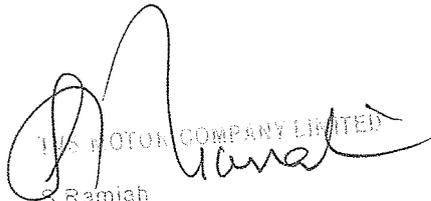


ABSTRACT

Described invention discloses a cover for the air filter unit. This cover is extended rear wards to form a wheel hugger. The mounting locations provided on the front part of the air filter unit are common for the mounting of the wheel
5 hugger and the air filter cover as air filter cover and wheel hugger are integrated to form a single part. This mounting arrangement results in reduction of the width of the scooter and number of parts required for the assembly.

To be accompanied with Figure 4


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WHAT IS CLAIMED IS

- 1) A scooter type vehicle, comprising a front part and a rear part, such that a rear wheel is mounted in the rear part and an air filter unit is mounted between a plurality of the side panels, characterized in that the air filter unit has a cover extended rearwards to form a wheel hugger extension to cover the rear wheel and is fixed with the air filter unit.
- 2) The scooter type vehicle, as claimed in claim 1, wherein the air filter is mounted in a plane above the rear wheel.
- 3) The scooter type vehicle, as claimed in claim 1, wherein the cover comprises an air filter side on its front and the wheel hugger extension on its rear end.
- 4) The scooter type vehicle, as claimed in claim 3, wherein the air filter side is defining an upper cover of air filter.
- 5) The scooter type vehicle, as claimed in claim 3, wherein the air filter side of the cover has an inlet and an outlet facilitating flow of air through the air filter.
- 6) The scooter type vehicle, as claimed in claim 3, wherein the air filter side comprises atleast one downward extension defining side wall of the air filter.
- 7) The scooter type vehicle, as claimed in claim 6, wherein the downward extension is mounted with an engine casing and a transmission casing at atleast one mounting point.
- 8) The scooter type vehicle, as claimed in claim 3, wherein the air filter side comprises atleast one rear mounting point in the proximity of wheel hugger extension such that said wheel hugger extension is fixed with the engine casing at said rear mounting point.

