A tapered end cap for a two-sided ridge vent includes a shingle supporting surface, opposing first and second ends and opposing first and second edges. The end cap height of the shingle supporting surface at the first end is equivalent to a two-sided ridge vent. The end cap height of the shingle supporting surface at the second end is equivalent to the roof decks defining a peak or hip. The end cap conforms to a ridge or hip and allows a two-sided ridge vent to be applied to a peak or hip and to rectify leakage and appearance issues of two-sided ridge vents. The tapered end cap may be one sided.
Fig. 1
Prior art

Fig. 2
Prior art
Fig. 16 Prior art

Fig. 17
I. BACKGROUND OF THE INVENTION

A. Field of the Invention

[0001] The Invention relates to the field of roof ventilation and particularly to ventilation of a roof at a peak or at a hip. A ‘peak’ is also referred to as a ‘ridge.’ The apparatus of the Invention is a tapered vent end cap for a two-sided ridge vent. The apparatus of the Invention also is a roof with the tapered vent end cap installed. The method of the Invention is a method of ventilating a roof using the tapered vent end cap of the Invention. The invention is also a one sided tapered end cap for use with a one sided ridge vent on a hip or peak.

B. Description of the Related Art

1. Roof Construction

[0002] The portion of a building roof that is exposed to the elements is protected by a durable, weather-resistant surface, such as shingles. As used in this document, the term ‘shingle’ means tab shingles, architectural shingles, cementitious shingles, metal shingles, slate, sheet metal, tar paper, roll roofing, ceramic tile roofing, wood shakes, synthetic versions of any of the above and any other weather-proofing product that may be applied to a pitched roof.

[0003] The shingles are supported by a roof deck. As used in this document, a ‘roof deck’ means the generally planar structure covering all or a portion of the upper side of a building and providing support for shingles. The roof deck has a pitch from the lower edge of the roof to the peak of the roof so that water or snow will fall from the roof. The roof deck usually is composed of wood in the form of plywood sheets or dimensioned lumber. The term ‘roof deck’ also may include other roofing materials previously applied to the plywood or dimensioned lumber, such as tar paper, ice and water shields, and shingles.

[0004] When shingles are applied to a roof deck, the shingles proximal to the lower edge of the roof are applied first and attached to the deck. Each subsequent course of shingles proceeding from the lower edge to the peak of the roof overlaps the preceding course so that water running from each shingle flows onto the top of the adjacent downhill shingle. The shingles cooperate to form a composite surface that is tight to rain water and snow melt.

[0005] Roof decks intersect to define ‘peaks, hips’ and ‘valleys.’ The ‘peak’ of the roof is the intersection of two pitched roof decks where the planes of the two roof decks intersect to define a horizontal line and the included angle between the two roof decks normal to the horizontal line and under the roof is less than 180 degrees. A ‘hip’ is the intersection between two pitched roof decks where the planes of the two roof decks intersect to define a line with a slope of less than 90 degrees from the horizontal and the included angle between the two roof decks normal to the line of intersection and under the roof is less than 180 degrees. A ‘valley’ is the intersection between two pitched roof decks where the included angle between the two roof decks normal to the line of intersection and under the roof is greater than 180 degrees. A valley is created when different peaks of a pitched roof intersect. A pitched roof may include a complex combination of peaks, hips and valleys.

2. Roof Ventilation

[0006] Ventilation of the space under the roof is important to reduce condensation and the resulting moisture damage to the roof and to the building structure. Ventilation also serves to allow air heated by solar gain to escape from the space under the roof, reducing the cooling load on the building.

[0007] To ventilate a roof, air must both enter and leave the space under the roof. Because air under the roof is heated by solar gain and because heated air rises, the exit for air from the space under the roof frequently is a ridge vent located at the peak of the roof. Air entering the space under the roof may enter through intake vents installed in a soffit or through a penetration through the roof deck proximal to the edge of the roof. Roof ventilation apparatus are taught by U.S. Pat. Nos. 6,212,833 and 6,447,392 issued Apr. 10, 2001 and Sep. 10, 2002 respectively, to the inventor of the present Invention, and by pending U.S. patent applications Nos. 12/616,988 and 13/021,942, filed Nov. 12, 2009 and Feb. 7, 2011, respectively, also by the inventor of the present Invention. The teachings of U.S. Pat. Nos. 6,447,392 and 6,212,833 and application Ser. Nos. 12/616,988 and 13/021,942 are incorporated by reference as if set forth in full herein.

[0008] Effective ventilation requires that all areas of the area under the roof be ventilated. To ventilate all areas under the roof, intake vents must be distributed around the lower edges of the roof and each intake vent must communicate with an exhaust vent located near the peak. The amount of air that can be moved through the area under the roof generally is limited by the length and location of exhaust vents that can be installed, since a typical roof has a much smaller length of roof peak for exhaust vent installation than roof edge for intake vent installation. The amount of roof peak available for installation of exhaust vents is limited by the length of the roof peaks and by the presence of obstacles. In many structures, the length of available roof peaks is limited due to architectural considerations, such as the use of hips on the roof. Obstacles to use of exhaust vents include chimneys, walls and intersections between roof peaks forming valleys.

3. Two-Sided Ridge Vents

[0009] Roof exhaust vents in the form of two-sided ridge vents are known in the art. A two-sided ridge vent is elongated and straddles a slot defined by the space between intersecting roof decks and located at the peak of the roof. The slot communicates through the roof into the attic space below the roof. The ridge vent allows air to exit the area under the roof, but prevents the entry of water, debris or insects into the slot and hence into the attic. The two-sided ridge vent includes a first air exhaust opening running the length of the two-sided ridge vent and a second air exhaust opening in a spaced-apart relation to the first air exhaust opening. When the ridge vent is installed on a roof, the first air exhaust opening is above a one of the two intersecting roof decks and on one side of the slot. The second air exhaust opening is above the other of the two intersecting roof decks and on the other side of the slot. A ridge vent shingle support extends the length of the ridge vent and covers the first air exhaust opening, the second air exhaust opening, and the slot. The two-sided ridge vent defines an interior volume between the first and second air exhaust openings and below the shingle support. The interior volume communicates through the slot with the area under the roof.

[0010] In use, heated air from the attic rises through the slot defined by the intersecting roof decks at the peak of the roof.
The air enters the interior volume of the ridge vent and exits through the first and second air exhaust openings.

[0011] The double-sided roof vent may be of any construction known in the industry. As is known in the industry, the first and second air exhaust openings and the shingle support surface may be composed of molded plastic, metal or corrugated plastic.

[0012] To install the double sided roof vent, the slot is prepared in the two roof decks at the peak of the roof. Standard industry practice is to end the slot one foot from the gable end of the roof. Shingles are applied to the two intersecting roof decks and two courses of shingles are applied to the gable end of the roof at the peak. The ridge vent then is installed straddling the slot and overlapping the shingles at the gable end. An end cap or foam plug may be installed at the end of the two-sided ridge vent to prevent weather, debris or insects from entering the vent interior volume and hence the attic space from the end of the vent. Shingles are nailed to the shingle support surface of the two-sided roof vent to protect the vent from weather and for an appearance consistent with the rest of the roof.

