strip, or the like. With regard to holiday lights and decorations, the use of attachment features 22 with a gutter 10 eliminates the need to hang such strands of items from a gutter with unsightly hooks or clips. In another embodiment, an attachment feature 22 may be arranged to secure an accent strip to the front portion 12 of the gutter 10. It will be readily understood by those skilled in the art that the attachment features 22 may be sized and shaped to accept any articles or items that can be hung from or strung along the front portion 12 of the gutter 10.

[0019] Where the gutter 10 is arranged to include multiple attachment features 22 in the front portion 12 of the gutter 10, each individual attachment feature 22 may have a different size or shape to accommodate or receive a different sized or shaped article or item. For example, one attachment feature 22 may be specifically sized and shaped to secure satellite television wiring, while another attachment feature 22 may be specifically sized and shaped to secure a strand of holiday lights. As illustrated in FIG. 1, an attachment feature 22 may have a generally circular cross-section and include an opening 24 that is smaller than the diameter of that circular cross-section. In such an arrangement items or articles may be “snapped into” the attachment feature 22 by forcing the item or article through the opening 24 into the attachment feature 22. Once snapped into the attachment feature 22, the item or article is secured from falling out of the attachment feature 22 while maintaining the ability to be adjusted laterally with respect to the front portion 12 of the gutter 10.

[0020] The top portion 18 of the gutter may include a pair of slots 26A and 26B located proximate to the forward section 18A and rearward section 18B respectively. The slots 26A and 26B may be sized and shaped to receive or otherwise accommodate gutter accessories. In an embodiment, the slots 26A and 26B are sized and shaped to receive a device to prevent leaves and other such debris from flowing into the gutter 10. For example, the slots 26A and 26B may be sized and shaped such that a perforated cap or leaf guard may be secured within the slots 26A and 26B. Such cap or guard may allow water to flow into the gutter 10 and downspout but prevent debris from entering the gutter 10 and downspouts. Such an arrangement may limit or eliminate blockages in the gutter 10 and downspout due to the collection of debris.

[0021] In an embodiment, the slots 26A and 26B are sized and shaped to accept edges of the cap or guard to secure the cap or guard to the gutter 10. The cap or guard may be installed by sliding the edges of the cap or guard into the slots 26A and 26B along the length of the gutter 10. The slots 26A and 26B may be arranged such that they are large enough to allow the edges of the cap or guard to slide freely along the length of the gutter 10 yet prevent the edges of the cap or guard from being easily dislodging from the slots 26A and 26B. For example, the slots 26A and 26B may be ⅜ inch wide to accommodate a leaf guard fabricated from sheet metal. Although two slots 26A and 26B are described and illustrated, it will be readily understood by those skilled in the art that any number of slots can be used herewith.

[0022] As illustrated in FIG. 1, the bottom portion 16 of the gutter 10 may also include an attaching feature 28. The illustrated attaching feature 28 includes a slot or groove 30 and an opening 32 that is smaller than the groove 30. The attaching feature 28 is arranged such that articles or items
may be hung from the feature 28. For example, the attachment feature 28 may be arranged to receive or otherwise secure articles and items such as holiday lights, holiday decorations, plants, hooks, wires, cables, and the like. Although one attaching feature 28 is illustrated and described, it will be readily understood by those skilled in the art that any number of attaching features can be included. A gutter 10 may include a single attachment feature 28 or a plurality of attachment features 28 located along the bottom portion 16 of the gutter 10. The gutter 10 may be arranged such that a single attachment feature 28 extends along the length of the bottom portion 16 of the gutter 10; multiple attachment features 28 extend along the length of the bottom portion 16 of the gutter 10; or a plurality of attachment feature 28, which do not extend the length of the gutter 10, are located along the bottom portion 16 of the gutter 10.

[0023] FIG. 2 illustrates a mounting device 40 for mounting a gutter 10 to a home, building, or other such structure. In an embodiment, the mounting device 40 is attached to a horizontal board secured to the face of the eave of a building, i.e., a fascia board. The mounting device 40 may include an aperture 42, through which a fastener may pass to secure the mounting device 40 to a fascia board. The fastener may be a screw, nail, bolt, or any such fastener capable of securing the mounting device 40 to the fascia board. The mounting device 40 may be manufactured or fabricated from plastic, metal, or any material capable of providing the structural support for mounting a gutter 10 to a building. The aperture 42 may be formed during the fabrication of the mounting device 40 or may be formed during a post-manufacturing process.

