US 20230339399A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2023/0339399 A1**

Marcelin (43) **Pub. Date: Oct. 26, 2023**

(54) **RETRACTABLE VEHICLE MIRROR SUPPORT DEVICE**

(71) Applicant: **Fritzner Marcelin**, Gardner, MA (US)

(72) Inventor: **Fritzner Marcelin**, Gardner, MA (US)

(21) Appl. No.: **17/724,832**

(22) Filed: **Apr. 20, 2022**

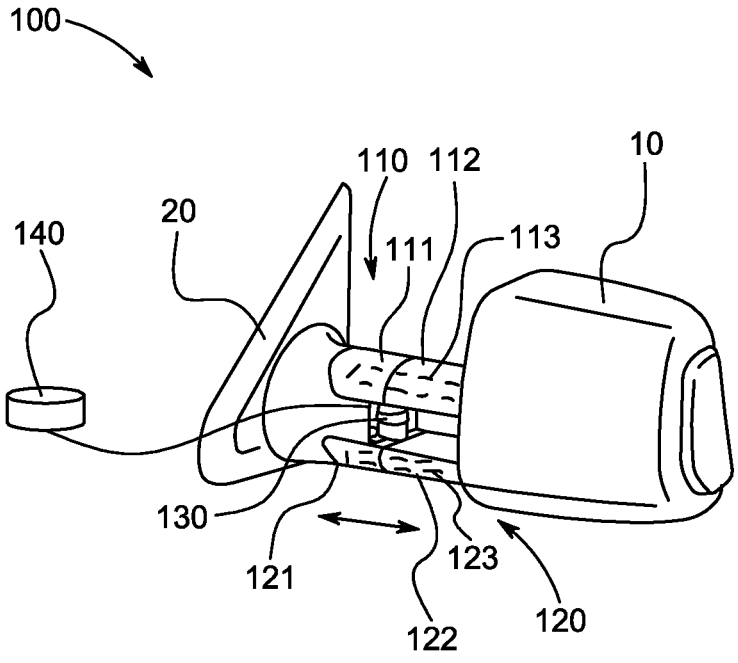
Publication Classification

(51) **Int. Cl.**
B60R 1/074 (2006.01)

(52) **U.S. Cl.**
CPC ***B60R 1/074*** (2013.01)

(57) **ABSTRACT**

A retractable vehicle mirror support device, including a first retractable arm disposed on at least a portion of a vehicle connector and connected to a vehicle mirror to move the vehicle mirror from extended away from the vehicle connector to retracted toward the vehicle connector in a first lateral direction, and a second retractable arm disposed on at least a portion of the vehicle connector and connected to the vehicle mirror to move the vehicle mirror from extended away from the vehicle connector to retracted toward the vehicle connector in the first lateral direction, such that the second retractable arm is separate and distanced away from the first retractable arm.