4. Problems with Current Technology Two-Sided Ridge Vents

a. Ends of the Two-Sided Roof Vent

[0013] The ends of the two-sided ridge vent are problem areas for current technology vents. In current technology two-sided ridge vents, the entire ridge vent, including the end of the vent and any end cap installed with the two-sided ridge vent, is elevated above the surface of the roof decks, commonly by about 0.75 inches or more. The elevated end of the vent is unsightly and presents an unfinished appearance for the roof, creating a customer relations issue for the roofing contractor.

[0014] In an attempt to improve aesthetics, a roofing contractor may install the two-sided ridge vent improperly by bridging the raised end of the two-sided ridge vent and the roof peak with shingles, resulting in unsupported shingles. The unsupported shingles are subject to breakage and failure due to mishap and due to the passage of time. Breakage and failure of the unsupported shingles can lead to unnecessary repairs or leakage through the roof.

b. Hip Roofs

[0015] The largest single problem of current technology two-sided roof vents is finding enough roof peak on a building to allow installation of an adequate length of ridge vent to properly ventilate the building. The problem of inadequate peak length is acute for buildings that utilize hip roofs.

[0016] The problem would be solved if the two-sided ridge vent could be installed on the hip. Using a current technology two-sided ridge vent to ventilate a roof along a hip is difficult due to installation, leakage and aesthetic considerations.

[0017] The installation considerations are that a current technology two-sided ridge vent can be used on the hip only in conjunction with a corresponding two-sided ridge vent on the peak, and only if the installer miter the hip and ridge vents to create a continuous shingle surface on the vent and hip. Mitering the current technology vents on the hip and ridge requires skill and is labor intensive, leading to opportunities for installer error, failure and leakage.

[0018] The leakage considerations are that the raised nature of the current technology two-sided ridge vent and end caps prevents the installer from creating a continuous shingle surface along the hip when the two-sided ridge vent is installed on the hip without mitering to a corresponding two-sided vent on the roof peak, as described above. As a result, water may flow under the upper end of the two-sided ridge vent due to the slope of the hip. If the installer attempts to remedy the situation by installing unsupported shingles bridging the hip and the raised end of the two-sided ridge vent, the failure of the unsupported shingles will create leakage opportunities.

[0019] The aesthetic considerations are due to the raised nature of current technology two-sided ridge vents and end caps. The raised ends are particularly visible and unsightly on a hip.

c. Obstacles

[0020] Obstacles such as a chimney or wall present another problem for current technology two-sided ridge vents. If the peak of the roof intersects a chimney or wall, a leakage opportunity is presented for the two-sided ridge vent due to water collected by and flowing down the chimney or wall. The collected water may flow underneath the end of the two-sided ridge vent or end cap and into the attic. Unsupported shingles applied to the end of the two-sided ridge vent may prevent intrusion of water temporarily until the unsupported shingles fail as described above, allowing water to enter the attic.

[0021] Intersecting roof peaks that create valleys present installation issues for current technology two-sided ridge vents. The installer may terminate the ridge vent short of the point of intersection on both of the intersecting peaks, creating three exposed ends of the ridge vent, which are aesthetically undesirable. If the installer attempts to improve the appearance of the exposed ends by installing unsupported shingles, the installer risks the problems of unsupported shingles described above.

[0022] Alternatively, the installer may attempt to miter the intersecting two-sided ridge vents together to form a continuous ridge vent shingle supporting surface. A mitered intersection can have a good appearance, but is labor intensive. Mitering of the two-sided ridge vent also introduces opportunities for installer error, and unless carefully done can result in an unsupported shingle supporting surface on one or more of the two-sided ridge vents with the attendant risk of failure and leakage.

d. Gable End Sway Back

[0023] In addition to the aesthetic considerations described above relating to visible ends of the two-sided ridge vent, roofs commonly develop visual abnormalities with age that are exacerbated by the two-sided ridge vent. The central portions of many roofs sag slightly with time compared to the gable end of the roof. The result is that the roof assumes a slightly sway-backed appearance, with the gable end an inch or two higher than the remainder of the roof. This appearance is referred to herein as the ‘gable end sway back.’

[0024] While the gable end sway back does not indicate a structural collapse of the roof, it is unsightly. The elevated end of a two-sided roof vent near to the gable end of the roof accentuates the unsightly appearance of a structure with gable end sway back. Gable end sway back also can cause water to flow under the end of the two-sided ridge vent, allowing water to enter the area under the roof.
The prior art does not teach the apparatus or method of the Invention.

II. BRIEF DESCRIPTION OF THE INVENTION

A. Two-Sided Ridge Vent Tapered End Cap

The Invention is an end cap for a two-sided ridge vent. The Invention also is a roof construct using the end cap and is a method of constructing or repairing a roof using the two-sided ridge vent end cap of the Invention.

The two-sided ridge vent end cap of the Invention is configured to be located at the end of a prior art two-sided ridge vent installed on the peak or hip of a roof, as defined above. Alternatively, the two-sided ridge vent end cap of the Invention can be integrated with the prior art two-sided ridge vent, so that the two-sided ridge vent end cap is not separate from the two-sided ridge vent and defines one end of the two-sided ridge vent.

The end cap of the Invention has an end cap shingle supporting surface with tapered supports to provide support to shingles overlapping the end of the two-sided ridge vent and to prevent failure of the overlapping shingles. Using the end cap of the invention, a continuous barrier of fully supported, overlapping shingles may be installed along the peak or hip, over the end cap of the invention and over the prior art two-sided ridge vent.

The shingle supporting surface has a periphery that defines a first end and an opposing second end. The shingle supporting surface has a length from the first end to the second end and defines a longitudinal axis along the length and generally normal to the first end. The periphery of the shingle support surface also defines a first edge and an opposing second edge. The first and second edges generally are parallel to the longitudinal axis.

A first tapered support is attached to the underside of the end cap shingle supporting surface and extends generally parallel to the longitudinal axis and proximal to the first edge. A second tapered support is attached to the underside of the end cap shingle supporting surface and extends generally parallel to the longitudinal axis and proximal to the second edge. The first and second tapered supports are tapered along their length.

When the end cap of the Invention is in use on a peak or hip of a roof, the first end of the end cap shingle supporting surface is located immediately adjacent to the end of the two-sided ridge vent and over the peak of the roof. The first tapered support engages the first roof deck on one side of the peak or hip and the second tapered support engages the second roof deck on the other side of the peak or hip.

