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(54) A NOZZLE FOR CLEANER

DÜSE FÜR EINEN REINIGER

BUSE POUR APPAREIL DE NETTOYAGE

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Description

Technical Field

[0001] The document relates to a cleaner.

Background Art

[0002] In general, a vacuum cleaner comprises a cleaner body generating suction power and several components such as a suction nozzle connected with the cleaner body as being adjacent to the body or being touched with the body. Therefore, foreign elements are filtered as flowing into the cleaner body through the above-mentioned suction nozzle.

[0003] Further, the vacuum cleaner comprises a suction path leading the air and foreign elements in the suction nozzle to be inhaled in to the body, and the suction paths are formed in the left and right directions. That is, the suction nozzle is formed in a straight line in the left and right direction that it is the length direction of the nozzle. An example can be seen in US2003/0140449.

Disclosure of Invention

Technical Problem

[0004] The suction path formed at the bottom of the suction nozzle of a conventional cleaner has a disadvantage in that the suction efficiency is low, since the entire suction area is small as the suction path is formed in one path of straight line.

[0005] Further, the suction path formed at the bottom of the suction nozzle of a conventional cleaner has a disadvantage in that the minute foreign elements such as small sands on carpets are not removed when the pile of the carpet is pressed by the bottom of the suction nozzle while cleaning the bottom such as carpets, since the air flows in one direction through the right and left straight type suction path.

Technical Solution

[0006] The implementation of the present invention is intended to overcome the above-mentioned conventional problems, and an object of the present invention is to provide a bottom structure of a suction nozzle for a cleaner capable of flowing the air between the adjacent suction paths as arranging separation wall having holes between the piled suction paths.

[0007] Another object of implementation of the present invention is to provide a bottom structure of a suction nozzle of a suction nozzle for a cleaner that the cross sectional area of the suction path leading the suction of the air and foreign elements is gradually changed from one end to the other end.

[0008] Therefore, an implementation of a nozzle for cleaner comprises an intake inhaling air and foreign elements; a suction path which communicates with the intake and has at least two directional components to lead air and foreign elements into the intake; and at least one separation wall formed between the adjacent suction paths to separate the adjacent suction paths.

[0009] The implementation of a nozzle for cleaner comprises an intake inhaling air and foreign elements; a suction path which communicates with the intake and has at least two directional components to lead air and foreign elements into the intake; and at least one separation wall formed between the adjacent suction paths to separate the adjacent suction paths, wherein the suction path is non-linear shaped.

Advantageous Effects

[0010] it is effective that the foreign elements on the carpet such as sands are easily inhaled as swirls are generated by the current of the air flowing in the holes of the front and the rear of the central path.

[0011] Furthermore, even stronger swirls are generated at the central path as a big pressure difference of the area between around the intake and the inlet of the suction path (the left end and the right end) is generated, since the cross section of left and right ends of the suction path is relatively smaller than the inner side. Therefore, foreign elements the suction efficiency becomes improved.

Brief Description of the Drawings

[0012]

FIG. 1 is a perspective view illustrating an external structure of a general cleaner applied with the present invention.

FIG. 2 is a perspective view of the lower part of the bottom of the suction nozzle illustrating the preferred embodiment of the bottom structure of the suction nozzle of a cleaner according to the present invention.

FIG. 3 is a view of the lower part of the bottom of the suction nozzle illustrated in FIG. 2.

FIG. 4 is a cross-sectional view along the line I-I in FIG. 3.

FIG. 5 is a cross-sectional view along the line J-J in FIG. 3.

FIG. 6 is a cross-sectional view along the line K-K in FIG. 3.

FIG. 7 is a state diagram illustrating the flowing state of the air and foreign elements at the bottom of the suction nozzle of a cleaner according the present invention in FIG. 3.

FIG. 8 is a perspective view of the lower part of the bottom of the suction nozzle illustrating another preferred embodiment of the bottom structure of the suction nozzle of a cleaner according to the present invention.

Mode for the Invention

[0013] FIG. 1 illustrates a general cleaner capable of applied with the present invention.

[0014] As illustrated above, a cleaner comprises a cleaner body 1 having a suction fan generating suction force, a suction hose 2 transferring foreign elements inhaled from floors as connected with the front of the cleaner body 1, a grip 3 having selection modes for users to select cleaning mode as holding as connected with the other end of the suction hose 2, an extension pipe 4 connected with the other end of the grip 3 as extended, and a suction nozzle 5 inhaling foreign elements on the floor as connected with the end of the extended pipe 4.

