Appeal decision

Appeal No. 2013-15756

Tokyo, Japan
Appellant SANRITSU-KIKI CO. LTD.

Tokyo, Japan
Patent Attorney IZAWA, Makoto

The case of appeal against the examiner's decision of refusal of Japanese Patent Application No. 2010-229730, entitled "Pack Filter for Vacuum Suction Cleaner," [the application published on Apr. 26, 2012: Japanese Unexamined Patent Application Publication No. 2012-81060] has resulted in the following appeal decision:

Conclusion

The appeal of the case was groundless.

Reason

1. History of the procedures

The present application is an application dated Oct. 12, 2010, a decision of refusal was issued on Apr. 25, 2013, and, against this, an appeal against the examiner's decision of refusal was made on Aug. 14, 2013, and, together with this, a written amendment was submitted on the same date.

Subsequently, a reason for refusal was notified as of May 21, 2014 by the body, and, against this, a written opinion was submitted on Jul. 28, 2014, and, in conjunction with this, a written amendment was submitted on the same date.

2. The Invention

As viewed from the statements of the scope of claims amended by the amendment dated Jul. 28, 2014, it is recognized that the inventions according to claims 1 and 2 of the scope of claims of the present application are as shown in the claims 1 and 2 of the amended scope of claims in question, and thus the invention according to claim 1 (hereinafter, referred to as "the Invention") is as follows.

"[Claim 1] A pack filter for use in a vacuum suction cleaner, the pack filter comprising at least 3 bag-like filter elements A, B, C each having a different surface area, large, medium or small, wherein the filter elements are stacked on top of one another to configure at least a three-stage filter, and an opening of the filter element C having the largest surface area, an opening of the medium filter element B, and an opening of the filter element A having the smallest surface area collectively configure a suction opening, wherein,

in the stacked pack filter, at least, an inside space is formed between the filter element A having the smallest surface area and the medium filter element B, an outside space is formed between the medium filter element B and the filter element C having the largest surface area, and an exterior space is formed outside the filter element C having the largest surface area, wherein,

so as to generate pressure drops of at least three stages among the inside space, the outside space and the exterior space, S_A, which is the surface area of the filter element A, S_B, which is the surface area of the filter element B, and S_C, which is the surface area of the filter element C, are made to be $S_A<S_B<S_C$, and a filtration velocity V_1 of the filter A, a filtration velocity V_2 of the filter B, and a filtration velocity V_3 of the filter C are made to be $V_1>V_2>V_3$."

3. Cited Document

On the other hand, in Japanese Unexamined Patent Application Publication No. 2010-82136 (hereinafter, referred to as "Cited Document") which is a publication distributed in advance of the application of the present application and cited in the reason for refusal notified by the body, the following matters are described.

(1) "[0001]

The present invention relates to an electric vacuum cleaner including a vacuum cleaner body and a dust bag detachably housed in the vacuum cleaner body."

(2) "[0007]

An object of the present invention is to provide a dust bag for use in an electric vacuum cleaner and an electric vacuum cleaner, which can suppress degradation of dust collection performance of an electric vacuum cleaner and can improve maintainability."

(3) "[0021]

When an electric vacuum cleaner 1 is operated, an electric blower 13 operates to apply a negative pressure within a vacuum cleaner body 2. This negative pressure is applied from a connection port 2a to a suction opening body 8 through a dust collecting hose 3, a hand operation pipe 4, and an extension pipe 7. Then, the electric vacuum cleaner 1 sucks in dust accumulated on a surface to be cleaned such as a floor together with air from the suction opening body 8 to clean the surface to be cleaned. The dust-containing air sucked in by the suction opening body 8 is separated into air and dust by the dust bag 11 housed in the vacuum cleaner body 2. The separated dust is collected by the dust bag 11. On the one hand, the separated air is sucked in by the electric blower 13, and discharged from the body exhaust port of the vacuum cleaner body 2."

(4) "[0025]

In the rear part of the vacuum cleaner body 2, the electric blower 13 is housed. In the front part of the vacuum cleaner body 2, a dust collection chamber 10 in which the dust bag 11 is housed is formed. The space where the electric blower 13 is housed and the dust collection chamber 10 are partitioned by a partition plate 23 that supports a second filter device 22."

(5) "[0031]

FIG. 3 is a sectional view schematically indicating a dust bag according to the present invention.

[0032]

As shown in FIG. 3, the dust bag 11 is disposable, for example, and is a so-called paper bag. The dust bag 11 includes an opening frame part 27 as a mounted part to the vacuum cleaner body 2, and a bag body part 28 provided in a unified manner with the opening frame part 27.

