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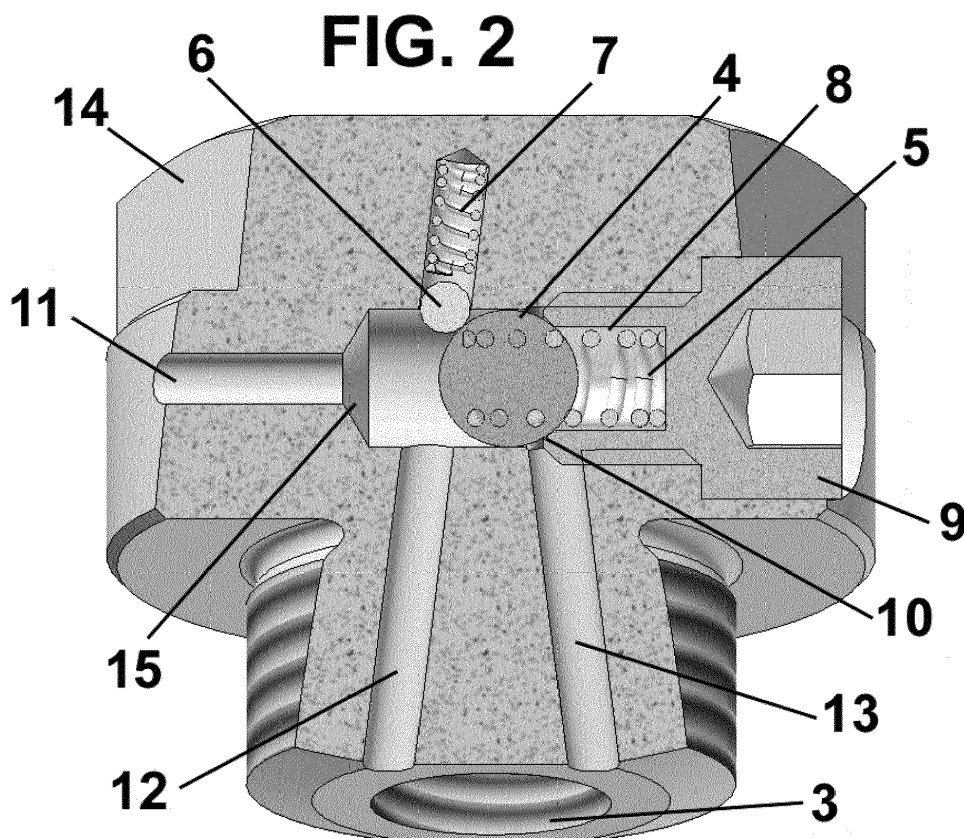
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(54) **DECOMPRESSOR FOR MOTORCYCLES**

(57) The decompressor (14) for motorcycles comprises a valve element (4) movable between a first and second positions, and it comprises a housing (3) for a spark plug (2). Preferably, the housing (3) for the spark plug (2) is a through hole and the valve element (4) is in contact with a first spring (5) which pushes the valve el-

ement (4).

It permits to mount it on any motorcycle engine, even on engines which are not designed to include a compressor. This is because the design of the decompressor allows it to be mounted in the space designed for the spark plug unit.



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Description

[0001] The present invention relates to a decompressor for motorcycles, which facilitates the starting of the motorcycle on which it is installed.

Background of the invention

[0002] The use of decompressors on motorcycles is known to facilitate the starting of these motorcycles.

[0003] The decompressors used on motorcycles are devices that are attached to the motorcycle engine to facilitate their starting.

[0004] Usually, the decompressors consist of a small additional valve or a small cam that acts directly on the exhaust valve of the engine.

[0005] When the decompressor is actuated, the engine can rotate without compression and therefore without effort. When a certain rotation regime has been reached, the decompressor is released and the inertia of the engine is enough to overcome the compression phase, allowing the engine to start.

[0006] A drawback of the known decompressors that the present invention is intended to solve is that the engines must be designed to allow mounting of the decompressors. In addition, there are motorcycle engines that are not designed for mounting decompressors, so that they do not allow mounting these decompressors.

Description of the invention

[0007] Therefore, an objective of the present invention is to provide a decompressor for motorcycles which manages to solve the aforementioned drawbacks, presenting other advantages which will be described below.

