(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :08/08/2017

(21) Application No.201741028098 A
(43) Publication Date : 25/08/2017

(54) Title of the invention : A COLLAPSIBLE ELECTRONIC STORAGE HOUSING FOR TWO WHEELER

(51) International classification	:B60L11/18; B62K25/28; B62M11/16
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No	:NA
Filing Date	:NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number	:NA
Filing Date	:NA
(62) Divisional to Application Number	:NA
Filing Date	:NA

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(57) Abstract :
This invention relates to collapsible electronic storage housing for two wheelers for saving space on the two wheelers. The collapsible electronic storage housing 100 for two wheeler comprising: a front side 101; wherein said front side comprises a plurality of permanent magnets 109; a back side 102; wherein said back side comprises a plurality of electromagnets 107 and a processor 103; and a three-way switch for either locking-in compression, expanding, or locking-in expansion stage to said collapsible electronic storage housing by said processor 103. The collapsible electronic storage housing 100 further comprises a handle 106, springs 104, and hinges 108. The springs 104 and hinges 108 are connected between the front side 101 and the back side 102 of the collapsible electronic storage housing 100.

No. of Pages : 16 No. of Claims : 9

FORM 2

THE PATENTS ACT, 1970

(39 OF 1970)

AND

THE PATENT RULES, 2003

COMPLETE SPECIFICATION

(See section 10 and rule 13)

A COLLAPSIBLE ELECTRONIC STORAGE HOUSING FOR TWO WHEELER

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The following specification particularly describes the invention and the manner in which it is to be performed.

FIELD OF THE INVENTION

The present invention generally relates to the field of storage housing. The invention, particularly relates to collapsible electronic storage housing for two wheelers for saving space on the two wheelers.

BACKGROUND OF THE INVENTION

Storage container for two-wheelers are known and used, in particular, bicycles, mopeds, scooters and motorcycles from wind and weather as well as the unwarranted access by third parties under noted protected. To obtain a spatially space-saving arrangement, the known storage container in part a trapezoidal, torte stuck- or triangular base area, which allow a larger number of storage tanks circular, semicircular or to arrange along a row one behind the other.

Trunks for carrying various objects and accessories on motorcycles, or similar vehicles, comprise, as known, a fixed lower portion, which is bound to rear racks integral to the chassis of the vehicle, and a movable portion hinged to the lower portion, the two portion being kept closed by locking means, usually providing key means, arranged on the side opposite the hinge means side.

Saddle bags and tail bags as well comprise a fixed portion bound to the vehicle, a further portion hinged to the first portion and locking means. The above trunks or bags are opened by acting upon said locking means in order to disengage engaging means apt to keep closed the two portions and then by lifting the movable portion which, mainly in trunks, tends by gravity to rest on the lower portion. Then, the procedure implies the use of both hands by the user, one for operating the locking means and the other to lift and keep lifted the movable portion until he need accessing the internal room. So, it can be understood the usefulness of trunks or bags provided with means apt to

facilitate unlocking and lifting said movable portion and also apt to keep it lifted when the trunk or bag have to remain in open configuration.

A number of different types of storage box for two wheelers are available in the prior art. Prior art document, US6357542 discloses an article storage box attachable to a vehicle having a front storage chamber and a rear storage chamber arranged in tandem. The storage box also includes a partition positioned between the storage chambers and defined by inner walls of the article storage box, wherein the partition has an accessible interior recess being capable of receiving and securably facilitating an accessory such as a helmet.

Another prior art document, CN101468679 discloses a containing box structure of motor two-wheel vehicle which can ensure a large containing space even the upper part of back buffer is fixed at the inner side of vehicle frame. The motor two-wheel vehicle is provided with one pair of vehicle frames (21L, 21R) in left-and-right direction. The containing box (24) is configured below the seat and between the pair of vehicle frames.

Yet another prior art document, US6336579 discusses a motorcycle having a storage box disposed below a rear seat. The storage box has a front storage area defined in a front portion thereof for storing a helmet in a vertically oriented attitude and a rear storage area defined in a rear portion thereof for storing another helmet in a laterally tilted attitude obliquely rearwardly from the first helmet.

