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TURN SIGNAL INDICATORS INTEGRATED WITH SIDE MIRRORS OF A VEHICLE

Abstract

Side mirrors for vehicles may include a side turn indicator and in some cases an image sensor and a side turn indicator. Side mirrors may further include a bezel coupled with a housing, with the bezel surrounding a mirror. The bezel may include one or more openings, with the opening(s) having a lens. The side turn indicator may include a light source aligned with each respective lens. The bezel may hide, or otherwise obscure, the light source when unilluminated. However, when the light source is illuminated, light from the respective light sources passes through the bezel (via the lenses and the openings) and the turn signal indicator is visible to present an indication to which the vehicle may turn.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATION(S) [0001] This application claims the benefit of priority to U.S. Provisional Application No. 63/553,610, filed Feb. 14, 2024, titled "TURN SIGNAL INDICATORS INTEGRATED WITH SIDE MIRRORS OF A VEHICLE", the disclosure of which is incorporated herein by reference in its entirety.

INTRODUCTION

[0002] The present disclosure is directed to vehicles, and more particularly, vehicles with turn signals integrated with side mirrors.

SUMMARY

[0003] Vehicles may include one or more lamps, some of which are used to provide an indication to drivers in other vehicles as well as to pedestrians. For example, vehicles may include lamps designed to illuminate and provide a turn signal indication when the vehicle intends to turn in a direction (e.g., left turn, right turn).

[0004] In one or more aspects of the present disclosure, an apparatus is disclosed. The apparatus may include a bezel configured to couple to a housing and surround a mirror. The apparatus may further include a first light source configured to provide an indication for a vehicle. The first light source, in an unilluminated state, may be at least partially hidden by the bezel. Also, the first light source, in an illuminated state, may be configured to provide light through the bezel.

[0005] The apparatus may further include an image sensor carried by the housing. The image sensor may be configured to detect one or more objects external to the vehicle. The apparatus may further include a second light source configured to provide the indication. The bezel may cover the first light source and the second light source. The bezel may include an indentation, and the image sensor may be at least partially positioned in the indentation. The indentation may be positioned between the first light source and the second light source. The first light source and the second light source may provide a side turn indicator indicating a direction of travel for the vehicle.

[0006] The bezel may include a lens. The lens may include a first material may be configured to block light from the first light source, and a second material may be configured to transmit the light from the first light source.

[0007] The bezel may include: a first lens portion configured to block light from the first light source, and a second lens portion configured to transmit the light from the second light source.

[0008] In one or more aspects of the present disclosure, a side mirror is disclosed. The side mirror may include a housing configured to extend from a door. The side mirror may further include an image sensor carried by the housing. The image sensor may be configured to detect one or more objects external to the door. The side mirror may further include a side turn indicator disposed on the image sensor. The side turn indicator may include a first light source configured to illuminate and indicate a change of direction of the door.

[0009] The side mirror may further include a wall. The side turn indictor may be disposed on the wall. The side mirror may further include a bezel. The bezel may include a first lens portion configured to block light from the first light source. The bezel may include a second lens portion configured to transmit the light from the first light source.

[0010] The side mirror may further include a second side turn indicator. The image sensor may be positioned between the first side turn indicator and the second side turn indicator.

[0011] The side mirror may further include a second side turn indicator that include a second light

source. The side mirror may further include a bezel that covers the first side turn indicator and the second side turn indicator. The bezel may include an indentation that includes one or more recessed surfaces. The image sensor may be positioned in the indentation.
[0012] The side mirror may further include a housing component positioned between the first light source and the image sensor. The housing component may be configured to block light generated from the first light source.
[0013] In one or more aspects of the present disclosure, a vehicle is disclosed. The vehicle may include a first door and a second door. The vehicle may further include a first side mirror and a second side mirror. The first side mirror and the second side mirror may extend from the first door and the second door, respectively. Each of the first side mirror and the second side mirror may include: a bezel configured to couple to a housing and surround a mirror; and a first light source configured to provide an indication for the vehicle. The first light source, in an unilluminated state, may be at least partially hidden by the bezel. Also, the first light source, in an illuminated state, may be configured to provide light through the bezel.
[0014] Each of the first side mirror and the second side mirror may further include an image sensor carried by the housing. The image sensor may be configured to detect one or more objects external to the vehicle. Each of the first side mirror and the second side mirror may further include a second light source configured to provide the indication. The bezel may cover the first light source and the second light source. The bezel may include an indentation, and the image sensor may be at least partially positioned in the indentation.

