

CERTIFICATE OF AVAILABILITY OF A CERTIFIED PATENT DOCUMENT IN A DIGITAL LIBRARY

The International Bureau certifies that a copy of the patent application indicated below has been available to the WIPO Digital Access Service since the date of availability indicated, and that the patent application has been available to the indicated Office(s) as of the date specified following the relevant Office code:

Document details: Country/Office: IN

Filing date: 14 Feb 2020 (14.02.2020)

Application number: 202011006493

Date of availability of document: 03 Feb 2021 (03.02.2021)

The following Offices can retrieve this document by using the access code:

AR, AT, AU, BE, BR, CA, CL, CN, CO, DK, EA, EE, EP, ES, FI, GB,
GE, IB, IL, IN, JP, KR, LV, MA, MX, NL, NO, NZ, SE, US

Date of issue of this certificate: 10 Aug 2021 (10.08.2021)



पेटेंट|डिजाइन| व्यापार
चिह्न|भौगोलिक उपदर्शन



भारत सरकार

GOVERNMENT OF INDIA

वाणिज्य एवं उद्योग मंत्रालय

MINISTRY OF COMMERCE & INDUSTRY

पेटेंट कार्यालय

THE PATENT OFFICE

जिस किसी से संबन्धित हो

TO WHOMSOEVER IT MAY CONCERN

मैं, अधोहस्ताक्षरी जो पेटेंट अधिनियम, 1970 की धारा 73(3) के तहत महानियंत्रक एकस्व, अभिकल्प एवं व्यापार चिह्न की ओर से प्रमाणपत्र हस्ताक्षर व जारी करने के लिए प्राधिकृत अधिकारी हूँ एतद्वारा यह प्रमाणित करता(ती) हूँ कि निम्नलिखित पेटेंट आवेदन के संबंध में फाइल दस्तावेज़(जों) की सही प्रतिलिपि इसके साथ संलग्न है:

I, the undersigned, being an officer duly authorized to sign and issue the certificate on behalf of the Controller General of Patents, Designs and Trademarks in accordance with the provisions of Section 73(3) of the Patents Act, 1970, hereby certify that annexed hereto is a True Copy of the document(s) as filed in connection with the following Patent Application:

क) आवेदन संख्या/ a) Application Number: **202011006493**

ख) फाइल करने की तारीख/ b) Date of Filing: **14th February, 2020**

ग) अनुरोधित दस्तावेज़(जों) का नाम/ c) Name of the document(s) requested:

1) **Application Form-1**

2) **Provisional Specification**

3) **Drawings**

filed on 14th February, 2020 (As per e-filing record)

यह प्रमाणपत्र पेटेंट अधिनियम, 1970 की धारा 147(1) के अधीन मुझमें निहित शक्तियों के तहत जारी किया गया है/This certificate is issued under the powers vested in me U/S 147(1) of The Patents Act, 1970.

दिनांक/ Dated this 2nd day of February, 2021

G.B. Bimi

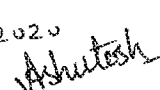
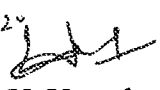
Digitally signed by G.B. Bimi
DN: cn=G.B. Bimi, o=Personal, title=5055,
pseudonym=b863d70d439850150ae09a2c116d2033ab8008e704
b47de773a8b6467cc85, postalCode=110078, st=Delhi,
serialNumber=cn01d8f604024e29543af8ee11c545d51748b4138
972d96c0922923bd90be, cn=G.B. Bimi
Date: 2021.02.03 12:34:39 +05'30'

नियंत्रक पेटेंट व डिजाइन/ Controller of Patents and Designs

(प्राधिकृत हस्ताक्षरी/ Authorised Signatory)

FORM 1 THE PATENTS ACT 1970 (39 of 1970) and THE PATENTS RULES, 2003 APPLICATION FOR GRANT OF PATENT (See section 7, 54 and 135 and sub-rule (1) of rule 20)				(FOR OFFICE USE ONLY)	
		Application No.:			
		Filing date:			
		Amount of Fee paid:			
		CBR No:			
		Signature:			
1. APPLICANT'S REFERENCE / IDENTIFICATION NO. (AS ALLOTTED BY OFFICE)					
2. TYPE OF APPLICATION [Please tick (✓) at the appropriate category]					
Ordinary (✓)		Convention ()		PCT-NP ()	
Divisional ()	Patent of Addition ()	Divisional ()	Patent of Addition ()	Divisional ()	Patent of Addition ()
3A. APPLICANT(S)					
Name in Full		Nationality	Country of Residence	Address of the Applicant	
Hero MotoCorp Limited		Indian	India	House No.	The Grand Plaza
				Street	Plot No.2, Nelson Mandela Road, Vasant Kunj-Phase-II
				City	New Delhi
				State	Delhi
				Country	India
				Pin code	110070
3B. CATEGORY OF APPLICANT [Please tick (✓) at the appropriate category]					
Natural Person ()		Other than Natural Person			
		Small Entity ()	Startup ()	Others (✓)	

