

【DESCRIPTION】

【Invention Title】

CLEANER EQUIPPED WITH AUXILIARY CLEANING PART

【Technical Field】

The present disclosure relates to a cleaner equipped with an auxiliary cleaning part, and more particularly, to cleaner equipped with an auxiliary cleaning part which formed integrally with a cleaning part and an auxiliary cleaning part on which a main protrusion and a sub-protrusion are formed to easily clean dirt in irregularities and grooves.

【Background Art】

In recent years, a vacuum cleaner is widely used for cleaning, but the vacuum cleaner has a relatively large volume and requires electric power, so that the demand for a broom-type passive cleaner has been constantly demanded.

In the case of a conventional broom-type cleaner, although there are some differences depending on the shape, the broom-type cleaner has a shape in which a plurality of hairs are provided in common.

However, it is difficult to manage such a conventional broom-type cleaner because the hairs are easily removed and deformed, and in particular, foreign substances are trapped between the hairs during cleaning. In addition, when cleaning is performed without removing such foreign substances, the

foreign substances fall off during cleaning so that it is not hygienic.

In addition, when a liquid such as water is accumulated on the floor, it cannot be cleaned effectively, and rather, foreign substances and liquids are mixed and become messy.

Referring to Korea Patent Registration No. 10-1432074 (registered on August 13, 2014) entitled "Cleaner equipped with an auxiliary cleaning part" which was issued and applied by the applicant of the present disclosure to overcome the above problems, the cleaner equipped with an auxiliary cleaning part includes a grip part formed to enable a user to grip; a cleaning part which is flexible and connected to the grip part, wherein the cleaning part has a first surface elongated left and right so that a lower end is in contact with a cleaning target, and a second surface formed to correspond to the first surface on the opposite side of the first surface; and an auxiliary cleaning part protruding in the direction of at least one of the first and second surfaces, and contacting a cleaning target as the cleaning unit is deformed.

However, according to the related art, although the cleaner is integrally formed to prevent deformation, it is cumbersome to clean and sterilize the auxiliary cleaning part, and when sweeping the floor for cleaning, the cleaning part cannot firmly support the auxiliary cleaning part.

Therefore, there is a need to provide a method for solving

the above problems.

【Disclosure】

【Technical Problem】

To solve the problems, an object of the present disclosure is to provide a cleaner equipped with an auxiliary cleaning part which has a new structure in which a cleaning part and an auxiliary cleaning part are formed integrally, and a main protrusion and a sub-protrusion are formed in the auxiliary cleaning part to easily clean gaps and grooves.

【Technical Solution】

To achieve the objects, the present disclosure provides a cleaner equipped with an auxiliary cleaning part, which includes:

a rod-shaped grip part extending in a vertical direction;

a rigid cleaning part which has a tubular-shaped housing coupled to a lower end portion of the grip part, and has a plurality of frames that are arranged so as to be spaced by a predetermined distance from each other from a lower portion of the housing; and

an auxiliary cleaning part which is coupled to a lower end portion of the cleaning part and comes into contact with a cleaning target as the cleaning part is deformed.

In the cleaner equipped with an auxiliary cleaning part according to an embodiment of the present disclosure, the

cleaning part may include a main frame part formed vertically from a lower one side of the housing and formed with a plurality of central frames disposed between a first frame and a second frame, wherein the first frame extends in streamlined shape at an inclined angle and the second frame extends in a curved shape from an outer circumferential surface of a lower opposite side of the housing, a reinforcing frame part formed of a first reinforcing frame connecting a center of the main frame part in a horizontal direction and a second reinforcing frame spaced apart from the first reinforcing frame to connect a lower end of the main frame part, and a torsion prevention part for integrally connecting the main frame part to a lower portion of the housing.

In the cleaner equipped with an auxiliary cleaning part according to an embodiment of the present disclosure, the rigid cleaning part may be perforated between the main frame part and the reinforcing frame part so that a space part is formed.