When the end cap is attached to a peak or hip of a roof, the first and second tapered supports support the first end of the shingle-supporting surface in a spaced-apart relation to the first and second roof decks. The spaced apart relation between the first end and the roof decks is ‘equivalent,’ as defined below, to the spaced apart relation between the top surface of the prior art two-sided ridge vent and the roof decks. When the end cap is attached to a peak or hip of a roof, the second end of the shingle supporting surface is not in a spaced-apart relation to the first or second roof decks. The second end of the shingle supporting surface is ‘equivalent,’ as defined below, in elevation to the adjacent roof decks.

As used in this document, the term “equivalent” means that the difference in elevation above the roof deck is adequately small that (a) a shingle spanning the end of the two-sided ridge vent and the first end of the shingle supporting surface, and (b) a shingle spanning the second end of the shingle supporting surface and the roof deck will not be subject to stresses due to the difference in elevation that would cause failure of the shingle in ordinary and expected use. Although the acceptable difference in elevation above the roof deck will vary with the strength of the shingle used to span the different elevations, the applicant believes that a difference in elevation of 3/8 inches is acceptable in practice.

The end cap of the Invention is configured to conform to the peak or hip of the roof. The configuration of the end cap to conform to the peak or hip is a hinge extending the length of the shingle support surface and parallel to the longitudinal axis. The shingle supporting surface may be bent about the hinge so that the shingle supporting surface approximates the angle defined by the intersection of the first and second roof decks. The hinge may be defined by a physical hinge structure, such as a score or route appearing in the underside of the shingle supporting surface. Alternatively, any configuration known in the art to allow the shingle supporting surface of the end cap to bend in conformance to the roof is included within the meaning of the term ‘hinge.’ For example, the shingle supporting surface may be selected from a material that is deformable in flexion in a direction normal to the longitudinal axis. The configuration of the end cap to conform to the peak or hip may be that the shingle supporting surface is manufactured with an appropriate pre-existing bend.

The location of the hinge or pre-existing bend is selected to match the location of the hinge or pre-existing bend of the two-sided ridge vent with which the end cap of the Invention will be used. While the hinge or pre-existing bend may be located along the center of the shingle supporting surface parallel to the longitudinal axis between the first and second edges, any other location for the hinge or pre-existing bend that matches the location of the hinge or pre-existing bend of a two-sided ridge vent is contemplated by the Invention.

The end cap may include end cap air vents, the inlets to the air vents being defined by the spaced-apart relation between the first and second edges of the shingle supporting surface and the top surface of the roof decks; alternatively, the end cap may not include air vents. If air vents are included in the end cap, the air vents communicate with the slot defined by the top surface of the roof deck when the end cap is installed on the peak or hip. If air vents are not included in the end cap, then the end cap will not provide significant ventilation air to the slot defined by the top surface of the roof deck. If air vents are included, the air vents may be covered by a fabric to restrict entry of debris, water or insects.

If air vents are included, the air vents may be protected by baffles to reduce the effect of wind blowing into the air vents. Baffles may be included on an end cap even if the end cap does not utilize air vents to match the appearance of the adjacent two-sided ridge vent that has baffles.

The end cap can be composed of any material known in the art. The end cap may be composed of non-woven strands of polymer, of a mat composed of hog’s hair and coconut fiber, of mesh wire, of synthetic wire or nylon wire. The end cap may be molded or cast metal or polymer; for example, injection molded plastic. Polymer comprising the end cap may be reinforced, as by glass or carbon fibers. The end cap may be composed of sheet materials such as sheet corrugated plastic or sheet metal.
[0039] Where the end cap is composed of sheet corrugated plastic, the sheet corrugated plastic composing the first and second tapered supports may define channels communicating between an interior volume of the end cap and the ambient air, to provide movement of ventilation air through the channels and out of the area under the roof.

[0040] The end cap may be injection molded as a lower portion and an upper portion, the lower portion being configured to engage the roof deck, the upper portion defining the end cap shingle supporting surface. The injection molded upper and lower portions maintain the shape of the end cap and conform the first and second edges to the shape of the end of the two-sided ridge vent. Alternatively, the injection molded end cap may be molded as a single portion or as three or more portions.

[0041] The second end of the shingle supporting surface may be curved. The first and second edges may be curved. The first end of the shingle supporting surface is any shape that conforms to the end of the two-sided ridge vent.

[0042] In the method of the invention, an installer will install shingles on first and second intersecting roof decks that define a peak or a hip. The installer then will install a prior art two-sided ridge vent over a prepared slot through the roof decks at the peak or hip. The installer will install the end cap of the invention at the end of the prior art two-sided ridge vent. The installer may install the end cap at both ends of the prior art two-sided ridge vent. The installer finally will install overlapping barrier shingles along the peak or hip, over the end cap and over the two-sided ridge vent.

[0043] In another aspect of the method of the invention, the installer will install the prior art two-sided ridge vent over a prepared slot on a peak or hip proximal to an obstacle, such as a chimney or wall. The installer will install the end cap between the end of the two-sided ridge vent and the obstacle. The installer will finally install a continuous barrier of overlapping shingles over the peak or hip, including over the end cap and the two-sided ridge vent.

[0044] In another aspect of the method of the invention relating to intersecting peaks or hips, the installer will install the two-sided end cap so that the second end of the shingle supporting surface is proximal to the point of intersection of the peaks or hips and install the two-sided ridge vent adjacent to the first end of the end cap. The installer may install more than one end cap with the second end proximal to the point of intersection. For example, in a typical hip roof situation having an intersection of two hips and one peak, the installer may install three end caps, each with the second end proximal to the point of intersection of the two hips and one peak. The installer then will install three two-sided ridge vents, with one two-sided ridge vent for each of the hips and one for the peak. The installer may install end caps at the other end of each of the two-sided ridge vents. The installer finally will apply a continuous course of overlapping barrier shingles over all of the hips and the peak, including the end caps and two-sided ridge vents.

B. One-Sided Ridge Vent Tapered End Cap

[0045] The invention also is a one-sided tapered end cap that is configured to conform to a roof peak or hip and is configured to be disposed immediately adjacent to the end of a one-sided ridge vent that is installed on the peak or hip. A one-sided ridge vent is taught by issued U.S. Pat. Nos. 6,212,833 and 6,447,392 issued Apr. 10, 2001 and Sep. 10, 2002 respectively, to the inventor of the present invention and incorporated by reference herein. A one-sided ridge vent is similar in construction to a two-sided ridge vent except that the one-sided ridge vent features channels or openings communicating from the interior volume of the one-sided ridge vent on only one side of the vent and disposed over only one of the two intersecting roof decks, rather than both sides and both roof decks, as is the case for the two-sided ridge vent. The other side of the one-sided ridge vent conforms to the other of the two intersecting roof decks and in height is 'equivalent,' as defined herein, to the other of the two roof decks.