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ORIGINAL

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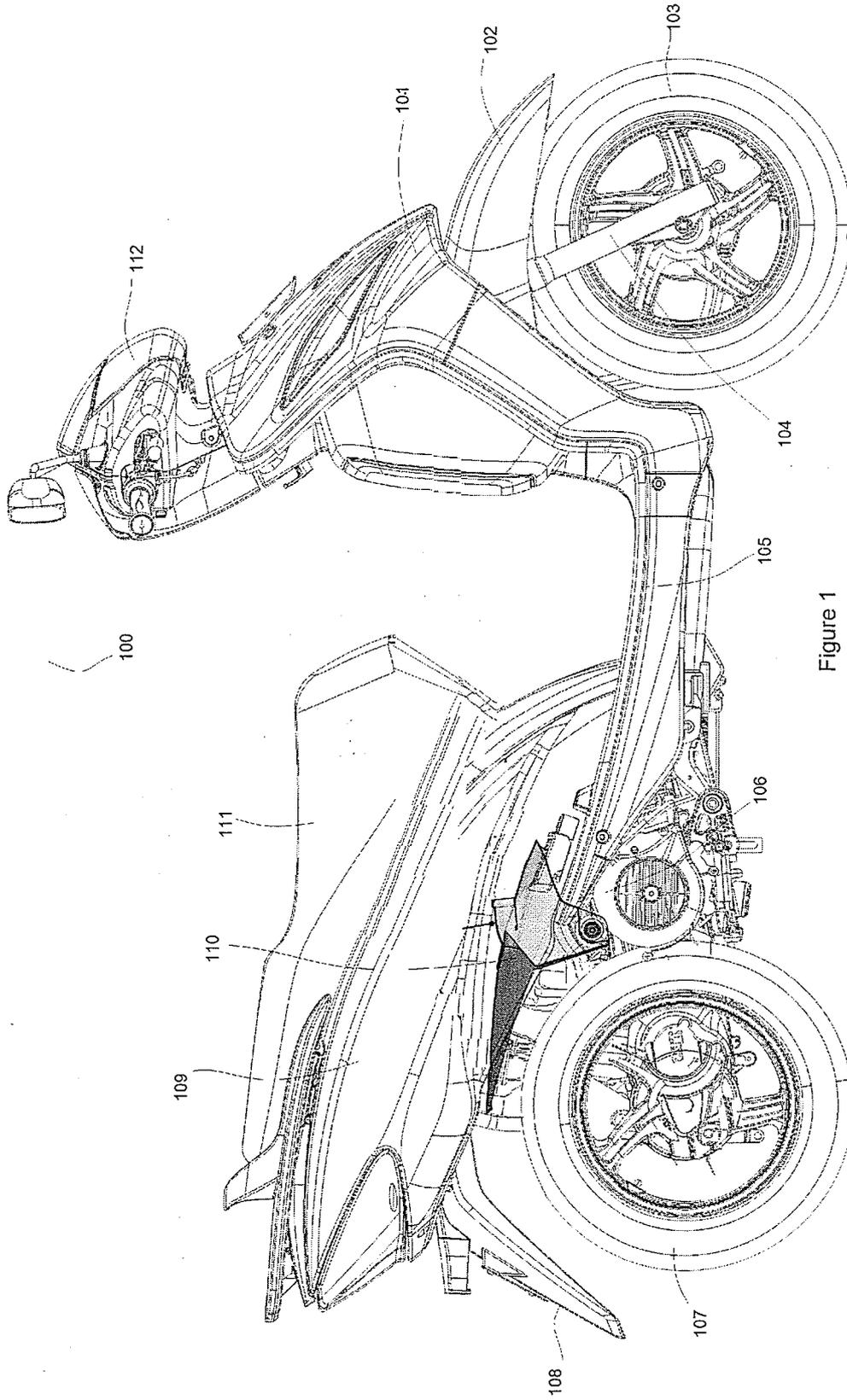


Figure 1

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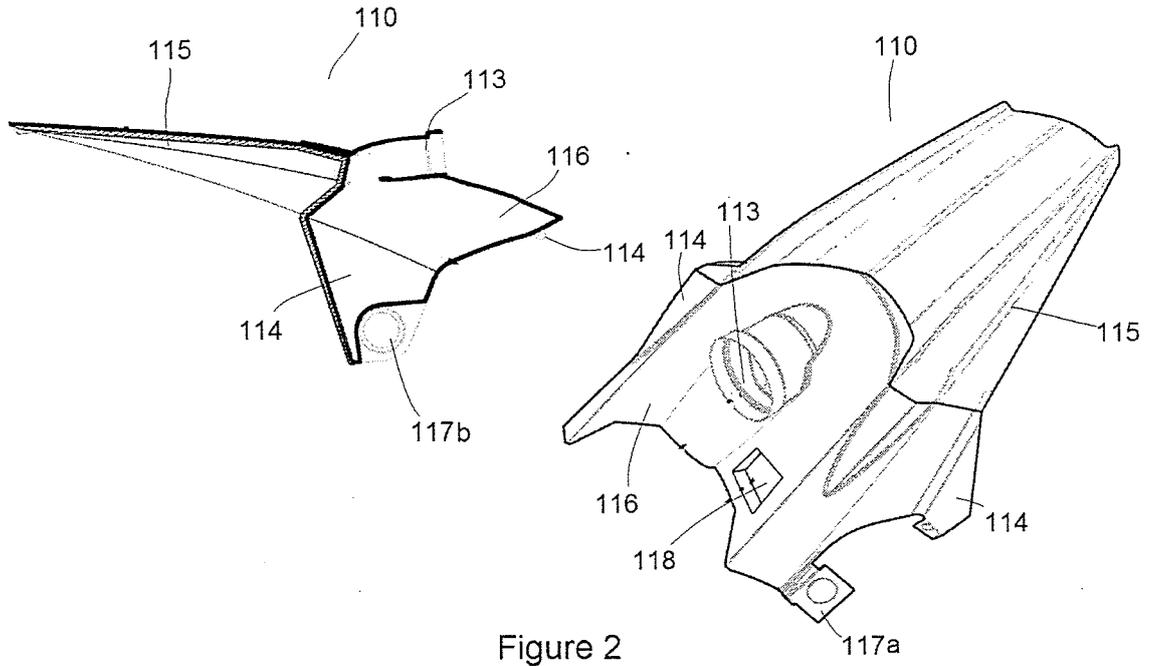