In the cleaner equipped with an auxiliary cleaning part according to an embodiment of the present disclosure, the rigid cleaning part further includes a fastening part extending in a plate shape from the second reinforcing frame, a plurality of fastening grooves formed through one surface of the fastening part, and a fastening protrusion protruding adjacent to the fastening groove on both surfaces of the fastening part.

In the cleaner equipped with an auxiliary cleaning part

according to an embodiment of the present disclosure, the auxiliary cleaning part may include a plate-shaped scraper connected to a lower end of the rigid cleaning part and having both sides inclined downward while being widened, a plurality of main protrusions protruding in a longitudinal direction on both lower surfaces of the scraper, and a pair of sub-protrusions protruding from upper and lower portions of the main protrusion in a longitudinal direction in a wall shape

In the cleaner equipped with an auxiliary cleaning part according to an embodiment of the present disclosure, the cleaner provided with the auxiliary cleaning part may be primarily molded to form the rigid cleaning part by injection molding, and the rigid cleaning part may be inserted into a mold to be secondarily molded to form the auxiliary cleaning part, and wherein the auxiliary cleaning part may be integrally coupled to surround the fastening part.

【Advantageous Effects】

According to the cleaner equipped with an auxiliary cleaning unit of the present disclosure, the cleaning part is formed by primary injection molding, and the auxiliary cleaning part is integrally combined under the cleaning part by secondary injection molding, so that it is possible to prevent distortion or deformation of the cleaning part.

In addition, due to the structure of forming the cleaning part with a plurality of frames and forming the reinforcing

frame part thereto, not only the manufacturing cost may be saved to reduce the cost, but also the cleaning may be easily performed without allowing foreign substances to adhere to the cleaning part during cleaning.

In addition, according to the cleaner equipped with an auxiliary cleaning unit of the present disclosure can easily sweep a cleaning target even though the hair is not provided on the auxiliary cleaning part, and it is easy to remove dust and dirt on not only a flat portion by the main protrusion and the sub protrusion formed on the auxiliary cleaning part, but also between irregularities or grooves.

In addition, the cleaner equipped with an auxiliary cleaning unit according to the present invention is formed with the sub-protrusion, so that dust and dirt from the floor are collected and lumped together, and the lower part traps the dust and dirt of an upper part escaping to the lower part of the scraper, so the dust and dirt may be prevented from being separated in the opposite direction of combing when combing.

【Description of Drawings】

FIG. 1 is a front view illustrating the overall shape of a cleaner equipped with an auxiliary cleaning part according to an embodiment of the present disclosure.

FIG. 2 is an exploded perspective view of the cleaner of FIG. 1.

FIG. 3 is a cross-sectional view illustrating cross sections of a cleaning part and an auxiliary cleaning part of a cleaner equipped with an auxiliary cleaning part according to an embodiment of the present disclosure.

FIG. 4 is an enlarged perspective view illustrating in detail a cleaning part of a cleaner equipped with an auxiliary cleaning part according to an embodiment of the present disclosure.

FIG. 5 is an enlarged perspective view illustrating in detail an auxiliary cleaning part of a cleaner equipped with an auxiliary cleaning part according to an embodiment of the present disclosure.

FIG. 6 is an exemplary side view illustrating a state in which a cleaner equipped with an auxiliary cleaning part according to an embodiment of the present invention is used.

【Best Mode】

【Mode for Invention】

Hereinafter, preferable embodiments of the present disclosure will be described in detail with reference to the accompanying drawings, so that those skilled in the art can easily carry out the present invention. In addition, when explaining in detail the principle of operation for a preferred embodiment of the present disclosure, the detailed description of well-known features or functions will be ruled out in order

not to unnecessarily obscure the gist of the embodiment disclosed in the present specification.

In addition, the same reference numerals are used for parts that have similar functions and operations throughout the drawings.

Furthermore, it will be understood that when an element is referred to as being "connected" to another element, it may be not only directly connected but also indirectly connected to another element while interposing another element between them. In addition, when some part 'includes' some elements, unless explicitly described to the contrary, it means that other elements may be further included but not excluded.