4. INVENTOR(S) [Please tick (√) at the appropriate category]				
Are all the inventor(s) same as the applicant(s) named above?		Yes ()		No (√)
If "No", furnish the details of the inventor(s)				
Name In Full	Nationality	Country of Residence	Address of the Inventor	
SINGH, Ashutosh Pratap	INDIAN	INDIA	House No.	108
			Street	Navin Basti An,
			City	Bidhuna
			State	Uttar Pradesh
			Country	India
			Pin code	206243
Name In Full	Nationality	Country of Residence	Address of the Inventor	
YADAV, Upendra	INDIAN	INDIA	House No.	806
			Street	Vrinda garden, Jagatpura
			City	Jaipur
			State	Rajasthan
			Country	India
			Pin code	302017
5. TITLE OF THE INVENTION: FENDER OF VEHICLE				
6. AUTHORISED REGISTERED PATENT AGENT(S)	IN/PA No.			
	Name			
	Mobile No.			
7. ADDRESS FOR SERVICE OF APPLICANT IN INDIA	Name	Hero MotoCorp Limited		
	Postal Address	Centre of Innovation and Technology, Plot No.- SPL1, RIICO Industrial Area, Kukas, Phase 2, NH11C, Jaipur, Rajasthan-302038		
	Telephone No.	+91 1426 430000 Extn.- 77883		
	Mobile No.	+91 9540935323		
	Fax No.	+91 1426 430001		
	E-mail ID	patents@heromotocorp.com		
8. IN CASE OF APPLICATION CLAIMING PRIORITY OF APPLICATION FILED IN				

CONVENTION COUNTRY, PARTICULARS OF CONVENTION APPLICATION					
Country	Application Number	Filing date	Name of the applicant	Title of the invention	IPC (as classified in the convention)
9. IN CASE OF PCT NATIONAL PHASE APPLICATION, PARTICULARS OF INTERNATIONAL APPLICATION FILED UNDER PATENT CO-OPERATION TREATY (PCT)					
International application number			International filing date		
10. IN CASE OF DIVISIONAL APPLICATION FILED UNDER SECTION 16, PARTICULARS OF ORIGINAL (FIRST) APPLICATION					
Original (first) application No.			Date of filing of original (first) application		
11. IN CASE OF PATENT OF ADDITION FILED UNDER SECTION 54, PARTICULARS OF MAIN APPLICATION OR PATENT					
Main application/patent No.			Date of filing of main application		
12. DECLARATIONS					
(i) Declaration by the inventor(s) (In case the applicant is an assignee: the inventor(s) may sign herein below or the applicant may upload the assignment or enclose the assignment with this application for patent or send the assignment by post/electronic transmission duly authenticated within the prescribed period). We, the above named inventor(s) are the true & first inventor(s) for this Invention and declare that the applicant(s) herein are our assignee or legal representative. (a) Date: 13/02/2020 (b) Signature(s):  (c) Name(s): SINGH, Ashutosh Pratap (a) Date: 13/02/2020 (b) Signature(s):  (c) Name: YADAV, Upendra					
(ii) Declaration by the applicant(s) in the convention country (In case the applicant in India is different than the applicant in the convention country: the applicant in the convention country may sign herein below or applicant in India may upload the assignment from the applicant in the convention country or enclose the said assignment with this application for patent or send the assignment by post / electronic transmission duly authenticated within the prescribed period) I/ We, the applicant(s) in the convention country declare that the applicant(s) herein is / are my /					

our assignee or legal representative.

(a) Date

(b) Signature(s)

(c) Name(s) of the signatory

(iii) Declaration by the applicant(s)

We the applicant(s) hereby declare(s) that: -

- ☒ (✓) We are in possession of the above-mentioned invention.
- ☒ (✓) The provisional specification relating to the invention is filed with this application.
- ☐ The invention as disclosed in the specification uses the biological material from India and the necessary permission from the competent authority shall be submitted by me/us before the grant of patent to me/us.
- ☒ (✓) There is no lawful ground of objection(s) to the grant of the Patent to me/us.
- ☐ I am/we are the true & first inventor(s).
- ☒ (✓) We are the assignee or legal representative of true & first inventor(s).
- ☐ The application or each of the applications, particulars of which are given in Paragraph-8, was the first application in convention country/countries in respect of my/our invention(s).
- ☐ I/We claim the priority from the above mentioned application(s) filed in convention country/countries and state that no application for protection in respect of the invention had been made in a convention country before that date by me/us or by any person from which I/We derive the title.
- ☐ My/our application in India is based on international application under Patent Cooperation Treaty (PCT) as mentioned in Paragraph-9.
- ☐ The application is divided out of my /our application particulars of which is given in Paragraph-10 and pray that this application may be treated as deemed to have been filed on _____ under section 16 of the Act.
- ☐ The said invention is an improvement in or modification of the invention particulars of which are given in Paragraph-11.