[0033]

At the time when the dust bag 11 is attached to the dust collection chamber 10 of the vacuum cleaner body 2, the opening frame part 27 is secured to a clamp 31 provided in the dust collection chamber 10 in a fitting manner. The opening frame part 27 is formed into a square shape using a thick paper such as cardboard, for example. In an approximately middle part of the opening frame part 27, a round hole-like aperture 27a is pierced.

[0034]

The bag body part 28 is constituted in a manner overlapping a plurality of air

permeability materials formed in a saclike shape. Specifically, the bag body part 28 is composed of an outermost bag body 38 arranged in an outermost portion, and an inner bag body 39 arranged inside the outermost bag body 38. The outermost bag body 38 and the inner bag body 39 are spaced apart, and an appropriate space S exists therebetween."

(6) "[0038]

FIG. 4 is a sectional view schematically indicating another example of a dust bag according to the present invention.

[0039]

As shown in FIG. 4, a bag body part 28A of the dust bag 11A is composed of a plurality of saclike air permeability materials in an overlapped manner. Specifically, the bag body part 28A includes the outermost bag body 38 arranged in the most outside portion, a first inner bag body 40 arranged inside the outermost bag body 38, and a second inner bag body 41 arranged inside the first inner bag body 40. The outermost bag body 38 and the first inner bag body 40 are spaced apart with an appropriate space S1, and the first inner bag body 40 and the second inner bag body 41 are spaced apart with an appropriate space S2. The bag body part 28A may be formed in a manner overlapping a plurality of bag-like air permeability materials, such as four or more materials."

(7) In addition, in view of the statements of [0033]-[0034], it is indicated in [FIG. 4] and [FIG. 8] that the openings of the outermost bag body 38 arranged in the most outside portion, the first inner bag body 40 arranged inside the outermost bag body 38, and the second inner bag body 41 arranged inside the first inner bag body 40 are joined together, and are provided in the opening frame part 27 in a unified manner in which an aperture 27a is pierced .

Therefore, it is recognized that, in Cited Document, there is described an invention (hereinafter referred to "Cited invention") of

"A dust bag 11A to be detachably housed in an electric vacuum cleaner that cleans a surface to be cleaned by sucking dust accumulated on the surface to be cleaned by operation of an electric blower 13, wherein

the dust bag 11A is housed in a dust collection chamber 10 of a vacuum cleaner body 2, wherein

a bag body part 28A of the dust bag 11A includes an outermost bag body 38

arranged in an outmost portion, a first inner bag body 40 arranged inside the outermost bag body 38, and a second inner bag body 41 arranged inside the first inner bag body 40, wherein

openings of the outermost bag body 38 arranged in the most outside portion, the first inner bag body 40 arranged inside the outermost bag body 38, and the second inner bag body 41 arranged inside the first inner bag body 40 are joined together, and are provided in the opening frame part 27 in a unified manner in which an aperture 27a is pierced, wherein

the outermost bag body 38 and the first inner bag body 40 are spaced apart with an appropriate space S1 therebetween, and the first inner bag body 40 and the second inner bag body 41 are spaced apart with an appropriate space S2 therebetween.".

4. Comparison, Judgment

The Invention and Cited invention will be compared.

(1) "An electric vacuum cleaner that cleans a surface to be cleaned by sucking dust accumulated on the surface to be cleaned by operation of the electric blower 13", "the dust bag 11A", "the second inner bag body 41", "the first inner bag body 40", "the outermost bag body 38", and "the aperture 27a" of Cited invention respectively correspond to, "a vacuum suction cleaner", "a pack filter", "the filter element A", "the filter element B", "the filter element C", and "a suction opening" of the Invention as viewed from their functions and structures.

(2) "The dust bag 11A to be detachably housed in an electric vacuum cleaner that cleans a surface to be cleaned by sucking dust accumulated on the surface to be cleaned by operation of the electric blower 13" of Cited invention corresponds to "a pack filter for use in a vacuum suction cleaner" of the Invention, as viewed from their functions and structures.

(3) "The bag body part 28A of the dust bag 11A includes the outermost bag body 38 arranged in a outmost portion, the first inner bag body 40 arranged inside the outermost bag body 38, and the second inner bag body 41 arranged inside the first inner bag body 40" of Cited invention corresponds to "a pack filter" comprises "at least 3 bag-like filter elements A, B, C", "wherein the filter elements are stacked on top of one another to configure at least a three-stage filter" of the Invention, as viewed from their functions and structures.

(4) "Openings of the outermost bag body 38 arranged in the most outside portion, the first inner bag body 40 arranged inside the outermost bag body 38, and the first inner bag body 40 arranged inside the second inner bag body 41 are joined together, and are provided in the opening frame part 27 in a unified manner in which an aperture 27a is pierced" of Cited invention corresponds to "an opening of the filter element C", "an opening of ""the filter element B", and "an opening of the filter element A ""collectively configure a suction opening" of the Invention as viewed from their structures.