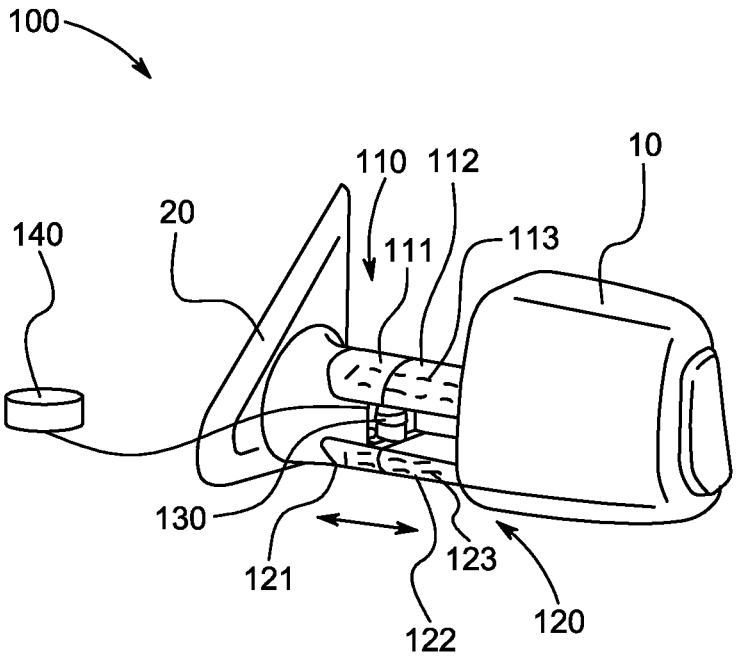


FIG. 1

RETRACTABLE VEHICLE MIRROR SUPPORT DEVICE

BACKGROUND

1. Field

[0001] The present general inventive concept relates generally to a vehicle mirror, and particularly, to a retractable vehicle mirror support device.

2. Description of the Related Art

[0002] Most large vehicles, such as trucks, buses, and/or recreational vehicles (RV), have side mirrors with long extensions that are built for providing visual support when hauling a trailer. However, these side mirrors cannot be retracted and/or reduced in length.

[0003] The long extension of the side mirrors impacts available space, particularly in a parking area with limited size, such as a garage. For example, a two-car garage would only fit a single truck with the side mirrors having the long extension. Moreover, the side mirrors having the long extension are susceptible to collisions due to occupying more space, such as bicycle riders.

[0004] Therefore, there is a need for a retractable vehicle mirror support device that adjusts a length of a mirror on a vehicle to reduce an amount of necessary space occupied by the vehicle.

SUMMARY

[0005] The present general inventive concept provides a retractable vehicle mirror support device.

[0006] Additional features and utilities of the present general inventive concept will be set forth in part in the description which follows and, in part, will be obvious from the description, or may be learned by practice of the general inventive concept.

[0007] The foregoing and/or other features and utilities of the present general inventive concept may be achieved by providing a retractable vehicle mirror support device, including a first retractable arm disposed on at least a portion of a vehicle connector and connected to a vehicle mirror to move the vehicle mirror from extended away from the vehicle connector to retracted toward the vehicle connector in a first lateral direction, and a second retractable arm disposed on at least a portion of the vehicle connector and connected to the vehicle mirror to move the vehicle mirror from extended away from the vehicle connector to retracted toward the vehicle connector in the first lateral direction, such that the second retractable arm is separate and distanced away from the first retractable arm.

[0008] The first retractable arm and the second retractable arm may each include a first section disposed on at least a portion of the vehicle connector, and a second section movably disposed on at least a portion of the first section to move from extended away from the first section to retracted within the first section in a first lateral direction.

[0009] The second section may move by at least one of folding, rotating angularly, rotating vertically, and rotating laterally.

[0010] The first retractable arm and the second retractable arm may each further include an extension rod disposed within at least a portion of the first section and the second section to facilitate movement of the second section with respect to the first section.

[0011] The retractable vehicle mirror support device may further include a motor movably disposed on at least a portion of the first retractable arm and the second retractable arm to move the first retractable arm and the second retractable arm in response to movement of the motor.

[0012] The motor may move the first retractable arm and the second retractable arm from extended to retracted in the first lateral direction, and the first retractable arm and the second retractable arm move from retracted to at least partially extended in a second lateral direction in response to an external application of force.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] These and/or other features and utilities of the present generally inventive concept will become apparent and more readily appreciated from the following description of the embodiments, taken in conjunction with the accompanying drawings of which:

[0014] FIG. **1** illustrates a side perspective view of a retractable vehicle mirror support device, according to an exemplary embodiment of the present general inventive concept.

DETAILED DESCRIPTION

[0015] Various example embodiments (a.k.a., exemplary embodiments) will now be described more fully with reference to the accompanying drawings in which some example embodiments are illustrated. In the figures, the thicknesses of lines, layers and/or regions may be exaggerated for clarity.