[0015] Therefore, a user selects a cleaning mode as applying electricity to the suction fan of the cleaner body 1 as holding the grip 3, and cleans as moving the suction nozzle back and forth or left and right as closing the suction nozzle to the floor to clean.

[0016] Here, the foreign elements on the floor is collected through a filter and etc arranged in the cleaner body 1 as passing through the extension pipe 4 and the suction hose after inhaled into the bottom of the suction nozzle 5.

[0017] FIG. 2 is a perspective view of the lower part of the bottom of the suction nozzle illustrating the preferred embodiment of the bottom structure of the suction nozzle of a cleaner according to the present invention and FIG. 3 is a view of the lower part of the bottom of the suction nozzle illustrated in FIG. 2. Further, FIGS. 4 to 6 illustrate the cross sections of each part of FIG. 3.

[0018] As illustrated in these FIGs, an intake 50 is penetrated to the center of the nozzle bottom of the suction nozzle 40. The intake 50 is an inlet inhaling foreign elements adhered to the floor or piled on the floor into the suction nozzle.

[0019] A suction path 60 is formed at the left and right of the intake 50 to be connected. The suction path 60 is piled as having at least two kinds of directional components, and becomes a path leading the outer air and foreign elements into the intake 50

[0020] The suction path 60 is formed in the shape of S as illustrated. That is, the suction path 60 is formed as depressed to the inside from the bottom as illustrated in FIG. 2, and broadly formed in the shape of S. It is also possible for the suction path 60 to be formed in zigzags or in other shapes besides the shape of S.

[0021] As the suction path 60 is formed in S as described above, it is super positioned to each other. That is, the suction path 60 is composed of three paths and the paths are super positioned to each other.

[0022] More particularly, a central path 52 leads the air of left and right to the intake 50 as formed at the left and right of the intake 50, a front path 54 is formed at the front of the central path 52, and a rear path 56 is formed at the rear of the central path 52. The front path 54 leads the air inhaled from the left side to the central path 52 as formed at the front of the central path 52. Further, the rear path 56 leads the air inhaled from the right side to the central path 52 as formed at the rear of the front path 54.

[0023] The formed position of the bottom of the front path 54 and the rear path 56 is not always the same. That is, the bottom of the front path 54 and the rear path 56 are composed of a plane units 54' and 56' formed at the same height to the bottom of the central path 52, and inlet units 54" and 56 that the height become gradually high as they are away from the plane units 54'and 56'

[0024] More particularly, the bottom of the center and right side of the front path 54 forms the front plane unit 54' as formed at the same height to the central path 52, and the front plane unit 54' forms the unit parallel against the nozzle bottom 40. Further, the left bottom forms the front inlet unit 54" as its height gradually becomes high as it is close to the left side. A left inlet 58 which will be described on the following is formed at the left end of the front inlet unit 54".

[0025] The center and the left bottoms of the rear path 56 forms the rear plane unit 56' as formed at the same height to the central path 52, and the rear plane unit 56' forms a parallel unit against the nozzle bottom unit 40. Further, the right bottom of the rear path 56 forms the rear inlet unit 56" that the height becomes high toward the right side. A right inlet 58' which will be described on the following is formed at the right end of the rear inlet unit 56".

[0026] A separation wall 70 of predetermined height is formed between the piled suction paths 60. The separation wall 70 separates the suction paths 60 adjacent to each other. That is, the separation wall 70 separates the central path 52, the front path 54 and the rear path 56 from each other.

[0027] More particularly, a front separation wall 72 separates the central path 52 from the front path 54 as formed between the central path 52 and the front path 54, and a rear separation wall 74 separates the central path 52 from the rear path 56 as formed between the central path 52 and the rear path 56. The width of the separation wall is variable. That is, the width of the separation wall 70 becomes narrower as getting closer to the inside. Particularly, The width of the separation wall 70 becomes gradually narrower or wider as getting closer to a side. That is, the width of the front separation wall 72 becomes narrower as getting closer to the right side, and the width of the rear separation wall 74 becomes narrower as getting closer to the left side as illustrated.

[0028] It is proper for the size at each part of the cross section of the suction path 60 to be different from each other. That is, the cross section of the suction path 60 becomes gradually wider as getting closer to the inside from the both ends of the suction path 60. The cross section of the front path 54 and the rear path 56 becomes wider as getting closer to the inside from the right end.

