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(71) Applicant: **Nettuno S.R.L.**
24060 Castelli Calepio BG (IT)

(72) Inventor: **PIANTONI, Paolo**
24060 CASTELLI CALEPIO BG (IT)

(74) Representative: **Modiano, Micaela Nadia et al**
Modiano & Partners
Via Meravigli, 16
20123 Milano (IT)

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(54) **DISPENSER WITH AUTOMATIC REFILLING, PARTICULARLY FOR HYGIENE PRODUCTS AND PRODUCTS FOR CLEANING SURFACES AND THE LIKE**

(57) A dispenser (1, 100) with automatic refilling, particularly for hygiene products and products for cleaning surfaces and the like, comprising:

- at least one tray (2) for collecting a detergent, sanitizing or disinfectant liquid particularly for the hygiene and cleaning of surfaces and the like;
- at least two side walls (3) associated with the collection tray (2) at at least part of its perimetric edge (4) so as to form an internal volume and to contain the detergent, sanitizing or disinfectant liquid;
- at least one dispensing lid (5) which can slide with respect to the side walls (3) oppositely with respect to the collection tray (2) along a sliding direction that is substantially normal to the collection tray (2);
- pumping means (6) associated both with the side walls (3) and with the dispensing lid (5) so that they are actuated as a consequence of the movement of the latter with respect to the side walls (3) and so that they pump the detergent, sanitizing or disinfectant liquid from the collection tray (2) to the upper part of the dispensing lid (5).

At least one tank (10) of the detergent, sanitizing or disinfectant liquid can be accommodated in the internal volume and communicates with the collection tray (2) for the transfer of the detergent, sanitizing or disinfectant liquid from the tank (10) to the collection tray (2).

Conveniently, the tank (10) is of the type that can be extracted through an opening (11) formed between the side walls (3) so as to allow its extraction and insertion.

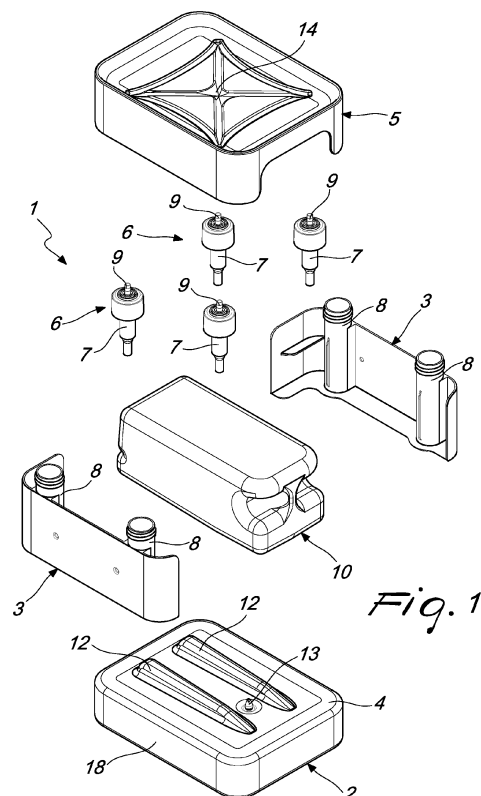


Fig. 1

Description

[0001] The present invention relates to a dispenser with automatic refilling, particularly for hygiene products and products for cleaning surfaces and the like.

[0002] In the household product sector, dispensers for dispensing household detergents or personal hygiene detergents are known which are substantially constituted by a tank containing the detergent, sanitizer or disinfectant liquid and by a region dedicated to the absorption of said liquid by a sponge or cloth, which is then used to perform the cleaning operations.

[0003] In greater detail, the above mentioned region is fed from the tank by virtue of appropriate pumping means.

[0004] These dispensers of the known type are not free from drawbacks, which include the fact that they are substantially disposable products, so that once the tank is depleted it is necessary to proceed with the complete replacement of the dispenser or, if possible, with operations for disassembling the tank in order to fill it with the detergent, sanitizing or disinfectant liquid.

[0005] Another drawback of dispensers of the known type is that they are provided with centrally activated pumping means, which makes the region dedicated to absorption, previously described, structurally unstable with respect to the underlying tank.

[0006] The aim of the present invention is to provide a dispenser with automatic refilling, particularly for hygiene products and products for cleaning surfaces and the like, that overcomes the drawback mentioned above.

[0007] Within this aim, an object of the present invention is to provide a dispenser that allows simple and straightforward refilling of the detergent, sanitizing or disinfectant liquid.

[0008] Another object of the present invention is to provide a dispenser the detergent, sanitizing or disinfectant liquid of which can be replaced if needed with different liquids depending on the requirements of the user.

[0009] A further object of the present invention is to provide a dispenser that is capable of giving the greatest assurances of reliability and safety in use.

[0010] Not the least object of the present invention is to provide a dispenser that can be provided with technologies known per se and therefore has low provision costs.

