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(54) **Spoiler in thermoplastic material that integrates electrical and electronic devices for automobiles**

(57) Accessory or component for vehicles, in this specific case, a back or front spoiler on the interior of which are housed the electronic and electrical devices necessary for the functioning of the relative communication apparatuses provided on board the vehicle and suitable for communicating with the exterior, and in particular

wherein said receiver devices are provided with relative wirings gathered in correspondence with a specific area provided with at least one relative projecting pin, said pin being suitable for introduction into a corresponding socket provided in logical correspondence on the corresponding part of the vehicle where the housing and fixing of said spoiler is provided.

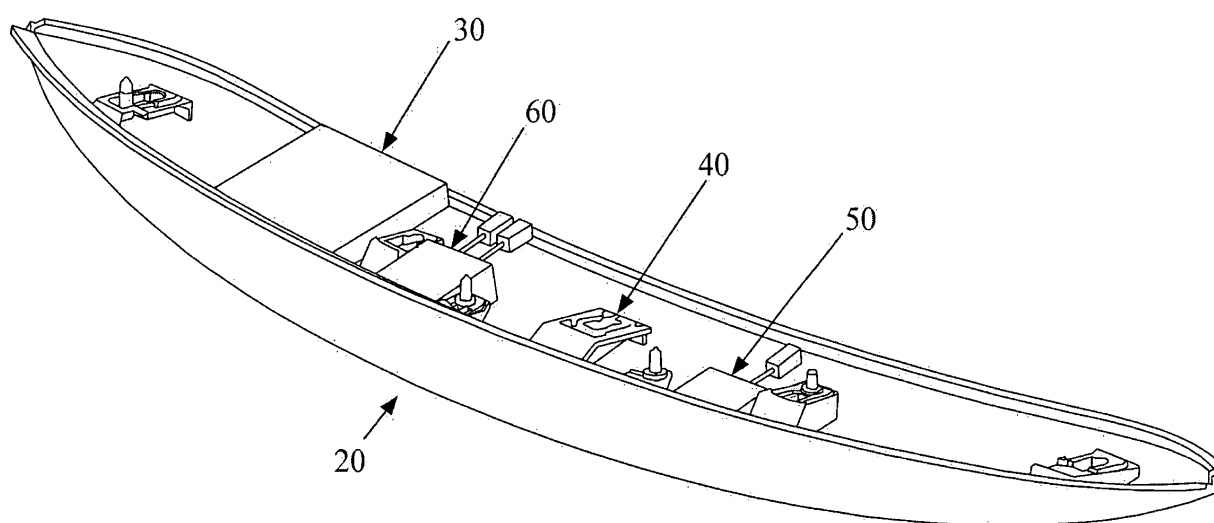


FIG. 2

Description

[0001] This invention relates to an accessory or component made in thermoplastic material for vehicles.

[0002] In this case, it concerns a back or front spoiler, on the interior of which are housed the electronic and electrical devices necessary for the functioning of the relative communication apparatuses conventionally provided on board a vehicle and suitable for communicating with the exterior.

[0003] The proposal finds particular although not exclusive application in the sector of plant engineering and integrated components for automobiles.

Field of Application

[0004] Communication apparatuses are known with which vehicles can be equipped at present as accessories. It concerns, for example, radio apparatus FM/AM, GPS (Global Positioning System) apparatus or telephony apparatus. Usually, all the aforementioned apparatuses must be equipped with at least one relative receiver-transmitter antenna. Due to said configuration, in principle said apparatuses require the installation of the relative antennae in a separate and remote way in positions considered optimal for receiving and transmission, mainly remote with respect to the body of the apparatus with the relative display. For example, the antennae are placed on the roof of the car, by means of a projecting component and very often along the profile of the wind-screen.

The spoiler is equally known. It concerns a component shaped in the form of a wing made in thermoplastic material, obtained as a single-piece that can be joined to the frame or the body of the vehicle, with the aim of improving the attitude of the vehicle itself and in particular of reducing the air suction phenomenon during running, thus optimising consumption, above all in conditions involving speed. The spoiler can involve the front part of the vehicle as well as the back, if not both, or is sometimes limited to the latter position and it can be applied to the lower or upper side of the vehicle.

