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(71) Applicant: **Marangoni, Angiolino**
37060 Castel d'Azzano (IT)

(72) Inventor: **Marangoni, Angiolino**
37060 Castel d'Azzano (IT)

(74) Representative: **Sarpi, Maurizio**
Studio FERRARIO
Via Collina, 36
00187 Roma (IT)

(54) Appliance for washing and/or polishing sports footwear or the like

(57) This is an appliance that perfectly cleans footwear, removing all residue and muddy or sandy deposits or the like from soles and also from the outer side of the uppers.

The appliance (1) consists of a hollow containing structure (2) which has a box-like shape with chamfered sides and which houses several side (3) and lower (4) brushes which are fastened in groups and aimed towards the center of the structure itself.

A duct (6) is located above the side brushes (3) and has delivery holes (7) that aim towards and over the brushes. Duct (9) is installed at the level of the lower brushes.

Both the side ducts (6) and the central duct (9) communicate with each other and are connected to a supply outlet that can be a source of water or a device for dispensing liquid grease or other products for treating shoes.

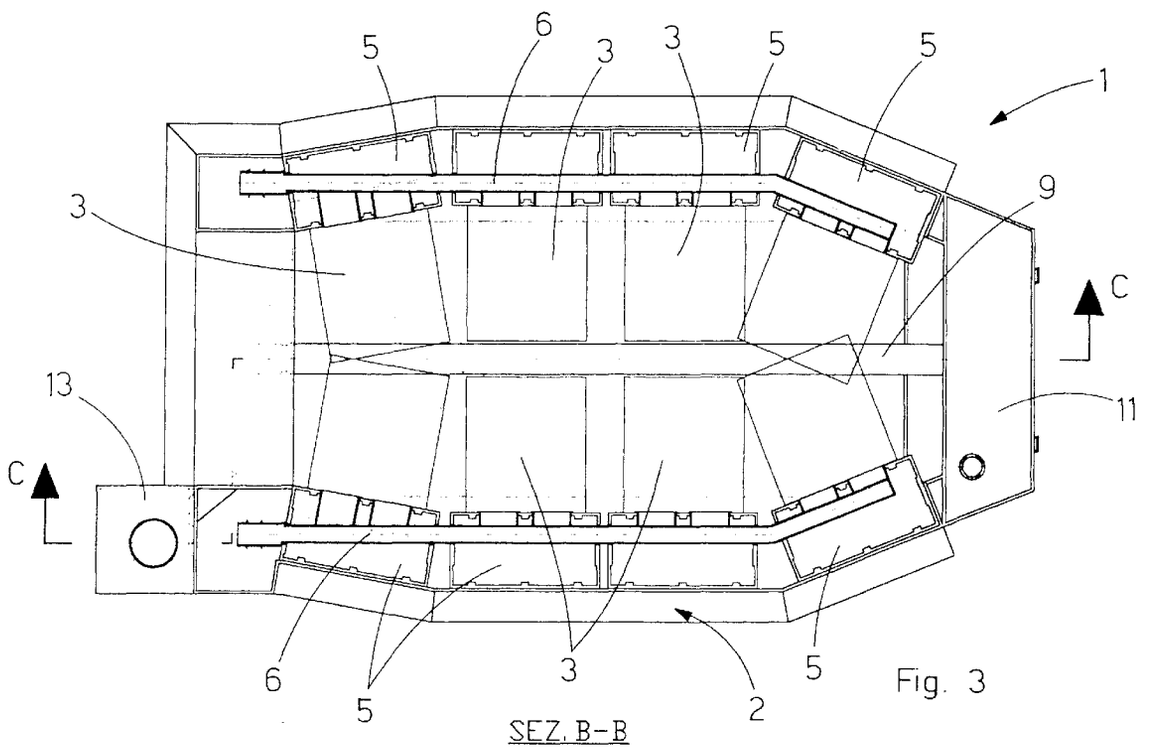

Fig. 3

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Description

The purpose of this industrial invention patent is a special device for washing and/or polishing sports footwear and the like. In particular it is designed for footwear used for sports or work activities on muddy or sandy terrain or the like.

