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(54) **An improved equipment for the cleaning of footwear**

(57) An equipment (1) for the cleaning of footwear comprises a frame (2) including at least a water channel (3), one or more spray nozzles (6) and brush seats (7, 7' and 8) in which cleaning brushes (5, 5') are positioned, at least one brush being a fixed brush (5'). In addition, supporting and assembling elements or tubes (17) support further brushes (9, 9').

The user inserts his/her foot/footwear in the sectors (15) between the brushes (5, 5') and rubs the shoe against brushes (5, 5') with a simple movement of his/her foot. Brushes (5, 5') cooperate with brushes (9, 9') and allow the footwear to be cleaned.

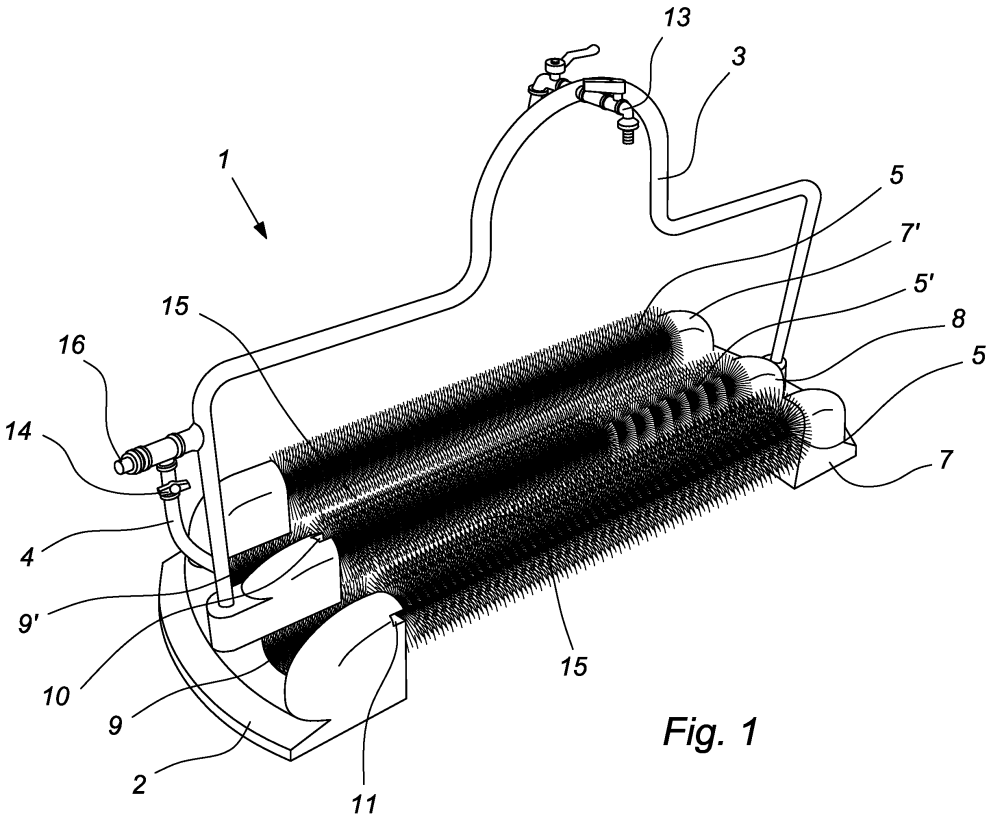

Fig. 1

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Description

[0001] The present invention refers to an improved equipment for the cleaning of footwear, in particular, shoes and boots, especially sports shoes and work shoes and boots to be used on muddy soils, sandy soils or the like.

[0002] As is known, in some sports such as football, rugby and so on, as well as in some activities such as gardening, etc. one is compelled to perform his/her sport or activity on muddy soils or sandy soils or soils that dirty and bespatter the shoes with mud so that once the sport performance or activity has been completed one needs an equipment to clean his/her dirty footwear.

[0003] The prior art discloses complex power-operated equipments to clean footwear. However, a power-operated equipment is very dangerous for the presence of water needed to wash the footwear.

