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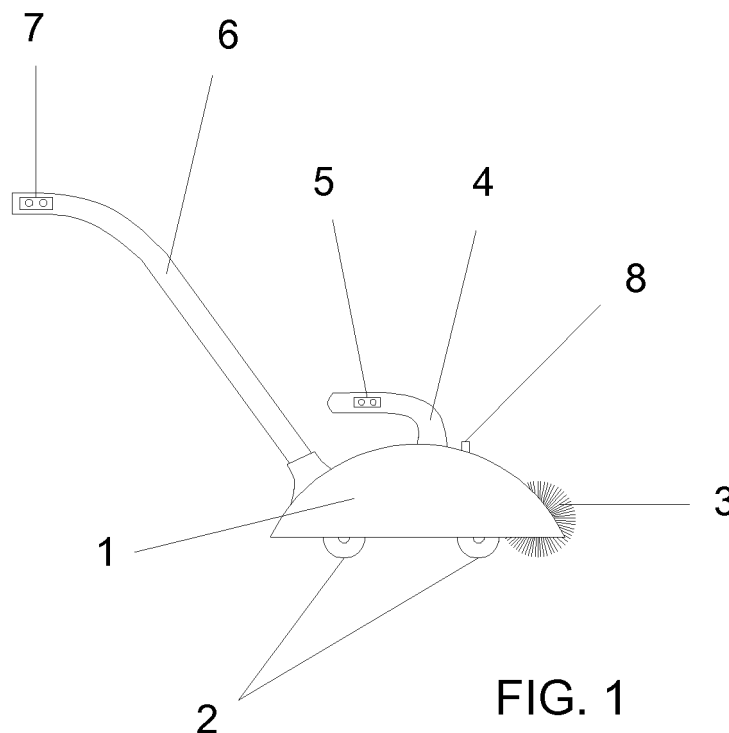
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(54) **Industrial and domestic cleaning machine**

(57) Industrial and domestic cleaner, particularly destined for cleaning tile joints, which comprises a head (1) with a handle (4) on the upper part having an on/off switch, rolling means on the lower part of said head (1) and a disc brush (3) with filaments disposed in an upright position on its front part, actuated by an electric motor with a rechargeable battery, in such a manner that on

moving it over the tile joint it removes the dirt incrustated therein. It has a detachable ergonomic handle (6) having an on/off switch, in such a manner as to facilitate use of the cleaner when applied to floor tile joints or places out of the user's reach. It also has a vacuum aspirator for collecting the descaled dirt, in addition to a deposit for applying water and/or detergent.



**FIG. 1**

## Description

### OBJECT OF THE INVENTION

[0001] The proposed invention consists of an industrial and domestic cleaner; particularly applicable to tile joints, having a head whereon a disc brush has been disposed in an upright position, actuated by an electric motor, in such a manner that when the disc brush passes over the tile joints it easily removes the dirt.

### BACKGROUND OF THE INVENTION

[0002] Floors and walls can be conveniently cleaned using brushes and mops with coupled handles. However, using these systems, dirt always remains in tile cracks and joints which is difficult to remove and can only be removed by manually scraping these.

[0003] For example, JP 2005270164 is known to exist in the state of the art, which discloses a system for cleaning tile joints, room corners or difficult places, which comprises a flat narrow base whereto bristles are adhered by way of a brush. An elongated handle is connected to the upper part of the base in order to facilitate cleaning. However, this is a manual system which, in case of application to cleaning of a room, for example, requires a large amount of time and effort from the user.

### DESCRIPTION OF THE INVENTION

[0004] The proposed invention solves the previously expounded problem in a fully satisfactory manner. It is an industrial and domestic cleaner, particularly for tile joints or difficult places where other cleaners cannot reach. It serves to clean the joints of both floor and wall tiles.