Yet another prior art document, WO2009053939 discloses a trunk for motorcycles, or similar vehicles, in which an upper movable portion is bound to a fixed lower portion through hinge means and locking means, comprises an electronic auxiliary disengaging device for disengaging the locking means which can be operated by a simple touch of the external surface of the trunk.

Yet another prior art document, EP0666390 discloses a storage container for two wheelers, especially for bicycles.

Yet another prior art document, US20070045311 discloses a twist-collapsible storage box, which includes a soft rectangular box body, a bottom board mounted inside the box body and closely attached to the horizontal bottom wall of the box body.

There remains a constant need in for a new and innovative storage box for two wheelers. This need arises from a increases in the number of two wheelers in the developing countries such as India and other developed countries as well. It is in this context, that the subject invention is useful to provide compact, flexible, and easy to handle storage box for two wheelers.

SUMMARY OF THE INVENTION

In the view of the foregoing disadvantages inherent in the known types of storage box for two wheelers now present in the prior art, the present invention provides an improved storage box. As such, the general purpose of the present invention, which will be described subsequently in greater detail, is to provide a new and improved storage box for two wheelers which has all the advantages of the prior art and none of the disadvantages.

An object of the invention is to provide a collapsible electronic storage housing for two wheeler comprising: a front side; wherein said front side comprises a plurality of permanent magnets; a back side; wherein said back side comprises a plurality of electromagnets and a processor; and a three-way switch for either locking-in compressing, expanding, and locking-in expansion stage to said collapsible electronic storage housing by said processor.

It is another object of the present invention to provide the collapsible electronic storage housing for two wheeler, wherein said collapsible electronic storage housing further comprises a handle, a locking device, springs, and hinges.

Yet another object of the present invention to provide the collapsible electronic storage housing for two wheeler, wherein said springs and said hinges are connected between said front side and said back side of said collapsible electronic storage housing.

Yet another object of the present invention to provide the collapsible electronic storage housing for two wheeler, wherein said collapsible electronic storage housing is having compressible or expandable function by hinge mechanisms using said springs and said hinges connected with the said collapsible electronic storage housing.

Yet another object of the present invention to provide the collapsible electronic storage housing for two wheeler, wherein said processor is powered by an electrical rechargeable battery of said two wheeler.

Yet another object of the present invention to provide the collapsible electronic storage housing for two wheeler, wherein said a plurality of permanent magnets and a plurality of electro-magnets are facing to each other.

Yet another object of the present invention to provide the collapsible electronic storage housing for two wheeler, wherein said three-way switch, at third position, can be used to lock down said collapsible electronic storage housing, when it is in expandable position.

Yet another object of the present invention to provide the collapsible electronic storage housing for two wheeler, wherein said electronic storage housing is permanently fixed or attached with said two wheeler.

Yet another object of the present invention is to provide a method of expanding said collapsible electronic storage housing, wherein said method comprises the following steps: (a) Switching said three-way switch to a top position by a rider of said two wheeler; (b) Providing electrical current to the said electro-magnets; (c) Converting electro-magnets as a north-pole by said processor; and finally (d) Opening and expanding of said collapsible electronic storage housing.

In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

These together with other objects of the invention, along with the various features of novelty which characterize the invention, are pointed out with particularity in the disclosure. For a better understanding of the invention, its operating advantages and the specific objects attained by its uses, reference should be had to the accompanying drawings and descriptive matter in which there are illustrated preferred embodiments of the invention.

(1) BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood and objects other than those set forth above will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

Fig.1 depicts one of the embodiments of the present invention, when collapsible electronic storage housing is in expanded and open position.

Fig.2 depicts one of the embodiments of the present invention, when

collapsible electronic storage housing is in expanded and closed position.

Fig.3 depicts one of the embodiments of the present invention, when collapsible electronic storage housing is in compressed and closed position.