[0011] This aim and these and other objects which will become more apparent hereinafter are achieved by a dispenser with automatic refilling, particularly for hygiene products and products for cleaning surfaces and the like, which comprises:

- at least one tray for collecting a detergent, sanitizing or disinfectant liquid particularly for the hygiene and cleaning of surfaces and the like;
- at least two side walls associated with said at least one collection tray at at least part of its perimetric edge so as to form an internal volume;
- at least one dispensing lid which can slide with respect to said side walls oppositely with respect to

said at least one collection tray along a sliding direction that is substantially normal to said at least one collection tray;

- pumping means associated both with said side walls and with said at least one dispensing lid so that they are actuated as a consequence of the movement of said at least one dispensing lid with respect to said side walls and so that they pump said detergent, sanitizing or disinfectant liquid from said at least one collection tray to the upper part of said at least one dispensing lid;

characterized in that it comprises at least one tank of said detergent, sanitizing or disinfectant liquid which can be accommodated in said internal volume and communicates with said at least one collection tray for the transfer of said detergent, sanitizing or disinfectant liquid from said at least one tank to said at least one collection tray; said at least one tank being of the type that can be extracted through an opening formed between said side walls so as to allow its extraction and insertion.

[0012] Further characteristics and advantages of the invention will become more apparent from the description of a preferred but not exclusive embodiment of a dispenser with automatic refilling, particularly for hygiene products and products for cleaning surfaces and the like, illustrated by way of non-limiting example with the aid of the accompanying drawings, wherein:

Figure 1 is an exploded perspective view of the dispenser according to the present invention;

Figure 2 is a partially exploded perspective view of the dispenser shown in Figure 1;

Figure 3 is a perspective view of the dispenser shown in the previous figures, showing the operations for replacing the tank;

Figures 4 and 5 are two perspective views of the dispenser shown in the previous figures, showing in sequence its use;

Figure 6 is a perspective view of a variation of the dispenser shown in the previous figures during its use.

[0013] With reference to the figures, the dispenser with automatic refilling, particularly for hygiene products and products for cleaning surfaces and the like, generally designated by the reference numeral 1, comprises:

- at least one tray 2 for collecting a detergent, sanitizing or disinfectant liquid particularly for the hygiene and cleaning of surfaces and the like;
- at least two side walls 3 associated with the collection tray 2 at at least part of its perimetric edge 4 so as to form an internal volume;
- at least one dispensing lid 5, which can slide with respect to the side walls 3 oppositely with respect to the collection tray 2 along a sliding direction that is substantially normal to the collection tray 2;

- pumping means 6 associated both with the side walls 3 and with the dispensing lid 5 so that they are actuated as a consequence of the movement of the latter with respect to the side walls 3 and so that they pump the detergent, sanitizing or disinfectant liquid from the collection tray 2 to the upper part of the dispensing lid 5.

[0014] More in detail, in the proposed embodiment, the collection tray 2 is formed by a hollow container body 18 and the dispensing lid 5 is partially fitted on the side walls 3 so as to be guided thereby.

[0015] Advantageously, the pumping means 6 comprise for example at least four pumps 7 which are accommodated in four respective columns 8 formed in the side walls 3.

[0016] Conveniently, the four pumps 7 comprise pumping elements 9 which are associated with the dispensing lid 5 and communicate with the inside of the hollow container body 18.

[0017] According to the invention, there is at least one tank 10 of the detergent, sanitizing or disinfectant liquid which can be accommodated in the internal volume formed between the side walls 3, the collection tray 2 and the dispensing lid 5.

[0018] Conveniently, the tank 10 communicates with the collection tray 2 for the transfer by gravity of the detergent, sanitizing or disinfectant liquid from the former to the latter and is of the type that can be extracted through an opening 11 formed between the side walls 3 so as to allow its extraction and insertion, as shown in Figure 3.

[0019] In the proposed embodiment, the tank 10 has a geometric shape that is ergonomically adapted to be gripped by the fingers of an operator.

[0020] Advantageously, the hollow container body 18, which forms the collection tray 2, has at its upper surface, designed to engage the tank 10, at least one guiding rib 12 and a pin 13.

[0021] More in detail, in the proposed embodiment, there are two guiding ribs 12 which are extended along a direction that is parallel to the direction of extraction and insertion of the tank 10 and are designed to engage by sliding contact with the bottom of the tank 10 for the correct spacing of the latter from the collection tray 2.

[0022] The pin 13 is of the hollow type, which communicates with the inside of the hollow container body 18 and is designed to perforate a respective membrane, not shown, formed on the bottom of the tank 10 for the passage by gravity of the detergent, sanitizing or disinfectant liquid from the tank 10 to the hollow container body 18.

[0023] Advantageously, the dispensing lid 5 has a surface channel 14 with an open top, which communicates with the pumping means 6, i.e., with the four pumps 7, which is adapted to contain the detergent, sanitizing or disinfectant liquid pumped by the pumping means 6 for contact with a house cleaning sponge 15 or the like or with a personal hygiene towel or with paper wipers and

the like.

