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PILLAR GARNISH ASSEMBLY FOR A VEHICLE

Abstract

A pillar garnish assembly for a vehicle includes a pillar garnish adapted to be provided on a front surface of a pillar of the vehicle. The pillar garnish includes an inner pillar garnish structure adapted to be engaged with the pillar. The inner garnish structure includes a first portion adapted to be connected to the pillar and cover the front surface of the pillar, and a second portion extending in a lateral direction from the first portion and arranged at a vertical offset from the first portion defining a step therebetween. The second portion includes a free edge that is adapted to extend over a front windshield of the vehicle and defines a chamfer. The pillar garnish also includes an outer garnish structure arranged overlapping, at least partially, to the first portion and supported on the first portion of the inner garnish structure.

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Background/Summary

BACKGROUND

[0001] The disclosed subject matter relates generally to a vehicle. More particularly, the disclosed subject matter relates to a pillar garnish assembly for an A-pillar of a vehicle.

[0002] Vehicles generally include pillar garnishes applied to A-pillars of the vehicles. It is important to design the A-pillar garnishes to properly guide the air flow over the pillar garnish from the front windshield to the sides of the vehicle. However, current pillar garnishes generally split the air flow prematurely and create wind noise, which is undesirable.

SUMMARY

[0003] In accordance with one embodiment of the present disclosure, a pillar garnish assembly for a vehicle is disclosed. The pillar garnish assembly comprises a pillar garnish adapted to be provided on a front surface of a pillar of the vehicle. The pillar garnish includes an inner pillar garnish structure adapted to be engaged with the pillar. The inner garnish structure has a first portion adapted to be connected to the pillar and cover the front surface of the pillar, and a second portion extending in a lateral direction from the first portion and arranged at a vertical offset from the first portion defining a step therebetween. Further, the second portion includes a free edge that is adapted to extend over a front windshield of the vehicle and defines a chamfer. Moreover, the pillar garnish includes an outer garnish structure arranged overlapping, at least partially, to the first portion and supported on the first portion of the inner garnish structure.

[0004] In accordance with another embodiment of the present disclosure, a vehicle is disclosed. The vehicle comprises a pair of pillars, a front windshield arranged between the pair of pillars, and a pair of pillar garnishes provided on front surfaces of the pair of pillars. Each pillar garnish includes an inner pillar garnish structure engaged with the pillar and has a first portion connected to associated pillar and arranged covering the front surface of the associated pillar. The inner garnish structure also includes a second portion extending in a lateral direction of the vehicle from the first portion and arranged at a vertical offset from the first portion defining a step therebetween. The second portion includes a free edge extending over the front windshield and defines a chamfer. Moreover, each pillar garnish includes an outer garnish structure arranged overlapping, at least partially, to the first portion and supported on the first portion of the inner garnish structure.

[0005] In accordance with yet a further embodiment of the present disclosure a vehicle is disclosed. The vehicle includes a pair of pillars, a front windshield arranged between the pair of pillars, a roof extending rearwardly from the front windshield, and a pair of side panels arranged on both sides of the roof and extending in a longitudinal direction of vehicle. The vehicle also includes a pair of drip moldings extending in the longitudinal direction along the roof and arranged between the roof and the pair of side panels. Each drip molding is arranged between the roof and the associated side panel such that a gap is defined between the drip molding and the associated side panel. The vehicle further includes a pair of pillar garnishes provided on front surfaces of the pair of pillars. Each pillar garnish includes an inner pillar garnish structure engaged with the pillar and having a first portion connected to associated pillar and arranged covering the front surface of the associated pillar. The inner garnish structure also includes a second portion extending in a lateral direction of the vehicle from the first portion and arranged at a vertical offset from the first portion defining a step therebetween. The second portion includes a free edge extending over the front windshield and defines a chamfer. Moreover, each pillar garnish has an outer garnish structure arranged overlapping, at least partially, to the first portion and supported on the first portion of the inner garnish structure. Further, a space is defined between the step and the outer garnish. Also, a width of the space defined between the step and the outer garnish structure is equal to a width of the gap defined between the associated drip molding and the associated side panel.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] Certain embodiments of the present disclosure will be better understood from the following description taken in conjunction with the accompanying drawings in which:

[0007] FIG. **1** is a perspective view of a vehicle, in accordance with one embodiment of the present disclosure;

[0008] FIG. **2** is a perspective view of a vehicle body of the vehicle, in accordance with one embodiment of the present disclosure;

[0009] FIG. **3** is a sectional view of the vehicle body along section line A-A depicting a pillar garnish assembly of the vehicle, in accordance with one embodiment of the present disclosure; and

[0010] FIG. **4** is a sectional view of the vehicle body along section line B-B depicting a drip molding of the vehicle, in accordance with one embodiment of the present disclosure.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

[0011] A few inventive aspects of the disclosed embodiments are explained in detail below with reference to the various figures. Exemplary embodiments are described to illustrate the disclosed subject matter, not to limit its scope, which is defined by the claims. Those of ordinary skill in the art will recognize a number of equivalent variations of the various features provided in the description that follows. Embodiments are hereinafter described in detail in connection with the views and examples of FIGS. **1-4**, wherein like numbers indicate the same or corresponding elements throughout the views.