Description

BRIEF DESCRIPTION OF THE DRAWINGS
[0015] Certain features of the subject technology are set forth in the appended claims. However, for purpose of explanation, several embodiments of the subject technology are set forth in the following figures.
[0016] FIG. **1** illustrates a side view of an embodiment of a vehicle, in accordance with one or more aspects of the present disclosure.
[0017] FIG. **2** illustrates a side view of an alternate embodiment of a vehicle, in accordance with one or more aspects of the present disclosure.
[0018] FIG. **3** and FIG. **4** illustrate perspective views of an embodiment of an apparatus with a side turn indicator, accordance with one or more aspects of the present disclosure,
[0019] FIG. **5** illustrates a cross-sectional view of the apparatus shown in FIG. **3**, taken along line **5-5**, in accordance with one or more aspects of the present disclosure.
[0020] FIG. **6** illustrates a cross-sectional view of an alternate embodiment of an apparatus with a side turn indicator, in accordance with one or more aspects of the present disclosure, in accordance with one or more aspects of the present disclosure.
[0021] FIG. **7** illustrates a perspective views of an alternate embodiment of an apparatus with a side turn indicator, in accordance with one or more aspects of the present disclosure.
[0022] FIG. **8** illustrates a perspective view of an alternate example of an apparatus with a side turn indicator, in accordance with one or more aspects of the present disclosure.
[0023] FIG. **9** illustrates a perspective view of an alternate example of an apparatus with a side turn indicator, in accordance with one or more aspects of the present disclosure.
[0024] FIG. **10** illustrates a perspective view of an alternate example of an apparatus with a side turn indicator, in accordance with one or more aspects of the present disclosure.
[0025] FIG. **11** illustrates a perspective view of an alternate example of an apparatus with a side turn indicator, showing a relationship between a light source and an image sensor, in accordance with one or more aspects of the present disclosure.

[0026] FIG. **12** illustrates an alternate view of the side turn indicator and the image sensor shown in FIG. **11**, in accordance with one or more aspects of the present disclosure.
[0027] FIG. **13** illustrates a flow diagram showing an example of a process that may be performed for assembling a side mirror, in accordance with one or more aspects of the present disclosure.
DETAILED DESCRIPTION
[0028] The detailed description set forth below is intended as a description of various configurations of the subject technology and is not intended to represent the only configurations in which the subject technology can be practiced. The appended drawings are incorporated herein and constitute a part of the detailed description. The detailed description includes specific details for the purpose of providing a thorough understanding of the subject technology. However, the subject technology is not limited to the specific details set forth herein and can be practiced using one or more other implementations. In one or more implementations, structures and components are shown in block diagram form in order to avoid obscuring the concepts of the subject technology.
[0029] The present disclosure is directed to side mirrors with integrated features, such as side turn indicator and in some instances as an image sensor (e.g., camera). Vehicles described herein may include a side mirror positioned on multiple sides of the vehicle (e.g., driver side, passenger side). In this regard, each turn signal indicator, when illuminated, may provide an indication to which direction the vehicle is turning. In one or more implementations, a bezel, representing a frame, surrounds the side mirror. The turn signal indicator may hidden, or otherwise obscured, by the bezel. The bezel may include both opaque and transparent regions, representing region of the bezel in which light is blocked and transmitted, respectively. A transparent region may take the form of a lens that covers turn signal indicator. The transparent region may occupy an opening of the bezel and may be positioned at a location corresponding to the turn signal indicator. The lens may be covered with a material (e.g., coating, shade). However, when illuminated, the turn signal indicator generates light and the lens transmits the light, thus allowing the light to be visible to other drivers and passengers near the vehicle.
[0030] FIG. **1** illustrates an example of a vehicle **100**, in accordance with aspects of the present disclosure. In the example shown in FIG. **1**, the vehicle **100** takes the form of a truck. Generally, the vehicle **100** may take the form of any motorized vehicle, including motorized vehicles with an internal combustion engine and/or one or more electric motors. Accordingly, other implementations of the vehicle **100** may include land-based vehicles, such as a car (e.g., sedan, hatchback), a van, or a commercial truck, as non-limiting examples.
[0031] The vehicle **100** may include a battery pack **102**. The battery pack **102** may be coupled (e.g., electrically coupled) to one or more electrical systems of the vehicle **100** to provide power to the one or more electrical systems. The vehicle **100** may further include a port **104** (e.g., charge port) designed to receive a cable connector (not shown in FIG. **1**) used to transmit power (e.g., alternating current (AC) power) that is converted to direct current (DC) power to charge the battery pack **102**. The battery pack **102** may couple to a drive unit **110**, representative of one or more drive units of the vehicle **100**. While the drive unit **110** is shown as generally being in the front of the vehicle **100**, the drive unit **110** may be located in the rear of the vehicle **100**. Further, when multiple drive units are used, at least one drive unit may be in the front of the vehicle **100** to drive the front wheels (e.g., wheel **112***a*), and at least one drive unit may be in the rear of the vehicle **100** to drive the rear wheels (e.g., wheel **112***b*). The drive unit **110** may include, for example, a motor, an inverter, a gear box, and a differential. In the example shown in FIG. **1**, the drive unit **110** takes the form of an electric motor. In this regard, the drive unit **110** may use energy (e.g., electrical energy) stored in the battery pack **102** for propulsion in order to drive (e.g., rotationally drive) wheels of the vehicle **100**. The vehicle **100** may further include a bed **114** that may be used as a storage area for the vehicle **100**.
[0032] Further, the vehicle **100** may include an apparatus **116**. The apparatus **116** may couple with, and extend from, a door **117** (e.g., driver side door representative of a passenger side door) of the