[0004] The object and aim of the present invention is to carry out an equipment that allows a safer utilization than the equipments of the prior art including that disclosed in Italian industrial invention patent No. 1289079 as well as an effective cleaning action at very low costs and an utter safety in the utilization.

[0005] The present invention provides an equipment for the cleaning of footwear that comprises a frame with at least a water pipe, one or more spray nozzles, and brush seats in which cleaning brushes are positioned and kept, at least one brush being a fixed brush. Spaces are provided between said brushes in which the footwear slides to be cleaned.

[0006] The invention and details thereof can be better understood from the following specification that is supplied as a non-limiting example as well as from the accompanying drawings wherein:

Fig. 1 is a schematic view of an equipment according to this invention as a whole including the brushes;
Fig. 2 is a vertical section drawing showing the framework of the equipment;
Figures 3 and (4) are views of the supporting means for the brushes and in particular, show the oblique brush seats;
Fig. 5 is a schematic view showing the spray nozzles;
Fig. (6) is a view of the lower part of the support of the equipment;
Fig. 7 is a schematic, perspective view showing the displacement of the brushes upon inserting the footwear to be cleaned.

[0007] With reference to the accompanying drawings, number 1 denotes the equipment as a whole. The equipment comprises a frame 2, water pipes 3 and (4), cleaning brushes 5 and 5' and washing spray nozzles (6).

[0008] Frame 2 is provided with supporting means (7, 7' and 8) that are to position and adjust the cleaning brushes (5 and 5').

[0009] In this embodiment the equipment is provided with a series of cleaning brushes 5 and 5'. Said cleaning brushes are preferably two, three or four, more preferably three. Said outer cleaning brushes 5 and middle cleaning brush 5' are placed above further fixed brushes (9) and (9') that are arranged in the spaces between brushes (5) and (5') and at the cleaning spray nozzles (6). Brushes (9) and (9') rest on supporting elements or tubes (17).

[0010] The supporting elements or tubes (17) are connected through known means (18) with frame (2) and act as assembling and stabilizing elements for the equipment.

[0011] The middle cleaning brush (5') is arranged in vertical seats (10) obtained on the supporting means (8) of frame (2) and is kept by said seats with the possibility of performing a rotary movement.

[0012] Outer cleaning brushes (5) are inserted in further seats (11) obtained on the supporting means (7) and (7') of frame (2). Seats (11) are slanting. Elements (12) are also provided and acts as supporting means of brushes (5, 5'). In particular, the lower part of said positioning seats (11) is turned towards the inside of frame (2) while the upper part of said positioning seats (11) is turned towards the outside. The obliqueness of the seats (11), in which elements (12) slide, always makes the brushes (5) fall downwards due to their weight. The said mechanism allows a continuous adherence of the outer brush (5) to the footwear to be cleaned.

[0013] This particular arrangement of the seats (11), which hold the cleaning brushes (5), also permits outer brushes (5) to separate from middle brush (5') when inserting the footwear.

[0014] The cleaning brushes (5, 5') can be put into rotation with a simple movement of the foot. The rotation movement of the cleaning brushes (5, 5') is permitted by essentially cylindrical slide elements (12) that facilitate the rotary movement of the brush.

[0015] It is preferred that the equipment (1) is provided with a differential hydraulic system that permits to use a fluid, such as running water, either only for the upper part that comprises a tap (13) or both the upper part and the lower part. The lower part also comprises a tap (14).

[0016] A tube (17') with one or more spray nozzles (6) that is/are arranged near the middle cleaning brush (5').

[0017] The flow of the liquid that flows from said spray nozzles (6) is controlled through a tap (14).

[0018] The spray nozzles are arranged in such a way as to sprinkle and bathe that part of the equipment in which brushes (5, 5', 9 and 9') are arranged.

[0019] The equipment is also provided with pipe (3) and pipe (4), both pipes are provided with a tap, tap (13) and tap (14), respectively.

[0020] Pipe (3), which is preferably shaped as a handle, can supply a liquid independently from pipe (4).

