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(54) **Portable fuel transfer unit**

(57) A portable fuel transfer unit comprising a plurality of functional elements, such as an electric pump (4) connected to the intake with a flexible hose (5) provided at the end with an adapted filter with a one-way valve and to the delivery with a flexible hose (8) provided with

a dispensing nozzle (9) at its end; the unit comprises a shell (1) which is divided into two detachably connected sections (2, 3) and has the electric pump (4) fixed to a first section (2) and is adapted to contain all of the functional elements when the two sections (2, 3) are assembled.

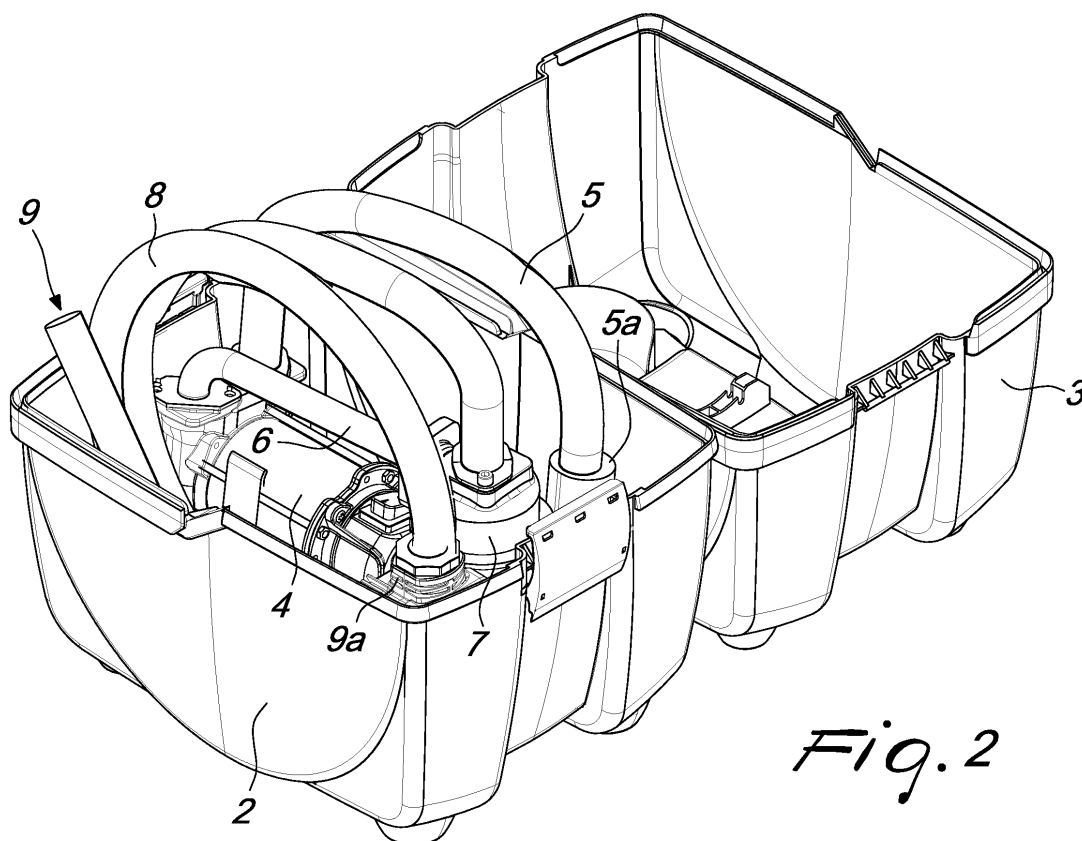


Fig. 2

Description

[0001] The invention relates to a portable fuel transfer unit.

[0002] It is known that there are portable units adapted to transfer fuel drawn from a fixed storage tank and sent to the tank of a means of locomotion used in the most disparate sectors, such as for example building yards, boating, or even in agriculture.

[0003] These units comprise an electric pump provided with flexible hoses at the intake and delivery: at the end of the hose that is connected to the intake there is a device which comprises a filter and a one-way valve designed to be inserted in the fixed storage tank, and at the end of the hose that is connected to the delivery there is a nozzle for dispensing the fuel to the tank of the means of locomotion.