The well-known problem often arises, in certain sports activities such as football and rugby or in other environments where it is necessary to walk, run or in any case work on muddy and sandy terrain or the like, such as farming or gardening activities, of properly cleaning the shoes after each use with the primary goal of removing all residue and mud deposits and the like first of all from the sole but also from the outer side of the upper.

The problem is even more evident if we consider that, in most cases, the footwear used for the above-indicated functions generally has soles or shapes that are extremely corrugated. This causes two main problems: these surfaces collect a large quantity of mud deposits and these surfaces make cleaning procedures very difficult.

Existing technology solves these problems using cleaning devices with fixed or motorized brushes. Fixed brush units are inefficient, however, and motorized brush units are complicated and expensive as well as being unsafe.

In fact fixed brush cleaning devices are inefficient because of their great difficulty in cleaning the deepest muddy deposits and motorized brush unit include complicated and costly mechanisms, powered by electricity and which could, among other things, even become dangerous in case of contact with washing water. The purpose of the present invention is to eliminate the above-indicated problems and in particular to have conceived and built a device that perfectly cleans footwear and removes all muddy deposits or residue and the like above all from the sole but also from the outer side of the upper.

One of the advantages achieved by the invention in question is that it has eliminated moving mechanical parts such as those of the already-mentioned motorized rotating brushes. This eliminates the need to connect the device to an electricity supply and consequently eliminates any possibility of electrical dispersions in a device that delivers a certain quantity of water.

The device according to the invention, totally free of moving mechanical parts, in addition to being of simple conception and while still being extremely efficient, is not subject to any type of wear except for brush wear and the brushes, among other things, are very easy to replace.

These purposes, advantages and special functions are all achieved, according to the invention, by a device for washing and/or polishing sports footwear or the like characterized by the fact that it is composed of a hollow containing structure basically with a box shape with chamfered sides that includes a series of brushes placed in groups that are preferably interchangeable and modular and are in particular positions, and a series of ducts for delivering water and/or polish or the like. These ducts connect to a supply outlet which can connect to a source of water and/or to a device for dispensing polishing liquid or grease or the like.

Other particular characteristics of the present invention may better be illustrated in the following description of a preferential design shape which is illustrated, as a guideline but not as a limitation, in the attached drawings of which:

fig. 1 shows a schematic overall side view of the device according to this invention;
fig. 2 shows a schematic view of the front side according to cross-section A-A in fig. 1;
fig. 3 shows a schematic view of the plan of the device according to line B-B of fig. 2;
fig. 4 shows a schematic view of the front side of the device according to cross-section C-C in fig. 3.

In reference to the attached figures number 1 indicates a complete device for cleaning and/or polishing footwear which is preferably but not necessarily of the sports footwear type or is in any case used on muddy terrain or the like and that has soles or external parts with extremely corrugated shapes and which therefore collect a large quantity of mud, sand or other similar deposits.

Device 1 is consequently composed of hollow containing structure 2 with a basically box shape with chamfered sides and which houses several side brushes 3 and lower brushes 4 which are fastened in groups and all aim towards the center of the structure itself.

More specifically side brushes 3 are placed on the upper side edge of structure 1 and in a manner so that the bristle part of the brushes is placed in a basically horizontal position with its own end slightly sloped downwards and is aimed towards the center of the structure.

Side brushes 3 are hooked to support elements 5. A special support 5' is fastened in the upper section and is designed to contain duct 6 which has delivery holes 7 that aim towards and above the brushes themselves.

Lower brushes 4 are placed in a vertical position and in two parallel flanking groups that aim upwards. The lower brushes are supported by brackets 8 fastened at the base of the support structure.

The two parallel rows of brushes are slightly detached from each other to improve drainage of material removed from the shoes towards the bottom.

Central thru duct 9 is installed between the two parallel groups of lower brushes 4. Holes 10 for delivering water are machined in this duct at regular intervals.

Central duct 9 is placed in a slightly lower position compared to the upper end of brushes 4 and also acts as a support for the footwear while it is being processed. Both side duct 6 and central duct 9 are intercommuni-

cating and are connected to a supply outlet that can be a source of water or a device for dispensing liquid grease or other products for treating footwear.