Hereinafter, a cleaner equipped with an auxiliary cleaning part according to a preferred embodiment of the present disclosure will be described in detail with reference to the accompanying drawings.

FIG. 1 is a front view illustrating the overall shape of a cleaner equipped with an auxiliary cleaning part according to an embodiment of the present disclosure. FIG. 2 is an exploded perspective view of the cleaner of FIG. 1. FIG. 3 is a cross-sectional view illustrating cross sections of a cleaning part and an auxiliary cleaning part of a cleaner equipped with an auxiliary cleaning part according to an embodiment of the present disclosure. FIG. 4 is an enlarged perspective view illustrating in detail a cleaning part of a cleaner equipped

with an auxiliary cleaning part according to an embodiment of the present disclosure. FIG. 5 is an enlarged perspective view illustrating in detail an auxiliary cleaning part of a cleaner equipped with an auxiliary cleaning part according to an embodiment of the present disclosure. FIG. 6 is an exemplary side view illustrating a state in which a cleaner equipped with an auxiliary cleaning part according to an embodiment of the present invention is used.

As shown in FIGS. 1 and 2, a cleaner 10 equipped with an auxiliary cleaning part according to an embodiment of the present disclosure includes a grip part 100, a cleaning part 200, and an auxiliary cleaning part 300.

In more detail, as shown in FIGS. 1 to 3, the cleaner 10 equipped with an auxiliary cleaning part according to an embodiment of the present disclosure includes the rod-shaped grip part 100 extending in a vertical direction, the rigid cleaning part 200 which has a tubular-shaped housing 210 coupled to a lower end portion of the grip part and has a plurality of frames that are arranged on a lower portion of the housing to be spaced from each other by a predetermined distance, and the auxiliary cleaning part 300 which is coupled to a lower end of the cleaning part and comes into contact with a cleaning target as the cleaning part is deformed.

Referring to FIGS. 1 and 2, the grip part 100 is formed to be gripped by a user and is formed in a rod shape extending in

a vertical direction.

In this case, the grip part 100 is coupled to the auxiliary cleaning part 300 in contact with a bottom surface and an upper portion of the cleaning part 200. In addition, the grip part 100 has a grip cover 110 coupled to an upper end such that the user can grip.

Referring to FIGS. 2 and 4, the cleaning part 200 includes a tubular-shaped housing 210 coupled to a lower end of the grip part 100 and a plurality of frames spaced apart from each other by a predetermined distance on the lower portion of the housing 210. The cleaning part 200 is formed of a rigid material.

In this case, the housing 210 is formed to couple the cleaning part 200 and the grip part 100 to each other. That is, the housing 210 is formed in a tubular shape smaller than or equal to a diameter of the grip part 100 such that the grip part 100 may be coupled by force fitting.

Meanwhile, the cleaning part 200 includes a main frame part 220, a reinforcing frame part 230, and a torsion prevention part 240.

The main frame part 220 is formed vertically from one lower side of the housing 210, and includes a first frame 221 extending streamlined at an inclined angle, and a second frame 222 curvedly extending from an opposite lower outer peripheral surface of the housing 221, and a plurality of central frames 223 disposed between the first and second frames.

In this case, the main frame part 220, which is formed under the housing 210 by injection molding, is prevented from being deformed by a torsion prevention part 240 to be described later during injection molding, and includes a plurality of frames extending from the housing 210.

The first and second frames 221 and 222 serve to form an outer skeleton of the cleaning part 200.

The central frames 223 are formed between the first and second frames 221 and 222 and serves to form a central skeleton of the cleaning part 200.

Referring to FIG. 4, the reinforcing frame part 230 includes a first reinforcing frame 231 connecting the center of the main frame part 220 in a horizontal direction, and a second reinforcing frame 232 connecting a lower end of the main frame part 220 while being spaced apart from the first reinforcing frame 231.

That is, the reinforcing frame part 230 is formed to oppose the tensile force of the main frame part 220 generated by positioning the cleaning part 200 on the cleaning target and pushing it in one direction for sweeping, so that the cleaning part 200 is flexible and serves to be prevented from being bent.

