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(54) **Handle for vehicles**

Griff für Fahrzeuge

Poignée pour véhicule

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(56) References cited:

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Description

[0001] Handle for vehicle of the type comprising a housing with electrical and/or electronic means inside, and a membrane, characterised in that it comprises an over-mould that seals the membrane to the housing, with said over-mould having the same molecular polarity as the membrane and the housing.

BACKGROUND AND BRIEF DESCRIPTION OF THE INVENTION

[0002] This invention represents an improvement in the automotive industry, particularly in relation to handles that incorporate electrical and/or electronic means, for example, a centralised lock or lighting means.

[0003] Nowadays, vehicle manufacturers find that the switches in handles, end up producing electrical cross-overs as a result of water entering, caused either by rain or by washing the car. Such vehicle door handles are known e.g. from WO 9726670 or EP 1677324. One of the most common solutions is to place a butyl thread between the housing and the membrane, which by applying pressure to them, makes lock watertight, leaving the electrical and/or electronic means that may be housed in said handle, protected from water and humidity.

[0004] The problem arises because arranging the butyl thread requires considerable attention from the worker who is reviewing this task, because if any area has not been correctly sealed, water will inevitably enter and produce the corresponding electrical crossover.

[0005] So, the invention has solved the problem of preventing some parts not being made watertight, by over-moulding the housing and the membrane with a material that provides a chemical seal, thereby sealing the handle completely.

[0006] The materials must all have the same molecular polarity.

[0007] This way, through over-moulding, no areas are left without a watertight seal because by placing both the housing and the membrane inside the mould, the over-moulding is produced uniformly all over the joining area between both parts.

[0008] An object of this invention is a handle for vehicle of the type comprising a housing with electrical and/or electronic means inside, and a membrane, characterised in that it comprises an over-mould that seals the membrane to the housing, with said over-mould having the same molecular polarity as the membrane and the housing.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] In order to facilitate the description, a sheet of drawings are attached to the patent, which illustrate a practical embodiment thereof, provided as a nonlimiting example of the scope of this invention.

- Figure 1 is a perspective view of this invention.

SPECIFIC EMBODIMENT OF THE INVENTION

[0010] Figure 1 (only Figure) illustrates a housing 1 with its chimney 4, a membrane 2 and an over-mould 3.

[0011] This embodiment is for a handle for a rear door, although it could be applied to the others handles of the car.

[0012] So, in a particular embodiment, the manufacturer first has a housing 1 with a micro switch and an action lever inside it, already known, which are provided in most door handles.

[0013] Chimney 4 houses the micro switch and it is sealed with epoxy products to prevent water from entering.

[0014] Subsequently membrane 2 is sealed to housing 1 and they are placed inside a mould (not shown). Next, an over-mould 3 is applied to the joining area between them both, leaving the end product as shown in Figure 1. The overmould must, at all events, have the same molecular polarity as said membrane 2 and housing 1.

[0015] Two embodiments are provided below using different materials:

EXAMPLE 1

[0016] Housing 1 is a polypropylene with filler, and the membrane 2 and the over-mould are a vulcanised, thermoplastic elastomer (EPDM + PP), for example, which is sold under the trade name SANTOPRENE.

EXAMPLE 2

[0017] Housing 1 is a polyamide with filler, for example, NYLON, and the membrane 2 and the over-mould are a thermoplastic polyurethane (TPU).

[0018] This way, water possibly entering the housing 1 and affecting the micro, and indirectly, the vehicle's electrical system, is prevented.

[0019] This invention describes a handle for vehicle. The examples mentioned herein do not limit this invention, and therefore different applications and/or variations are possible, all included within the scope of the invention as defined by the following claims.

Claims

1. Handle for vehicle of the type comprising a housing (1), with electrical and/or electronic means inside, and a membrane (2), **characterised in that** it comprises an overmould (3) that seals membrane (2) to housing (1), with said overmould having the same molecular polarity as membrane (2) and housing (1).
2. Handle for vehicle according to claim 1, **characterised in that** housing (1) is a polypropylene with filler,

and membrane (2) and the overmould (3) are a vulcanised thermoplastic elastomer (EPDM + PP).

3. Handle for vehicle according to claim 1, **characterised in that** housing (1) is a polyamide with filler, and membrane (2) and the overmould (3) are a thermoplastic polyurethane (TPU).

Patentansprüche

1. Griff für Fahrzeug derart, dass er ein Gehäuse (1) mit elektrischen und/oder elektronischen Mitteln darin und eine Membran (2) umfasst, **dadurch gekennzeichnet, dass** er eine Umspritzung (3) umfasst, die die Membran (2) zum Gehäuse (1) abdichtet, wobei die Umspritzung die gleiche molekulare Polarität wie die Membran (2) und das Gehäuse (1) hat.
2. Griff für Fahrzeug nach Anspruch 1, **dadurch gekennzeichnet, dass** das Gehäuse (1) ein Polypropylen mit Füllstoff ist, und die Membran (2) und die Umspritzung (3) ein vulkanisiertes thermoplastisches Elastomer (EPDM + PP) sind.
3. Griff für Fahrzeug nach Anspruch 1, **dadurch gekennzeichnet, dass** das Gehäuse (1) ein Polyamid mit Füllstoff ist, und die Membran (2) und die Umspritzung (3) ein thermoplastisches Polyurethan (thermoplastic polyurethane, TPU) sind.