13. FOLLOWING ARE THE ATTACHMENTS WITH THE APPLICATION

(a) Form 2

Item	Details		Fee	Remarks
Provisional specification	No. of pages	9	8000	
No. of Claim(s)	No. of claims and No. of pages			No claims are being filed at this stage.
Abstract	No. of pages			No abstract is being filed at this stage
No. of Drawing(s)	No. of drawings and No. of pages	5 and 5		

(b) Statement and Undertaking on Form 3;

(c) Declaration of Inventorship on Form 5;

Total fee Rs.8000/- in Cash/**Online Banking**/ Bank Draft No _____ Date _____
on _____ Bank.

I/We hereby declare that to the best of my/our knowledge, information and belief the fact and matters slated herein are correct and I/We request that a patent may be granted to me/us for the said invention.

Dated this 14th day of February, 2020.

Signature:



Sagar Sudhir Dhatrak

Assistant General Manager & Section Head-COC(EDD)

Hero MotoCorp Limited

To,
The Controller of Patents
The Patent Office,
at New Delhi

FORM 2

THE PATENT ACT, 1970
(39 of 1970)

&

THE PATENT RULES, 2003

PROVISIONAL SPECIFICATION

(*See* Section 10, Rule 13)

FENDER OF VEHICLE

APPLICANT:

HERO MOTOCORP LIMITED, an Indian Company at: The Grand Plaza, Plot No.
2, Nelson Mandela Road, Vasant Kunj-Phase-II, New Delhi, India – 110070

The following specification describes the invention.

FIELD OF INVENTION

[0001] The present invention relates to a vehicle and more particularly, relates to a fender of the vehicle.

BACKGROUND

5 **[0002]** Vehicles such as two wheeled vehicles like scooters, and motorcycles, comprises a frame, a fender etc. The frame of vehicles supports the fender. The fender support various components such as an electronic unit. The fender bears the load generated by the electronic unit. Conventionally, the fender is attached with various
10 brackets or stays to support the electronic unit, these brackets or stays are either welded or bolted to the fender. The welding and bolting of the brackets or stays onto the fender induces additional stresses to the fender which is already bearing various loads. Further, the extra number of bolts, and brackets increases the overall weight and increases the assembly time of the vehicle, which is undesirable. Furthermore, at
15 location on the fender wherein component such as the electronic unit is mounted, the usage of extra number of bolts, and brackets increases the overall complexity for wire harness routing arrangement at the fender.

BRIEF DESCRIPTION OF DRAWINGS

[0003] The invention itself, together with further features and attended advantages, will become apparent from consideration of the following detailed
20 description, taken in conjunction with the accompanying drawings. One or more embodiments of the present invention are now described, by way of example only wherein like reference numerals represent like elements and in which:

[0004] Figure 1 illustrates a side view of a vehicle, according to an embodiment of the present invention;

25 **[0005]** Figure 2 illustrates a top view of the fender of the vehicle, according to an embodiment of the invention;

[0006] Figure 3 illustrates an exploded side view of the fender with an electronic unit, according to an embodiment of the present invention;

[0007] Figure 4 illustrates a top view of the fender having the electronic unit, according to an embodiment of the invention; and

5 **[0008]** Figure 5 illustrates a sectional view of the fender having the electronic unit, according to an embodiment of the invention.

[0009] The drawings referred to in this description are not to be understood as being drawn to scale except if specifically noted, and such drawings are only exemplary in nature. The colored drawings, if provided along with this description are
10 only meant to make the details of invention clear and have no effect on the scope of the invention.

DETAILED DESCRIPTION

[00010] While the invention is susceptible to various modifications and alternative forms, an embodiment thereof has been shown by way of example in the
15 drawings and will be described here below. It should be understood, however that it is not intended to limit the invention to the particular forms disclosed, but on the contrary, the invention is to cover all modifications, equivalents, and alternative falling within the spirit and the scope of the invention.

[00011] The terms “comprises”, “comprising”, or any other variations thereof,
20 are intended to cover a non-exclusive inclusion, such that a setup, device or method that comprises a list of components or steps does not include only those components or steps but may include other components or steps not expressly listed or inherent to such setup or device or method. In other words, one or more elements in a system or apparatus proceeded by “comprises... a” does not, without more constraints, preclude
25 the existence of other elements or additional elements in the system or apparatus.

[00012] For the better understanding of this invention, reference would now be made to the embodiment illustrated in the accompanying figures and description here below, further, in the following figures, the same reference numerals are used to identify the same components in various views.