When the outlet is connected to a water pipe it provides for installation of a quick connect fitting such as a garden hose connection. When it is connected to a liquid grease dispenser this grease may be contained in auxiliary tank 11 which, through duct 12, is introduced in ducts 6 and 9 by actuating dispensing pump 13 equipped with control push-button 14.

The device that has been described, as can be seen, may be used in two different functions: the first, connected to a water pipe, permits washing and removal of mud from the footwear. The second, in combination with a grease tank and its dispensing pump, permits footwear to be coated with grease or other similar products that give it polish or make it waterproof.

It is therefore sufficient, to use the device in question, to just turn on a water cock on the supply pipeline so that uninterrupted jets of water will come out of side ducts 6 and central duct 9 and will flow on the upper side brushes and the lower brushes.

At this point the shoe is introduced into contact with the brushes by resting it on central duct 9 which also constitutes a support element and the shoe is moved back and forth so that the sole is scrubbed by lower brushes 4 and side and upper parts of the shoe can be treated by side brushes 3.

After mud deposits have been removed the shoe can be introduced into a second similar device, which may be flanked with the first, and which in this case is designed to deliver-liquid grease or other polishing product, delivered by pressing push-button 14. Polishing processes are like that described for the previous washing process and now the footwear will be perfectly clean and polished.

Another advantage is that the muddy deposits that are removed are conveyed by slide 15 to a removal zone placed below the appliance itself.

Another advantage is represented by the fact that the brushes, when their bristles become worn, are easily replaced by simply removing them from their seats and inserting another brush in place of the previous one.

As is evident the particular layout of the brushes means that the shoe, while being processed, will be invested on all sides and especially on the bottom side of the sole and in all corrugations and asperities by simply moving the shoe back and forth between the brushes.

And, finally, the device in question may be designed to be connected with forced air components, even using hot air, which permit footwear being treated to undergo a drying phase as well.

The device in question for cleaning and processing footwear, removing muddy deposits and the like, has been described and illustrated according to a preferential solution but several variants can also be used, technically equivalent to the parts and components mentioned, and which are therefore to be held to be included in the realm of protection of this invention.

Claims

1. Appliance for washing and/or polishing sports footwear or the like characterized by the fact that it consists of a hollow containing structure (2) with a basically box-like shape with chamfered sides and which contains a series of brushes (3,4), placed in groups and which are preferably modular and interchangeable and are in particular positions, and a series of ducts (6, 9) which have a number of holes (7, 10) designed to deliver washing, cleaning and polishing or similar substances; these ducts (6, 9) lead to at least one supply outlet and this supply outlet can be connected to at least one device to dispense washing, cleaning or polishing substances.

2. Appliance for washing and/or polishing footwear according to the preceding claim and characterized by the fact that these washing, cleaning or polishing substances can consist of a supply of water or polishing liquid or greasing liquid or the like.

3. Appliance for washing and/or polishing footwear according to the preceding claims, characterized by the fact that the hollow containing structure (2) houses multiple brushes which are fastened both on the sides (3) and below (4) and are placed in groups and all directed towards the center of the structure itself.

4. Appliance for washing and/or polishing footwear according to the preceding claims characterized by the fact that the aforesaid side brushes (3) are hooked to support components (5) which in their upper section attach to a support (5') designed to include a duct (6) containing delivery holes (7) aimed towards the brushes and above them.

5. Appliance for washing and/or polishing footwear according to the preceding claims characterized by the fact that said lower brushes (4) are placed in vertical direction and in two parallel flanked groups directed upwards; these lower brushes are supported by brackets (8) fastened to the base of the support structure.

6. Appliance for washing and/or polishing footwear according to the preceding claims characterized by the fact that a central thru duct (9) is positioned between the two aforementioned parallel groups of lower brushes (4) and that holes (10) are made along this central duct at regular intervals to deliver the washing water.

7. Appliance for washing and/or polishing footwear according to the preceding claims characterized by the fact that the aforementioned side ducts (6) and central duct (9) are intercommunicating with each other and connected to at least one supply outlet that can be connected to at least one source of water or to at least one device for delivering liquid grease or other product for treating footwear.