Prior Art

[0005] In this domain, for example, spoiler structures providing integration of electronic devices are known.

[0006] In EP0361104 (Pichler), a spoiler is provided equipped with a display for the representation of a text that reproduces visible information from the exterior.

[0007] US4760402 (Mizuno et al.) describes an antenna housed in the interior of a body having the form of an air spoiler.

[0008] Finally, US5106141 (Mostashari) suggests a spoiler that is to be placed on the vehicle roof, configured like an aerodynamic wing or spoiler that houses different communication antennae as well as areas configured for housing additional luggage.

Drawbacks

[0009] The solutions suggested in the sector are inadequate.

5 [0010] Therefore, the need has arisen for companies, particularly in this sector, to identify alternative and more effective solutions with respect to the solutions provided up until now.

10 [0011] The aim of this invention is also to avoid the drawbacks described.

Brief Description of the Invention

[0012] This and other aims are achieved with this invention according to the characteristics in the claims included that resolve the problems disclosed by means of an accessory or component for vehicles, in this case, a front or back spoiler, on the interior of which are housed the electronic and electrical devices necessary for the functioning of the relative communication apparatuses provided on board the vehicle and suitable for communicating with the exterior, and in particular the receiver devices wherein said receiver devices are provided with relative wirings gathered in correspondence with a specific area provided with at least one relative projecting pin, said pin being suitable for introduction into one corresponding socket provided in logical correspondence on the corresponding portion of the vehicle where the housing and fixing of said spoiler is provided.

AIMS

[0013] In this way, by means of the considerable creative contribution the effect of which has allowed considerable technical progress to be achieved, certain aims and advantages are achieved.

[0014] In particular, it was possible to obtain a more integrated and compact structure, with the correct technological content and reduced costs.

40 [0015] These and other advantages will appear from the following detailed description of a preferred embodiment with the aid of the enclosed schematic drawings, the execution details of which are not to be considered as limitative but only illustrative.

CONTENT OF DRAWINGS

[0016]

50 Figure 1 is an overall view of a first spoiler solution for a vehicle.

Figure 2 is an overall view of a second spoiler solution for a vehicle.

55 Finally Figure 3 is a further additional view of the spoiler solution for a vehicle as in the previous Figure.

EMBODIMENT EXAMPLE OF THE INVENTION

[0017] In one spoiler **10, 20** for a vehicle the relative antennae, for example GSM dual-triband **30**, radio AM/FM **40**, GPS (Global Positioning System) **50**, SDARS (Satellite Digital Audio Radio Services) system **60** are housed, in correspondence with the internal surface in the form of a shell. In one solution (see Figs. 2 and 3) the antennae **30, 40, 50** and **60** can also be housed in the interior of relative removable boxes that in turn can be engaged on the internal side of the shell that constitutes the spoiler **10, 20**, and can be connected to a wire gathering circuit, with at least one pin projecting from said spoiler **10, 20**, to be introduced, during the connection stage of the spoiler **10, 20**, into the corresponding anchorage portion provided on the vehicle, in a relative socket or vice-versa obtained on the connection interface.

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Claims

1. Accessory or component for vehicles, in particular a front or back spoiler, **characterised in that** in correspondence with the internal surface in the form of a shell of the spoiler **10, 20** the electronic and electrical devices are housed necessary for the functioning of the relative communication apparatuses provided on board the vehicle, such as at least one of the receiver devices **30, 40, 50** and **60**, wherein said receiver devices **30, 40, 50** and **60**, are provided with relative wirings gathered in correspondence with an area provided with at least one projecting pin, said pin being suitable for introduction into one corresponding socket provided in logical correspondence on the connection interface of the vehicle.
2. Accessory or component for vehicles, in particular a front or back spoiler, according to claim 1, **characterised in that** at least one of the relative antennae **30, 40, 50** and **60** is contained in the interior of a relative removable box that is turn joined to the interior of the spoiler **10, 20**.