Revendications

1. Poignée pour véhicule du type qui comprend un logement (1), avec un moyen électrique et/ou électronique à l'intérieur, et une membrane (2), **caractérisée en ce qu'elle** comprend un surmoulage (3) scellant la membrane (2) au logement (1), ledit surmoulage ayant la même polarité moléculaire que la membrane (2) et le logement (1).
2. Poignée pour véhicule conforme à la revendication 1, **caractérisée en ce que** le logement (1) est en polypropylène avec charge, et la membrane (2) et le surmoulage (3) sont en élastomère thermoplastique vulcanisé (EPDM + PP).
3. Poignée pour véhicule conforme à la revendication 1, **caractérisée en ce que** le logement (1) est en polyamide avec charge, et la membrane (2) et le surmoulage (3) sont en polyuréthane thermoplastique (TPU).

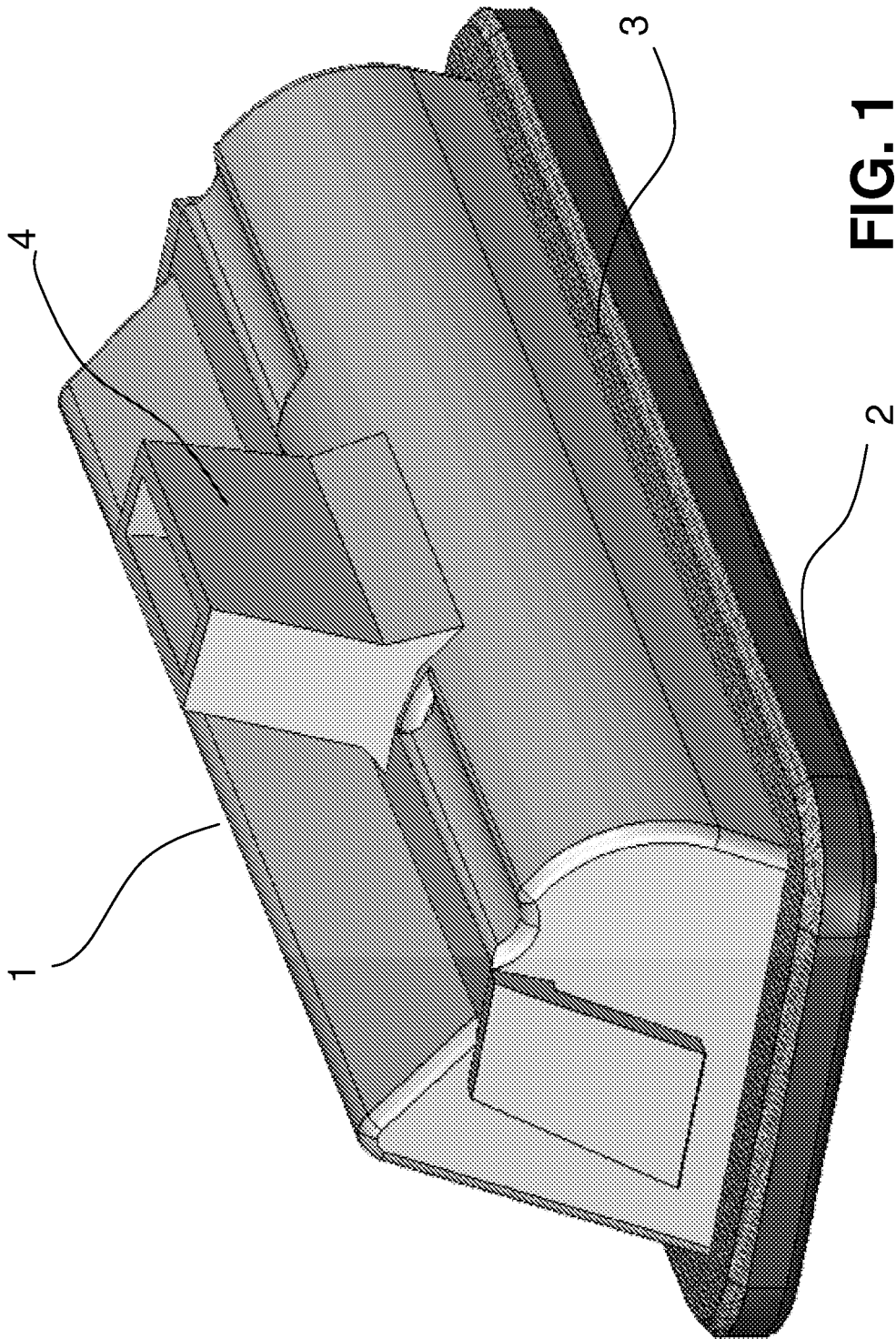


FIG. 1

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 9726670 A [0003]
- EP 1677324 A [0003]