[0008] The decompressor for motorcycles according to the present invention comprises:

a valve element movable between a first and second positions,
wherein the decompressor comprises a housing for a spark plug.

[0009] According to a preferred embodiment, the housing for the spark plug is a through hole such that the spark plug passes through the decompressor when it is placed in its use position.

[0010] Advantageously, the valve element is in contact with a first spring which pushes the valve element.

[0011] Furthermore, the decompressor for motorcycles according to the present invention also preferably comprises a retaining element, which retains the valve element in the first position, and the retaining element is pushed by a second spring.

[0012] The decompressor for motorcycles according to the present invention also preferably comprises a first conduit provided with a seat, which in the first position the valve element is separated from the seat of the first

conduit and in the second position the valve element is positioned on said seat of the first conduit, closing the first conduit.

[0013] According to a preferred embodiment, the valve element is spherical.

[0014] The decompressor for motorcycles according to the present invention also preferably comprises a fixing nut provided with a seat for the valve element and a housing for the first spring.

[0015] With the decompressor for motorcycles according to the present invention it is possible to mount it on any motorcycle engine, even on engines which are not designed to include a compressor. This is because the design of the decompressor allows it to be mounted in the space designed for the spark plug unit.

Brief description of the drawings

[0016] For a better understanding of what has been explained above, some drawings are included in which, schematically and only as a non-limiting example, a practical case of embodiment is represented.

Figure 1 is a cross-sectional view of the decompressor for motorcycles according to the present invention mounted on a motorcycle engine with a spark plug;

Figures 2 and 3 are sectional views of the decompressor for motorcycles in its operating positions.

Description of a preferred embodiment

[0017] As shown in Figure 1, the decompressor for motorcycles, indicated in general by reference numeral 14, is mounted on the engine 1 of a motorcycle in the usual position where a spark plug 2 is fitted. For this purpose, the decompressor has a housing 3, in particular in the form of a through hole, for accommodating the spark plug 2, passing completely through the decompressor.

[0018] The decompressor 14 according to the present invention has a shape similar to a bushing and inside it houses a valve element 4 which can be placed in the two positions shown in Figures 2 and 3.

[0019] According to the embodiment shown, said valve element 4 is a sphere, which is pushed by a first spring 5. Said first spring 5 is housed in a housing 8 of a fixing nut 9, which also comprises a seat 10 for said valve element 4.

[0020] In addition, the decompressor also comprises a retaining element 6, the operation of which will be explained below, which is pushed by a second spring 7.

[0021] To perform its function of assisting in starting the motorcycle, the decompressor comprises a first, second and third conduits 11, 12, 13.

[0022] In the first position of the valve element 4, shown in figure 2, the valve element 4 is retained by the retaining element 6, so that it is held away from the first conduit

11, leaving it open.

[0023] In the second position of the valve element 4, shown in figure 3, the valve element 4 has been displaced to the left, according to the direction of this figure 3, in contact with a seat 15 at one end of the first conduit 11, closing it.

[0024] In this embodiment, this displacement closing the first conduit 11 is performed automatically by the pressure generated in the compression chamber of the engine, once said pressure exceeds a predetermined value.

[0025] It should be noted that the way in which the valve element 4 described acts is only an example. There can be many different ways to open and ensure closure of the passage between the engine compression chamber and the outside. The important thing is to reduce the pressure in the chamber to make it easier to turn the engine during start-up, as in conventional decompressors.

[0026] Although reference has been made to a specific embodiment of the invention, it is obvious to a person skilled in the art that the motorcycle decompressor described is susceptible of numerous variations and modifications, and that all the details mentioned can be replaced by other technically equivalent ones, without departing from the scope of protection defined by the appended claims.