[0016] Accordingly, while example embodiments are capable of various modifications and alternative forms, embodiments thereof are shown by way of example in the figures and will herein be described in detail. It should be understood, however, that there is no intent to limit example embodiments to the particular forms disclosed, but on the contrary, example embodiments are to cover all modifications, equivalents, and alternatives falling within the scope of the disclosure. Like numbers refer to like/similar elements throughout the detailed description.

[0017] It is understood that when an element is referred to as being "connected" or "coupled" to another element, it can be directly connected or coupled to the other element or intervening elements may be present. In contrast, when an element is referred to as being "directly connected" or "directly coupled" to another element, there are no intervening elements present. Other words used to describe the relationship between elements should be interpreted in a like fashion (e.g., "between" versus "directly between," "adjacent" versus "directly adjacent," etc.).

[0018] The terminology used herein is for the purpose of describing particular embodiments only and is not intended to be limiting of example embodiments. As used herein, the singular forms "a," "an" and "the" are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will be further understood that the terms "comprises," "comprising," "includes" and/or "including," when used herein, specify the presence of stated features, integers, steps, operations, elements and/or components, but do not preclude the presence or addition of one or more other fea-

tures, integers, steps, operations, elements, components and/or groups thereof.

[0019] Unless otherwise defined, all terms (including technical and scientific terms) used herein have the same meaning as commonly understood by one of ordinary skill in the art to which example embodiments belong. It will be further understood that terms, e.g., those defined in commonly used dictionaries, should be interpreted as having a meaning that is consistent with their meaning in the context of the relevant art. However, should the present disclosure give a specific meaning to a term deviating from a meaning commonly understood by one of ordinary skill, this meaning is to be taken into account in the specific context this definition is given herein.

[0020] List of Components

[0021] Retractable Vehicle Mirror Support Device **100**

[0022] First Retractable Arm **110**

[0023] First Section **111**

[0024] Second Section **112**

[0025] First Extension Rod **113**

[0026] Second Retractable Arm **120**

[0027] First Section **121**

[0028] Second Section **122**

[0029] Second Extension Rod **123**

[0030] Motor **130**

[0031] Control Button **140**

[0032] FIG. **1** illustrates a side perspective view of a retractable vehicle mirror support device **100**, according to an exemplary embodiment of the present general inventive concept.

[0033] The retractable vehicle mirror support device **100** may be constructed from at least one of metal, plastic, wood, glass, and rubber, etc., but is not limited thereto.

[0034] The retractable vehicle mirror support device **100** may include a first retractable arm **110**, a second retractable arm **120**, a motor **130**, and a control button **140**, but is not limited thereto.

[0035] Referring to FIG. **1**, the first retractable arm **110** and/or the second retractable arm **120** are illustrated to be separate components. However, the first retractable arm **110** and/or the second retractable arm **120** may be a singular, integral component, but is not limited thereto. In other words, the first retractable arm **110** and/or the second retractable arm **120** may lack a space (i.e., distance) therebetween, and be a single, solid, and/or cylindrical arm.

[0036] The first retractable arm **110** may include a first section **111**, a second section **112**, and a first extension rod **113**, but is not limited thereto.

[0037] The first section **111** may have an elongate shape. Moreover, the first section **111** may have a semi-cylindrical shape. The first section **111** may be disposed at a first end on at least a portion of a vehicle connector **20**.

[0038] The second section **112** may be movably (i.e., slidably) disposed at a first end on at least a portion of a second end of the first section **111**. More specifically, the second section **112** may move from extended away from the first section **111** to retracted against and/or within the first section **111** in a first lateral direction. Conversely, the second section **112** may move from retracted against and/or within the first section **111** to at least partially extended away from the first section **111** in a second lateral direction opposite with respect to the first lateral direction.

[0039] Alternatively, the second section **112** may move (i.e., rotate, pivot) in any direction with respect to the first section **112**. Therefore, the second section **112** may fold and/or rotate angularly, vertically, and/or laterally as desired by a user. Also, the second section **112** may move in response to an application of force (e.g., pushing, pulling) thereto.