Figure 2

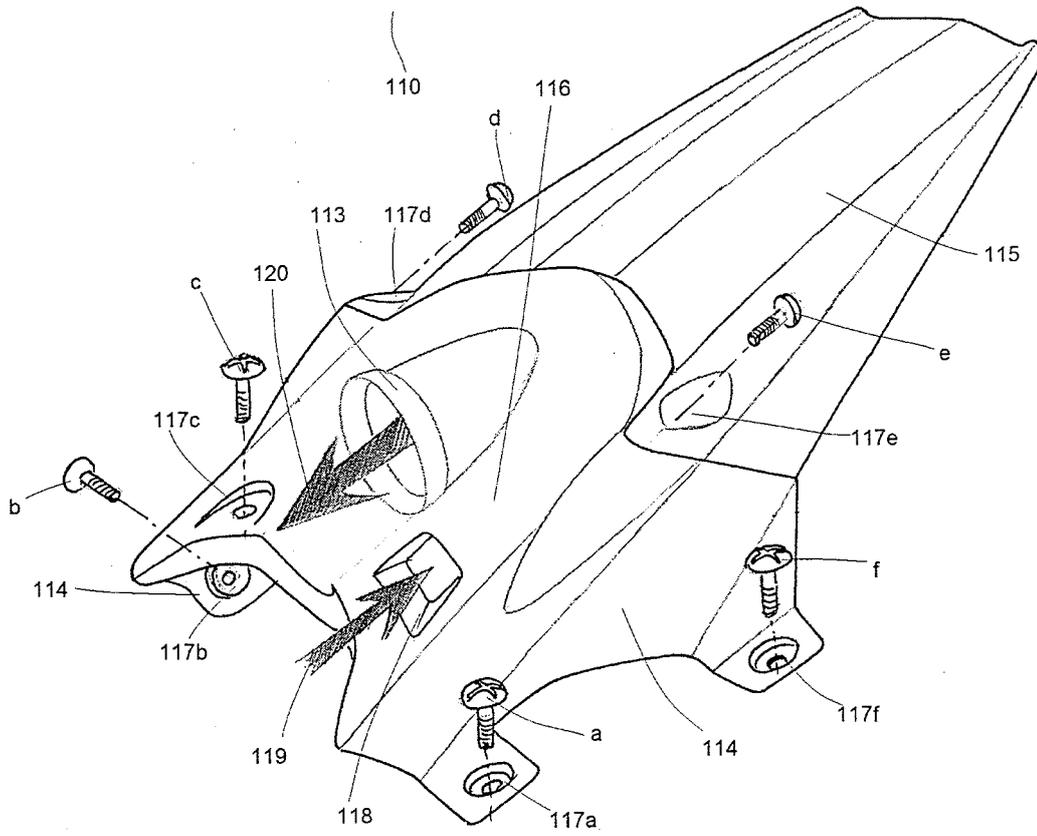


Figure 3

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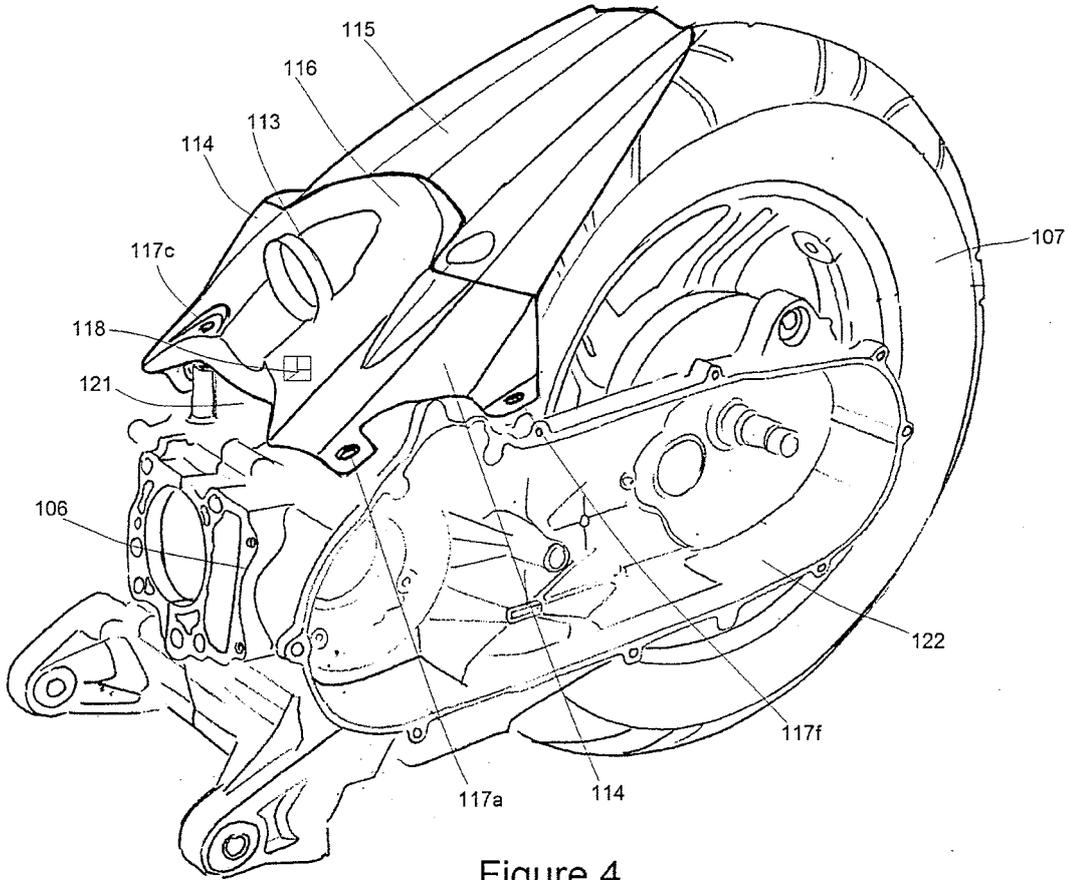


Figure 4

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FIELD OF INVENTION

The present invention generally relates to an air filter unit of a scooter type vehicle and more particularly to an air filter unit, cover of which is extending rearwards to form an integrated hugger unit for the rear wheel of the vehicle.

5 **BACKGROUND OF THE INVENTION**

In existing arrangement of scooter type of vehicle air filter assembly is mounted at the rear side of the vehicle in the plane above the engine and in close proximity of the rear wheel. Said air filter is mounted on the engine and the transmission case. Location neighbouring the air filter is also used for mounting
10 hugger for rear wheel such that mud or water does not reach to the air filter or the engine. Said location become crowded for accommodating multiple mounting points for both air filter and the wheel hugger.

SUMMARY OF THE INVENTION

Given Inventions provides a solution for the above mentioned mounting
15 problem. Main objective of present invention is to provide a cover of the air filter unit that is extended rear wards to form a wheel hugger. This cover is formed such that mounting locations provided on the front part of the air filter unit are common for the mounting of the wheel hugger. Due to this improved unit number of parts and the mounting locations for both purposes reduces. This mounting arrangement
20 results in reduction of the width of the scooter.

Summary provided above explains the basic features of the invention and does not limit the scope of the invention. Additional detailed information related to the enablement of the invention will be provided in the detailed description and

accompanying claims. Scope of the invention shall be based on the claims provided.