In addition, when the cleaning part 200 is injection molded, the reinforcing frame part 230 prevents the main frame part 220 from being relaxed by the pressure of the injection

molding, thereby preventing torsion.

A maintaining function is provided.

In this case, the reinforcing frame part 230 is formed with a fastening part 260 to be described later, which is formed of a plate extending from the second reinforcement frame 232. Thus, the cleaning part 200 is formed by primary injection molding to integrally couple the auxiliary cleaning part 300 to the cleaning part 200 by secondary injection molding.

The torsion preventing part 240 is formed in a plate shape between the frames of the main frame part 220 to integrally connect the main frame part 220 to the lower portion of the housing 210. For this reason, when the cleaning part 200 is formed by primary injection molding, it is possible to minimize the torsion of the main frame part.

In addition, as shown in FIG. 4, the cleaning part 200 is formed with a space part 250.

The space part 250 is formed by passing between the main frame part 220 and the reinforcing frame part 230, so that the cleaning part 200 is formed in a grid shape to reduce the manufacturing cost when mass-produced and efficiently clean a cleaning target.

In addition, the space unit 250 also serves to minimize the scattering of the cleaning object in the form of a powder as air passes even if the user grabs the grip unit 100 and sweeps it in one direction in order to clean the cleaning

object.

Meanwhile, as shown in FIGS. 2 and 4, the cleaning part 200 further includes a fastening part 260, a fastening groove 270, and a fastening protrusion 280.

The fastening part 260 extends from the second reinforcing frame 232 to be formed in a plate shape.

The fastening groove 270 is formed in plural and penetrates through one surface of the fastening part 260.

That is, the fastening groove 270 enhances integral coupling between the cleaning part 200 and the auxiliary cleaning part 300 when the auxiliary molding part 300 is secondarily molded after the cleaning part 200 is first formed through primary molding.

The fastening protrusion 280 protrudes from both sides of the fastening part 260 to be adjacent to the fastening groove 270 and serves the same as the fastening groove 270 described above.

Referring to FIGS. 2 and 5, the auxiliary cleaning part 300 is coupled to the lower end of the cleaning part 200 and contacts the cleaning target as the cleaning part 200 is deformed.

To this end, the auxiliary cleaning part 300 includes a scraper 310, a main protrusion 320, and a sub-protrusion 330.

The scraper 310 is connected to the lower end of the cleaning unit 200. Both sides of the scraper 310 are formed in

a shape of a plate which is inclined downward and widened.

In particular, the scraper 310 is formed of a rubber material, so that it is possible collect soft cleaning targets.

In this case, it is preferable to use one of natural rubber (NR), butadiene rubber (BR), styrene butadiene rubber (SBR), and acrylonitrile butadiene rubber (NBR) as the rubber material.

Referring to FIGS. 5 and 6, a plurality of main protrusions 320 protrude in a longitudinal direction on both lower surfaces of the scraper 310.

That is, it is preferable that the main protrusion 320 protrudes at a predetermined length in a cylindrical shape and has one end pointed. The main protrusions 320 protrude at regular intervals in a longitudinal direction of the scraper 310 and are used to remove cleaning targets in irregularities, tiles and grooves.

In other words, the scraper 310 formed as a plate surface is used to sweep a flat portion, and the main protrusion 320 sweeps away the dirt formed between the irregularities or grooves by the pointed portion, so that it is possible to enable the pointed portion to sweep away the portion that cannot be swept with the scraper 310, thereby removing the dirt.

The sub-protrusions 330 protrude from the upper and lower portions of the main protrusions 320 in a longitudinal

direction to be formed in a wall shape while making a pair with each other.

That is, the sub-protrusion 330 is divided into an upper protrusion and a lower protrusion. The sub-protrusion 330 serves to enable the upper protrusion to aggregate the dust and dirt of the bottom, and traps the aggregated dust and dirt coming out from the upper portion to the lower portion of the scraper 310.

In addition, when sweeping, it serves to prevent a separation phenomenon in which dust and dirt escape from the back of the scraper 310.