[0024] With particular reference to Figure 6, in a variation 100 of the dispenser 1 there are at least two collection trays 2, at least two tanks 10, a plurality of side walls 3 associated with the two collection trays 2 and mutually connected, by means of connecting brackets 16 and a plurality of pumping means associated with the two collection trays 2.

[0025] In this case, the dispensing lid 5 is associated with the side walls 3 oppositely with respect to the two collection trays 2 along a sliding direction that is substantially normal thereto and is sized so as to cover them.

[0026] In this manner, the dispenser 100 can be used to soak a cloth 17 mounted on a scrubbing brush for floors.

[0027] The operation of the dispenser 1 and 100 is described hereinafter.

[0028] As shown in Figures 3 and 6, the tank 10 is inserted through the opening 11, guided by the ribs 12, and is perforated by means of the pin 13.

[0029] In this manner, the tank 10 is made to communicate with the inside of the collection tray 2.

[0030] Once everything is assembled, it is sufficient to take a sponge 15 or the cloth 17, place it on the dispenser lid 5 and press it one or more times so that the cleaning, sanitizing or disinfectant liquid is loaded on the dispenser lid 5 and directed into the surface channel 14.

[0031] Once the detergent, sanitizing or disinfectant liquid is used up, it is sufficient to replace the tank 10 for a new use.

[0032] In practice it has been found that the dispenser with automatic refilling, particularly for hygiene products and products for cleaning surfaces and the like, according to the invention achieves the intended aim and objects, since it makes it possible to refill the detergent, sanitizing or disinfectant liquid in a simple manner.

[0033] The dispenser with automatic refilling, particularly for hygiene products and products for cleaning surfaces and the like, is susceptible of numerous modifications and variations, all of which are within the scope of the accompanying claims.

[0034] All the details may furthermore be replaced with other technically equivalent elements.

[0035] In practice, the materials used, as long as they are compatible with the specific use, as well as the contingent shapes and dimensions, may be any according to the requirements.

[0036] The disclosures in Italian Patent Application No. 102021000004103 from which this application claims priority are incorporated herein by reference.

[0037] 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 dispenser (1, 100) with automatic refilling, particularly for hygiene products and products for cleaning surfaces and the like, comprising:

- at least one tray (2) for collecting a detergent, sanitizing or disinfectant liquid particularly for the hygiene and cleaning of surfaces and the like;
- at least two side walls (3) associated with said at least one collection tray (2) at at least part of its perimeter edge (4) so as to form an internal volume;
- at least one dispensing lid (5) which can slide with respect to said side walls (3) oppositely with respect to said at least one collection tray (2) along a sliding direction that is substantially normal to said at least one collection tray (2);
- pumping means (6) associated both with said side walls (3) and with said at least one dispensing lid (5) so that they are actuated as a consequence of the movement of said at least one dispensing lid (5) with respect to said side walls (3) and so as to pump said detergent, sanitizing or disinfectant liquid from said at least one collection tray (2) to the upper part of said at least one dispensing lid (5);

characterized in that it comprises at least one tank (10) of said detergent, sanitizing or disinfectant liquid which can be accommodated in said internal volume and communicates with said at least one collection tray (2) for the transfer of said detergent, sanitizing or disinfectant liquid from said at least one tank (10) to said at least one collection tray (2); said at least one tank (10) being of the type that can be extracted through an opening (11) formed between said side walls (3) so as to allow its extraction and insertion.

2. The dispenser (1, 100) according to claim 1, **characterized in that** said at least one collection tray (2) is formed by a hollow container body (18) which has, at its upper surface, designed to engage said at least one tank (10), at least one guiding rib (12) that is designed to engage by sliding contact with the bottom of said at least one tank (10) for the correct spacing of said at least one tank (10) from said at least one collection tray (2).

3. The dispenser (1, 100) according to claim 1 or 2, **characterized in that** said hollow container body (18) has, at its upper surface, designed to engage said at least one tank (10), at least one pin (13) of the hollow type, which communicates with the inside of said hollow container body (18) and is designed to perforate a respective membrane formed on the bottom of said at least one tank (10) for the passage

by gravity of said detergent, sanitizing or disinfectant liquid from said at least one tank (10) to said hollow container body (18).

4. The dispenser (1, 100) according to one or more of the preceding claims, **characterized in that** said at least one dispensing lid (5) has a surface channel (14) with an open top, which communicates with said pumping means (6) and is adapted to contain said detergent, sanitizing or disinfectant liquid pumped by said pumping means (6) for contact with a house cleaning sponge (15) or the like.

5. The dispenser (1, 100) according to one or more of the preceding claims, **characterized in that** said pumping means (6) comprise at least four pumps (7) which are accommodated in four respective columns (8) formed by said side walls (3); said four pumps (7) comprising pumping elements (9) associated with said at least one dispensing lid (5) and communicating with the inside of said hollow container body (18) and said surface channel (14).

6. The dispenser (1, 100) according to one or more of the preceding claims, **characterized in that** said at least one tank (10) has a geometric shape that is ergonomically adapted to be gripped by the fingers of an operator.