5 **[00013]** The terms “front / forward”, “rear”, “up / upper / top”, “down / lower / lower ward”, “left / leftward”, “right / rightward” used therein represents the directions as seen from a vehicle driver sitting astride and these directions are referred by arrows Fr, Rr, U, Lr, L, R in the drawing figures.

10 **[00014]** While the present invention is illustrated in the context of a vehicle, however, the fender and aspects and features thereof can be used with other type of vehicles as well. It is to be noted that terms such as “two-wheeled vehicle”, “straddle-type vehicle” and “vehicle” are interchangeably used throughout the description. The term “straddle-type vehicle” includes vehicles such as motorcycles, scooters, bicycles, mopeds, all-terrain vehicles (ATV) and the like.

15 **[00015]** In one aspect of the present invention, a vehicle is provided. The vehicle comprises a body frame, an electronic unit, and a fender. The body frame is extending along a vehicle longitudinal direction. The body frame comprises a head pipe, a pair of main tubes extending rearwardly from the head pipe, a down tube extending rearwardly and downwardly from the head pipe, and a pair of seat rails extending rearwardly from the pair of main tubes. The electronic unit is disposed on the fender. The electronic unit comprises at-least one mounting provision, and at-least one sliding member. The fender is coupled to the body frame. The fender comprising a component housing having a space to house the electronic unit. The component housing comprising at least one protruded hollow structure, and at least one mounting lug. The at least one protruded hollow structure is configured to receive the at-least one sliding member. The at least one mounting lug is disposed within the space of the component housing. The at least one mounting lug is configured to receive the at-least one

20

25

mounting provision of the electronic unit. Further, the at least one protruded hollow structure is configured to restrict the movement of the electronic unit.

[00016] Figure 1 illustrates a side view of a vehicle (100), according to an embodiment of the present invention. The vehicle (100) comprises, inter-alia, a front suspension (102), a front fender (104), a front wheel (106), a body frame (not shown), a front structure (200), a steering handle bar (108), a fuel tank (110), a power unit (not shown), a cover assembly (140), at least one rear suspension (114), a main stand (130), a swing arm (122), a rear wheel (116), a rear fender (118), a tail light assembly (120), and a seat (112). Further, the vehicle (100) defines a longitudinal axis (X-X') along front-rear direction of the vehicle (100). In present embodiment, the rear fender (118) is interchangeably termed as a fender (118). However, in another embodiment, the front fender (104) may be termed as the fender.

[00017] In the illustrated embodiment, the body frame is disposed in frontward-rearward direction from the vehicle longitudinal direction (X-X') of the straddle-type vehicle (100), without limiting the scope of the invention. Further, the body frame includes a head pipe (not shown), a pair of main tubes (not shown), a down tube (not shown), and a pair of seat rails (not shown). The body frame may further comprises additional components such as brackets etc., without limiting the scope of the invention. The down tube extending rearwardly and downwardly from the head pipe. The pair of main tubes extends obliquely in the rearward and downward direction from the head pipe. The pair of seat rails extending rearwardly from the pair of main tubes. In present embodiment, the rear fender (118) is coupled with the pair of seat rails. However, in another embodiment, the rear fender (118) may be coupled with any part of the body frame. Further, the fuel tank (110) is mounted to the main frame. A power unit (not shown) is mounted to the body frame. More particularly, the power unit is disposed below the fuel tank (110) and is mounted to the main frame.

[00018] In the illustrated example, the vehicle (100) comprises a headlight (152), a display member (not shown), and a visor (154). The headlight (152) is mounted on a front side of the vehicle (100) to illuminate the front side of the vehicle (100). The

headlight (152) is to facilitate operation of the vehicle (100) during dark environment. It may be noted that the vehicle (100) is shown to have include above stated parts, however, those skilled in the art would appreciate that the vehicle (100) may include other parts which may not be relevant for explaining the present invention and hence are not shown and described.

[00019] Figure 2 illustrates a top view of the fender (118) of the vehicle (100), according to an embodiment of the present invention. The fender (118) is formed in a substantially semi-circular shape. The fender (118) comprises an inner surface (202) (shown in Figure. 5), and an outer surface (204). The inner surface (202) of the fender (118) faces the rear wheel (116), and prevents the flinging of water, mud and other dirt onto other portions of the vehicle (100). The outer surface (204) of the fender (122) is located below the seat (112) (shown in Figure. 1). The fender (118) comprises a component housing (206). The component housing (206) extends in the longitudinal and lateral direction of the vehicle (100) below the seat (112). The component housing (206) comprises a space (216). The space (216) is provided to various components on the fender (118). The component housing (206) comprising at least one protruded hollow structure (208), at least one mounting lug (210), and a guiding member (212). In the illustrated example, the at least one protruded hollow structure (208), the at least one mounting lug (210), and the guiding member (212) are provided in the space (216), along the periphery of the component housing (206). The at least one protruded hollow structure (208), and the at least one mounting lug (210) is disposed in the longitudinal of the vehicle (100). The guiding member (212) is disposed in the lateral direction of the vehicle (100). The guiding member (212) is disposed within the space (216) guides the wiring harness of the components mounted on the fender (118).