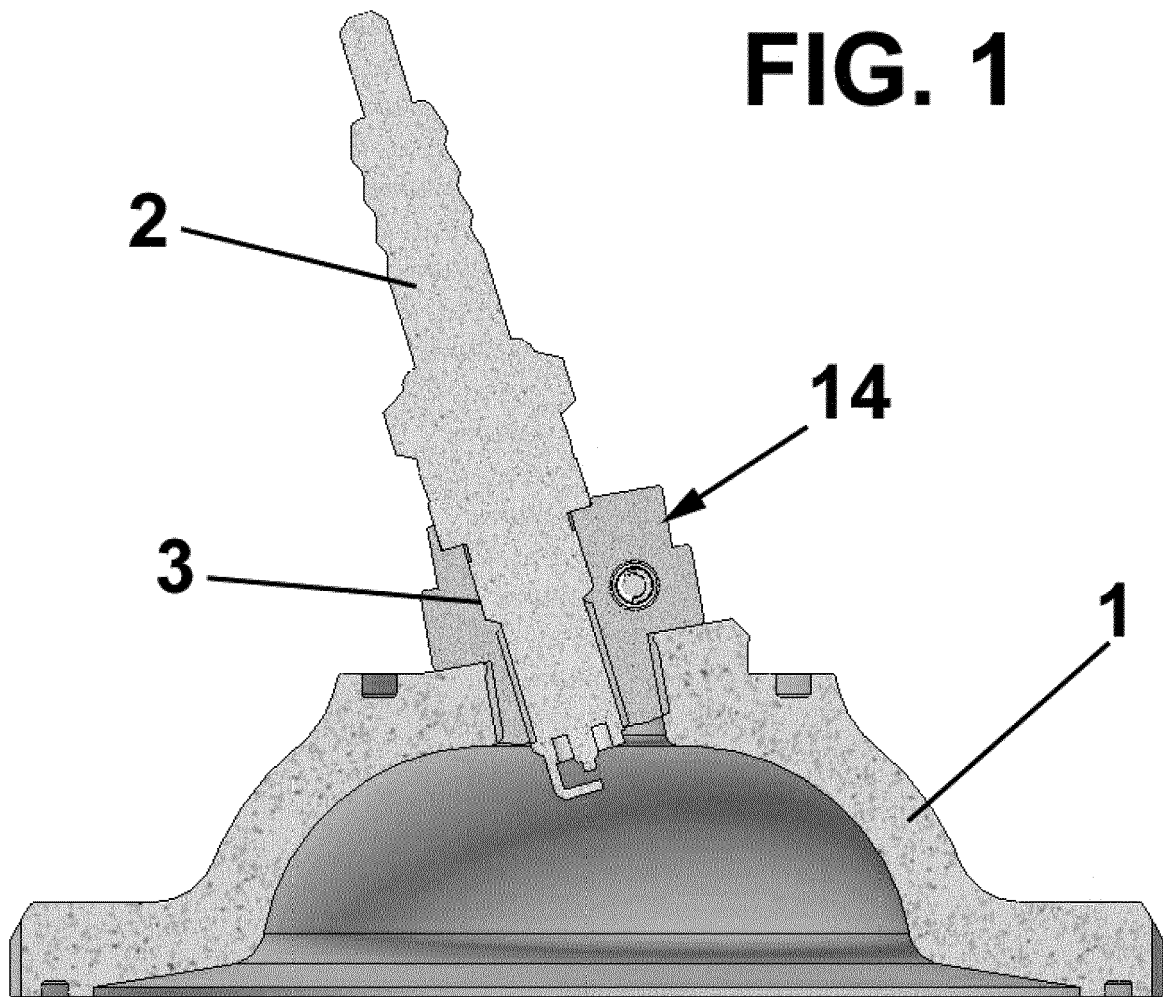
the seat (15) of the first duct (11) and in the second position the valve element (4) is positioned on said seat (15) of the first duct (11), closing the first duct (11).