[0046] A one-sided ridge vent tapered end cap is similar in construction and use to a two-sided ridge vent tapered end cap, except that the one-sided end cap features a tapered support under only one of the first and second edges of the shingle support surface, rather than both the first and second edges, as is the case for the two-sided ridge vent tapered end cap. The height of the first end of the one-sided ridge vent tapered end cap is selected at each location along the end cap first end to be equivalent to the height of the end of the one-sided ridge vent adjacent to which the end cap will be disposed. The tapered support is configured in the same manner as the tapered supports for the two-sided ridge vent tapered end caps. The edge of the shingle support surface on the other of the first and second edges; that is, the edge not supported by the tapered support, is configured to be 'equivalent' in height, as defined herein, to the roof deck over which the one-sided ridge vent tapered end cap is installed.

[0047] The one-sided ridge vent tapered end cap embodiment is configured to conform to the intersecting roof decks defining the peak or hip in the same manner as the two-sided ridge vent tapered end cap, namely, by a hinge or predetermined bend generally normal to the first end of the one-sided end cap.

[0048] The one-sided ridge vent tapered end cap may feature channels or other air vents communicating through the tapered support and to an interior volume, and hence to the slot and to the area under the roof, just as a two-sided roof vent may feature air vents. The one-sided ridge vent tapered end cap may feature a baffle or a fabric filter, as indicated for two-sided ridge vent tapered end caps.

[0049] In all respects, the one-sided ridge vent tapered end cap may have all of the features and applications of the two-sided ridge vent tapered end cap, except that only one of the first and second edges of the shingle supporting surface will be supported by a tapered support.

C. Advantages

[0050] Use of the two-sided ridge vent end cap of the invention avoids the leakage and aesthetic disadvantages of the prior art two-sided ridge vent by fully supporting shingles that overlap the ends of the two-sided ridge vent. The installer will use the two-sided ridge vent end cap in combination with a prior art two-sided ridge vent to create a continuous shingle barrier along the peak or hip of a roof while allowing ventilation air to escape through the peak or hip. The continuous shingle barrier will hide the ends of the two-sided ridge vent and will prevent water intrusion through or under the ends of the two-sided ridge vent. The continuous shingle barrier is fully supported by the end cap, preventing premature failure of the shingles.

[0051] The tapered two-sided ridge vent end cap of the invention solves the problems of the prior art two-sided ridge vent. The two-sided ridge vent end cap allows the two-sided
ridge vent to be used to ventilate a hip of a roof without leakage and with improved appearance, substantially increasing the ventilation options available to the installer. The two-sided ridge vent cap of the invention avoids the issues of installing a ridge vent near obstacles, such as a chimney or wall, by providing a continuous shingle barrier to moisture penetrating below the two-sided ridge vent. The two-sided ridge vent end cap of the invention avoids any mitering of the two-sided ridge vent in the case of intersecting peaks hips, because the installer can terminate the ridge vent before the point of intersection and hide the ends of the two-sided ridge vent with the tapered end cap covered by the overlapping barrier shingles.

The two-sided ridge vent end cap of the Invention also allows the installer to avoid the aesthetic issues of ventilating the peak of a roof having a gable end sway back. The taper of the end cap of the Invention compensates for the gable end sway back, improving the appearance of a ventilated roof compared to an unventilated roof having the gable end sway back and compared to a ventilated roof having a two-sided ridge vent without the end cap of the Invention.

III. BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a prior art roof peak.

FIG. 2 is a cross section of a prior art roof peak.

FIG. 3 is a detail perspective view of the Invention being installed on a roof peak.

FIG. 4 is a detail perspective view of the Invention installed on a roof peak.

FIG. 5 is a perspective view of the invention installed on a roof peak.

FIG. 6 is a perspective view of the end cap.

FIG. 7 is a perspective view of the end cap bent about a hinge.

FIG. 8 is an end view of the end cap.

FIG. 9 is a side view of the end cap with filter fabric removed.

FIG. 10 is a perspective view of a prior art ventilated hip roof.

FIG. 11 is a perspective view of the hip roof ventilated using the end cap.

FIG. 12 is a perspective view of a prior art roof peak with an obstacle.

FIG. 13 is a perspective view of a prior art roof peak having intersecting peaks.

FIG. 14 is a perspective view of the roof peak with an obstacle ventilated using the end cap.

FIG. 15 is a perspective view of the roof peak having intersecting peaks ventilated using the end cap.

FIG. 16 is a side view of a prior art ventilated roof having a gable end sway back.

FIG. 17 is the side view of the roof having the gable end sway back ventilated using the end cap.

FIG. 18 is a perspective view of an end cap composed of a molded polymer and having a top and bottom.

FIG. 19 is a perspective view of an end cap having a baffle.

FIG. 20 is a side view of an end cap having a non-linear taper.

FIG. 21 is a perspective view of an end cap having a non-linear taper and a baffle.

FIG. 22 is a perspective view of an end cap having a linear taper and a baffle.

FIG. 23 is a perspective view of a ventilated end cap with filter fabric removed.

FIG. 24 is a perspective view of a ventilated end cap with the filter fabric.

FIG. 25 is a perspective view of the ventilated end cap.

FIG. 26 is a side view of a roof having obstacles.

FIG. 27 is a perspective view of a one sided end cap.

FIG. 28 is a perspective view of a one sided end cap bent to conform to a peak or hip.

IV. DESCRIPTION OF AN EMBODIMENT

FIGS. 1 and 2 illustrate the operation of a prior art two-sided ridge vent 2 and prior art end caps 4 for two-sided ridge vents 2. A prior art two sided ridge vent 2 is installed at the peak 6 of the roof 8. The first and second roof decks 10, 12 intersect to define a slot 14. The roof decks 10, 12 are covered by overlapping shingles 16 to form a composite barrier to water.

The prior art two-sided ridge vent 2 includes a first vent 20 and a second vent 22. The first vent 20 conforms to the first roof deck 10 on one side of the slot 14. The second vent 22 conforms to the second roof deck 12 on the second side of the slot 14. The two-sided ridge vent shingle supporting surface 24 covers the first and second vents 20, 22 and conforms to the angle 26 between the first and second roof decks 10, 12 normal to the horizontal line 28 defined by the intersection of the first and second roof decks 10, 12. The ridge vent shingle supporting surface 24 and the first and second vents 20, 22 define a ridge vent interior volume 30. The attic or other area under the roof 32 is in fluid communication with the ridge vent interior volume 30 through slot 14. The ridge vent interior volume 30 is in fluid communication with the outside air through the first and second vents 20, 22. Heated air 34 moves from the area under the roof 32 through the two-sided ridge vent 2 and to the outside air. Shingles 16 cover the ridge vent shingle supporting surface 24, protecting it from the elements and making the two-sided ridge vent consistent in appearance with the rest of the roof.