[00020] In the illustrated embodiment, the at least one mounting lug (210) is provided on a stay (207) disposed in the space (216) of the component housing (206). However, in another embodiment, the at least one mounting lug (210) is directly provided in the space (216) of the component housing (206). Further, in the illustrated example, the component housing (206) is integrally formed on the outer surface (204)

of the fender (118). Alternatively, the component housing (206) may be coupled to the outer surface (204) of the fender (118), without limiting the scope of the invention.

[00021] Figure 3 illustrates an exploded side view of the fender (118) of the vehicle (100) with an electronic unit (180), and Figure 4 illustrates a top view of the fender (118) having the electronic unit (180), according to an embodiment of the present invention. In an embodiment, the electronic unit (180) comprises at-least one mounting provision (182), and at-least one sliding member (184). The at least one protruded hollow structure (208) is configured to receive the at-least one sliding member (184). The at least one mounting lug (210) is configured to receive the at-least one mounting provision (182) of the electronic unit (180). The at least one mounting lug (210) is engaged with the at-least one mounting provision (182), through at-least one fastener member (160). Further, the at least one protruded hollow structure (208) is configured to restrict the movement of the electronic unit (180). In present embodiment, the guiding member (212) is disposed within the space (216) guides the wiring harness of the electronic unit (180).

[00022] Figure 5 illustrates a sectional view of the fender (118) having the electronic unit (180) along a line A-A' shown in Figure 5, according to an embodiment of the invention. In an embodiment, the electronic unit (180) is disposed on the outer surface (204) of the fender (118). The mounting of the electronic unit (180) comprises majorly two steps. Firstly, sliding the at-least one sliding member (184) of the electronic unit (180) into the at least one protruded hollow structure (208) of the component housing (206). Secondly, engaging the at-least one mounting provision (182) of the electronic unit (180) with the at least one mounting lug (210) of the component housing (206) through the at-least one fastener (160) (as shown in Figure 3). After the mounting of the electronic unit (180) on the component housing (206) of the fender (118), the guiding member (212) of the component housing (206) guides the wiring harness of the electronic unit (180).

[00023] Further, the at least one mounting lug (210) extends upwards from the outer surface (204) of the fender (118). In present embodiment, the mounting lugs

(210) have a cylindrical shaped profile. Alternatively, the mounting lugs (210) may have any shaped profile such as conical, trapezoidal, rectangular etc. without limitations.

5 **[00024]** The electronic unit (180) is disposed in between the at least one protruded hollow structure (208), the at least one mounting lug (210), and the guiding member (212) in the space (216) defined on the fender (118), and below the seat (112). Therefore, aesthetically the electronic unit (180) is not visible either from top or side view of the vehicle (100).

10 **[00025]** As disclosed, the electronic unit (180) is directly mounted to the mounting bracket (160), there is no requirement of an additional mounting provision, and fasteners for mounting the electronic unit (180) to the fender (118), thereby reducing the assembly time and the cost associated.

15 **[00026]** Further, the disclosed mounting scheme for the electronic unit (180) on the fender (118) does not cause any hindrance to the streamline construction of the vehicle (100). Due to this arrangement of the electronic unit (180) on the fender (118), there is no restriction in relation to the wire harness routing arrangement from the fender (118) of the vehicle (100).

20 **[00027]** The present mounting of the electronic unit (180) on the fender (118), protect the fender (118) from additional stresses by eliminating the requirement of welding and bolting of the brackets or stays onto the fender (118).

[00028] While few embodiments of the present invention have been described above, it is to be understood that the invention is not limited to the above embodiments and modifications may be appropriately made thereto within the spirit and scope of the invention.

25 **[00029]** While considerable emphasis has been placed herein on the particular features of this invention, it will be appreciated that various modifications can be made, and that many changes can be made in the preferred embodiments without

departing from the principles of the invention. These and other modifications in the nature of the invention or the preferred embodiments will be apparent to those skilled in the art from the disclosure herein, whereby it is to be distinctly understood that the foregoing descriptive matter is to be interpreted merely as illustrative of the invention and not as a limitation.