vehicle **100**. In one or more implementations, the apparatus **116** takes the form of a driver side mirror. In this regard, the apparatus **116** may provide, based on a reflection from a mirror (not shown in FIG. **1**), an image of objects lateral and/or behind a driver's side of the vehicle **100**. The apparatus **116** may further include an image sensor **118** (e.g., camera) that provide digital images (e.g., still images, video images) of objects external to the vehicle **100**, such as lateral and/or behind a driver's side of the vehicle **100**. Additionally, the apparatus **116** may include a side turn indicator **120**. The side turn indicator **120** may include one or more light sources (not shown in FIG. **1**) that, when illuminated, provide an indication of travel, or change in the direction of travel, of the vehicle **100** (e.g., left turn). Although not shown in FIG. **1**, the vehicle **100** may include an additional apparatus that takes the form of a passenger side mirror that include any features shown and/or described for the apparatus **116**, with the additional apparatus provide images of objects lateral and/or behind a passenger's side of the vehicle **100**, and includes one or more light sources that, when illuminated, provide an indication of travel, or change in the direction of travel, of the vehicle **100** (e.g., right turn).

[0033] FIG. **2** illustrates a side view of an alternate embodiment of a vehicle **200**, in accordance with one or more aspects of the present disclosure. As shown, the vehicle **200** takes the form of a sport utility vehicle (SUV). The vehicle **200** may include several features shown and/or described for the vehicle **100** (shown in FIG. **1**). For example, the vehicle **200** may include a battery pack **202**, a port **204** (e.g., charge port), a drive unit **210** (representative of one or more additional drive units), a wheel **212***a* (representative of an additional front wheel), and a wheel **212***b* (representative of an additional rear wheel).

[0034] Further, the vehicle **200** may include an apparatus **216**. The apparatus **216** may couple with, and extend from, a door **217** (e.g., driver side door representative of a passenger side door) of the vehicle **200**. In one or more implementations, the apparatus **216** takes the form of a driver side mirror. In this regard, the apparatus **216** may provide, based on a reflection from a mirror (not shown in FIG. **2**), an image of objects lateral and/or behind a driver's side of the vehicle **200**. The apparatus **216** may further include an image sensor **218** (e.g., camera) that provide digital images (e.g., still images, video images) of objects lateral and/or behind a driver's side of the vehicle **200**. Additionally, the apparatus **216** may include a side turn indicator **220**. The side turn indicator **220** may include one or more light sources (not shown in FIG. **2**) that, when illuminated, provide an indicated the vehicle **200** may turn (e.g., left turn). Although not shown in FIG. **2**, the vehicle **200** may include an additional apparatus that takes the form of a passenger side mirror that include any features shown and/or described for the vehicle **200**, with the additional apparatus provide images of objects lateral and/or behind a passenger's side of the vehicle **200**, and includes one or more light sources that, when illuminated, provide an indicated the vehicle **200** may turn (e.g., right turn).