FIGS. 3 and 4 show installation of the two-sided tapered end cap on a roof peak. Through 9 and 25 show the two-sided tapered end cap 36 of the invention. As shown by FIGS. 6 through 9, the two-sided tapered end cap 36 has an end cap shingle supporting surface 38. The shingle supporting surface 38 defines an underside 40 and a perimeter 42 and a longitudinal axis 44. The perimeter 42 defines a first end 46 that is generally normal to the longitudinal axis 44, a second end 48 opposite to the first end 46. The perimeter 42 also defines a first edge 50 and a second edge 52, both generally parallel to the longitudinal axis 42 and disposed on opposite sides of the perimeter 42. A first tapered support 54 is attached to underside 40 of the shingle supporting surface 38 along the first edge 50. A second tapered support 56 is attached to the underside 40 of the shingle supporting surface 38 along the second edge 52. The tapered supports 54, 56 taper from the first end 46 toward the second end 48, with the tapered supports 54, 56 thinnest at the second end 48.

The first and second tapered supports 54, 56 in combination with the shingle supporting surface 38 define an end cap height 58. The end cap height 58 at the first end 46 is selected to be ‘equivalent’ to the corresponding height of the ridge vent shingle supporting surface 24 at the end 60 of a two-sided ridge vent 2 when the two-sided tapered end cap 36 is placed on a peak 6 or hip of a roof 8 with the first end 46.
immediately adjacent to the ridge vent end 60. The end cap height 58 at the second end 48 is selected to be ‘equivalent’ to the roof deck 10, 12 on which the two-sided tapered end cap 36 is installed. As noted above, the term ‘equivalent’ means that the differences in height are adequately small that a shingle 16 spanning the end cap shingle supporting surface 24 and the end cap shingle supporting surface 38 at the first end 60 will not fail due to the difference in height under ordinary use. Similarly, the term ‘equivalent’ means that a shingle 16 spanning the end cap shingle supporting surface 38 at the end cap second end 48 and the roof deck 10, 12 will not fail due to the difference in height under ordinary use. A difference in height of \( \frac{1}{16} \) of an inch has proven to be ‘equivalent’ in practice.

As shown by FIGS. 6-8, and 19, the two-sided tapered end cap 36 features a hinge 62 defined by the two-sided tapered end cap shingle supporting surface 38 and parallel to the longitudinal axis 44. The hinge 62 is configured so that the end cap shingle supporting surface 38 may bend to conform to the first and second roof decks 10, 12 when the two-sided tapered end cap 36 is installed on a peak 6 or hip of a roof 8.

The hinge 62 is located to correspond to the bend of two-side ridge vent 2 at the peak 6 or hip of the roof 8. The hinge 62 may be located equidistant from the first and second edges 50, 52. Alternatively, the hinge 62 may be located closer to one of the edges 50, 52 than the other of the edges 50, 52, as appropriate to conform to the two-sided ridge vent 2.

Hinge 62 may be defined by a physical feature, such as a groove 64 cut into the underside 40 of the end cap shingle supporting surface 38. Any other hinge 62 known in the art is contemplated by the Invention. Hinge 62 may be defined by the structure of the end cap shingle supporting surface 38 itself, by selecting a resilient material for the end cap shingle supporting surface 38 that allows the end cap shingle supporting surface 38 to flex in a direction normal to the longitudinal axis 44 by an amount sufficient to conform to the first and second roof decks 10, 12. The two-sided tapered end cap 36 may dispense with a hinge 62 and may be manufactured with a pre-determined bend 66 that is selected to conform to an angle 26 between the first and second roof decks 10, 12.

For the two-sided tapered end cap 36 that is ventilated, the first and second tapered supports 54, 56 in combination with the end cap shingle supporting surface 38 define an interior volume 68. Interior volume 68 is in communication with opening 70 defined by the first and second tapered supports 54, 56. When the two-sided tapered end cap 36 is ventilated and is installed on a peak 6 or hip of a roof 8 having a slot 14, the interior volume 68 is in communication with the area under the roof through the opening 70 and the slot 14. Interior volume 68 also is in communication with outside air through channels 72 defined by the first and second tapered supports 54, 56. First and second tapered supports 54, 56, and hence channels 72, may be defined by layers of corrugated plastic sheets 74, as illustrated by FIGS. 6-9, 19, and 23. When the channels 72 are defined by corrugated plastic sheets 74, channels 72 are elongated to prevent the entry of water, debris or insects but also allow passage of heated air 34 from the attic 32.

Channels 72 may be covered by fabric filter 76 to further restrict the entry of debris, insects or water into channels 72 and hence into the attic area 32 or other area under the roof 8. Fabric filter 76 may be composed of a wettable fabric to assist in washing debris or insects from fabric filter 76 by rain or other water. Fabric filter 76 may wrap about the end cap shingle supporting surface and below the tapered supports 54, 56 as illustrated by FIGS. 8 and 24 so that nails securing the tapered end cap to the peak 6 or hip pass through the both the upper and lower portions of the fabric filter 76, securing the fabric filter 76 in place on the roof 6.

The tapered end cap 36 may feature baffles 78, as illustrated by FIGS. 19, 21 and 22. Baffles 78 are attached to the first and second tapered supports 54, 56 and reduce the effect of wind blowing upon the end of channels 76 for a two-sided tapered end cap 36 that is ventilated. Baffles 78 also may appear on a tapered end cap 36 that is not ventilated; that is, a tapered end cap that does not have channels 72 that communicate with the attic area 32 under the roof 8, to match the appearance of the two-sided ridge vent 2 with which the tapered end cap 36 is used. Where the ridge vent 2 features baffles 78, the tapered end cap 36 preferably also will feature baffles 78 to match the appearance of the ridge vent 2, regardless of whether the tapered end cap 36 is ventilated and features channels 72.

As illustrated by FIGS. 18 and 20-22, the tapered end cap 36 may be composed of materials other than corrugated plastic sheets 74, such as a polymer 80, including injection molded plastic. In the tapered end cap 36 of FIG. 18, the end cap 36 is formed of a unitary piece of polymer. Alternatively, the tapered end cap 36 may be assembled from two or more pieces of polymer 80, such as a base 81 that defines the first and second tapered supports 54, 56 and a separate shingle supporting surface 38. The polymer 80 is illustrated in FIG. 18 as formed with a predetermined bend 66, but can be formed with hinge 62. The polymer 80 defines the first and second tapered supports 54, 56, which in turn define the channels 72. In this instance, the channels 72 are openings in the first and second tapered end supports 54, 56 and are not elongated. The tapered end cap 36 that is formed from polymer 80 may be ventilated or not ventilated. If the end cap 36 is not ventilated, then the channels 72 are not required. As illustrated by FIGS. 21, 22 and 24 The tapered end cap 36 formed of polymer 80 may feature reinforcements 82 to support the shingle supporting surface 38.

The shingle supporting surface 38 is tapered from the first end 46 to the second end 48. The taper may be linear, as illustrated by FIGS. 6, 7, 9, 18, 19, 22, 25, 26 and 27. Alternatively, the taper may be non-linear, as illustrated by FIGS. 20 and 21. Specifically, the taper may be curved toward the second end 48 of the shingle supporting surface 38. The first and second ends 46, 48 may be parallel and normal to the longitudinal axis, as illustrated by FIGS. 6, 7, 19 and others. Alternatively, the second end 48 may be curved, as illustrated by FIG. 18.