[0004] The conventional transfer units suffer some drawbacks such as for example less than ideal operating modes, and further the possibility that leaks into the environment of residues of the fuel that has remained inside said units may occur.

[0005] The aim of the present invention is to provide a portable unit that offers maximum convenience in management and is able to guarantee reliability against any possibility of environmental pollution.

[0006] This aim and other objects which will become better apparent hereinafter are achieved by a portable fuel transfer unit, according to the invention, **characterized in that** it comprises the features according to the appended claims.

[0007] Further characteristics and advantages will become better apparent from the description of an embodiment of the portable fuel transfer unit according to the invention, illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of the containment shell in the closed condition;

Figure 2 is a perspective view of the containment shell in the open condition and with the functional elements contained therein still arranged as they were in the condition in which the shell was closed;

Figure 3 is a perspective view of the functional elements extracted from the open shell.

[0008] With reference to the figures, the reference numeral 1 generally designates the containment shell formed by two sections 2 and 3, which, when such sections are connected to provide the closed shell condition as shown in Figure 1, is capable of containing all the functional elements that will be described hereafter, arranged as shown in Figure 2.

[0009] Such functional elements of the unit comprise an electric pump 4, which is powered by means of a line that is connected to terminal clamps 4a, 4b and is fixed to the first section 2 of the shell, and is connected to the intake directly with a flexible hose 5 provided at the end

of a device 5a, which comprises a filter and a one-way valve and is designed to be inserted in a fixed storage tank.

[0010] Moreover a rigid tube 6 is fixed to the delivery of the electric pump 4, for connection to a filter head 7, which is fixed to the first section 2 of the shell and from which a flexible hose 8 extends and supports, at its end, a nozzle 9 for dispensing the fuel to the tank of a means of locomotion, with a coupling 9a.

[0011] With the shell 1 closed so as to contain all the functional elements, extremely easy conditions for transporting the unit are provided, and moreover any possibility of environmental pollution and of contact of the functional elements with foreign matter, such as for example dust or dirt, that might damage them is prevented.

[0012] Where it is necessary to transfer fuel, it is sufficient to detach the second section 3, which acts as a cover, from the first section 2 of the shell, and the management of the functional elements is entirely easy, as shown in Figure 3.

[0013] In the practical embodiment of the invention, all the details may be replaced with other technically equivalent elements.

[0014] The disclosures in Italian Utility Model Application No. MI2009U000307 from which this application claims priority are incorporated herein by reference.

[0015] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A portable fuel transfer unit, comprising a plurality of functional elements, such as an electric pump (4) connected to the intake with a flexible hose (5) provided at the end with a filter (5a) with a one-way valve and to the delivery with a flexible hose (8) provided with a dispensing nozzle (9) at its end, **characterized in that** it comprises a shell (1) which is divided into a first and a second detachably connected sections (2, 3), which has said electric pump (4) fixed to the first section (2) and is adapted to contain all of the functional elements when the two sections (2, 3) are assembled.
2. The unit according to claim 1, **characterized in that** it comprises a filter head (7) which is fixed to the first section (2) of the shell (1) and is connected by means of a tube (6) to the delivery of the pump (4), from which the flexible hose (8) extends which carries the dispensing nozzle (9) at its end.