As described above, in the cleaner 10 equipped with an auxiliary cleaning part according to an embodiment of the present invention, the cleaning part 200 is formed by primary molding, and the cleaning part 200 that has been primarily molded is put into a mold to form the auxiliary cleaning part 300 by secondary molding while the auxiliary cleaning unit 300 is integrally coupled to surround the fastening unit 260. In this case, the primary molding and secondary molding include supporting injection molding.

In particular, the primary molding is a process of forming the cleaning part 200. That is, the torsion prevention part 240 is formed to prevent twisting and deformation due to the coupling of the housing 210 and the grip part 100.

In addition, the reinforcing frame part 230 is formed on

the main frame part 220 to maintain the even pressure of injection molding. In this case, it is possible to prevent the main frame unit 220 from being relaxed and prevent a twisting phenomenon caused by changes in each frame.

Next, the secondary molding is a process of forming the auxiliary cleaning part 300 by putting the cleaning part 200 formed by the primary molding into a mold.

That is, the auxiliary cleaning part 300 is formed to surround the fastening part 260 formed in the cleaning part 200. In this case, the cleaning part 200 forms a fastening groove 270 and a fastening protrusion 280 so that the auxiliary cleaning part 300 is integrally coupled.

In this case, the auxiliary cleaning unit 300 forms a plurality of support protrusions 340 on both sides of the scraper 310 as shown in FIG. 5.

The support protrusion 340 extends from both side surfaces of the scraper 310 toward the fastening part 260. The support protrusion 340 is formed to prevent the cleaning part 200 injected by the primary molding from being eccentric due to the injection pressure when the cleaning part 200 is injected for the secondary molding.

As described above, in the detailed description of the present invention, a preferred embodiment of the present invention has been described, but this is illustrative of the most preferred embodiment of the present invention and does not

limit the present invention. In addition, any one of ordinary skill in the technical field to which the present invention belongs can make various modifications and imitations without departing from the scope of the technical idea of the present invention.

Accordingly, the scope of the present invention is not limited to the above-described embodiments, but may be implemented in various forms within the scope of the appended claims. Without departing from the gist of the present invention claimed in the claims, any person of ordinary skill in the art to which the present invention pertains is deemed to be within the scope of the description of the claims of the present invention to various ranges that can be modified.

【CLAIMS】

1. A cleaner comprising:

a rod-shaped grip part;

a rigid cleaning part formed of one or more frames; and

an auxiliary cleaning part which is coupled to a lower end portion of the rigid cleaning part and comes into contact with a cleaning target as the rigid cleaning part is deformed,

wherein the rigid cleaning part includes at least one main frame part extending in a longitudinal direction; at least one reinforcing frame part connecting the at least one main frame part in a transverse direction; and a torsion prevention part integrally connecting an upper portion of the main frame part,

wherein the rigid cleaning part and the auxiliary cleaning part are integrally coupled to surround a fastening part formed in the cleaning part.

2. A cleaner comprising:

a rod-shaped grip part;

a rigid cleaning part formed of one or more frames; and

an auxiliary cleaning part which is coupled to a lower end portion of the rigid cleaning part and comes into contact with a cleaning target as the rigid cleaning part is deformed,

wherein the rigid cleaning part includes at least one main frame part extending in a longitudinal direction; at least one

reinforcing frame part connecting the at least one main frame part in a transverse direction; and a torsion prevention part integrally connecting an upper portion of the at least one main frame part,

wherein the auxiliary cleaning part includes a plate-shaped scraper;

at least one main protrusion protruding in a longitudinal direction on both surfaces of the scraper;

one or more sub-protrusions formed in a wall shape on at least one of upper and lower portions of the main protrusion.

3. The cleaner of claim 1, wherein the cleaner provided with the auxiliary cleaning part is first molded to form the rigid cleaning part by injection molding, and the rigid cleaning part is inserted into a mold to be secondary molded to form the auxiliary cleaning part, and the auxiliary cleaning part is integrally coupled to surround a fastening part.