[0021] It is also possible a dry utilization of the equipment when taps (13) and (14) are closed.

[0022] Now, an example of utilization of this equipment will be described.

[0023] From the above explanation it appears how

easily this equipment can be transported. In addition, it is better to position the equipment on or near grates or the like for the discharge of water.

[0024] Once the equipment has been positioned, it is necessary to connect the equipment with a water system in (16) so that it is possible an utilization of same. By closing the tap (14) it is possible to cause a water flow only to the upper part when it is necessary. Thus it is possible to use only tap (13), to wash hands and face, for instance. On the contrary, when it is necessary a complete utilization of the water circuit for the washing of footwear, it is necessary to open circuit (4) by means of the regulating tap (14) so that the water flows out of the nozzles (6). More precisely, the nozzles (6) emit a jet that covers the whole sector of brushes (5, 5', 9 and 9'). Then, the user displaces brush (5) with a movement of the foot/footwear and inserts his/her foot/footwear in the interspaces (15).

[0025] Advantageously, brush (5) tends to return to its original position due to the action of the oblique seats (11) so that the footwear is cleaned at the same time by the middle brush (5'), the lower brush (9) and the lateral brush (5).

[0026] In addition, an alternate movement causes a consequent small rotation of brushes (5) or brush (5'), which allow with the help of the lower brushes (9) to remove the muddy material or other from the footwear and to obtain a perfect cleaning of the footwear. The said rotation is less than 180° around their longitudinal axis.

[0027] The particular conformation of the hydraulic system 3 allows to obtain points of support for more users. Besides, since the equipment of the present invention is easily carried, the equipment can be placed near articles, such as buckets etc, connected to its utilization.

[0028] In this example, the equipment can be used by four users at the same time.

[0029] The above-mentioned brushes are not fixed. So, as another peculiarity, there is the possibility of interchanging the brushes in order to use them in the best manner.

[0030] It goes without saying that the equipment can be utilized as a dry equipment without using the spray nozzles, for instance in case of footwear that could be damaged if washed, such as the tennis shoes.

[0031] Finally, as a further possibility, in addition to the above brushes, the equipment can be provided with finishing brushes that can either grease or polish the footwear.

[0032] A technician of this sector can conceive changes and variants of the so-described cleaning equipment in order to obtain solutions that are to be considered as included in the scope of protection of this invention as further defined in its peculiarities in the following claims.

Claims

1. Equipment for the cleaning of footwear, including a frame (2) which comprises at least a water pipe (3), one or more spray nozzles (6) and seats (7, 7' and 8) for the positioning, holding and moving of cleaning brushes (5 and 5') of which at least one brush (5') is fixed, and supporting and assembling means are provided.

2. Equipment as claimed in claim 1, comprising seats (11) for the positioning of cleaning brushes (5) arranged from bottom to top obliquely.

3. Equipment as claimed in the foregoing claims, in which the lower part of said positioning seats (11) is turned towards the inside of frame (2) while the upper part of said positioning seats (11) is turned towards the outside.

4. Equipment as claimed in the foregoing claims, in which the cleaning brushes (5 and 5') are interchangeable.

5. Equipment as claimed in the foregoing claims, in which the supporting and assembling elements or tubes (17) support further brushes (9 and 9').

6. Equipment as claimed in the foregoing claims, in which the oblique seats (11) allow a lateral displacement of the brushes (5) and the insertion of footwear in the spaces (15) in order to be cleaned, polished and/or greased.

7. Equipment as claimed in the foregoing claims, in which the obliqueness of the seats (11) in which elements (12) slide allows a continuous adherence of the outer brush (5) to the footwear to be cleaned.

8. Equipment as claimed in the foregoing claims, in which a middle brush (5') is provided and is arranged in vertical seats (10).

9. Equipment as claimed in the foregoing claims, in which the cleaning brushes (5 and 5') can be put into rotation with a simple movement of the foot.

10. Equipment as claimed in the foregoing claims, in which a tube with one or more spray nozzles (6) is arranged near the middle cleaning brush (5').