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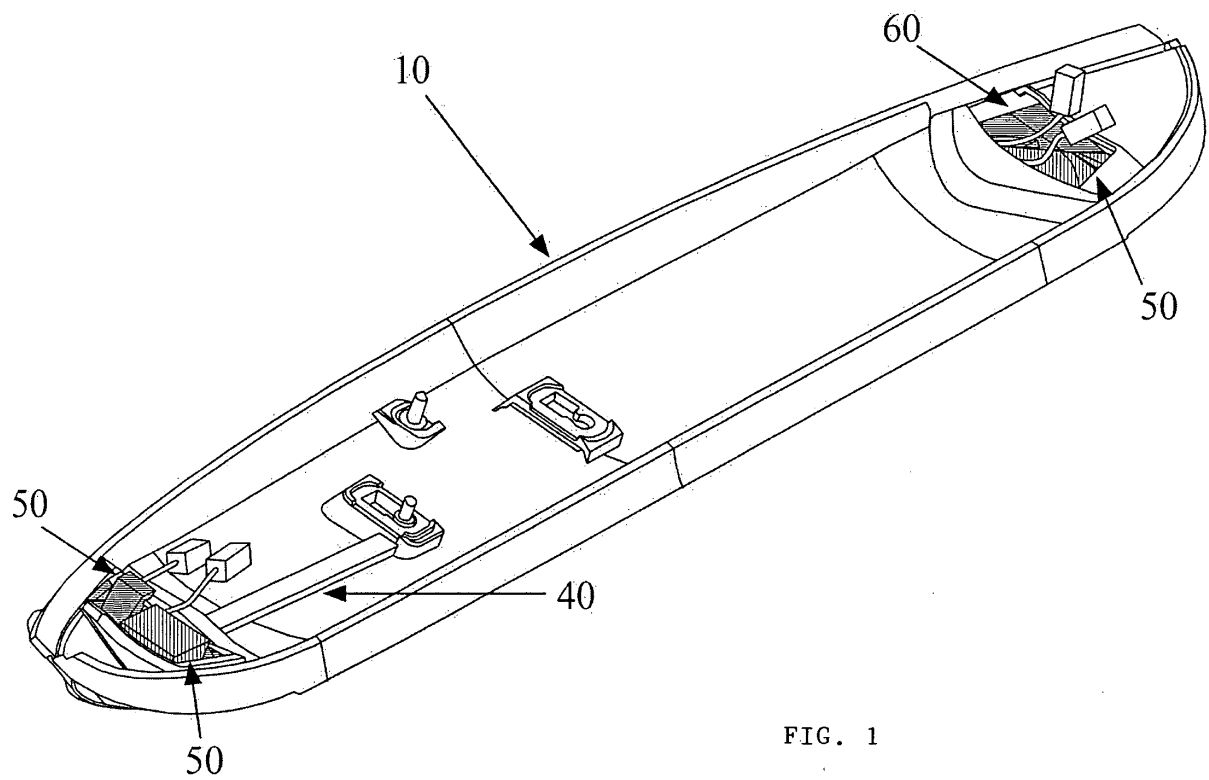