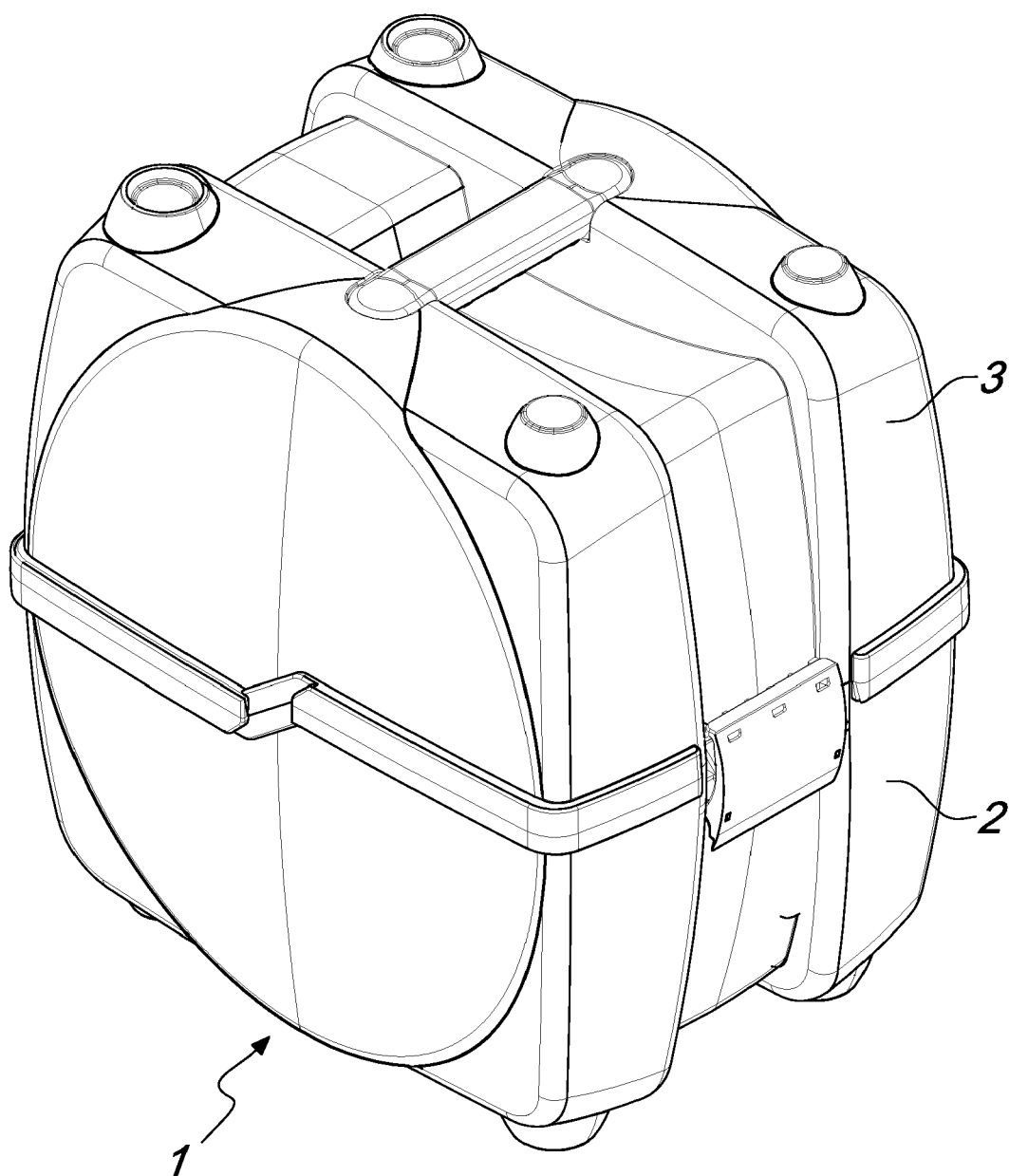


Fig. 1

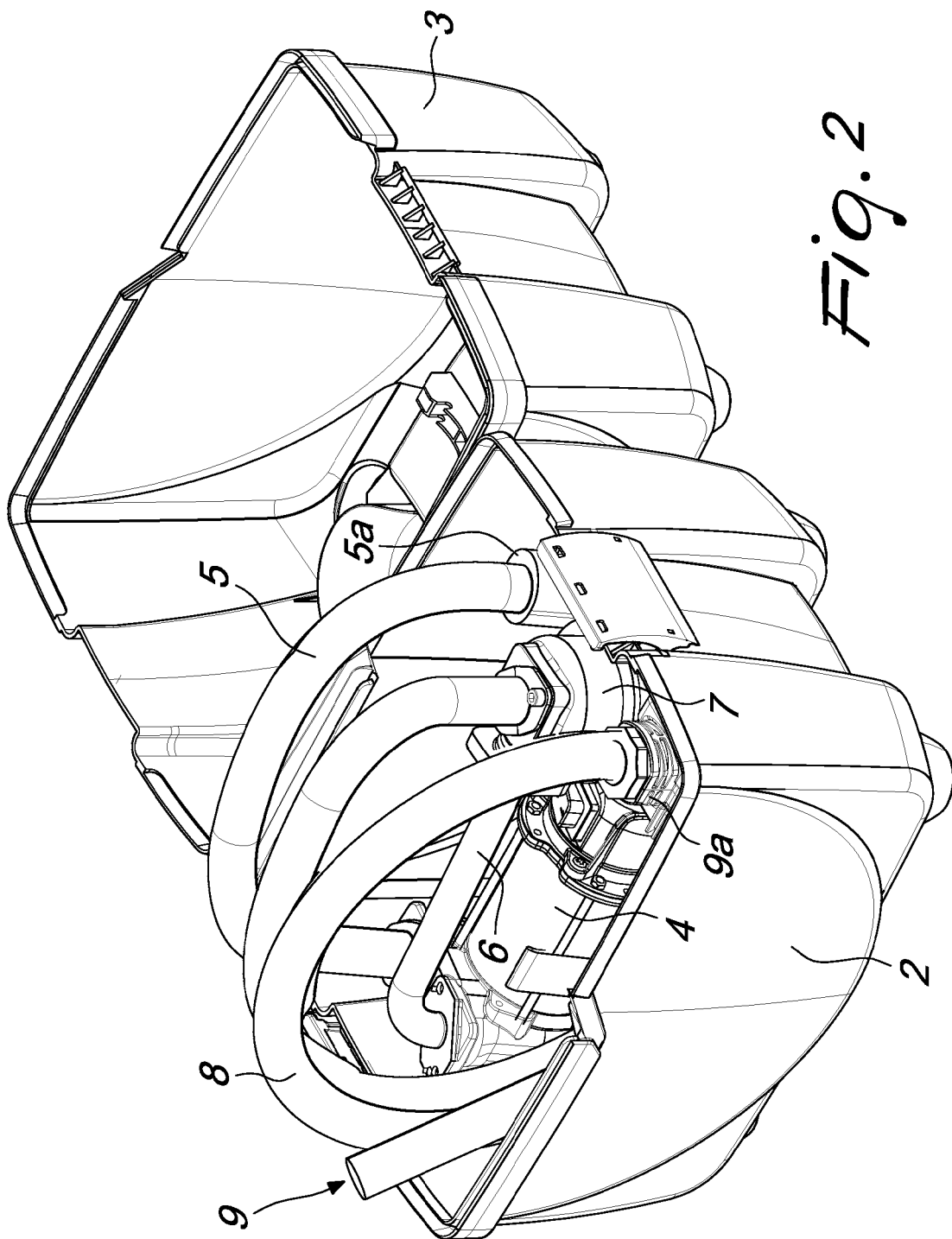


Fig. 2

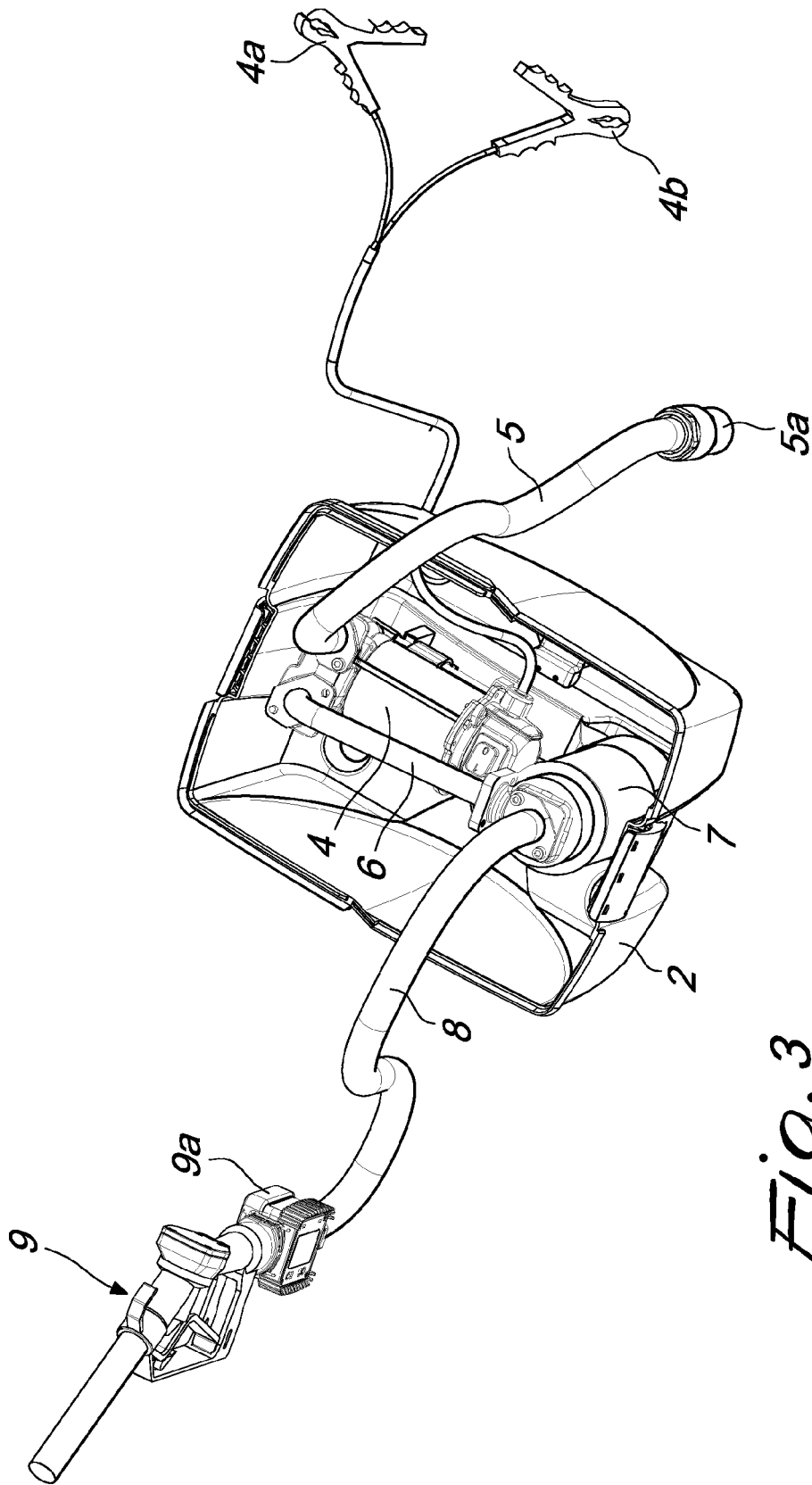


Fig. 3



EUROPEAN SEARCH REPORT

Application Number
EP 10 17 2475

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 6 146 108 A (MULLENDORE KEVIN H [US]) 14 November 2000 (2000-11-14) * column 2, line 24 - line 52 * * column 3, line 17 - line 48 * * column 4, line 37 - line 43 * * figures 1-4, 7 *	1,2	INV. B67D7/04 B67D7/84
X	DE 299 16 230 U1 (LIN YUNG FA [TW]) 5 January 2000 (2000-01-05) * page 3, line 26 - page 4, line 33 * * figures 1, 2 *	1,2	
X	US 5 251 345 A (PECHNER MURRAY [US]) 12 October 1993 (1993-10-12) * column 2, line 22 - column 3, line 7 * * column 4, line 19 - line 49 * * figures 3, 8-11 *	1	
A	EP 0 559 925 A1 (SCHEIDT & BACHMANN GMBH [DE]) 15 September 1993 (1993-09-15) * column 4, line 37 - line 58 * * claim 4 * * figure 1 *	1	TECHNICAL FIELDS SEARCHED (IPC)
A	US 4 872 816 A (FETCKO MICHAEL [US]) 10 October 1989 (1989-10-10) * abstract * * figure 1 *	1	B67D F04B A47K
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 13 January 2011	Examiner Schultz, Tom
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 03.02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 10 17 2475

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The members are as contained in the European Patent Office EDP file on
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13-01-2011

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REFERENCES CITED IN THE DESCRIPTION

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