11. Equipment as claimed in the foregoing claims, in which the flow of the liquid from said spray nozzles (6) takes place through a tap (14).

12. Equipment as claimed in the foregoing claims, in which the spray nozzles are arranged in such a way as to sprinkle and bathe that part of the equipment in which brushes (5, 5', 9 and 9') are arranged.

13. Equipment as claimed in claim 1, in which pipe (3)

is provided with a tap (13).

14. Equipment as claimed in the foregoing claims, in which pipe (3) with its tap (13) can supply a liquid independently from pipe (4).

15. Equipment as claimed in the foregoing claims, in which the supply of the liquid to pipe (4) takes place through tap (14).

16. Equipment as claimed in the foregoing claims, in which a dry utilization of the equipment is possible when tap (14) is closed.

17. Equipment as claimed in the foregoing claims, in which the particular conformation of equipment (1) allows a contemporaneous utilization by more users.

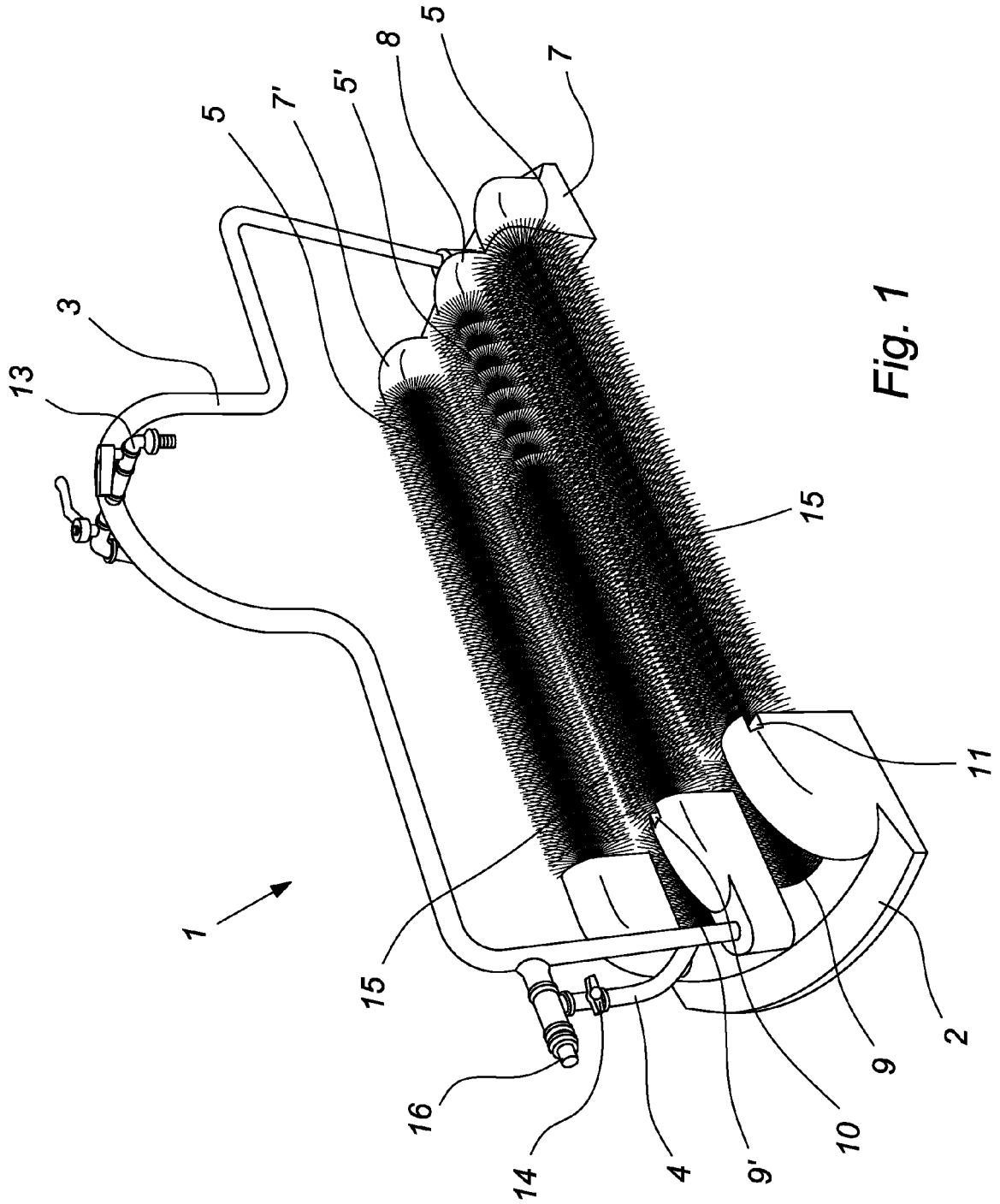

Fig. 1

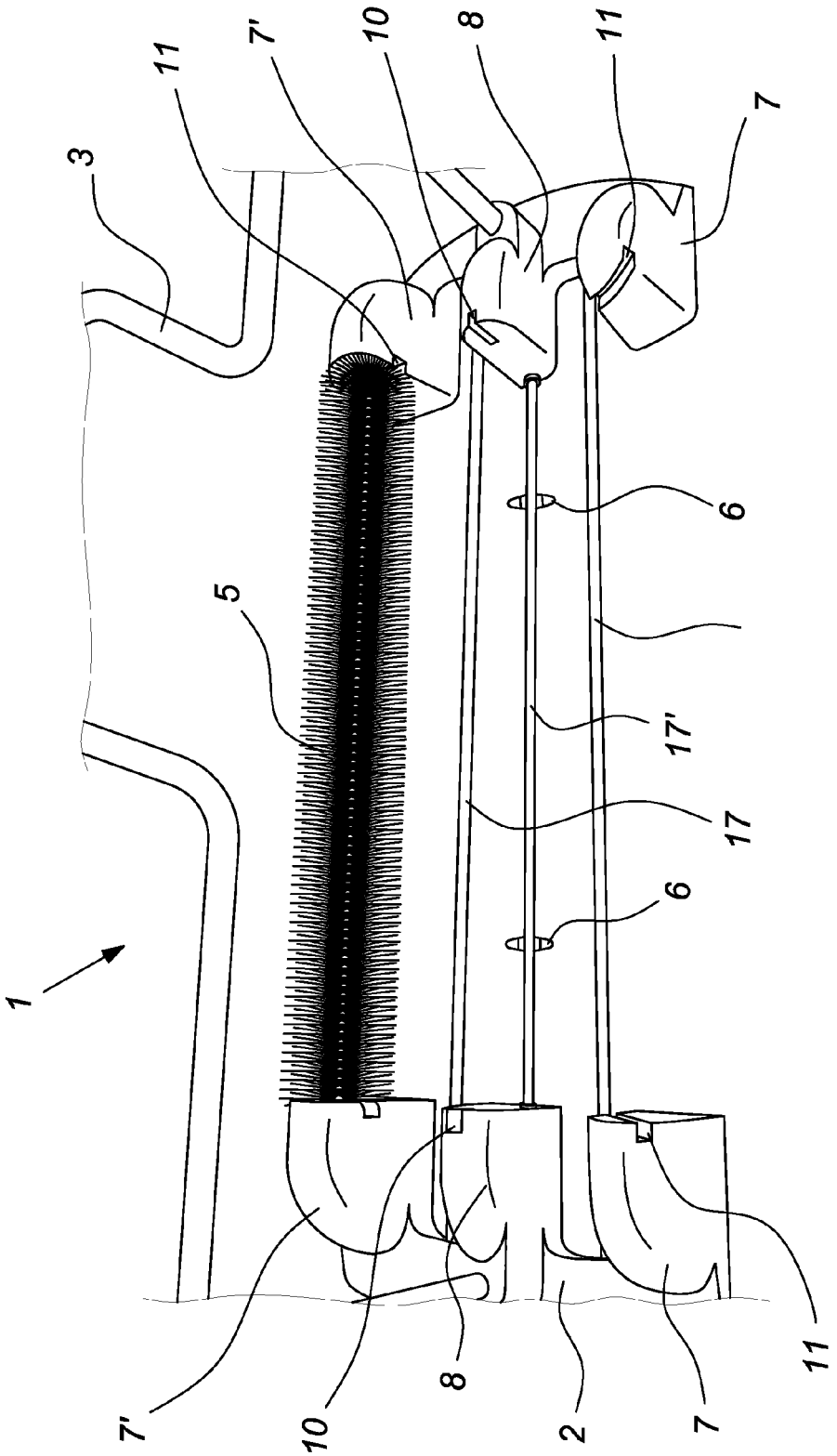

Fig. 2

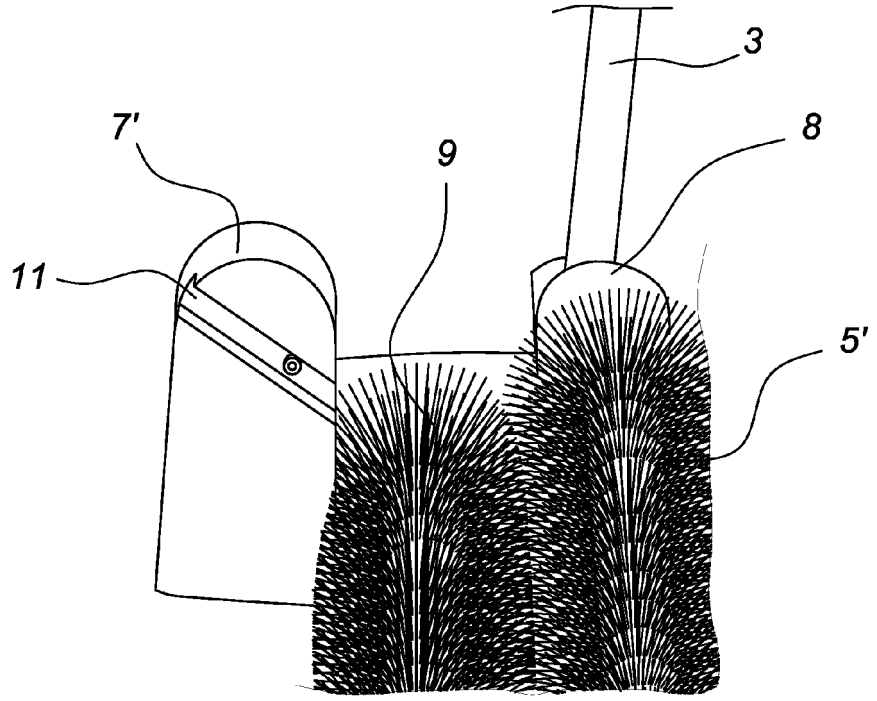

Fig. 3