[0035] FIGS. **3-12** shown and described various implementations of an apparatus that takes the form of a side mirror for use with vehicles. The vehicles shown and/or described herein may be equipped with the apparatuses shown and/or described in FIGS. **3-12**.

[0036] FIG. **3** and FIG. **4** illustrate perspective views of an embodiment of an apparatus **316** with a side turn indicator, in accordance with one or more aspects of the present disclosure. Referring to FIG. **3**, the apparatus **316** may include a side turn indicator **320***a* and a side turn indicator **320***b*. The side turn indicator **320***a* and the side turn indicator **320***b* may each take the form of a light source. The apparatus **316** may further include a housing **322** (e.g., side mirror housing) that carries an image sensor **318** designed to detect objects external to a vehicle. The image **318** may provide data for applications such as self-driving of a vehicle. The housing **322** may further carry the side turn indicators **320***a* and **320***b*. In one or more implementations, the side turn indicators **320***a* and **320***b* are separate from, and surround, the image sensor **318**. The apparatus **316** may further include a bezel **328** coupled with the housing **322**. The bezel **328** may represent an edge of the apparatus **316**. The bezel **328** may include an indentation **332** (representing one or more recessed surface), and the image sensor **318** may be positioned, or at least partially positioned, in the indentation **332**

of the bezel **328**. Additionally, the image sensor **318** may be positioned between the side turn indicator **320***a* and the side turn indicator **320***b*. The apparatus **316** may further include a mirror **330**, and the bezel **328** may surround the mirror **330**. However, the mirror **330** may be movable relative to the bezel **328**. The bezel **328** may hide, or otherwise, obscure the side turn indicators **320***a* and **320***b* when the side turn indicators **320***a* and **320***b* are in an unilluminated state (e.g., off, inactive), as shown in FIG. **3**. In this regard, the side turn indicators **320***a* and **320***b* may include respective light source hidden, or at least partially hidden, by the bezel **328**.

[0037] Referring to FIG. **4**, the side turn indicators **320***a* and **320***b* are in an illuminated state (e.g., on, active). When illuminated, the side turn indicators **320***a* and **320***b* may periodically turn on and off (e.g., blink). The light generated by the side turn indicators **320***a* and **320***b* may pass through the bezel **328**. Additional features of the bezel **328** will be shown and described below.

[0038] FIG. **5** illustrates a cross-sectional view of the apparatus **316** shown in FIG. **4**, taken along line **5-5**, in accordance with one or more aspects of the present disclosure. The apparatus **316** may include a housing **346** that carries the side turn indicator **320***a* (representative of the side turn indicator **320***b* shown in FIG. **3**). In one or more implementations, the side turn indicator **320** takes the form of a light pipe. In order for the bezel **328** to transmit light, at least some portions of the bezel **328** may take the form of a lens. As shown, the bezel **328** may include a lens portion **348***a* and a lens portion **348***b*. The lens portion **348***b* may include an opaque portion. The lens portion **348***a* may include an opaque material, or alternatively, may be coated by an opaque material. Conversely, the lens portion **348***b* may include a transparent, or semi-transparent, portion designed to transmit light from the side turn indicator **320**. Alternatively, the lens portions **348***a* and **348***b* may be coated by a material that either renders an opaqueness (e.g., opaque material on the lens portion **348***a*) or a transparent/semi-transparent (e.g., smoke material on the lens portion **348***b*) condition.

[0039] In one or more implementations, the lens portion **348***a* includes a dark (e.g., black appearance) and the lens portion **348***b* includes a smoke color. In this regard, the lens portion **348***b* may hide, or otherwise obscure, the side turn indicator **320** when in an unilluminated state. Put another way, the appearance of the lens portion **348***b* may be similar to that of the lens portion **348***b* in terms of attributes such as color.

[0040] FIG. **6** illustrates a cross-sectional view of an alternate embodiment of an apparatus **416** with a side turn indicator **420**, in accordance with one or more aspects of the present disclosure. The apparatus **416** may include a housing **446** that carries the side turn indicator **420**. In one or more implementations, the side turn indicator **420** takes the form of a light pipe. The apparatus **416** may include a bezel **428** takes the form of a lens capable of transmitting through some portions thereof. The bezel **428** may include a lens portion **448***a* and a lens portion **448***b*. The lens portion **448***b* may include an opaque portion. The lens portion **448***a* may include an opaque material, or alternatively, may be coated by an opaque material. The lens portion **448***b* may include a transparent, or semi-transparent, portion designed to transmit light from the side turn indicator **420**. The lens portion **448***a* may cover additional regions of the bezel **428**, as compared to the lens portion **348***a* shown in FIG. **5**.