7. The dispenser (100) according to one or more of the preceding claims, **characterized in that** it comprises at least two of said at least one collection tray (2), at least two of said at least one tank (10), a plurality of said side walls (3) which are associated with said at least two collection trays (2) and are mutually connected, and a plurality of pumping means (6) which are associated with said at least two collection trays (2); said at least one dispensing lid (5) being associated with said side walls (3) oppositely with respect to said at least two collection trays (2) along a sliding direction that is substantially normal to said at least two collection trays (2).

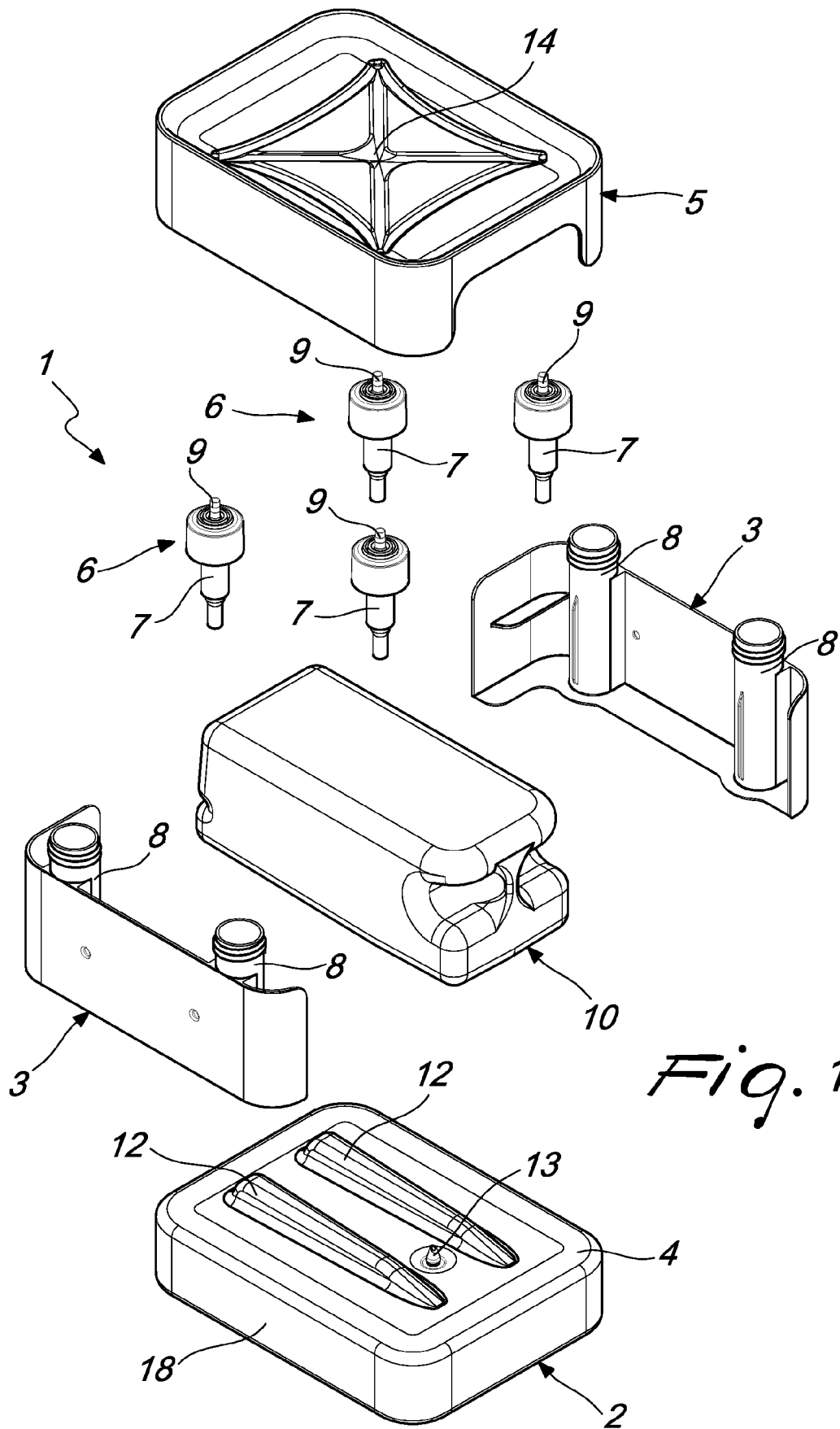
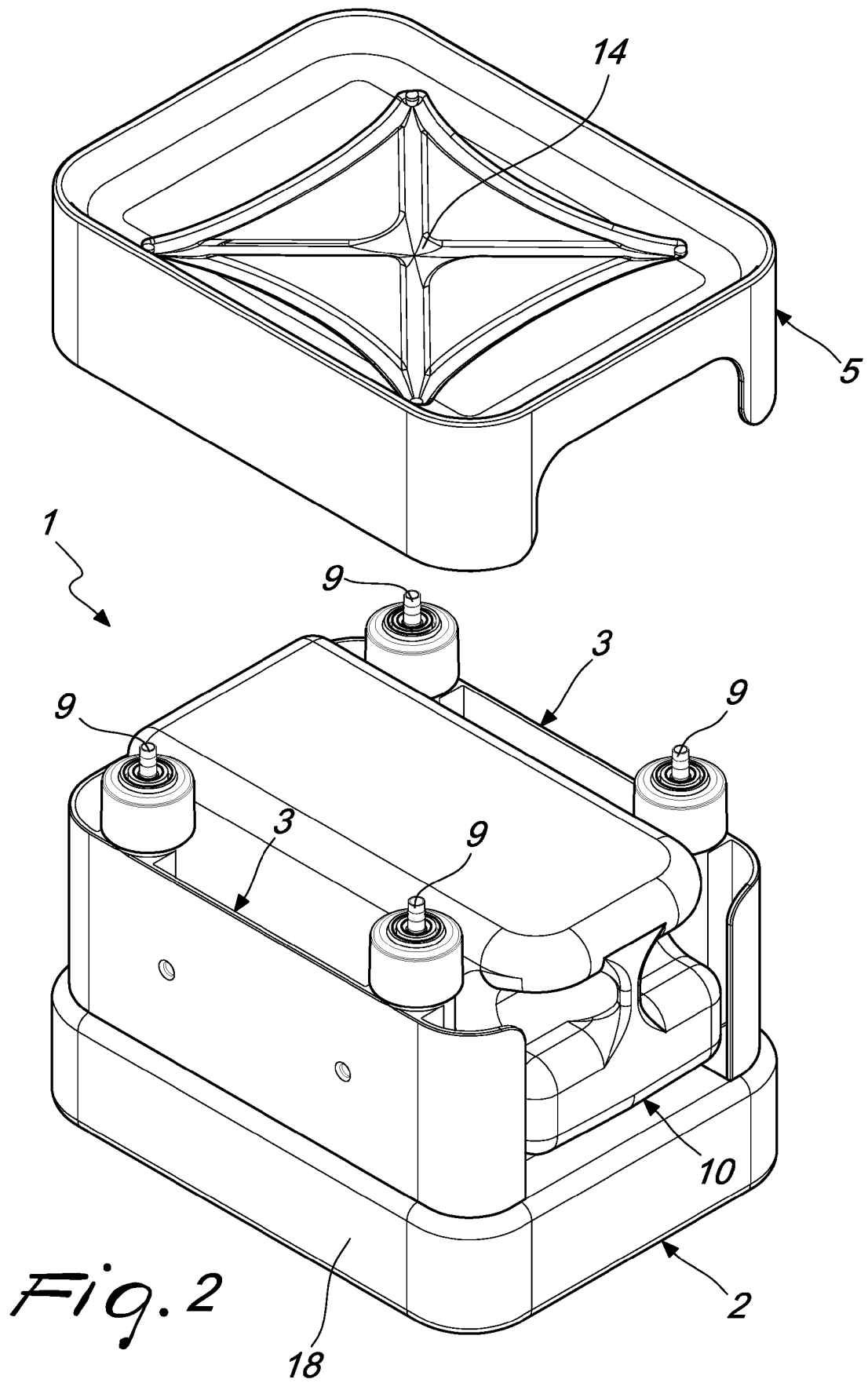