[0040] Furthermore, the second section **112** may be connected at a second end to a vehicle mirror **10**. As such, the vehicle mirror **10** may move in response to movement of the second section **112**.

[0041] The first extension rod **113** may be disposed within at least a portion of the first section **111** and/or the second section **112**. The first extension rod **113** may facilitate movement of the second section **112** with respect to the first section **111**. Also, the first extension rod **113** may be exposed in response to the second section **112** being at least partially extended away from the first section **111**.

[0042] The second retractable arm **120** may include a first section **121**, a second section **122**, and a second extension rod **123**, but is not limited thereto.

[0043] The first section **121** may have an elongate shape. Moreover, the first section **121** may have a semi-cylindrical shape. The first section **121** may be disposed at a first end on at least a portion of the vehicle connector **20**.

[0044] The second section **122** may be movably (i.e., slidably) disposed at a first end on at least a portion of a second end of the first section **121**. More specifically, the second section **122** may move from extended away from the first section **121** to retracted against and/or within the first section **121** in a first lateral direction. Conversely, the second section **122** may move from retracted against and/or within the first section **121** to at least partially extended away from the first section **121** in a second lateral direction opposite with respect to the first lateral direction.

[0045] Alternatively, the second section **122** may move (i.e., rotate, pivot) in any direction with respect to the first section **122**. Therefore, the second section **122** may fold and/or rotate angularly, vertically, and/or laterally as desired by a user. Also, the second section **122** may move in response to an application of force (e.g., pushing, pulling) thereto.

[0046] Furthermore, the second section **122** may be connected at a second end to a vehicle mirror **10**. As such, the vehicle mirror **10** may move in response to movement of the second section **122**.

[0047] The second extension rod **123** may be disposed within at least a portion of the first section **121** and/or the second section **122**. The second extension rod **123** may facilitate movement of the second section **122** with respect to the first section **121**. Also, the second extension rod **123** may be exposed in response to the second section **122** being at least partially extended away from the first section **121**.

[0048] The first retractable arm **110** and/or the second retractable arm **120** may move simultaneously and/or independently based on a type of movement, such as pivoting, retracting, rotating, folding, etc.

[0049] The motor **130** may be movably (i.e., rotatably) disposed on at least a portion of the first section **111** of the first retractable arm **110** and/or the first section **121** of the second retractable arm **120**. Moreover, the motor **130** may be connected to the first extension rod **113** and/or the second extension rod **123**. As such, the first extension rod **113** and/or the second extension rod **123** may move (e.g., telescopically) the second section **112** and/or the second section **122** in response to movement of the motor **130**.

[0050] Additionally, the motor **130** may be accessed through the space between the first retractable arm **110** and/or the second retractable arm **120**.

[0051] The control button **140** may be disposed within the vehicle and/or connected (e.g., physically, electrically) to at least a portion of the motor **130**. The motor **130** may move in response to depressing the control button **140**. Thus, the second section **112** may retract against and/or within the first section **111** and/or the second section **122** may retract against and/or within the first section **121** in response to depressing the control button **140**. However, the second section **112** may at least partially extend away from first section **111** and/or the second section **122** may at least partially extend away from the first section **121** in response to an application of force. In other words, manual force (e.g., external application of force) is required to extend the first retractable arm **110** and/or the second retractable arm **120** in absence of movement of the motor **130**.

[0052] Alternatively, the motor **130** may extend the first retractable arm **110** and/or the second retractable arm **120** in response to depressing the control button **140** another time based on configuration thereof.

[0053] Therefore, the retractable vehicle mirror support device **100** may adjust a length of the vehicle mirror **10** as disposed on a vehicle. Also, the retractable vehicle mirror support device **100** may facilitate storage of the vehicle in a parking space with limited size due to the ability to reduce length of the vehicle mirror **10**, such as on a truck, a bus, and/or an RV.