5

Dated this 14th day of February, 2020

-----Digitally Signed-----
Sagar Sudhir Dhatrak
Assistant General Manager & Section Head– COC(EDD)
Hero MotoCorp Limited

10

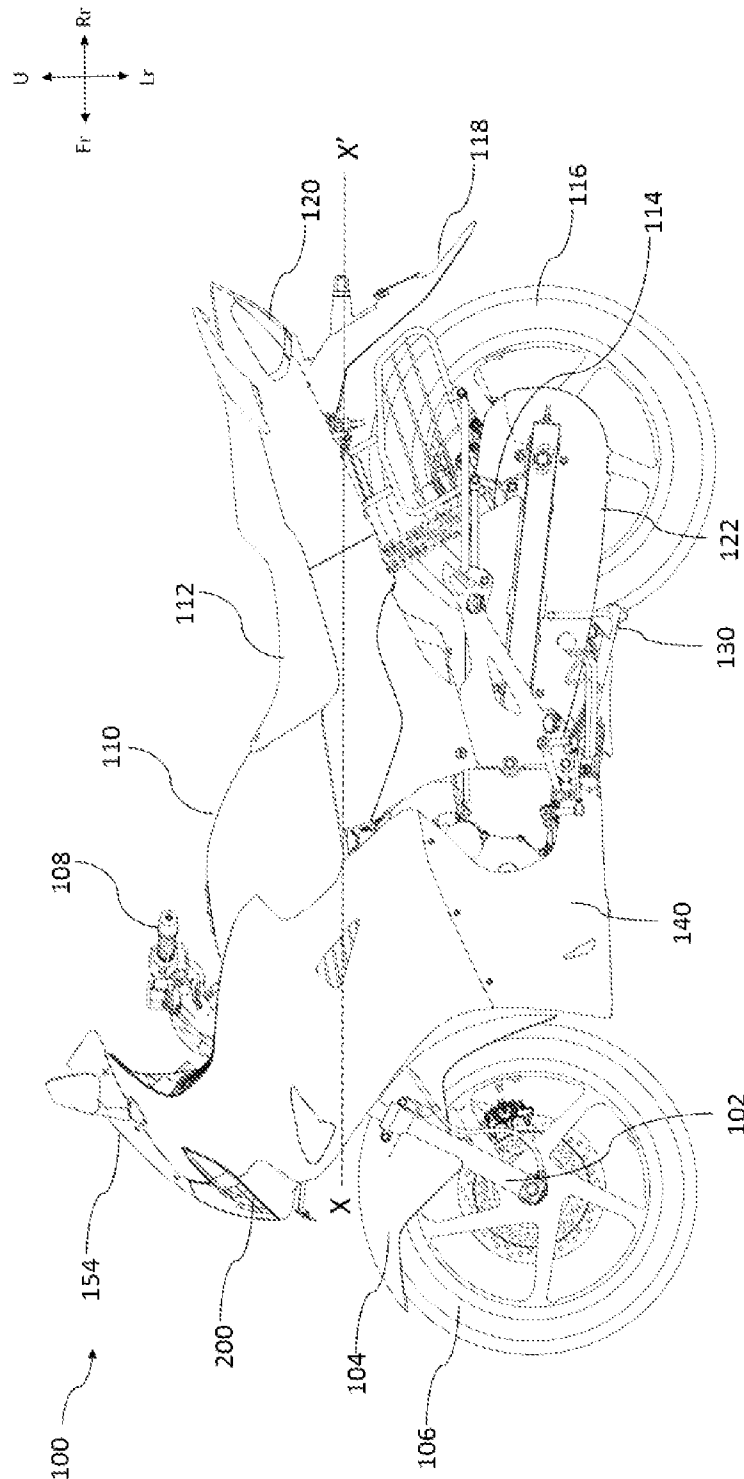


Figure 1

---Digitally Signed---
Sagar Sudhir Dhatriak
Assistant General Manager & Section Head- COC(EDD)
Hero MotoCorp Limited