(5) "An appropriate space S1" between "the outermost bag body 38 and the first inner bag body 40" and "an appropriate space S2" between "the first inner bag body 40 and the second inner bag body 41" of Cited invention correspond to "the outside space" between "the filter element B" "and the filter element C", and "the inside space" "between the filter element A and the filter element B" of the Invention. Furthermore, "a dust collection chamber 10 of the vacuum cleaner body 2" that houses "the dust bag 11A" of Cited invention corresponds to "an exterior space" formed "outside the filter element C" of the Invention as viewed from their structures.

Here, in the bag body part 28A of the dust bag 11A of Cited invention, the outermost bag body 38 and the first inner bag body 40, and the first inner bag body 40 and the second inner bag body 41 are respectively spaced apart with the appropriate spaces S1 and S2. Therefore, there is formed a magnitude relation in the sizes of these bag bodies 38, 40, and 41, and, it is a common general technical knowledge that generally, the magnitude relation is identical with magnitude relation of the surface areas of these bag bodies 38, 40, and 41. Therefore, that the magnitude relation of the surface areas of these bag bodies 38, 40, and 41 is "the surface area of the outermost bag body 38 arranged in the most outside portion > the surface area of the first inner bag body 40 arranged inside the outermost bag body 38 > the surface area of the second inner bag body 41 arranged inside the first inner bag body 40" is equivalent to the matter described in Cited Document.

Then, as long as the dust bag 11A of Cited invention is of a structure that it is housed in the dust collection chamber, and is sucked by the electric blower 13, suction air amounts that pass through these bag bodies 38, 40, and 41 are the same. Therefore, as shown also in paragraph [0019] of the description of the present application, it is a matter that is obvious for a person skilled in the art that the larger a surface area of each bag body of a dust bag, the lower its filtration velocity. In

addition, considering magnitude relation of surface areas of these bag bodies 38, 40, and 41 and existence of a ventilation resistance to no small extent when passing through a bag body, it is a matter that is also obvious for a person skilled in the art that a pressure drop is caused every passage through each of these bag bodies 38, 40, and 41 (for example, refer to the microfilm of Japanese Utility Model Application No. S61-41697 (Japanese Unexamined Utility Model Application Publication No. 62-151847): the statements of lines 8-20 of the page 3 and Fig. 1 of the description, and the like). Therefore, it is also equivalent to matters described in Cited Documents that magnitude relation of the filtration velocity of these bag bodies 38, 40, and 41 is "a filtration velocity of the outermost bag body 38 arranged in the most outside portion < a filtration velocity the first inner bag body 40 arranged inside the outermost bag body 38 < a filtration velocity of the second inner bag body 41 arranged inside the first inner bag body 40", and that a pressure drop is caused every passage through each of these bag bodies 38, 40, and 41.

In view of the above, "the dust bag 11A" of Cited invention further has the constitution that "the surface area of the outermost bag body 38 arranged in the most outside portion > the surface area of the first inner bag body 40 arranged inside the outermost bag body 38 > the surface area of the second inner bag body 41 arranged inside the first inner bag body 40", "a filtration velocity of the outermost bag body 38 arranged in the most outside portion < a filtration velocity of the first inner bag body 40 arranged inside the outermost bag body 38 < a filtration velocity of the second inner bag body 41 arranged inside the first inner bag body 40" and "a pressure drop is caused every passage through each of these bag bodies 38, 40, and 41", and this constitution of Cited invention corresponds to "so as to generate pressure drops of at least three stages among the inside space, the outside space, and the exterior space, S_A, which is the surface area of the filter element A, S_B, which is the surface area of the filter element B, and S_C, which is the surface area of the filter element C, are made to be $S_A<S_B<S_C$, and a filtration velocity V_1 of the filter A, a filtration velocity V_2 of the filter B, and a filtration velocity V_3 of the filter C are made to be $V_1>V_2>V_3$" of the Invention.

Therefore, Cited invention has the matters specifying the invention of the Invention totally, and there is no different point between the two.

Therefore, the Invention is Cited invention.

5. Closing

As above, the Invention falls under an invention prescribed in Article 29(1)(iii) of the Patent Act, and thus the appellant should not be granted a patent for the invention. Therefore, without examining inventions according to other claims, the application should be rejected.

Therefore, the appeal decision shall be made as described in the conclusion.

September 24, 2014

Chief administrative judge:	MORIBAYASHI, Katsuro
Administrative judge:	SENJU, Akio
Administrative judge:	YAMAZAKI, Katsushi