[0041] FIGS. **7-12** illustrate alternate embodiments of an apparatus with a light source, in accordance with one or more aspects of the present disclosure. Each apparatus shown and described in FIGS. **7-12** may include several features, such as a housing (e.g., housing **322**), a bezel (e.g., bezel **328**), and a mirror (e.g., mirror **330**) shown in FIGS. **3** and **4**. However, in some instances, these features may not be expressly recited. Also, each side turn indicator may take the form of a light source.

[0042] FIG. **7** illustrates a perspective views of an alternate embodiment of an apparatus **516** with a side turn indicator **520**, in accordance with one or more aspects of the present disclosure. As shown, the apparatus **516** includes a housing **522** (e.g., side mirror housing) that carries an image sensor **518** designed to detect objects external to a vehicle. The housing **522** may further carry the

side turn indicator **520**. In one or more implementations, the side turn indicator **520** is integrated with the image sensor **518**. In this regard, the image sensor **518** and the side turn indicator **520** may be packaged as a pre-assembly for the apparatus **516**. The image sensor **518** may include a wall **524**, and the side turn indicator **520** may be disposed (e.g., positioned) on the wall **524**. Alternatively, the side turn indicator **520** may be covered by the wall **524**, and the wall **524** may be formed by a transparent material or semi-transparent material. The apparatus **516** may further include a lens **526** representing a transparent, or semi-transparent, cover that covers, or overlays, the side turn indicator **520**.

[0043] The apparatus **516** may further include a bezel **528** coupled with the housing **522**. The bezel **528** may represent an edge of the apparatus **516**. The apparatus **516** may further include a mirror **530**, and the bezel **528** may surround the mirror **530**. However, the mirror **530** may be movable relative to the bezel **528**. The bezel **528** may include an indentation **532** (representing one or more recessed surface), and the image sensor **518** may be positioned, or at least partially positioned, in the indentation **532** of the bezel **528**. The side turn indicator **520** may periodically turn on and off (e.g., blink, thus providing an indication of a direction of travel of a vehicle. Alternatively, the side turn indicator **520** may take the form of a ring and accordingly may generate light that in a direction perpendicular with respect to the wall **524**.

[0044] The lens **526** may be covered or coated by a material so as to darken the lens **526** while still allowing transmission of light from the side turn indicator **520**. Moreover, the material coating the lens **526** may include a color/appearance that matches, or at least substantially matches, the color appearance of the bezel **528**.

[0045] FIG. **8** illustrates a perspective view of an alternate embodiment of an apparatus **616** with a side turn indicator **620**, in accordance with one or more aspects of the present disclosure. The apparatus **616** includes an image sensor **618** with a wall **624***a* and a wall **624***b*. The walls **624***a* and **624***b* may be perpendicular with respect to each other. As shown, the side turn indicator **620** may extend and be disposed on each of the walls **624***a* and **624***b*.

[0046] FIG. **9** illustrates a perspective view of an alternate example of an apparatus **716** with a side turn indicator **720**, in accordance with one or more aspects of the present disclosure. The apparatus **716** may include an image sensor **718** that includes a wall **724** and a camera lens **734**. The side turn indicator **720** may on a perimeter that extends along the wall **724** and surrounds the camera lens **734**.

[0047] FIG. **10** illustrates a perspective view of an alternate example of an apparatus **816** with a side turn indicator **820**, in accordance with one or more aspects of the present disclosure. The apparatus **816** includes an image sensor **818** with a wall **824** and multiple lateral walls (shown, not labeled), or side walls. The side turn indicator **820** may extend along, or be disposed on, several walls so as to surround the wall **824** and generate light in a direction perpendicular with respect to the wall **824**.

[0048] FIG. **11** illustrates a perspective view of an alternate example of an apparatus **916** with a side turn indicator **920**, showing a relationship between the side turn indicator **920** and an image sensor **918**, in accordance with one or more aspects of the present disclosure. The image sensor **918** may include a lens **926** that covers the image sensor **918** and the side turn indicator **920**.