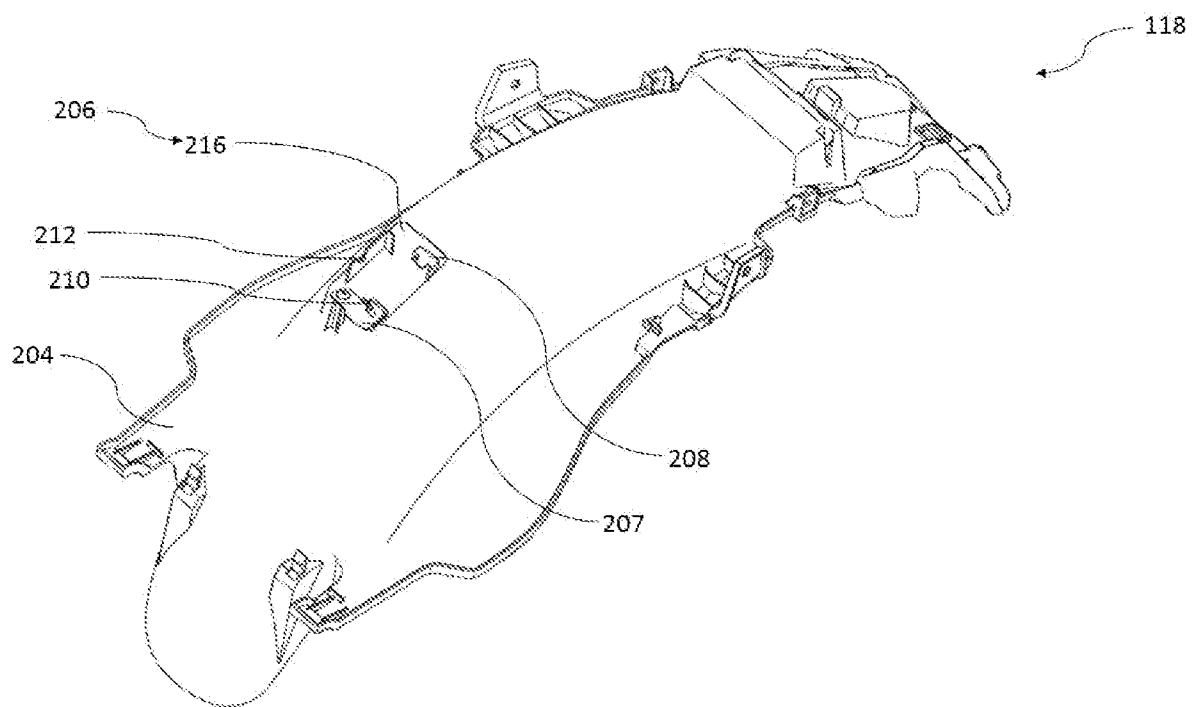


Figure 2

---Digitally Signed---
Sagar Sudhir Dhatriak
Assistant General Manager & Section Head– COC(EDD)
Hero MotoCorp Limited

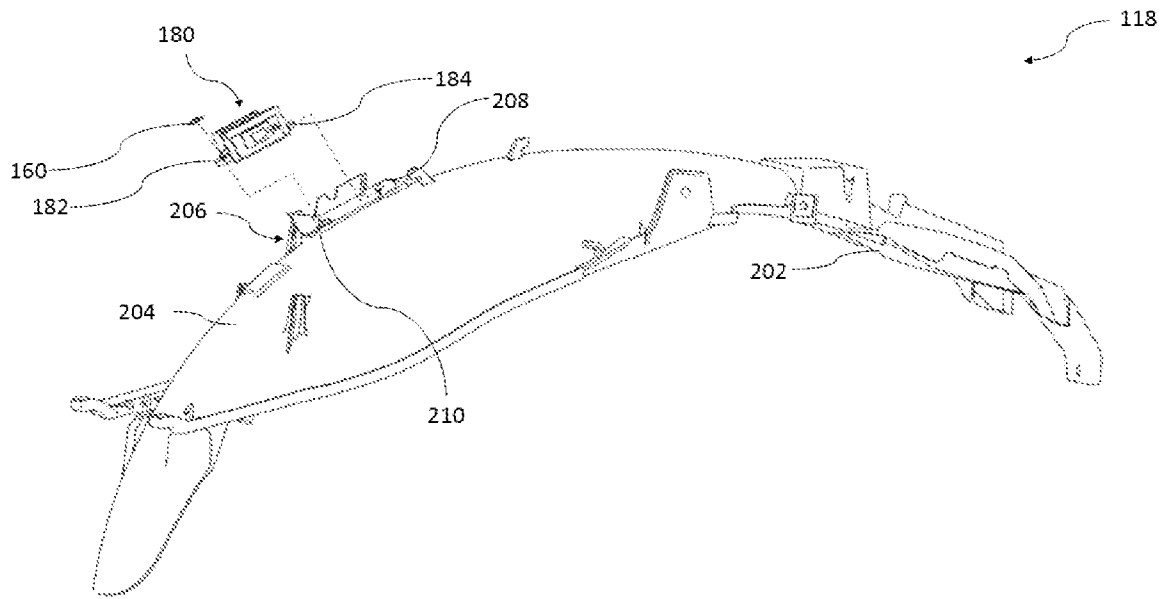


Figure 3

---Digitally Signed---
Sagar Sudhir Dhatrak
Assistant General Manager & Section Head- COC(EDD)
Hero MotoCorp Limited