[0054] The present general inventive concept may include a retractable vehicle mirror support device **100**, including a first retractable arm **110** disposed on at least a portion of a vehicle connector **20** and connected to a vehicle mirror **10** to move the vehicle mirror **10** from extended away from the vehicle connector **20** to retracted toward the vehicle connector **20** in a first lateral direction, and a second retractable arm **120** disposed on at least a portion of the vehicle connector **20** and connected to the vehicle mirror **10** to move the vehicle mirror **10** from extended away from the vehicle connector **20** to retracted toward the vehicle connector **20** in the first lateral direction, such that the second retractable arm **120** is separate and distanced away from the first retractable arm **110**.

[0055] The first retractable arm **110** and the second retractable arm **120** may each include a first section **111**/**121** disposed on at least a portion of the vehicle connector **20**, and a second section **112**/**122** movably disposed on at least a portion of the first section **111**/**121** to move from extended away from the first section **111**/**121** to retracted within the first section **111**/**121** in a first lateral direction.

[0056] The second section **112**/**122** may move by at least one of folding, rotating angularly, rotating vertically, and rotating laterally.

[0057] The first retractable arm **110** and the second retractable arm **120** may each further include an extension rod **113**/**123** disposed within at least a portion of the first section **111**/**121** and the second section **112**/**122** to facilitate movement of the second section **112**/**122** with respect to the first section **111**/**121**.

[0058] The retractable vehicle mirror support device **100** may further include a motor **130** movably disposed on at least a portion of the first retractable arm **110** and the second retractable arm **120** to move the first retractable arm **110** and the second retractable arm **120** in response to movement of the motor **130**.

[0059] The motor **130** may move the first retractable arm **110** and the second retractable arm **120** from extended to retracted in the first lateral direction, and the first retractable arm **110** and the second retractable arm **120** move from retracted to at least partially extended in a second lateral direction in response to an external application of force.

[0060] Although a few embodiments of the present general inventive concept have been shown and described, it will be appreciated by those skilled in the art that changes may be made in these embodiments without departing from the principles and spirit of the general inventive concept, the scope of which is defined in the appended claims and their equivalents.

1. A retractable vehicle mirror support device, comprising:
- a first retractable arm disposed on at least a portion of a vehicle connector and connected to a vehicle mirror to move the vehicle mirror from extended away from the vehicle connector to retracted toward the vehicle connector in a first lateral direction; and
- a second retractable arm disposed on at least a portion of the vehicle connector and connected to the vehicle mirror to move the vehicle mirror from extended away from the vehicle connector to retracted toward the vehicle connector in the first lateral direction, such that the second retractable arm is separate and distanced away from the first retractable arm.

2. The retractable vehicle mirror support device of claim **1**, wherein the first retractable arm and the second retractable arm each comprise:
- a first section disposed on at least a portion of the vehicle connector; and
- a second section movably disposed on at least a portion of the first section to move from extended away from the first section to retracted within the first section in a first lateral direction.

3. The retractable vehicle mirror support device of claim **2**, wherein the second section moves by at least one of folding, rotating angularly, rotating vertically, and rotating laterally.

4. The retractable vehicle mirror support device of claim **2**, wherein the first retractable arm and the second retractable arm each further comprise:
- an extension rod disposed within at least a portion of the first section and the second section to facilitate movement of the second section with respect to the first section.

5. The retractable vehicle mirror support device of claim **1**, further comprising:
- a motor movably disposed on at least a portion of the first retractable arm and the second retractable arm to move the first retractable arm and the second retractable arm in response to movement of the motor.

6. The retractable vehicle mirror support device of claim **5**, wherein the motor moves the first retractable arm and the second retractable arm from extended to retracted in the first lateral direction, and the first retractable arm and the second retractable arm move from retracted to at least partially extended in a second lateral direction in response to an external application of force.

* * * * *