[0024] Referring again to FIG. 1, the gutter 10 may include a channel 44 located in the rear portion 14 to engage the mounting device 40. The engagement of the channel 44 to a mounting device 40 secured to a fascia board allows the gutter 10 to be secured to a building. In an embodiment, the mounting device 40 is a clip arranged to snap into the channel 44. The channel 44 may be sized and shaped to receive and mate with a mounting device 40 to facilitate the securing of a gutter 10 to a building. As shown in FIG. 2, the mounting device 40 may include a tab 46 sized and shaped to fit into a recess 48 in the channel 44. The body 50 of the mounting device 40 is sized and shaped to fit into the remaining portion of the channel 44. Such an arrangement results in a mounting device 40 capable of being “snapped into” and “snapped out of” the channel 44, thus resulting in a system that easily secures gutters 10 to buildings in a sturdy and reversible manner. In addition, such an arrangement results in the gutter 10 abutting the fascia board along a surface 52 of the rear portion 14. Such an abutment limits or eliminates water seepage between the gutter 10 and the fascia board and provides for an improved gutter system. Although the mounting device 40 and channel 44 are described as including a tab 46 and recess 48 to facilitate engagement, it will be readily understood by those skilled in the art that alternative features may be included to facilitate engagement, and the shape of the tab 46 and recess 48 as shown in the figures is not intended to be limiting in any way. Alternatively, a gutter 10 may be attached directly to a building without the use of a mounting device, or a gutter 10 may be secured to a mounting device through a fastener or other equivalent means.

[0025] The gutter 10 may be manufactured or fabricated in a variety of lengths. For example, a gutter 10 may be fabricated in 20-foot sections. In such arrangements, the gutter 10 can be cut to fit a section of a building that is less than 20 feet in length. If, on the other hand, the length required is greater than 20 feet, two sections of gutter 10 can be coupled together to form a section greater than 20 feet in length. Coupling of gutter sections may be facilitated by neoprene rubber joints attached to both sections of gutter. The neoprene rubber joint may create a water-sealed joint between the two sections to facilitate the directing of water to a downspout and onto or into the ground surrounding a building.

Having thus described the invention, I claim:

1. A gutter comprising:
   a. a front portion;
   b. a rear portion;
   c. a bottom portion; and
   d. an attachment feature for securing an item to said gutter.
2. The gutter of claim 1, wherein said attachment feature is located in said front portion of said gutter.
3. The gutter of claim 2, wherein said attachment feature has an internal diameter and includes an opening.
4. The gutter of claim 3, wherein said opening of said attachment feature is smaller than said internal diameter of said attachment feature.
5. The gutter of claim 2 further comprising a plurality of attachment features located in said front portion of said gutter.
6. The gutter of claim 1, wherein said attachment feature is located in said bottom portion of said gutter.
7. The gutter of claim 6, wherein said attachment feature comprises a groove and an opening.
8. The gutter of claim 7, wherein said opening is smaller than said groove.
9. The gutter of claim 6 further comprising a plurality of attachment features located in said bottom portion of said gutter.
10. The gutter of claim 1 further comprising a top portion, wherein said top portion comprises:
    a. a forward section;
    b. a rearward section; and
    c. an opening extending between said forward and rearward sections.
11. The gutter of claim 10, wherein said forward section includes a first slot and said rearward section includes a second slot.
12. The gutter of claim 1, wherein said rear portion includes a channel.
13. A gutter system comprising:
    a. a gutter comprising:
       b. a front portion;
       c. a rear portion;
       d. a bottom portion;
an attachment feature for securing an item to said gutter; and

a channel in said rear portion; and

a mounting device.

14. The gutter system of claim 13, wherein said channel is sized to receive said mounting device.

15. The gutter system of claim 13, wherein said channel includes a recess and said mounting device includes a tab.

16. The gutter system of claim 15, wherein said recess is sized to receive said tab.

17. The gutter system of claim 13, wherein said mounting device includes an aperture.

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