Fig. 1



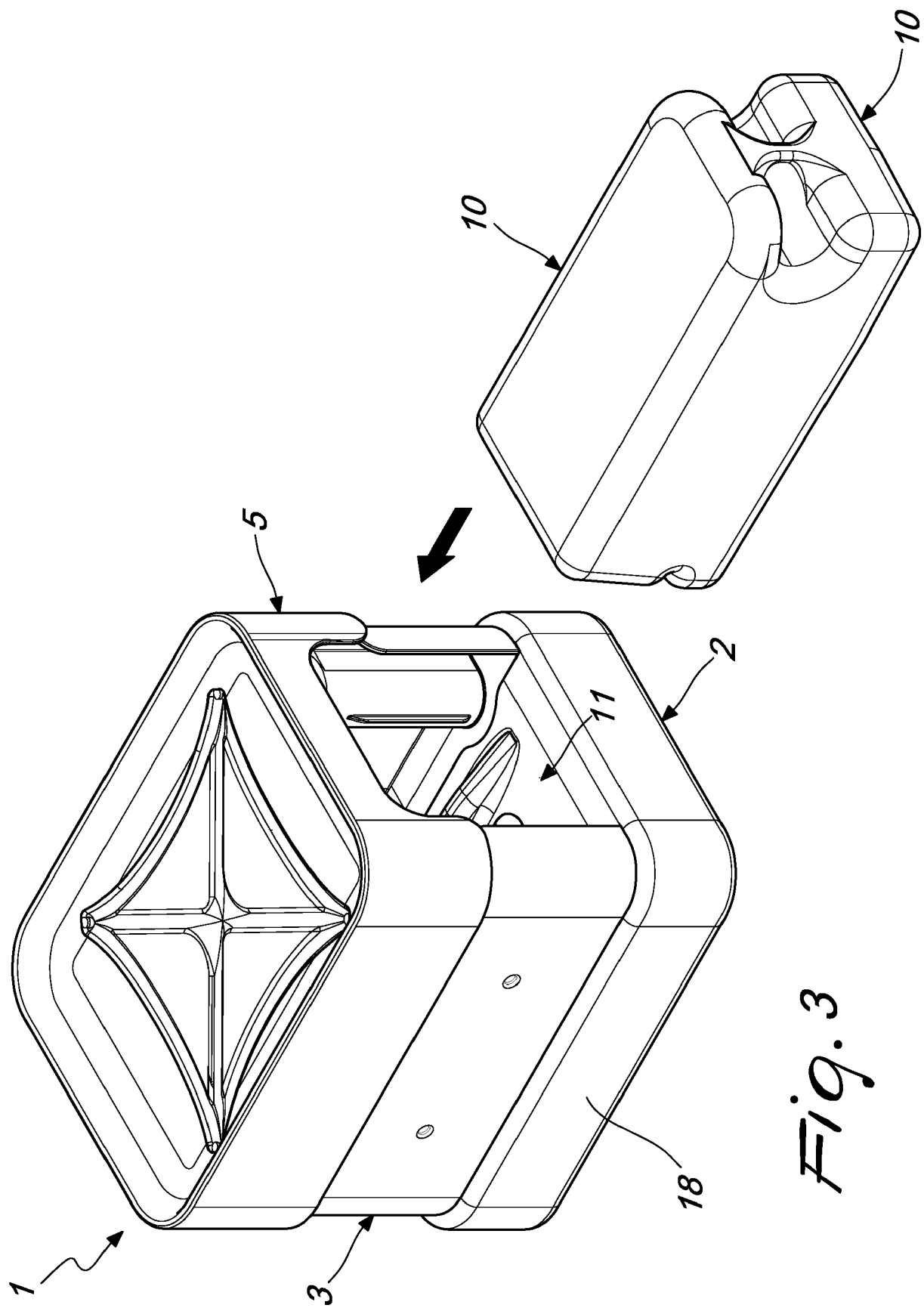
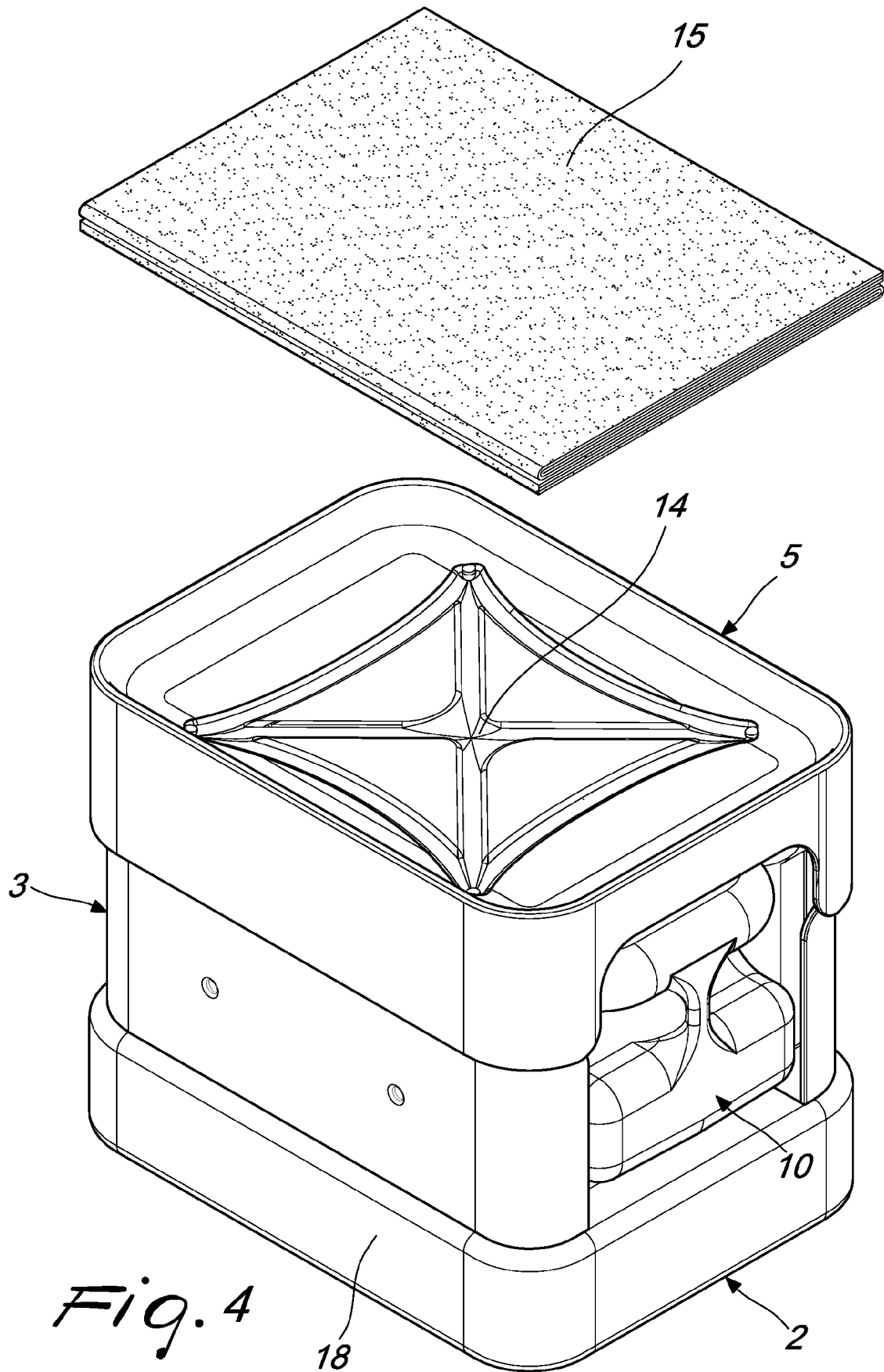