[0005] The cleaner has a head with a disc having filaments disposed in an upright position on the front part of the cleaner, actuated by a small electric motor powered by a battery or energy accumulator. An ergonomic handle is disposed at the rear of the head, which includes an on/off switch. This handle will be detachable, in such a manner that it can be handled from a handle disposed on the head having, in the same manner, another on/off switch. The cleaner assembly is moved over the tile joints, removing the dirt incrustated therein.

[0006] The cleaner also has a small water deposit on the head having an outflow tube for applying the water, which may include detergent or degreaser, at the user's will.

[0007] It also has a vacuum aspirator and a deposit for storing the descaled dirt. If the cleaner does not include the aforementioned elements, it may be coupled to a common vacuum cleaning device.

### DESCRIPTION OF THE DRAWINGS

[0008] In order to complete the description being made

and for the purpose of helping to better understand the characteristics of the invention, in accordance with a preferred example of embodiment thereof, said description is accompanied by a set of drawings forming an integral part thereof wherein the following has been represented in an illustrative and non-limiting manner:

Figure 1 shows a side view of the invention.

Figure 2 shows a front view of the invention.

Figure 3 shows a top plan view of the proposed invention.

### PREFERRED EMBODIMENT OF THE INVENTION

[0009] The proposed invention consists of an industrial and domestic cleaner, particularly destined for cleaning tile joints, in such a manner as to allow cleaning of said joints by softening the dirt, removing it from the tiles and accumulating it in an internal deposit.

[0010] In this manner, the cleaner disclosed herein comprises a head (1) having rolling means (2) on the lower part thereof. Its fundamental part is a disc brush (3) with filaments disposed in an upright position on the front part thereof. Said disc brush (3) is actuated by an electric motor, in such a manner that on moving it over the tile joint it removes the dirt incrustated therein. The electric motor that actuates the cleaner is powered by a rechargeable battery.

[0011] In order to handle the head with ease, a handle (4) has been disposed on the upper part thereof, having an on/off switch (5). Said handle (4) allows, for example, easy handling thereof when cleaning wall tile joints.

[0012] However, when the dirt is out of the user's reach or for greater convenience when cleaning the floor, a detachable ergonomic handle (6) has been disposed, having an on/off switch (7), in order to reach difficult places with greater ease and less effort.

[0013] In order to collect the descaled dirt, a vacuum aspirator with a small deposit for storage thereof is disposed inside the head (1), which ascends towards said device through a duct located right behind the disc brush (3) and is actuated through the electric motor by means of a switch.

[0014] However, this vacuum aspirator and storage deposit are not necessary for the proper functioning thereof, as the cleaner has means for coupling to a common vacuum cleaner becoming, in this case, a complement of said vacuum cleaner.

[0015] When the dirt is difficult to remove, water and even detergent may be applied before actuating the brush, through a water deposit disposed on the upper part of the head (1), having an outflow tube (8) for applying the water and/or detergent.

### Claims

1. Industrial and domestic cleaner, particularly des-

ted for cleaning tile joints, **characterized in that** it comprises a head (1) having a handle (4) on the upper part thereof with an on/off switch (5), rolling means (2) on the lower part of said head (1) and a disc brush (3) with filaments disposed in an upright position on the front part thereof, actuated by an electric motor, in such a manner that on moving it over the tile joint it removes the dirt incrustated therein.