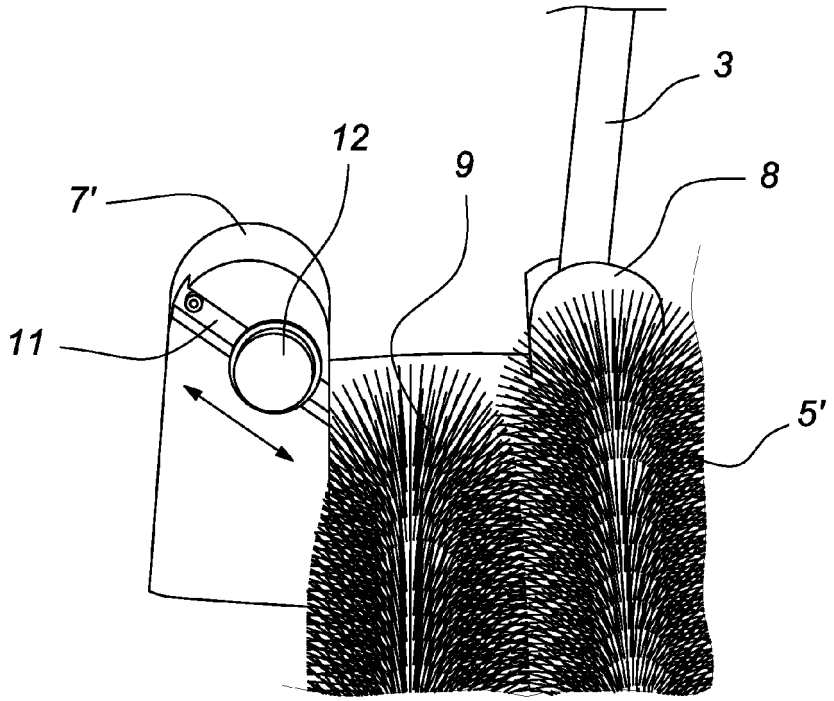

Fig. 4

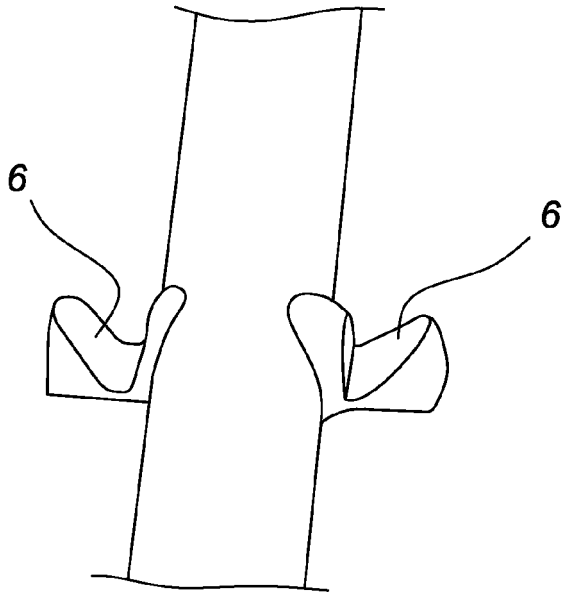

Fig. 5

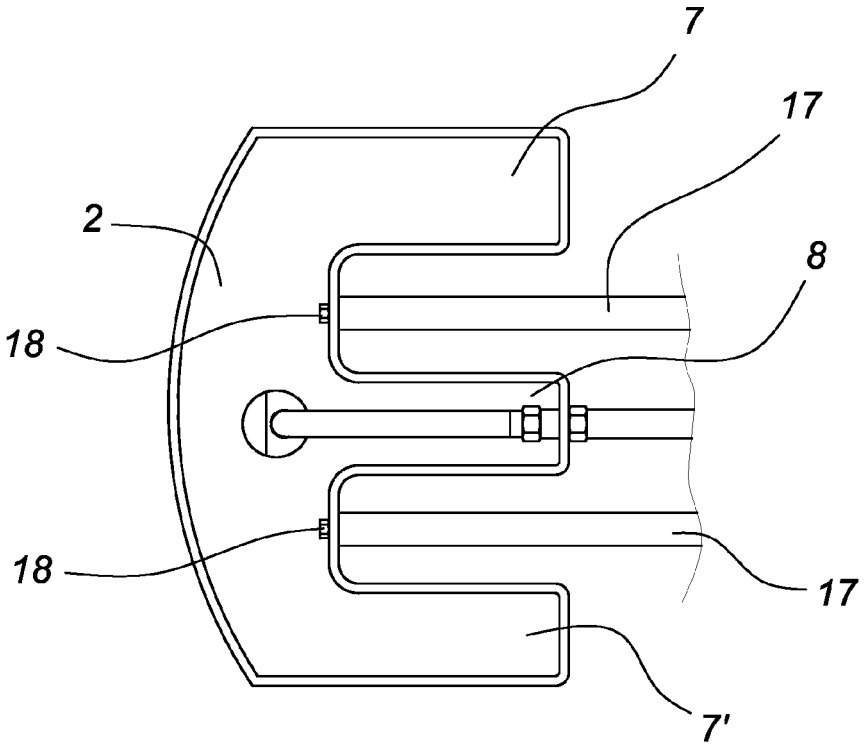

Fig. 6

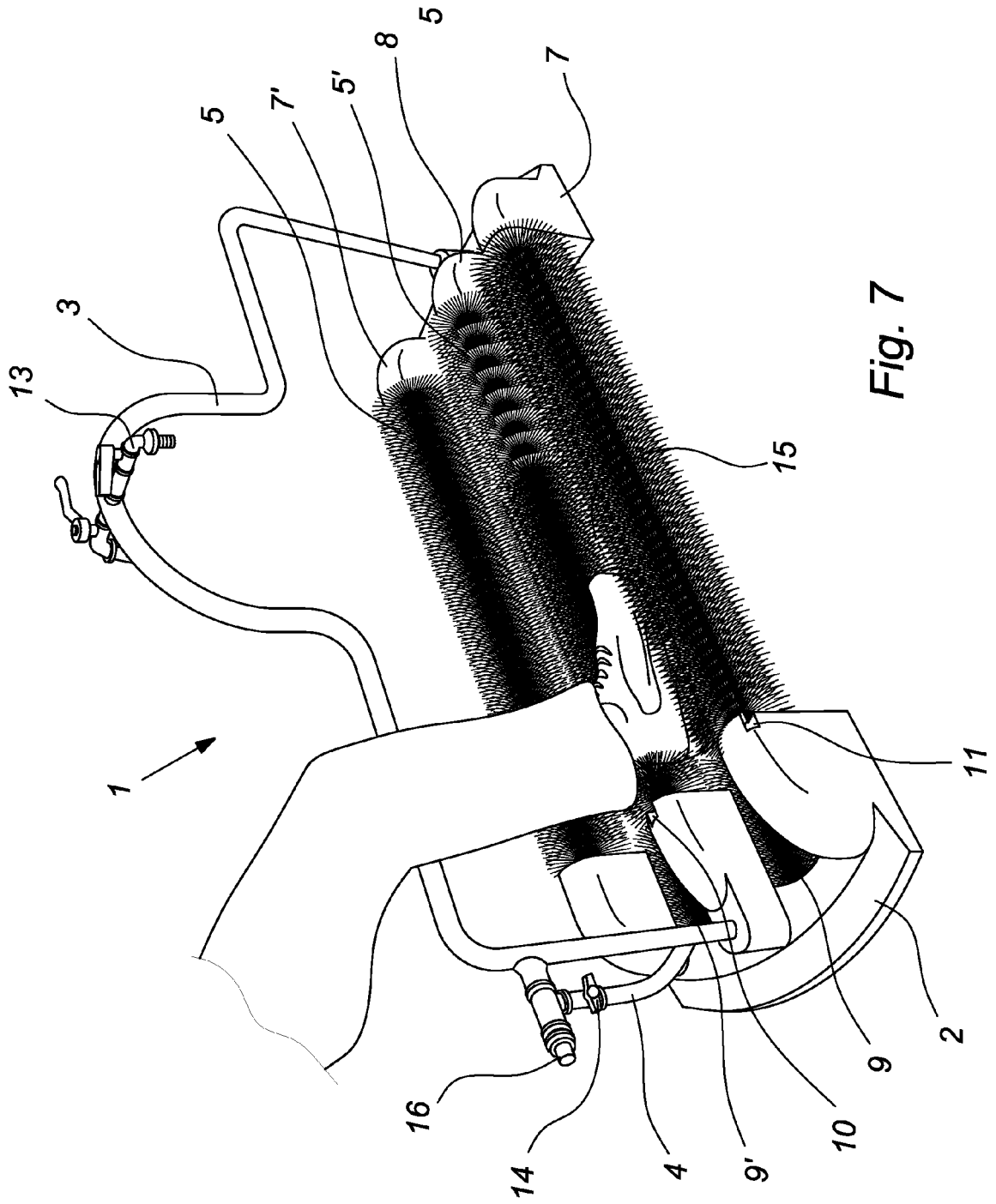

Fig. 7

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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