Fig. 3



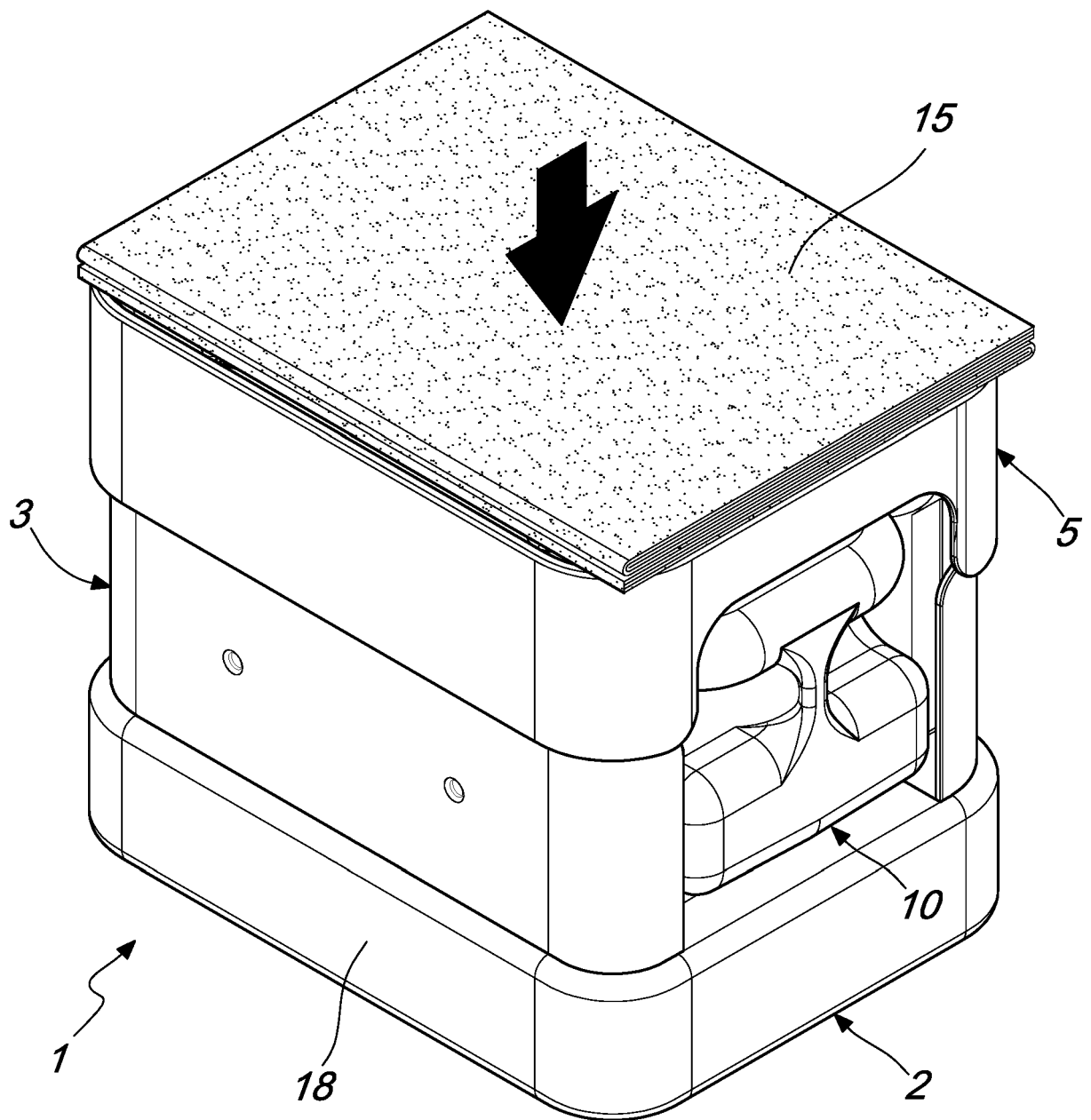
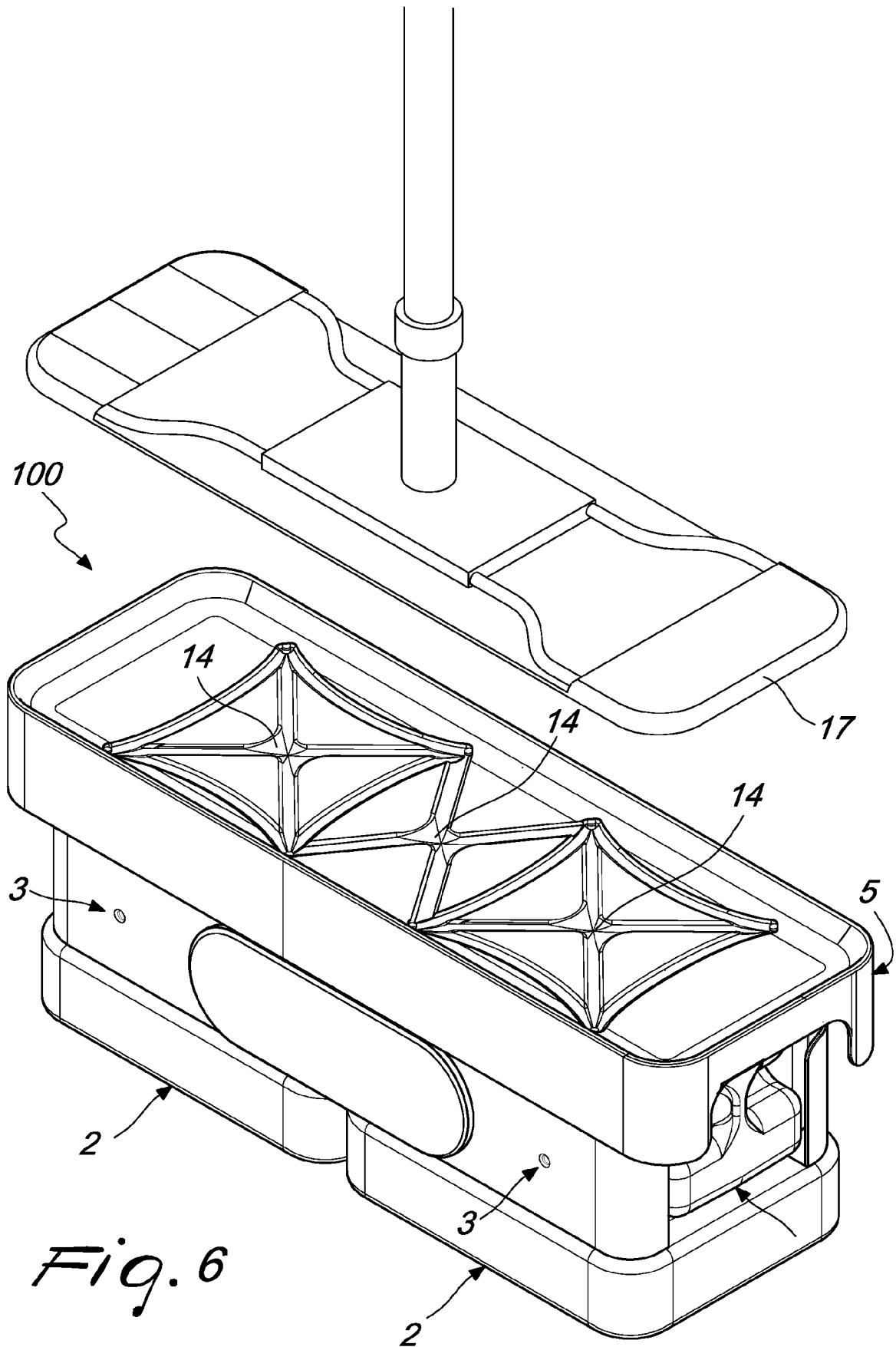


Fig. 5





EUROPEAN SEARCH REPORT

Application Number

EP 21 20 8689

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	WO 2017/191587 A1 (IPC TOOLS S P A [IT]) 9 November 2017 (2017-11-09)	1,4-7	INV. A47L13/50
A	* page 10, line 15 - page 22; figures * -----	2,3	
X	EP 0 781 524 B1 (VERMOP SALMON GMBH [DE]) 7 November 2001 (2001-11-07)	1,4,6	
A	* paragraph [0051] - paragraph [0062]; figures 2,2a * -----	2,3,5,7	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47L A47K A45D B05C B65D B05B B08B
The present search report has been drawn up for all claims			

1

EPO FORM 1503 03.82 (P04C01)

Place of search	Date of completion of the search	Examiner
The Hague	21 March 2022	Van Bost, Sonia
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
ON EUROPEAN PATENT APPLICATION NO.**

EP 21 20 8689

5 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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

21-03-2022

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REFERENCES CITED IN THE DESCRIPTION

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