8. Appliance for washing and/or polishing footwear according to the preceding claims characterized by the fact that it can be used in two different ways: the first way by connecting it to a water pipeline permits footwear to be washed and mud to be removed; the second way, by combining it with a grease tank (11) and relative dispensing pump (13) permits footwear to be spread with grease or other similar product to polish or waterproof it.

9. Appliance for washing and/or polishing footwear according to the preceding claims characterized by the fact that it can be designed for connection with forced air ventilation components, even using hot air, that function to submit processed footwear to a drying cycle.

10. Appliance for washing and/or polishing footwear according to the preceding claims characterized by the fact that the aforementioned central duct (9) also constitutes a support element for the footwear while it is being processed.

11. Appliance for washing and/or polishing footwear according to the preceding claims characterized by the fact that the aforesaid side brushes (3) are directed towards the center of the structure and in a basically horizontal pattern with their own ends slightly inclined downwards.

12. Appliance for washing and/or polishing footwear according to the preceding claims characterized by the fact that the two front side brushes are also inclined in such a way as to permit perfect treatment of the front and upper part of the footwear.

13. Appliance for washing and/or polishing footwear according to the preceding claims characterized by the fact that the aforementioned brushes (3, 4) can be mounted on the appliance in a permanent manner.

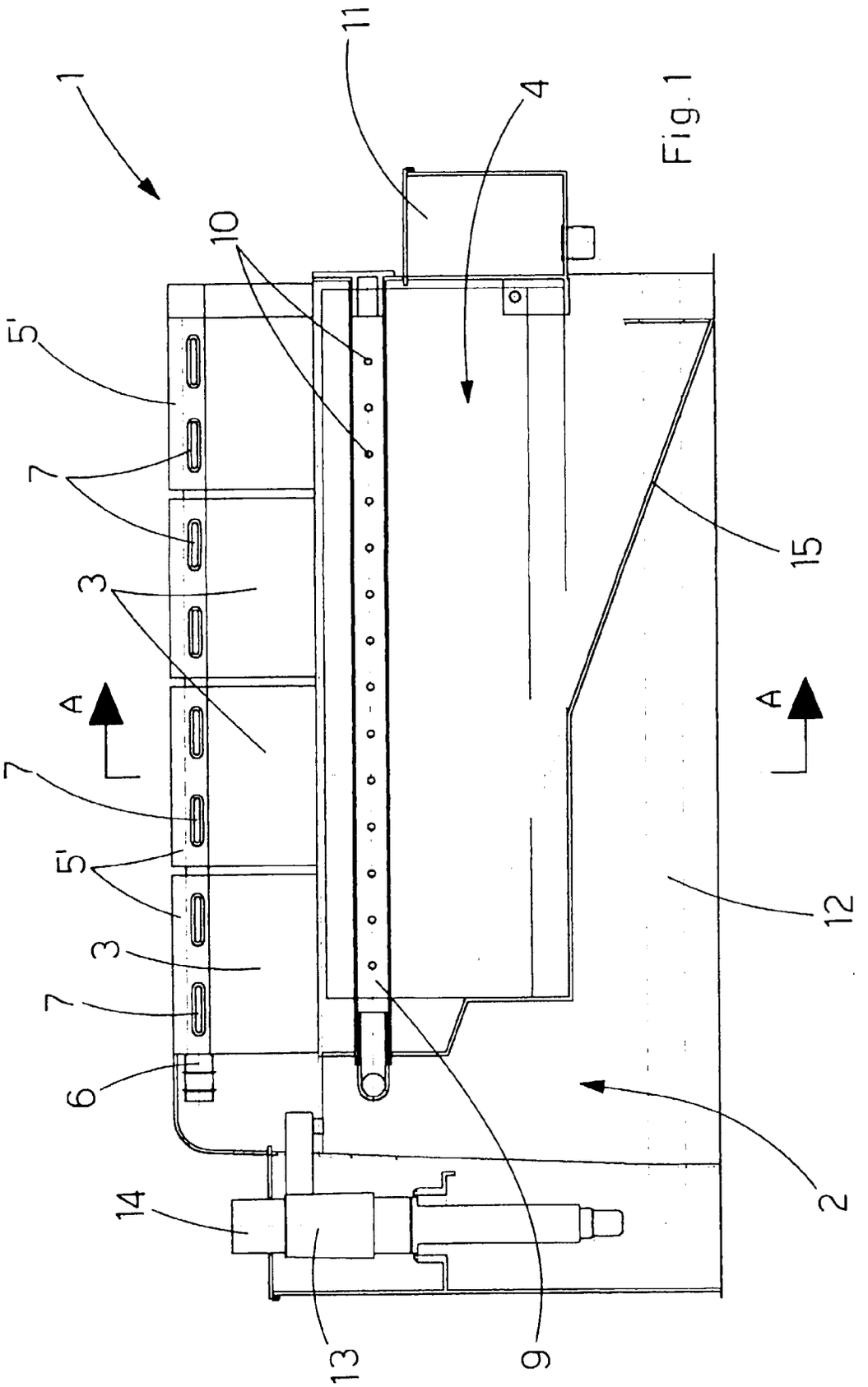

Fig. 1

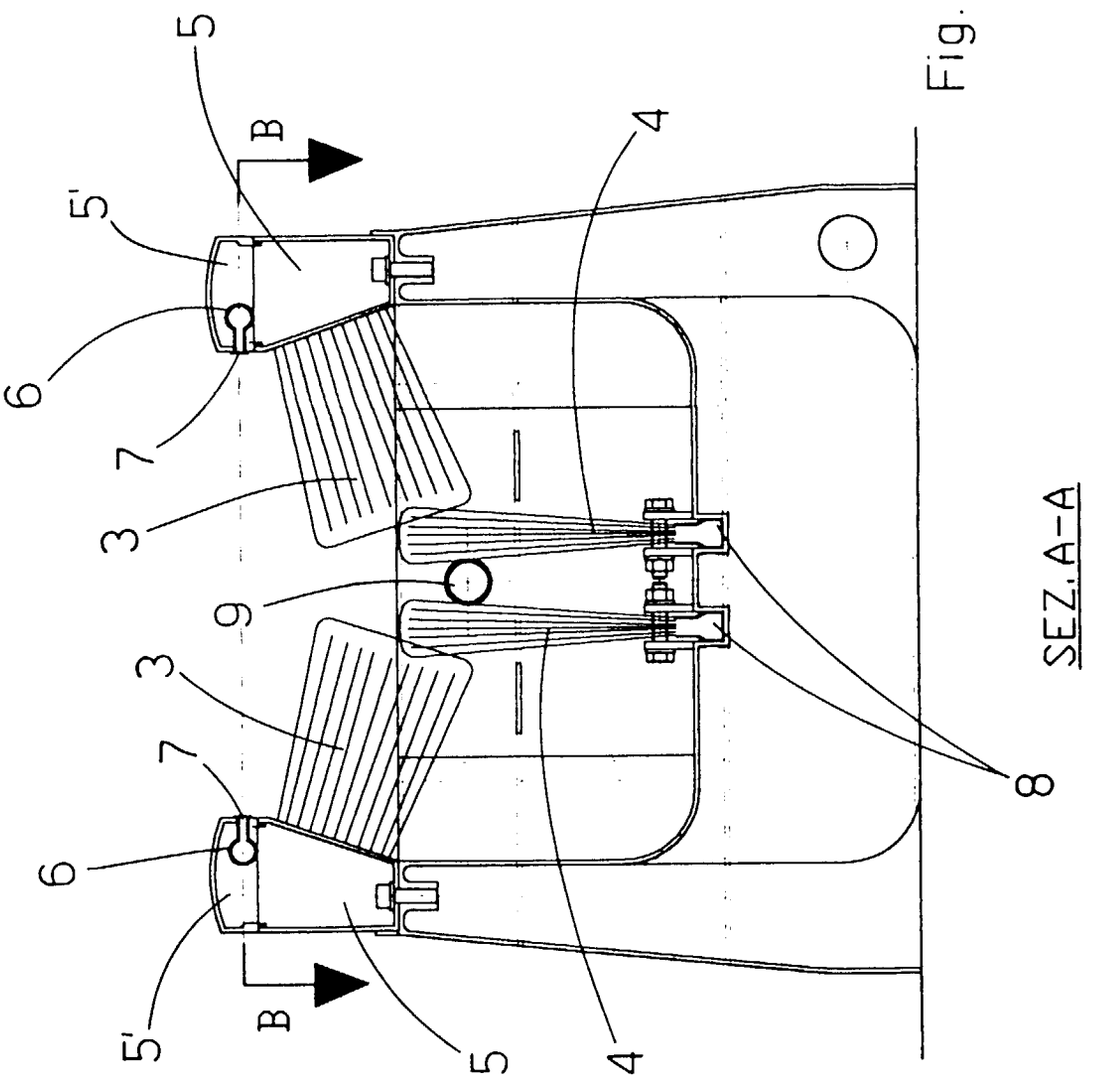

Fig. 2

SEZ. A-A

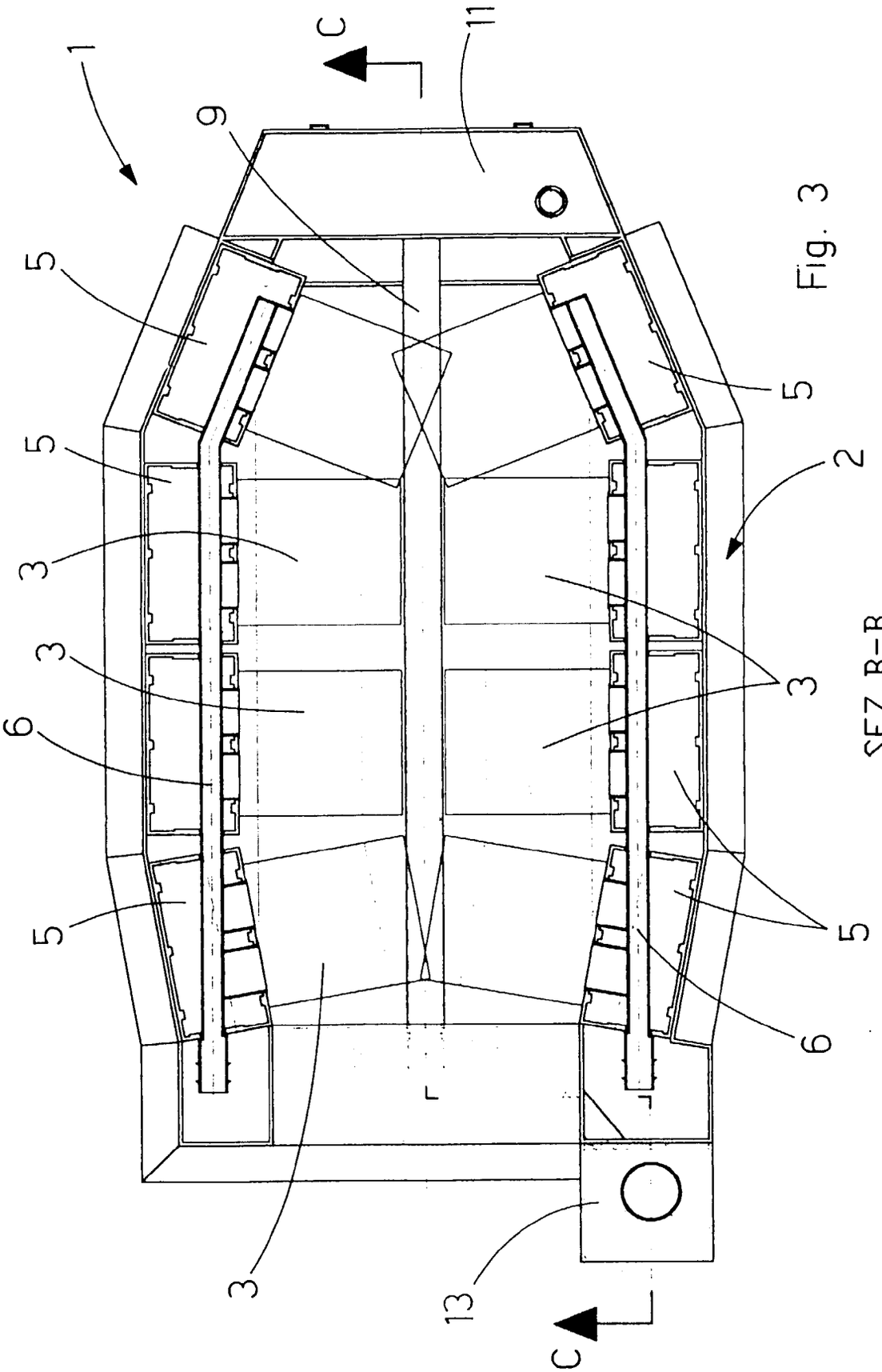

Fig. 3

SEZ. B-B

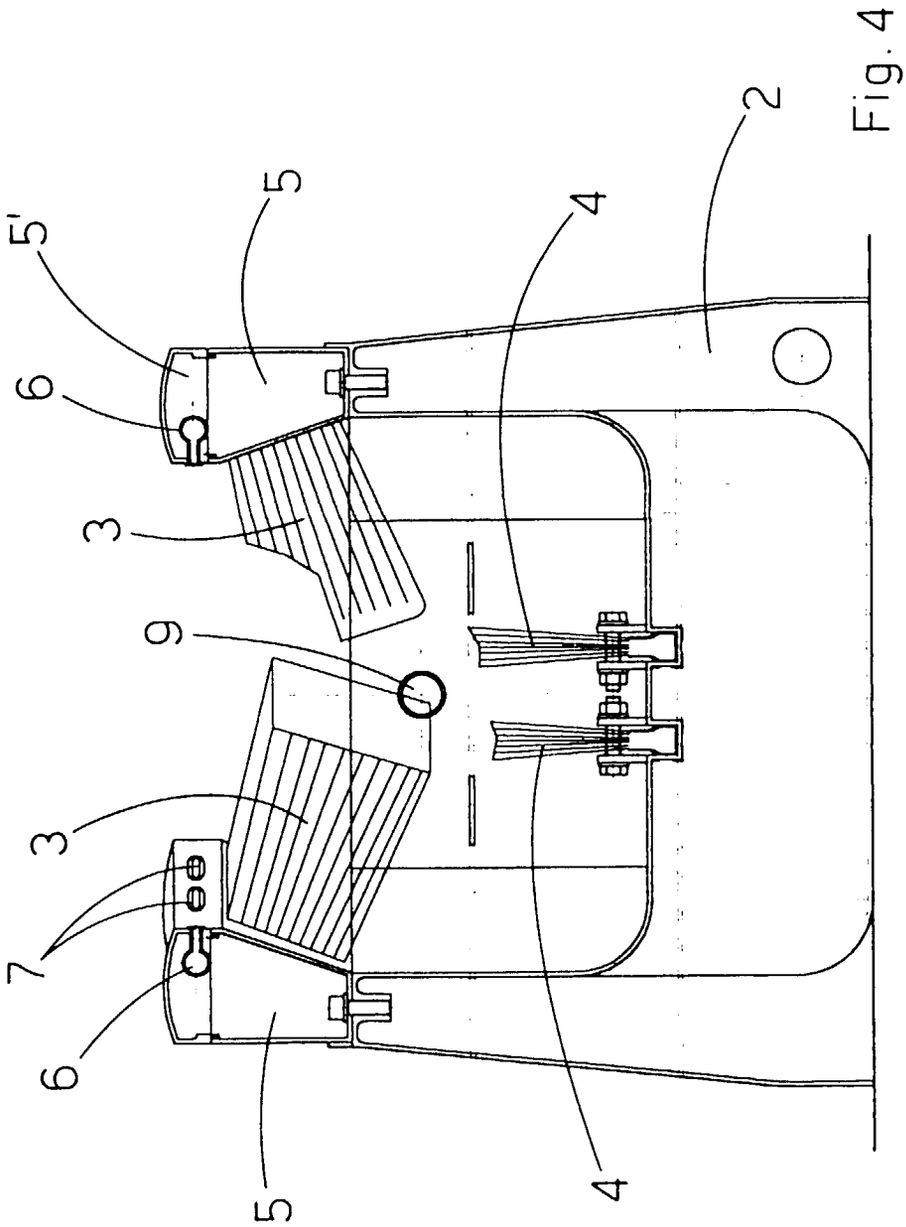

Fig. 4

SEZ. C-C