FIG. 1

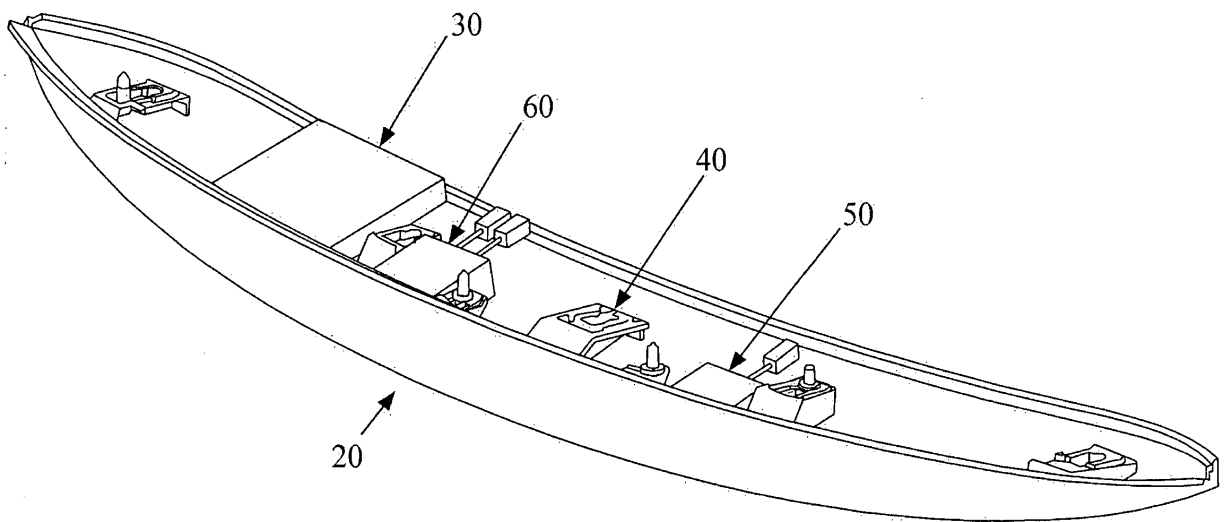


FIG. 2

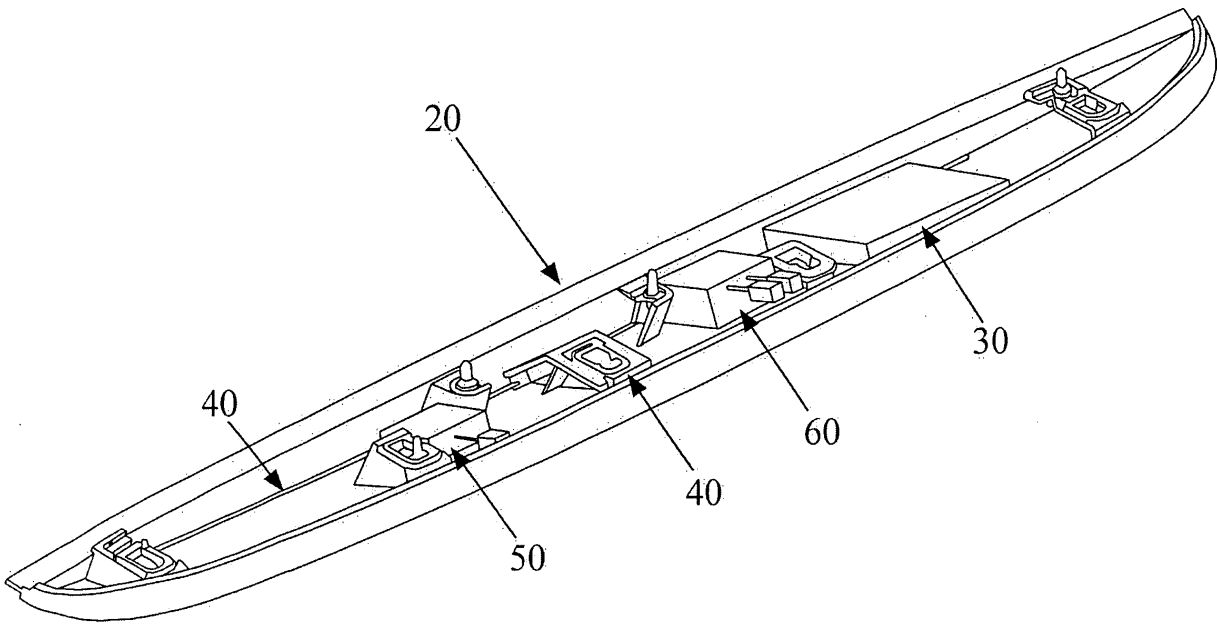


FIG. 3



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 07 00 6227

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 29 May 2007	Examiner Unterberger, Michael
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 07 00 6227

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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- US 4760402 A, Mizuno [0007]
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