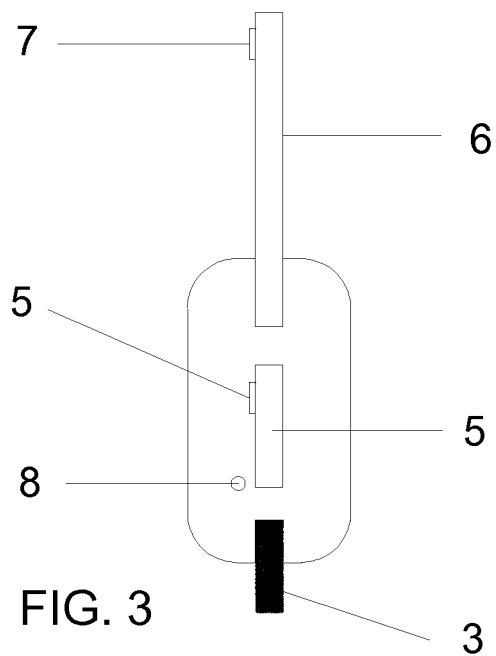
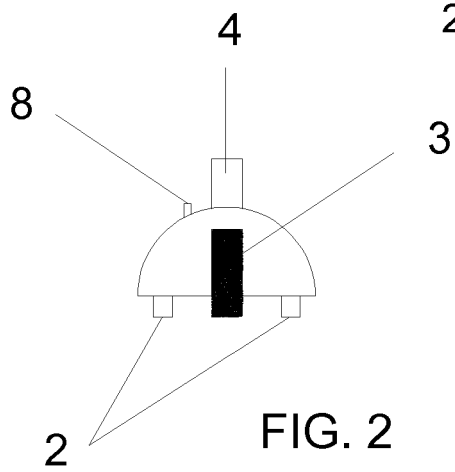
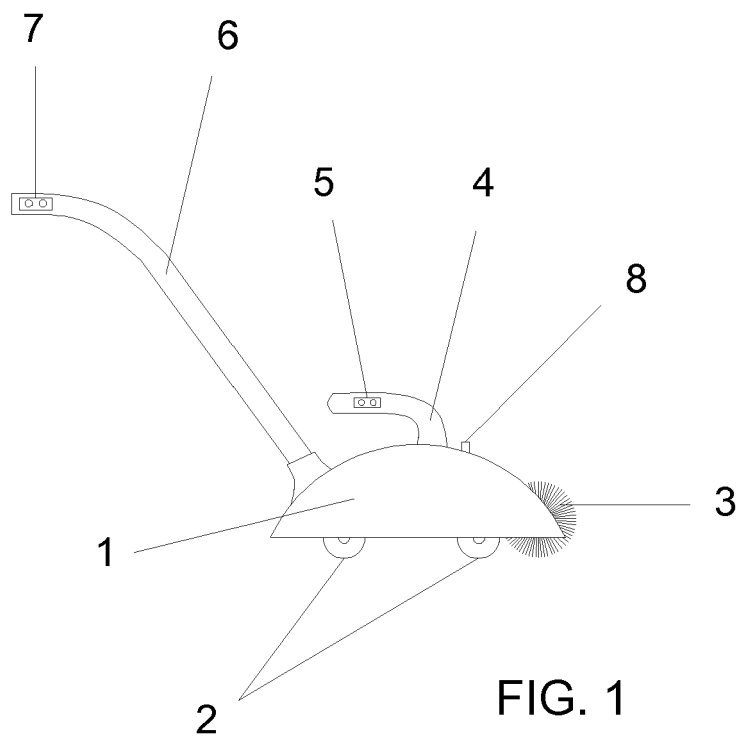
2. Industrial and domestic cleaner, according to claim 1, **characterized in that** a vacuum aspirator having a small deposit for storing the descaled dirt is disposed inside the head (1), which ascends towards said deposit through a duct located right behind the disc brush (3) and is actuated through the electric motor by means of a switch.
3. Industrial and domestic cleaner, according to claim 1, **characterized in that** the upper part of the head (1) has a water deposit with an outflow tube (8) for applying water and/or detergent.
4. Industrial and domestic cleaner, according to claim 1, **characterized in that** it has a detachable ergonomic handle (6), having an on/off switch (7), in such a manner as to facilitate the use of the cleaner when applied to floor tile joints or places out of the user's reach.
5. Industrial and domestic cleaner, according to claim 1, **characterized in that** it has means for coupling to a common vacuum cleaner, becoming a complement thereof.
6. Industrial and domestic cleaner, according to the preceding claims, **characterized in that** the electric motor is powered by a rechargeable battery.

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**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

- JP 2005270164 B [0003]