[0012] FIG. **1** illustrates a perspective view of a vehicle **100**, in accordance with one embodiment of the present disclosure. As shown, the vehicle **100** includes a front end **104**, a rear end **106**, and a vehicle body **108** extending from the front end **104** to the rear end **106** and defining a passenger compartment for facilitating a seating of one or more passenger inside the vehicle **100**. Further, the vehicle **100** includes a plurality of wheels **112** supporting the vehicle body **108** on a surface and enables a movement of the vehicle **100** over the surface. As shown in FIGS. **1** and **2**, the vehicle body **108** includes a floor **114** on which one or more seats are mounted and a roof **116** arranged opposite to the floor **114** and supported on a plurality of pillars, for example, A-pillars **118**, B-pillars **120**, and C-pillars **122** of the vehicle body **108**. Also, the vehicle body **108** includes a pair of side panels **124** arranged along longitudinal sides of the roof **116** and extending in a longitudinal direction of the vehicle **100**, and the A-pillars **118**, B-pillars **120** and the C-pillars **122** are connected to the side panels **124**. It may be appreciated that the A-pillars **118** may form the extensions of the side panels **124** in the longitudinal and downward direction of the vehicle **100**.

[0013] Further, the vehicle **100** includes a front windshield **126** arranged between the A-pillars **118** and the roof **116** of the vehicle **100**. Moreover, the vehicle body **108** includes a bonnet **128** extending forwardly of the front windshield **126** to the front end **104** to cover an engine compartment from top, and a pair of fenders **130** extending along a portion of longitudinal sides **132** of the vehicle **100**. The front windshield **126** includes a pair of edges **134** (shown in FIG. **3**) extending from the bonnet **128** to the roof **116** and may be arranged at a lateral gap **140** (shown in FIG. **3**) from the associated A-pillars **118**. To cover the A-pillars **118** and the lateral gaps **140**, the vehicle **100** includes a pair of garnish assemblies **142** extending along the A-pillars **118** from the bonnet **128** to the roof **116** in the vertical direction and covering the lateral gaps **140** and widths of the A-pillars **118** in a lateral direction of the vehicle **100**. It may be appreciated that the pillar garnish assemblies **142** are similar in structure, arrangement, and assembly, and therefore only one pillar garnish assembly **142** is described in detail.

[0014] As shown in FIG. **3**, the pillar garnish assembly **142** includes a pillar garnish **144** extending along at least a portion of the A-pillar **118** and arranged covering an outer/front/upper surface **186** of the A-pillar **118**. The pillar garnish **144** includes a first garnish structure **146** also referred to as inner garnish structure **146** and a second garnish structure **148** also referred to as outer garnish structure **148** arranged supported on the inner garnish structure **146** and extend along an entire

width of the A-pillar **118** in the lateral direction of the vehicle **100** as well as the portion of the length of the A-pillar **118** extending from the roof **116** to the bonnet **128**. As shown the outer garnish **148** includes a substantially arcuate shape and extends from a first edge **150** of the A-pillar **118** to a location proximate to a second edge **152** of the A-pillar **118**. In the embodiment, the first edge **150** of the A-pillar **118** is arranged proximate to a front door **154** of the vehicle **100**, while the second edge **152** of the A-pillar **118** is located proximate to the front windshield **126** and the lateral gap **140** is defined between the second edge **152** and the front windshield **126**. As shown, the outer garnish **148** may extend at least partially above the lateral gap **140** defined between the A-pillar **118** and the front windshield **126**. In some embodiments, an edge **158** of the outer garnish **148** is arranged proximate to the front windshield **126** and is aligned with the second edge **152** of the A-pillar **118**.

[0015] The inner garnish structure **146** includes a first portion **160** connected to the A-pillar **118** and is arranged underneath/beneath the outer garnish **148** and is engaged with the outer garnish **148**. As with the outer garnish **148**, the first portion **160** extends from the first edge **150** to a location proximate to the second edge **152** of the A-pillar **118** in the lateral direction of the vehicle **100**. As shown, the first portion **160** may extend at least partially above the lateral gap **140** defined between the A-pillar **118** and the front windshield **126**. The first portion **160** is connected to the A-pillar **118** via suitable one or more engagement structures.