[0049] FIG. **12** illustrates an alternate view of the side turn indicator **920** and the image sensor **918** shown in FIG. **11**, in accordance with one or more aspects of the present disclosure. As shown, the side turn indicator **920** and the image sensor **918** are separated by a gap **942**. The gap **942** may be approximately in the range of 10-16 millimeters. Also, the side turn indicator **920** and the image sensor **918** are separated by a housing component **944**. The housing component **944** may include an opaque material designed to block and/or absorb light from the side turn indicator **920**, thus limiting or prevent exposure of light generated by the side turn indicator **920** from reaching the image sensor **918**.

[0050] FIG. **13** illustrates a flow diagram showing example of a process **1000** that may be

performed for assembling a side mirror, in accordance with one or more aspects of the present disclosure. For explanatory purposes, the process **1000** primarily described herein with reference to the apparatuses (e.g., side mirrors) shown and/or described in FIGS. **1-12** and the accompanying portions of this detailed description. However, the process **1000** are not limited to the apparatuses shown and/or described in FIGS. **1-12**, and one or more blocks (or operations) of the process **1000** may be performed by one or more other components of other suitable moveable apparatuses, devices, or systems. Further for explanatory purposes, some of the blocks of the process **1000** are described herein as occurring in serial, or linearly. However, multiple blocks of the process **1000** may occur in parallel. In addition, the blocks of the process **1000** need not be performed in the order shown and/or one or more blocks of the process need not be performed and/or can be replaced by other operations.

[0051] At block **1002**, a side turn indicator is provided. The side turn indicator may include one or more lights.

[0052] At block **1004**, a bezel configured to cover the side turn indicator is provided. The bezel may include a lens formed from opaque and transparent, or semi-transparent, materials.

[0053] As used herein, the phrase “at least one of” preceding a series of items, with the term “and” or “or” to separate any of the items, modifies the list as a whole, rather than each member of the list (i.e., each item). The phrase “at least one of” does not require selection of at least one of each item listed; rather, the phrase allows a meaning that includes at least one of any one of the items, and/or at least one of any combination of the items, and/or at least one of each of the items. By way of example, the phrases “at least one of A, B, and C” or “at least one of A, B, or C” each refer to only A, only B, or only C; any combination of A, B, and C; and/or at least one of each of A, B, and C.

[0054] When an element is referred to herein as being “connected” or “coupled” to another element, it is to be understood that the elements can be directly connected to the other element, or have intervening elements present between the elements. In contrast, when an element is referred to as being “directly connected” or “directly coupled” to another element, it should be understood that no intervening elements are present in the “direct” connection between the elements. However, the existence of a direct connection does not exclude other connections, in which intervening elements may be present.

[0055] The predicate words “configured to”, “operable to”, and “programmed to” do not imply any particular tangible or intangible modification of a subject, but, rather, are intended to be used interchangeably. In one or more implementations, a processor configured to monitor and control an operation or a component may also mean the processor being programmed to monitor and control the operation or the processor being operable to monitor and control the operation. Likewise, a processor configured to execute code can be construed as a processor programmed to execute code or operable to execute code.

[0056] Phrases such as an aspect, the aspect, another aspect, some aspects, one or more aspects, an implementation, the implementation, another implementation, some implementations, one or more implementations, an embodiment, the embodiment, another embodiment, some embodiments, one or more embodiments, a configuration, the configuration, another configuration, some configurations, one or more configurations, the subject technology, the disclosure, the present disclosure, other variations thereof and alike are for convenience and do not imply that a disclosure relating to such phrase(s) is essential to the subject technology or that such disclosure applies to all configurations of the subject technology. A disclosure relating to such phrase(s) may apply to all configurations, or one or more configurations. A disclosure relating to such phrase(s) may provide one or more examples. A phrase such as an aspect or some aspects may refer to one or more aspects and vice versa, and this applies similarly to other foregoing phrases.

[0057] The word “exemplary” is used herein to mean “serving as an example, instance, or illustration”. Any embodiment described herein as “exemplary” or as an “example” is not necessarily to be construed as preferred or advantageous over other embodiments. Furthermore, to

the extent that the term “include”, “have”, or the like is used in the description or the claims, such term is intended to be inclusive in a manner similar to the term “comprise” as “comprise” is interpreted when employed as a transitional word in a claim.