DETAILED DESCRIPTION OF THE INVENTION

In the following detailed description, reference is made to the accompanying drawings which form a part hereof, and in which is shown by way of illustration specific embodiments in which the invention may be practiced. These embodiments are described in sufficient detail to enable those skilled in the art to practice the invention, and it is to be understood that the embodiments may be combined, or that other embodiments may be utilized and that structural and logical changes may be made without departing from the spirit and scope of the present invention. The following detailed description is, therefore, not to be taken in a limiting sense, and the scope of the present invention is defined by the appended claims and their equivalents.

A vehicle is a mobile machine that transports people or cargo. Typical vehicles include wagons, bicycles, motor vehicles (motorcycles, cars, trucks, buses). In many developing countries such as India, Indonesia, Malaysia, and in African countries, no. of two wheelers are very large in numbers. Main problem, two wheelers, in particular motorcycles are facing is that difficult to carry luggage on it. Even if motorists fixed the luggage carrier or storage box permanently on the two wheelers (motorcycles) which creates difficulties (could not seat comfortably) for the back seat riders and further it also spoils the look of the vehicle. Here is the invention of flexible two wheeler electronic storage box which is very flexible to carry our luggage in motorcycle. This electronic storage box expands when rider need to carry any luggage, if not needed it get compress which can operated through switch placed near to handle bar.

In an exemplary embodiment of the present invention, **Figs. 1 to 3** depict different views of the collapsible electronic storage housing for two wheelers in different condition. **Fig. 1** depicts view of the storage housing when it is expanded and in opened position. **Fig. 2** depicts view of the storage housing when it is in expanded and closed position. **Fig. 3** depicts view of the storage housing when it is in compressed and closed position. A collapsible electronic storage housing **100** for two wheeler comprising: a front side **101**; wherein the front side comprises a plurality of permanent magnets **109**; a back side **102**; wherein the back side comprises a plurality of electromagnets **107** and a processor **103**; and a three-way switch (which is placed at the two wheeler's handle bar, not depicted in figures), for either compressing, expanding, or locking the collapsible electronic storage housing by the processor **103**. Further, collapsible electronic storage housing **100** further comprises a handle **106**, a locking device **105**, springs **104**, and hinges **108**. The springs **104** and the hinges **108** are connected between said front-side **101** and said back side **102** of the collapsible electronic storage housing **100**. The locking device **105** is fixed near to the handle **106** of the storage housing **100**. The processor (micro controller) **103** receives electrical current or power from rechargeable battery of the two wheeler. Further, a rubber material **110** is placed inside the storage housing at the bottom of the storage housing for flexible movement and protective for luggage. The rubber material is attached with load cell which is connected to the processor.

The two wheeler collapsible electronic housing (storage box) is working with help of processing device as micro controller **103**, input device as three-way switch and Load cell which is fixed to bike handle bar and output device as electro magnet **107** in back side **102** of storage housing **100** and normal magnets **109** are fixed in front side **101** of storage housing **100**. Normal magnets **109** face to electro-magnets **107** in south-pole direction (in compressed position). Four springs **104** are placed at four corner of box for storage housing normally in

open condition. Locking device **105** is placed near to the handle **106** which helps locking in compression or locking in expansion stage to the storage housing.

Further, input device (Three way switch), which is placed at the bike handle (not shown in the figure) by pressing top front portion of switch to expand and to open a storage housing to load, the storage housing **100** will get expanded with the help of activation of electro-magnet **107** through micro controller (or processor) **103**, when electro-magnets **107** act in the direction of north pole. Locking device **105** is for locking a storage housing while in compress closed position and in expands opened position.

Further, it is also possible to keep close the storage housing **100** while it is in expanded position (see **Fig. 2**). The storage housing **100** will be locked and secure when it is in expanded position to provide safety to the items stored inside the storage housing. This can be achieved by pressing three-way switch which is placed near to two wheeler's handle (bike's handle). Further, there is a locking device **105** which is located near to the handle **106** of the storage housing **100**. The three-way-switch when it is in middle position, the storage housing **100** will be expanded in closed position with the help of electro-magnet **107** and spring **104**.