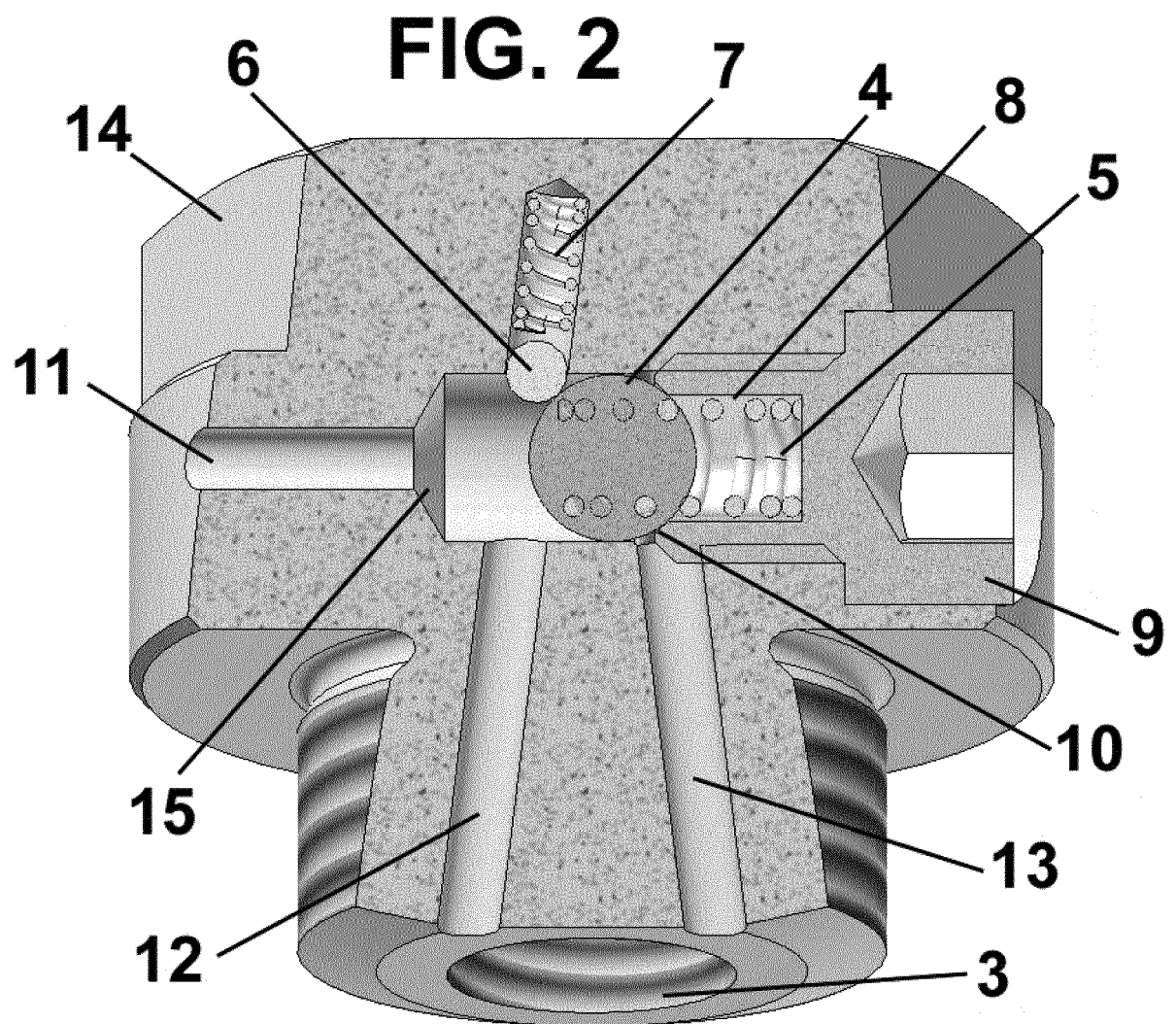
7. Decompressor (14) for motorcycles according to claim 1, 3, 4 or 6, wherein the valve element (4) is spherical.