Use and installation of the two-sided tapered end cap 36 is illustrated by FIGS. 3-5, 10-17, and FIG. 26. FIGS. 3-5 illustrate installation of the tapered end cap 36 on the peak 6 of a roof 8. The roof 8 has a peak 8 that includes a slot 14. Shingles 16 are installed on the roof decks 10, 12 and a two-sided roof vent 2 is installed at the peak 6 spanning the slot 14. The first end 46 of the two-sided tapered end cap 36 is installed immediately adjacent to the end 60 of the two-sided ridge vent 2. The end cap height 58 of the first end 46 is equivalent to the height of the corresponding locations on the end 60 of the ridge vent 2, to provide an effectively continuous shingling surface. The end cap height 58 at the second end 48 is equivalent to the height of the roof deck 10, 12 to which it is attached, also to provide an effectively continuous shi-
gling surface. As shown by FIG. 4, shingles 16 are applied to the ridge vent shingle supporting surface 24 and to the two-sided end cap shingle supporting surface 38. The shingles 16 form an overlapping surface to prevent the intrusion of rain or other water. The one of the vents 20, 22 of the ridge vent 2 and one of the tapered supports 54, 56 of the tapered end cap 36 are exposed, allowing air 34 to exit the attic or other area under the roof 32. As indicated above, the channels 72 of the tapered supports 54, 56 may be protected by a fabric filter 76 or baffles 70.

FIGS. 4 and 5 illustrate a roof featuring the tapered end cap 36 of the invention. Because the shingles 16 are fully supported by the shingle supporting surface 38 of the tapered end cap 36, by the single supporting surface 24 of the two-sided ridge vent 2 and by the roof deck 10, 12, the shingles 16 will not fail prematurely due to a lack of support. Vents 24 defined by the two-sided ridge vent 2 and channels 72 defined by tapered supports 54, 56 are exposed to the outside air, allowing heated air 34 to escape from the area under the roof 32.

FIGS. 10 and 11 contract the prior art ventilation of a roof 8 having a hip 82 with ventilation using the end cap 36 of the invention. From FIG. 10, a roof 8 featuring four hips 82 and a relatively small length of peak 6 is shown. The peak 6 and the hips 82 are defined by intersecting pairs of roof decks. The pairs of roof decks intersect to define lines. Where the lines intersect is a point 86. A conventional two-sided ridge vent 2 is installed at the peak 6. No two-sided ridge vent 2 is installed on the hips 82, for the reasons discussed above. In the case of a roof 8 having hips 82, it can be very difficult for the roofing contractor to identify an adequate amount of ridge 8 to adequately ventilate the area under the roof 32.

FIG. 11 illustrates a solution to the problem of FIG. 10 using the two-sided tapered end cap 36 of the invention. Two-sided ridge vents 2 are installed over slots 14 defined by the intersecting roof decks at the hips 82. End caps 36 are installed at least at the upper ends 60 of the two-sided end caps 2, and preferably at both ends 60. The tapered end caps 36, in combination with the two-sided ridge vents 2 and the roof decks 10, 12 fully support shingles 16 installed over the hip 82, tapered end cap 36 and ridge vent 2, avoiding failure of the shingles 16 and leakage of water into the area under the roof 32. The fully supported shingles 16 also provide an improved appearance, compared with no end tapered end caps 36. The two-sided ridge vents 2 and tapered end caps 36 provide additional exhaust ventilation to allow heated air 34 to escape from the area under the roof 32, easing the task of the ventilation designer.

FIGS. 12-15 illustrate use of the tapered end cap 36 of the invention to overcome common problems of current technology two-sided ridge vents 2. FIGS. 12 and 13 illustrate prior technology two-sided ridge vents 2 used to ventilate a roof 8 having an obstacle (FIG. 12) and a roof having intersecting peaks 6 (FIG. 13). In both instances, the exposed end 60 of the two-sided ridge vent is unsightly and provides an opportunity for water to enter the area under the roof 32.

FIGS. 14 and 15 illustrate use of the two-sided tapered end cap 36 to resolve the problems shown by FIGS. 12 and 13. As shown by FIG. 14, the second end 48 of the tapered end cap 36 is placed proximal to an obstacle 84 and adjacent to the two-sided ridge vent 2. The tapered end cap 36 allows a continuous and overlapping surface of shingles 16 to be installed at the peak 6 and over the end cap 36 and ridge vent 2, preventing water intrusion through the end 60 of the ridge vent 2. As shown by FIG. 15, the lines defined by the intersecting roof decks 10, 12 intersect to define a point 86. Tapered end caps 36 are installed with the second end 48 proximal to the point 86 and with the first ends 46 adjacent to the ends 60 of the ridge vents 2. As described above, the ridge vents 2 and end caps 36 may be covered by fully supported, continuous and overlapping shingles 16. The installer is not required to miter the ends 60 of the ridge vents 2 to create a continuous shingle-supporting surface, easing installation and avoiding opportunities for installer error, leakage and repair.

FIGS. 16 and 17 illustrate use of the tapered end cap 36 of the invention to address the problem of gable end sway back, as defined above. In gable end sway back, a gable 88 of a roof is higher than the remainder of the roof peak 6. Use of a prior art two-sided ridge vent 2, illustrated by FIG. 16, exacerbates the unsightly nature of the gable end sway back and also provides an opportunity for leakage through the end 60 of the ridge vent 2 due to the slope of the peak 6 from the gable 88 toward the end 60 of the ridge vent 2. By installing a tapered end cap 36 at the end 60 of the ridge vent 2 with the second end 48 proximal to the gable 88, the unsightly gable end sway back is disguised and the appearance of the roof improved. The opportunity for leakage through the end 60 of the ridge vent 2 also is reduced.

FIG. 26 illustrates that a typical roof 8 may feature several instances where use of the tapered end cap 36 of the invention is appropriate. From the left to the right of FIG. 26, a hip 82 can feature a ridge vent 2 with a tapered end cap 36 disposed at either end 60. The tapered end caps 36 are located so that the second ends 48 of the tapered end caps 36 are located proximal to the point 86 created by the intersection of the horizontal line defined by the roof decks forming the peak 6 and the line defined by the intersection of the roof decks defining the hip 82. The tapered end caps 36 also are located so that the second end 48 of the tapered end caps 36 are located proximal to an obstacle 84 interrupting the peak 6, in this instance a chimney. A point 86 also may be defined by intersecting peaks 6, shown on the right of FIG. 26. The tapered end caps 36 are oriented so that the second end 46 of the tapered end caps 36 are located proximal to the point 86. The second end 46 of a tapered end cap 36 also is located proximal to a gable 88, to compensate for gable end sway back.

The two sided ridge vent end cap 36 of the invention and the two sided ridge vent 2 may be integrated into a single two sided ridge vent having a two sided tapered end. In such event, the end 60 of the two sided ridge vent 2 is joined to the first end 46 of the end cap 36.