[0016] Further, the inner garnish structure **146** includes a second portion **164** arranged covering the lateral gap **140** and extending beyond the lateral gap **140** in the lateral direction, over the front windshield **126**. The second portion **164** extends in the lateral direction from the first portion **160** and is arranged such that a free edge **166** of the second portion **164** is arranged above the front windshield **126**. It may be appreciated that second portion **164** defines a lip of the inner garnish structure **146**, and the lip extends in the lateral direction from the first portion **160**. As seen from FIG. 3, the second portion **164** is arranged at a vertical offset from the first portion **160** and a step **168** is defined at an interface/junction of the first portion **160** and the second portion **164**. In the illustrated embodiment, an upper surface **170** of the second portion **164** and an upper surface **172** of the outer garnish **148** are arranged aligned with each other. In some embodiments, a space **174** may be defined between the step **160** and the edge **158** of the outer garnish **148**. Also, the free edge **166** of the second portion **164** defines a chamfer **180** to aerodynamically guide the air flow, and also facilitates noise reduction. As the chamfer **180** is on downward side of the inner garnish structure **146** and facing the front windshield **126**, the air flow is deflected over the pillar garnish **144** without any flow detachment, reducing the wind noise as well.

[0017] Moreover, the pillar garnish assembly **142** includes a gasket/seal **184** connected to the inner garnish structure **146** and arranged contacting the front windshield **126** to prevent any leakage of the water or air underneath the inner garnish structure **146** and the outer surface/upper surface/front surface **186** of the A-pillar **118**. As shown, the gasket **184** includes a first structure **188** extending along a part of the first portion **160** of the inner garnish structure **146** from the step **168** and connected to the first portion **160** via suitable connection mechanism. Also, the gasket **184** includes a second structure **190** extending along the second portion **164** from the step **168** and arranged underneath the second portion **164** and between the front windshield **126** and the second portion **164**. Also, a free edge **192** of the second structure **190** contacts the front windshield **126** defining a sealing contact with the front windshield **126** to prevent a leakage of the water or air underneath the inner garnish structure **146** and above the A-pillar **118**.

[0018] Additionally, as shown in FIG. 2 and FIG. 4, the vehicle **100** includes a drip molding **200** extending in a longitudinal direction of the vehicle **100** from the front windshield **126** towards the rear end **106** and is arranged between the roof **116** and the side panel **124** of the vehicle **100** in the lateral direction. It may be appreciated that a portion of the side panel **124** that extends downwardly from the roof **116** defines the A-pillar **118** of the vehicle **100**. Also, the drip molding **200** is arranged such that the drip molding **200** appears to define an extension of the second portion **164** of

the inner garnish structure **146** along the roof **116**. As shown, dimensions of the drip molding **200** in the lateral direction are selected such that drip molding **200** includes a width 'X' that is substantially equal to a width 'W' of the second portion **164** of the inner garnish structure **146**. Also, the drip molding **200** is arranged between the roof **116** and the side panel **124** such that a width 'Y' of a gap **202** defined between the drip molding **200** and the side panel **124** in the lateral direction is substantially equal to a width 'Z' of the space **174** defined between the step **168** and outer garnish **148** in the lateral direction. Accordingly, the second portion **164** of the inner garnish structure **146** is aligned with the drip molding **200** while the space **174** is aligned with the gap **202**. Due to above mentioned dimensions and arrangement of the inner garnish structure **146** and the drip molding **200** a continuous appearance from the bottom of the front windshield **126** to the roof **116** is provided.

[0019] The foregoing description of embodiments and examples has been presented for purposes of illustration and description. It is not intended to be exhaustive or to limit the disclosure to the forms described. Numerous modifications are possible in light of the above teachings. Some of those modifications have been discussed and others will be understood by those skilled in the art. The embodiments were chosen and described in order to best illustrate certain principles and various embodiments as are suited to the particular use contemplated. The scope of the disclosure is, of course, not limited to the examples or embodiments set forth herein, but can be employed in any number of applications and equivalent devices by those of ordinary skill in the art. Rather it is hereby intended the scope of the disclosure be defined by the claims appended hereto.