[0058] All structural and functional equivalents to the elements of the various aspects described throughout this disclosure that are known or later come to be known to those of ordinary skill in the art are expressly incorporated herein by reference and are intended to be encompassed by the claims. Moreover, nothing disclosed herein is intended to be dedicated to the public regardless of whether such disclosure is explicitly recited in the claims. No claim element is to be construed under the provisions of 35 U.S.C. § 112, sixth paragraph, unless the element is expressly recited using the phrase “means for” or, in the case of a method claim, the element is recited using the phrase “step for”.

[0059] The previous description is provided to enable any person skilled in the art to practice the various aspects described herein. Various modifications to these aspects will be readily apparent to those skilled in the art, and the generic principles defined herein may be applied to other aspects. Thus, the claims are not intended to be limited to the aspects shown herein, but are to be accorded the full scope consistent with the language claims, wherein reference to an element in the singular is not intended to mean “one and only one” unless specifically so stated, but rather “one or more”. Unless specifically stated otherwise, the term “some” refers to one or more. Pronouns in the masculine (e.g., his) include the feminine and neuter gender (e.g., her and its) and vice versa. Headings and subheadings, if any, are used for convenience only and do not limit the subject disclosure.

Claims

1. An apparatus, comprising: a bezel configured to couple to a housing and surround a mirror; and a first light source configured to provide an indication for a vehicle, the first light source, in an unilluminated state, being at least partially hidden by the bezel, the first light source, in an illuminated state, configured to provide light through the bezel.

2. The apparatus of claim 1, further comprising an image sensor carried by the housing, the image sensor configured to detect one or more objects external to the vehicle.

3. The apparatus of claim 2, further comprising a second light source configured to provide the indication, wherein the bezel covers the first light source and the second light source.

4. The apparatus of claim 3, wherein: the bezel comprises an indentation, and the image sensor is at least partially positioned in the indentation.

5. The apparatus of claim 4, wherein the indentation is positioned between the first light source and the second light source.

6. The apparatus of claim 3, wherein the bezel comprises: a first lens portion configured to block light from the first light source, and a second lens portion configured to transmit the light from the second light source.

7. The apparatus of claim 3, wherein the first light source and the second light source provide a side turn indicator indicating a direction of travel for the vehicle.

8. The apparatus of claim 1, wherein the bezel comprises a lens, the lens comprising: a first material is configured to block light from the first light source, and a second material is configured to transmit the light from the first light source.

9. A side mirror, comprising: a housing configured to extend from a door; an image sensor carried by the housing, the image sensor configured to detect one or more objects external to the door; and a first side turn indicator disposed on the image sensor, the side turn indicator comprising a first light source configured to illuminate and indicate a change of direction of the door.

10. The side mirror of claim 9, further comprising a wall, wherein the side turn indictor is disposed on the wall.

11. The side mirror of claim 9, further comprising a bezel, wherein the bezel comprises: a first lens portion configured to block light from the first light source, and a second lens portion configured to transmit the light from the first light source.
12. The side mirror of claim 11, further comprising a second side turn indicator, wherein the image sensor is positioned between the first side turn indicator and the second side turn indicator.
13. The side mirror of claim 9, further comprising: a second side turn indicator comprising a second light source; and a bezel that covers the first side turn indicator and the second side turn indicator.
14. The side mirror of claim 13, wherein the bezel comprises an indentation that includes one or more recessed surfaces.
15. The side mirror of claim 14, wherein the image sensor is positioned in the indentation.
16. The side mirror of claim 9, further comprising a housing component positioned between the first light source and the image sensor, the housing component configured to block light generated from the first light source.
17. A vehicle, comprising: a first door and a second door; and a first side mirror and a second side mirror, wherein the first side mirror and the second side mirror extend from the first door and the second door, respectively, and wherein each of the first side mirror and the second side mirror comprise: a bezel configured to couple to a housing and surround a mirror; and a first light source configured to provide an indication for the vehicle, the first light source, in an unilluminated state, being at least partially hidden by the bezel, the first light source, in an illuminated state, configured to provide light through the bezel.
18. The vehicle of claim 17, wherein each of the first side mirror and the second side mirror further comprise an image sensor carried by the housing, the image sensor configured to detect one or more objects external to the vehicle.
19. The vehicle of claim 18, wherein each of the first side mirror and the second side mirror further comprise a second light source configured to provide the indication, wherein the bezel covers the first light source and the second light source.
20. The vehicle of claim 19, wherein: the bezel comprises an indentation, and the image sensor is at least partially positioned in the indentation.