One sided ridge vents also are known in the art. A one sided ridge vent is similar in construction to a two sided ridge vent, except that the single sided ridge vent is lacking one of the edge supports of a two-sided ridge vent and hence is lacking the first or the second vent 20, 22. FIGS. 27 and 28 illustrate a one-sided tapered end cap 90. The one-sided tapered end cap 90 is used in conjunction with a one sided ridge vent. The one sided tapered end cap 90 has a single tapered support 56 that may feature channels 72. The one sided tapered end cap 90 also may feature a fabric filter 76 covering the channels 72 and may feature a baffle 78 reducing the effect of wind on the channels 72. The one sided tapered end cap may feature a hinge 62 or a predetermined bend 66. In all respects, the structure, use and operation of the one sided tapered end cap 90 is the same as that of the two sided end cap.
except that the one sided end cap 90 is used only in conjunction with a one sided ridge vent.

1. An end cap apparatus, the apparatus comprising:
   a. an end cap shingle supporting surface having a periphery, said periphery defining an end cap first end and an opposing end cap second end, said end cap shingle supporting surface having an underside and defining a longitudinal axis generally normal to said end cap first end, said periphery defining a first edge and an opposing second edge, said first and said second edges being generally parallel to said longitudinal axis;
   b. a first tapered support and a second tapered support, said first tapered support being attached to said underside of said end cap shingle supporting surface proximal to said first edge, said second tapered support being attached to said underside of said end cap shingle supporting surface proximal to said second edge;
   c. said first tapered support and said second tapered support in combination with said end cap shingle support surface defining an end cap height along said first edge and said second edge, said end cap height at said first end being equivalent to a height of two-sided ridge vent above a roof deck when said two-sided ridge vent is installed on a peak or a hip of a roof, said end cap height tapering from said end cap first end to said end cap second end so that said end cap height at said second end is less than said end cap height at said first end.

2. The apparatus of claim 1 wherein said end cap height at said second end is equivalent to a thickness of said end cap shingle supporting surface

3. The apparatus of claim 1 wherein said end cap shingle supporting surface defines a hinge, said hinge being generally parallel to said longitudinal axis, said end cap shingle supporting surface being bendable about said hinge, whereby said end cap shingle supporting surface is bendable to conform to an angle defined by an intersection of a first and a second roof deck defining a peak or a hip.

4. The apparatus of claim 1 wherein said end cap shingle supporting surface defines a pre-determined bend, said predetermined bend being generally parallel to said longitudinal axis, said predetermined bend being selected to conform to an angle defined by a first and a second roof deck when said first and said second roof decks intersect to define a peak or a hip.

5. The apparatus of claim 3 wherein said end cap shingle supporting surface has a width at said end cap first end, said width at said end cap first end being substantially equal to a width of the two-sided ridge vent.

6. The apparatus of claim 5, the apparatus further comprising:
   a. a plurality of channels, said plurality of channels communicating through said first tapered support or said second tapered support;
   b. an interior volume defined by said first and said second tapered supports and said end cap shingle supporting surface in combination, said plurality of channels communicating from said interior volume through said first and said second tapered supports, said first and said second tapered supports in combination defining an opening communicating with said interior volume, said opening being configured for fluid communication with a slot defined by said intersecting first and second roof decks that define said peak or hip.

7. The apparatus of claim 5, the apparatus further comprising:
   a. a filter, said filter covering an outside of said plurality of channels, said filter being configured to block water, debris and insects from entering said plurality of channels.

8. The apparatus of claim 6, the apparatus further comprising:
   a. a baffle, said baffle being attached to a one of said first and said second tapered supports, said baffle being configured to reduce an effect of an atmospheric wind blowing into said channels.

9. The apparatus of claim 1, the apparatus further comprising:
   a. a base, said base and said end cap shingle-supporting face being composed of a polymer, said base being attached to said end cap shingle supporting surface, said base being configured to engage said peak or hip, said base defining said first and said second tapered supports and supporting said end cap shingle-supporting surface.

10. The apparatus of claim 1, the apparatus further comprising:
    said two-sided ridge vent, said two sided ridge vent being elongated, said two sided ridge vent having a ridge vent end, the end cap being integrated with and defining said ridge vent end.

11. A ventilated roof apparatus, the apparatus comprising:
    a. a peak or a hip, said peak or said hip being defined by an intersection of a first roof deck and a second roof deck, said first and said second roof decks being pitched, said first and said second roof decks defining a slot at said peak or hip, said slot communicating from an area under said roof decks through said roof decks, each of said roof decks having a roof deck surface;
    b. an elongated two-sided ridge vent attached to said first and said second roof deck surfaces at said peak or hip, said two-sided ridge vent defining a ridge vent interior volume, said ridge vent interior volume being in fluid communication with said area under said roof decks through said slot, said roof vent interior volume being in fluid communication with an outside air, said two-sided ridge vent defining a ridge vent shingle supporting surface covering said slot, said ridge vent shingle supporting surface defining a ridge vent height above said roof deck surface, said two-sided ridge vent having a ridge vent end;
    c. an end cap having an end cap shingle supporting surface, said end cap engaging and conforming to said roof deck surfaces of said first and said second roof decks at said peak or hip, said end cap shingle supporting surface defining an end cap first end and an end cap second end, said end cap first end being disposed immediately adjacent to said ridge vent end at said peak or hip, said end cap shingle supporting surface defining an end cap height above said roof deck surface of said first and said second roof decks, said end cap height at said first end being equivalent to said ridge vent height, said end cap height at said second end being less than said end cap height at said first end, said end cap height being tapered between said first and said second ends.

12. The roof apparatus of claim 11, the apparatus further comprising: One or more shingles, said one or more shingles spanning said ridge vent end, said end cap shingle supporting surface, and said roof deck surface at said peak or hip adjacent.
to said end cap second end, wherein said end cap height at said second end is adequately small that said shingle spanning said end cap second end and said roof deck surface at said peak or hip immediately adjacent to said second end will not be subject to stresses due to said end cap height at said second end that would cause failure of said shingle.

13. The roof apparatus of claim 11 wherein said end cap shingle supporting surface has a periphery, said periphery defining said first end and said second end, said periphery defining a first edge and a second edge, said first and said second edges being generally parallel to said longitudinal axis, said end cap shingle supporting surface having an underside and defining a longitudinal axis generally normal to said first end, the apparatus further comprising:
   a. a first tapered support and a second tapered support, said first tapered support being attached to said underside of said end cap shingle supporting surface proximal to said first edge, said second tapered support being attached to said underside of said end cap shingle supporting surface proximal to said second edge;
   b. said first tapered support and said second tapered support in combination with said end cap shingle support surface defining said end cap height at each location along said first edge and said second edge.

14. The apparatus of claim 13 wherein said end cap shingle supporting surface defines a hinge, said hinge being generally parallel to said longitudinal axis, said end cap shingle supporting surface being bendable about said hinge, whereby said end cap shingle supporting surface is bendable to conform to an angle defined by an intersection of said first and said second roof deck defining said peak or hip.