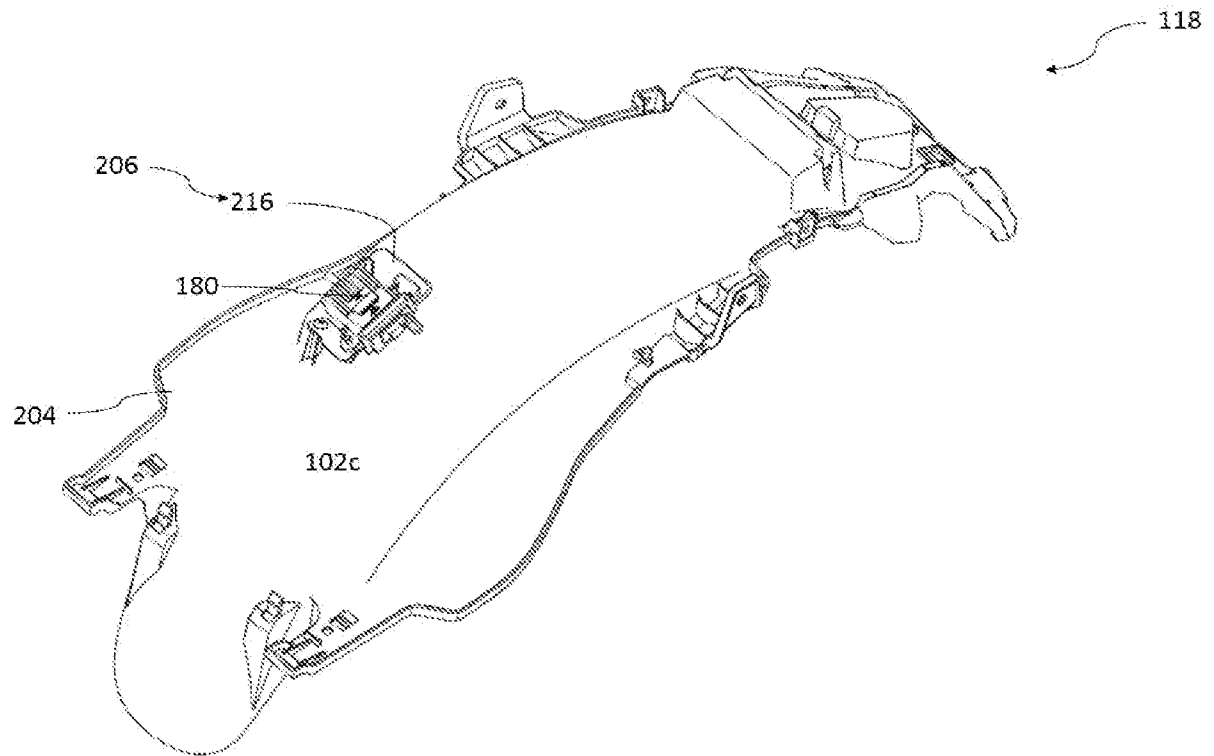


Figure 4

---Digitally Signed---
Sagar Sudhir Dhattrak
Assistant General Manager & Section Head- COC(EDD)
Hero MotoCorp Limited

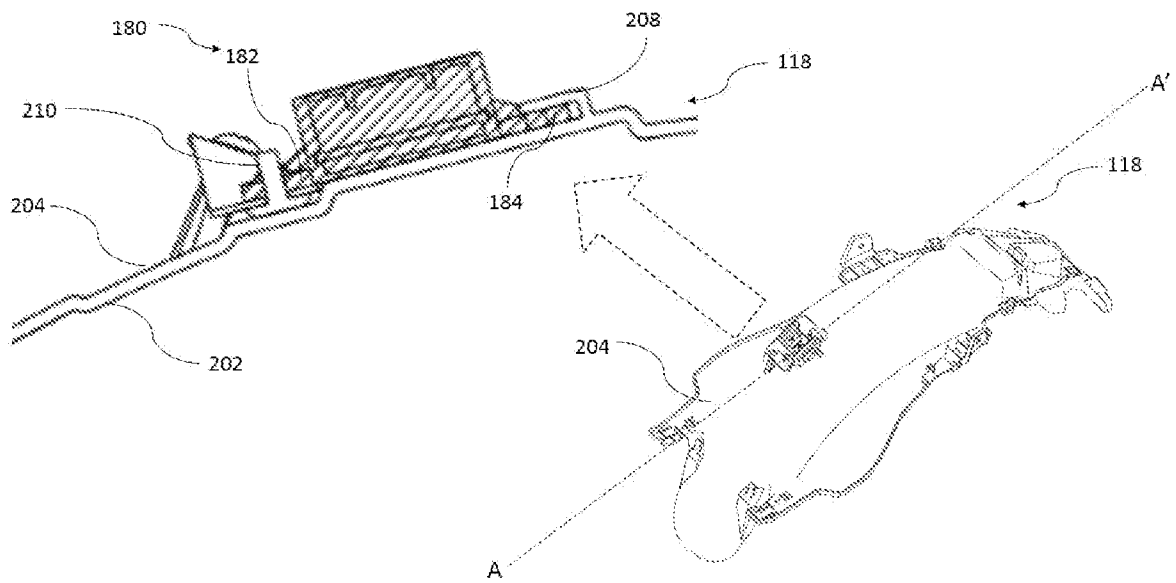


Figure 5

---Digitally Signed---
Sagar Sudhir Dhattrak
Assistant General Manager & Section Head- COC(EDD)
Hero MotoCorp Limited