BRIEF DESCRIPTION OF DRAWINGS

The present invention will become more fully understood from the detailed description given herein below and the accompanying drawing(s). Provided drawings are incorporated in and constitute embodiments of the invention and illustrates several aspects of the invention and together with a description of the embodiments serve to explain the principles of the invention. Drawings given below are provided to support the description of the invention and are not limiting the scope of the present invention. A brief description of the drawing is as follows:

Figure 1a and **Figure 1b** describes the existing location of the air filter in reference to the location suitable for the enablement of the claimed invention.

Figure 1 is showing side view of the scooter type vehicle in order to depict location of the claimed invention.

Figure 2 and **Figure 3** are showing essential embodiments and their arrangement with respect to each other in order to depict enablement of the invention.

Figure 4 is depicting the mounting arrangement of the claimed invention over the engine and the transmission assembly of the scooter type of vehicle.

DETAILED DESCRIPTION OF THE INVENTION

Further, the embodiments disclosed below are not intended to be exhaustive or to limit the invention to the precise forms disclosed in the following detailed

description. Rather, the embodiments are chosen and described so that best enabling arrangements of the invention can be explained through all possible embodiments and examples of it. The invention may have application to all kind of two wheeled vehicles.

5 **Figure 1a** and **Figure 1b** explains the existing location of the air filter in reference to the location suitable for the enablement of the claimed invention. Generally, in scooters **S** air filter **A** is mounted on either right or left side of the scooter **S** in the housing space made by panels **P**. To accommodate this air filter **A** more space is required that increases the width **W** of the scooter **S**. Scooters **S** 10 with more width consume more parking area and need more handling diligence. Also for mounting air filter **A** on side a dedicated mounting mechanism is to be established with require more number of parts and greater manufacturing cost.

Figure 1b, basically describes the concept of the claimed invention. As shown, by shifting air filter **A'** above the rear wheel of the scooter **S**, air filter **A'** can be 15 provided with a cover that is extended rearwards for form a wheel hugger **H'**. As the air filter **A'** is mounted on the engine casing, its cover (extended to form wheel hugger **H**) can be mounted on air filter **A'** as well as on engine casing through one or more mounting points.

 Said mounting of the air filter cover will be common for the wheel hugger **H'** 20 thus number of required parts will be lesser and that will improve the cost of manufacturing. Also, as the space above the engine is utilized for the air filter **A'** mounting width of the scooter **S** is reduced.

In order to embodiment description now refer to **Figure 1**, a scooter type vehicle is shown that has a rear wheel mounted in its rear part and an air filter unit is mounted between the side panels of the scooter. Said air filter unit is mounted above the engine **106** and the rear wheel **107** in a plane exactly above the rear wheel **107**. This air filter unit has a cover **110** fixed over it, that is extended rearwards to form a wheel hugger **115** for the rear wheel **107**.

Further **Figure 2**, **Figure 3** and **Figure 4** are describing essential embodiments and enabling arrangement of the invention in detail. As shown in figures, said cover **110** is fixed with the air filter unit. The cover **110** has an air filter side **116** on its front and a wheel hugger extension **115** on its rear end. This air filter side **116** is defining the upper cover of said air filter.

The air filter side **116** of the cover **110** has an inlet **118** and an outlet **113** facilitating flow of air through the air filter. Air enters **119** in the air filter form inlet **118** and exits **120** through outlet **113** maintain the regular circulation of the air in air filter.

Further, said air filter side has downward wall like extensions **114** which will be acting as side walls of the air filter. At the bottom most part of said downward wall like extension mounting points **117a**, **117b**, **117c**, **117f** are provided which will be fixed with engine **106** casing and transmission casing **122** of the scooter **100**.

More rear mounting locations like **117d** and **117e** are provided on the back side of air filter side **116** which will be facilitating passage for fastening joint of the wheel hugger extension **115** and air filter side **116** with the engine **106** casing.

Screw fastening from the rear mounting locations **117d** and **117e** reduces the vibration level of the wheel hugger extension **115** in spite of light weight.

This invention reduces the number of parts and number of mounting points without compromising on functioning of the air filter cover or the wheel hugger.

- 5 Mechanism disclosed above also provides reduction in the vibration level of the wheel hugger.