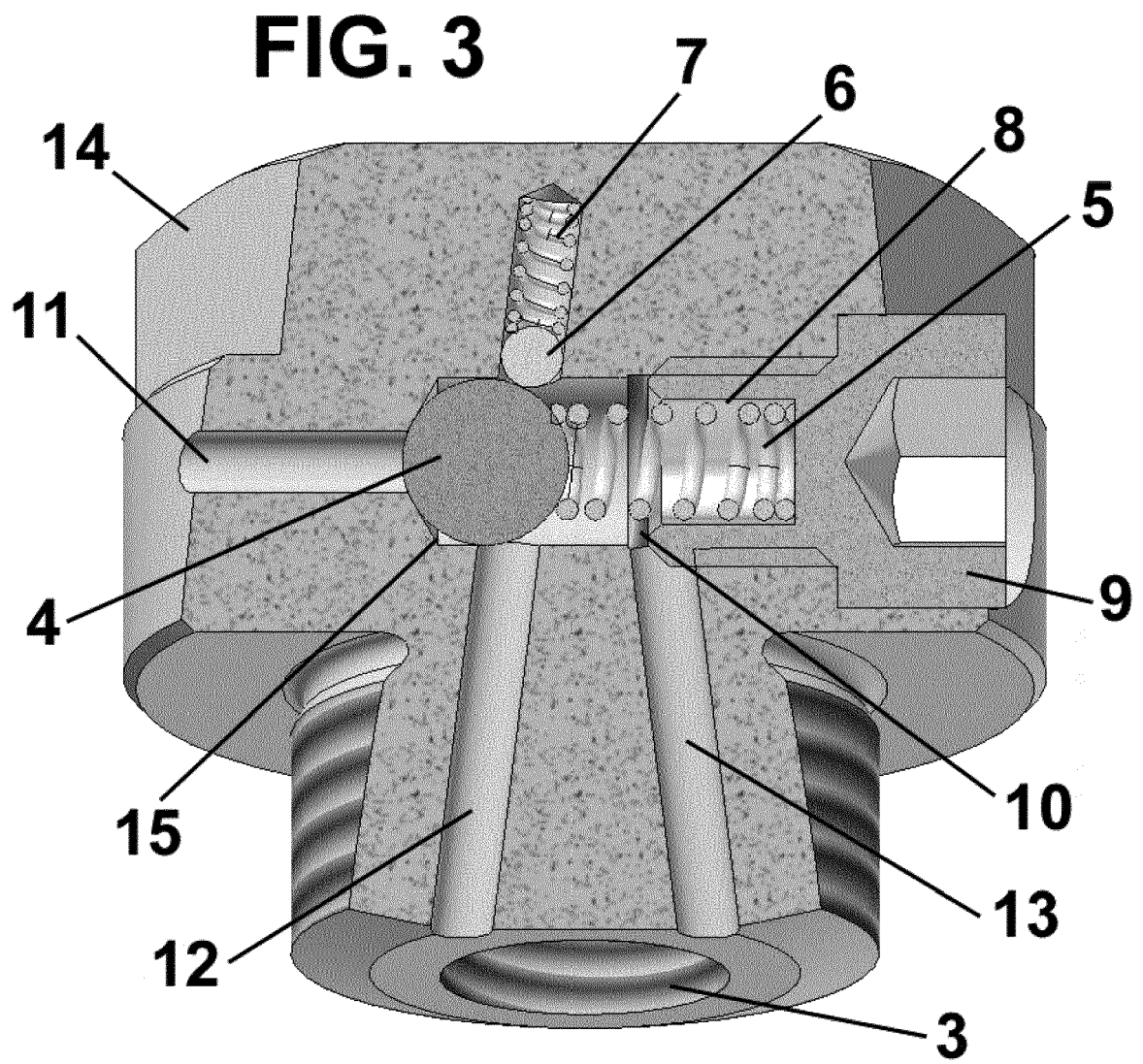
8. Decompressor (14) for motorcycles according to any one of the preceding claims, also comprising a fixing nut (9) provided with a seat (10) for the valve element (4) and a housing (8) for the first spring (5).

Claims

1. Decompressor (14) for motorcycles, comprising:
 - a valve element (4) movable between a first and second positions,
 - characterized in that** the decompressor (14) comprises a housing (3) for a spark plug (2).
2. Decompressor (14) for motorcycles according to claim 1, wherein the housing (3) for the spark plug (2) is a through hole.
3. Decompressor (14) for motorcycles according to claim 1, wherein the valve element (4) is in contact with a first spring (5) which pushes the valve element (4).
4. Decompressor (14) for motorcycles according to any one of the preceding claims, also comprising a retaining element (6), which retains the valve element (4) in the first position.
5. Decompressor (14) for motorcycles according to claim 4, wherein the retaining element (6) is pushed by a second spring (7).
6. Decompressor (14) for motorcycles according to any one of the preceding claims, also comprising a first duct (11) provided with a seat (15), such that in the first position the valve element (4) is separated from









EUROPEAN SEARCH REPORT

Application Number

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DOCUMENTS CONSIDERED TO BE RELEVANT			
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A	* abstract; figures * -----	3-5, 7, 8	H01T13/14 F02N19/00
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			TECHNICAL FIELDS SEARCHED (IPC)
			F02B H05C H01T F02P F02N
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 31 January 2022	Examiner Paulson, Bo
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			

**ANNEX TO THE EUROPEAN SEARCH REPORT
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82