Claims

1. A pillar garnish assembly for a vehicle, the pillar garnish assembly comprising: a pillar garnish adapted to be provided on a front surface of a pillar of the vehicle and including an inner pillar garnish structure adapted to be engaged with the pillar and including a first portion adapted to be connected to the pillar and cover the front surface of the pillar, and a second portion extending in a lateral direction from the first portion and arranged at a vertical offset from the first portion defining a step therebetween, the second portion includes a free edge that is adapted to extend over a front windshield of the vehicle and defines a chamfer, and an outer garnish structure arranged overlapping, at least partially, to the first portion and supported on the first portion of the inner garnish structure.
2. The pillar garnish assembly of claim 1, wherein the outer garnish extends from the step in a direction opposite to the extension of the second portion from the step.
3. The pillar garnish assembly of claim 1, wherein an upper surface of the second portion is arranged aligned with an upper surface of the outer garnish.
4. The pillar garnish assembly of claim 1 further comprises a gasket arranged underneath the inner garnish structure and engaged with the inner garnish structure.
5. The pillar garnish assembly of claim 4, wherein the gasket includes a first structure extending along the first portion of the inner garnish structure from the step and connected to the first portion, and a second structure extending along the second portion of the inner garnish structure from the step and including a free edge adapted to contact the front windshield of the vehicle.
6. A vehicle, comprising: a pair of pillars; a front windshield arranged between the pair of pillars; and a pair of pillar garnishes provided on front surfaces of the pair of pillars, each pillar garnish including an inner pillar garnish structure engaged with the pillar and having a first portion connected to associated pillar and arranged covering the front surface of the associated pillar, and a second portion extending in a lateral direction of the vehicle from the first portion and arranged at a vertical offset from the first portion defining a step therebetween, the second portion includes a free edge extending over the front windshield and defines a chamfer, and an outer garnish structure arranged overlapping, at least partially, to the first portion and supported on the first portion of the

inner garnish structure.

7. The vehicle of claim 6, wherein the outer garnish extends from the step in a direction opposite to the extension of the second portion from the step.

8. The vehicle of claim 6, wherein an upper surface of the second portion is arranged aligned with an upper surface of the outer garnish.

9. The vehicle of claim 6 further comprises a gasket arranged underneath the inner garnish structure and engaged with the inner garnish structure.

10. The vehicle of claim 9, wherein the gasket includes a first structure extending along the first portion of the inner garnish structure from the step and connected to the first portion, and a second structure extending along the second portion of the inner garnish structure from the step and including a free edge arranged contacting the front windshield of the vehicle.

11. The vehicle of claim 6 further comprises a roof, a pair side panels arranged on both sides of the roof and extending in a longitudinal direction of vehicle, and a pair of drip moldings extending in the longitudinal direction along the roof and arranged between the roof and the pair of side panels, each drip molding is arranged between the roof and the associated side panel such that a gap is defined between the drip molding and the associated side panel.

12. The vehicle of claim 11, wherein a width of the drip molding in the lateral direction of the vehicle is equal to a width of the second portion of the inner garnish structure.

13. The vehicle of claim 12, wherein the outer garnish structure is arranged such that a space is defined between the step and the outer garnish structure.

14. The vehicle of claim 13, wherein a width of the gap defined between the drip molding and the associated side panel is equal to a width of the space defined between the step and the outer garnish structure.

15. A vehicle, comprising: a pair of pillars; a front windshield arranged between the pair of pillars; a roof extending rearwardly from the front windshield; a pair of side panels arranged on both sides of the roof and extending in a longitudinal direction of vehicle; a pair of drip moldings extending in the longitudinal direction along the roof and arranged between the roof and the pair of side panels, each drip molding is arranged between the roof and the associated side panel such that a gap is defined between the drip molding and the associated side panel; and a pair of pillar garnishes provided on front surfaces of the pair of pillars, each pillar garnish including an inner pillar garnish structure engaged with the pillar and having a first portion connected to associated pillar and arranged covering the front surface of the associated pillar, and a second portion extending in a lateral direction of the vehicle from the first portion and arranged at a vertical offset from the first portion defining a step therebetween, the second portion includes a free edge extending over the front windshield and defines a chamfer, and an outer garnish structure arranged overlapping, at least partially, to the first portion and supported on the first portion of the inner garnish structure, wherein a space is defined between the step and the outer garnish, wherein a width of the space defined between the step and the outer garnish structure is equal to a width of the gap defined between the associated drip molding and the associated side panel.

16. The vehicle of claim 15, wherein a width of the drip molding in the lateral direction of the vehicle is equal to a width of the second portion of the inner garnish structure.

17. The vehicle of claim 15, wherein the outer garnish extends from the step in a direction opposite to the extension of the second portion from the step.

18. The vehicle of claim 15, wherein an upper surface of the second portion is arranged aligned with an upper surface of the outer garnish.

19. The vehicle of claim 15 further comprises a gasket arranged underneath the inner garnish structure and engaged with the inner garnish structure.

20. The vehicle of claim 19, wherein the gasket includes a first structure extending along the first portion of the inner garnish structure from the step and connected to the first portion, and a second

structure extending along the second portion of the inner garnish structure from the step and including a free edge arranged contacting the front windshield of the vehicle.