15. The apparatus of claim 13 wherein said end cap shingle supporting surface defines a pre-determined bend, said pre-determined bend being generally parallel to said longitudinal axis, said predetermined bend being selected to conform to an angle defined by a first and a second roof deck when said first and said second roof decks intersect to define a peak or a hip.

16. The apparatus of claim 11 wherein said end cap shingle supporting surface has a width at said end cap first end, said two-sided ridge vent having a ridge vent width, said end cap width being substantially equal to said ridge vent width.

17. The apparatus of claim 13, the apparatus further comprising:
   a. a plurality of channels defined by said first tapered support and said second tapered support, said plurality of channels communicating through said first tapered support and said second tapered support;
   b. an end cap interior volume defined by said first and said second tapered supports and said end cap shingle supporting surface in combination, said plurality of channels being in fluid communication with said interior volume, said interior volume being in fluid communication through said slot with said area under said roof.

18. The apparatus of claim 17, the apparatus further comprising:
   a. a filter, said filter covering an outside of said plurality of channels, said filter being configured to block water, debris and insects from entering said plurality of channels.

19. The apparatus of claim 17, the apparatus further comprising:
   a. a baffle, said baffle being attached to a one of said first and said second tapered supports, said baffle being configured to reduce an effect of an atmospheric wind blowing into said channels.

20. The apparatus of claim 13 wherein said peak or said hip comprises two said peaks, said two peaks intersecting at a point, said second end of said end cap shingle supporting surface being attached to a one of said peaks proximal to said point, said first end of said end cap being disposed distal to said point and attached to said one of said peaks, said end of said two-sided ridge vent being disposed immediately adjacent to said first end of said end cap and on said one of said peaks.

21. The apparatus of claim 20 wherein said end cap comprises one, two or three of said end caps, said second end of each of said end caps being attached to a one of said peaks proximal to said point, said first end of each of said end caps being attached to said one of said peaks distal to said point.

22. The apparatus of claim 13 wherein said peak or said hip comprises two said hips intersecting a one said peak at a point, said second end of said end cap being attached to a one of said peak or said two hips proximal to said point, said first end of said end cap being attached to said one of said peak or said two hips distal to said point, said end of said two-sided ridge vent being disposed immediately adjacent to said first end of said end cap and on said one of said peak or said two hips.

23. The apparatus of claim 13 wherein said peak or said hip comprises two said hips intersecting a one said peak at a point, said second end of said end cap being attached to a one of said hips proximal to said point, said first end of said end cap being attached to said one of said hips distal to said point, said end of said two-sided ridge vent being disposed immediately adjacent to said first end of said end cap and on said hip.

24. The apparatus of claim 13 wherein said peak or said hip comprises four said hips intersecting at a point, said second end of said end cap being attached to a one of said hips proximal to said point, said first end of said end cap being attached to said one of said hips distal to said point, said end of said two-sided ridge vent being disposed immediately adjacent to said first end of said end cap and on said hip.

25. The apparatus of claim 13 wherein said peak or hip intersects an obstacle, said second end of said end cap being attached to said peak or said hip proximal to said obstacle, said first end of said end cap being attached to said peak or said hip distal to said obstacle, said end of said two-sided ridge vent being disposed immediately adjacent to said first end of said end cap and on said peak or hip.

26. The apparatus of claim 11, said end cap comprising: a base, said base and said end cap shingle-supporting surface being composed of a polymer, said base being attached to said end cap shingle-supporting surface, said base engaging said peak or hip, said base supporting said end cap shingle-supporting surface.

27. A method of providing exhaust ventilation for a roof, the method comprising:
   a. installing an elongated two-sided ridge vent on a peak or hip of a roof, said peak or hip being defined by an intersection of a first and a second roof deck, said peak or hip defining a slot communicating through said peak or hip, said two-sided ridge vent being disposed over said slot, said two-sided ridge vent being configured to allow exhaust air to pass from an area under said roof through said slot and through said two-sided ridge vent to an outside air, said two-sided ridge vent defining an end,
said ridge vent defining a ridge vent shingle supporting surface, said ridge vent shingle supporting surface being supported at a ridge vent height above said first and said second roof decks;

b. installing an end cap on said ridge or hip, said end cap having an end cap shingle supporting surface, said end cap shingle supporting surface defining an end cap first end and an end cap second end, said end cap first end being disposed immediately adjacent to said ridge vent end at said peak or hip, said shingle supporting surface at said first end having an end cap height above said first and said second roof decks that is equivalent to said ridge vent height above said first and said second roof decks, said shingle supporting surface having said end cap height at said second end that is equivalent to said height of said first and said second roof decks, said end cap conforming to said first and said second roof decks at said peak or hip, said end cap height being tapered between said first end and said second end.

28. The method of claim 27, the method further comprising: applying overlapping barrier shingles over said peak or hip, including over said end cap and said two-sided ridge vent.

29. The method of claim 27 wherein said end cap shingle supporting surface has a periphery, said periphery defining said first end and said second end, said periphery defining a first edge and a second edge, said first and said second edges being generally parallel to said longitudinal axis, said end cap shingle supporting surface defining a longitudinal axis generally normal to said first end, said end cap shingle supporting surface having an underside, said underside of said shingle supporting surface being attached to a first tapered support and a second tapered support, said first tapered support being proximal to said first edge, said second tapered support being proximal to said second edge, said first tapered support and said second tapered support in combination with said end cap shingle support surface defining said end cap height at each location along said first edge and said second edge between said first end and said second end.

30. The method of claim 29 wherein said end cap shingle supporting surface defines a hinge, said hinge being generally parallel to said longitudinal axis, said end cap shingle supporting surface being bendable about said hinge, whereby said end cap shingle supporting surface is bendable to conform to an angle defined by an intersection of said first and said second roof deck defining said peak or hip.

31. The method of claim 29 wherein said end cap shingle supporting surface defines a pre-determined bend, said predetermined bend being generally parallel to said longitudinal axis, said predetermined bend being selected to conform to an angle defined by a first and a second roof deck when said first and said second roof decks intersect to define said peak or a hip.

32. The method of claim 29, the method further comprising: providing a plurality of channels through said first and said second tapered supports, said plurality of channels being in fluid communication with said slot and said outside air.

33. The method of claim 32, the method further comprising: filtering an air moving through said plurality of channels by providing a filter covering said plurality of channels, said filter being configured to control entry of water, debris and insects through said channels.

34. The method of claim 32, the method further comprising: providing a baffle, said baffle being attached to said first and said second tapered supports, said baffle being configured to reduce an effect of an atmospheric wind blowing into said channels.

35. The method of claim 29 wherein said end cap includes a base, said base and said end cap shingle-supporting surface being molded from a polymer, said base being attached to said end cap shingle-supporting surface, said base engaging said peak or hip, said base defining said first and said second tapered supports.