When the rider is not require using the storage housing **100**, then the rider can simply press the switch and keep storage housing **100** in compressed position. The compressed position takes only ¼ space compare to when the storage housing is in expandable position (see **Fig. 3**). This will also help for back seat rider to comfortably seat on two wheelers. The rider can simply press the three-way switch in the third position (down position). The processor **103** magnetize the electromagnets **107** and with the help of hinges **108,** due to hinge mechanism, the collapsible electronic storage housing **100** can get compressed easily. The storage housing could not be open (expanded) without pressing the three-way switch. If luggage is loaded inside box then pressing of down portion

in three way switch, box will not compress with the communication of load cell and processor.

It is to be understood that the above description is intended to be illustrative, and not restrictive. For example, the above-discussed embodiments may be used in combination with each other. Many other embodiments will be apparent to those of skill in the art upon reviewing the above description.

The benefits and advantages which may be provided by the present invention have been described above with regard to specific embodiments. These benefits and advantages, and any elements or limitations that may cause them to occur or to become more pronounced are not to be construed as critical, required, or essential features of any or all of the embodiments.

While the present invention has been described with reference to particular embodiments, it should be understood that the embodiments are illustrative and that the scope of the invention is not limited to these embodiments. Many variations, modifications, additions and improvements to the embodiments described above are possible. It is contemplated that these variations, modifications, additions and improvements fall within the scope of the invention.

CLAIMS

We Claim:

1. A collapsible electronic storage housing 100 for two wheeler comprising:
   a front side **101**; wherein said front side comprises a plurality of permanent magnets **109**;
   a back side **102**; wherein said back side comprises a plurality of electromagnets **107** and a processor **103**; and a three-way switch for either locking in compressing, expanding, and locking in expansion said collapsible electronic storage housing by said processor **103**.

2. The collapsible electronic storage housing for two wheeler according to claim 1, wherein said collapsible electronic storage housing 100 further comprises a handle 106, a locking device **105**, springs **104**, and hinges **108**.

3. The collapsible electronic storage housing for two wheeler according to claim 2, wherein said springs **104** and said hinges **108** are connected between said front side **101** and said back side **102** of said collapsible electronic storage housing **100**.

4. The collapsible electronic storage housing for two wheeler according to claim 1, wherein said collapsible electronic storage housing **100** is having compressible or expandable function by hinge mechanisms using said springs **104** and said hinges **108**, which are connected with the said collapsible electronic storage housing **100**.

5. The collapsible electronic storage housing for two wheeler according to claim 1, wherein said processor **103** is powered by an electrical rechargeable battery of said two wheeler.

6. The collapsible electronic storage housing for two wheeler according to claim 1, wherein said a plurality of permanent magnets **109** and a plurality of electro-magnets **107** are facing to each other.

7. The collapsible electronic storage housing for two wheeler according to claim 1, wherein said three-way switch, at third position, can be used to lock down said collapsible electronic storage housing, when it is in expandable position.

8. The collapsible electronic storage housing for two wheeler according to claim 1, wherein said electronic storage housing is permanently fixed with said two wheeler.

9. A method of expanding said collapsible electronic storage housing of claim 1, wherein said method comprises the following steps:

Switching said three-way switch to a top position by a rider of said two wheeler;

Providing electrical current to the said electro-magnets;

Converting electro-magnets as a north-pole by said processor; and finally

Opening and expanding of said collapsible electronic storage housing.

Dated: 08/08/2017

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ABSTRACT

A COLLAPSIBLE ELECTRONIC STORAGE HOUSING FOR TWO WHEELER

This invention relates to collapsible electronic storage housing for two wheelers for saving space on the two wheelers. The collapsible electronic storage housing 100 for two wheeler comprising: a front side 101; wherein said front side comprises a plurality of permanent magnets 109; a back side 102; wherein said back side comprises a plurality of electromagnets 107 and a processor 103; and a three-way switch for either locking-in compression, expanding, or locking-in expansion stage to said collapsible electronic storage housing by said processor 103. The collapsible electronic storage housing 100 further comprises a handle 106, springs 104, and hinges 108. The springs 104 and hinges 108 are connected between the front side 101 and the back side 102 of the collapsible electronic storage housing 100.