[0029] The width L of the suction path 60 becomes wider or narrower as getting closer to side. That is, size of the width of the both ends of the suction path 60 is

narrower than the inner width. It is, however, proper for the width of the central path 52 to be unchangeable.

[0030] Each of inlets 58 and 58' connected with outside is formed at each of the left end of the front path 54 and the right end of the rear path 56. That is, a left inlet 58 is formed at the left end of the front inlet unit of the front path 54, and a right inlet 58' is formed at the right end of the rear inlet unit 56' of the rear path 56. Further, the left inlet 58 and the right inlet 58' become inlets inhaling outer air into the front path 54 and the rear path 56 from the left and right sides.

[0031] The cross section of the inlets 58 and 58' is smaller than the cross section of the front path 54 and the rear path 56. That is, the width L' of the left inlet 58 formed at the left end of the front path 54 is narrower than the inner width L" of the front path 54.

[0032] The width L of the front path 54 becomes gradually wider as getting closer to the right end from the left end of the front inlet 54". The width L of the rear path 56 becomes wider as getting closer to the left end from the right end of the rear inlet 56".

[0033] The height H of the suction path 60 is variable in accordance with its positions, especially, becomes higher as getting closer to the inside from each end. The height of the suction path 60 and the height of the separation wall 70 are the same at any position, since the lower end of the separation wall 70- the upper end in FIGS. 2 to 3-is formed to be plane same to the bottom of the suction nozzle, and it is the H in FIG. 2.

[0034] The height of the front path 54 becomes higher as getting closer to the right side from the left end, and the height H of the front separation wall 72 is the same to this. The height H of the rear path 56 and the rear separation wall 74 becomes higher as getting closer to the left side from the right side.

[0035] Since the width L of the front path 54 and the height H of the front separation wall 72 become wider and higher as getting closer to the right side from the left side, and the width L of the rear path 56 and the height H of the rear separation wall 74 become wider and higher as getting closer to the left side from the right side.

[0036] Grooves 80 are further formed on the separation wall 70. The grooves 80 circulate air through the adjacent suction paths 60. That is, front grooves 82 lead the air current between the front path 54 and the central path 52 as formed on the suction paths 60 adjacent to each other, and rear grooves 84 lead the air current between the rear path 56 and the central path 52 as formed on the rear separation wall 74.

[0037] The groove 80 is formed in plurality, and it is proper for the grooves 80 to be formed with a predetermined interval along the separation wall 70. Further, the positions of each of the grooves 80 formed on the separation wall 70 close each other. That is, the front grooves 82 formed on the front separation wall 72 and the rear grooves 84 formed on the rear separation wall are formed to cross each other as illustrated.

[0038] Forming the position of the front grooves 82 and the rear grooves 84 to cross each other is to lead the smooth generation for swirls. That is, the air current flows to the central path 56 from the front path 54 as passing through the front grooves 82 and the air current flows to the central path 52 from the rear path 56 as passing through the rear grooves 84 form swirls with the interaction of each other, forming the position of the front grooves 82 and the rear holes to cross each other is to lead the smooth generation for the swirls.

[0039] Each depth h of the multitude of grooves 80 is the same to each other. Further, it is proper for the height of the holes to be shorter than the height of the separation wall 70 on which the grooves 80 are formed or the depth of the suction path 60. Further, it is proper for the left and right width m of the grooves 80 to be formed as narrower than the distance M between each of the grooves 80 and, particularly, to have width of about 5mm.

[0040] The reason that the size of the holes are limited is to flow smaller amount of air through the grooves 80 than the amount of the air flowing through the suction path, since the suction path 60 is the main path of air and foreign elements and the grooves 80 are the optional path for air.

[0041] Each of the left and right side of the intake 50 has a rounded leading surface 90 for smooth inflowing of air and foreign elements. That is, it is possible for the air and foreign elements inhaled into the left and right sides through the central path 52 to be inhaled into the intake 50 without great friction, since the leading surfaces 90 shaped of ')' and '(' are arranged at the both ends of the intake 50.

[0042] Reference will now be made in detail as for the operation of the bottom structure of a suction nozzle of a cleaner configured as above with reference to FIGS. 2 to 7.

[0043] When a user applying electricity to the cleaner, suction force is generated by a motor-not illustrated- and rotation of a fan, and the air and foreign elements at the lower side of the suction nozzle are forced to be inhaled through the intake 50 as the suction force is transferred to the intake 50.

[0044] Therefore, when a user put the suction nozzle close to the bottom with a carpet on, air and foreign elements are inhaled. Here, air and foreign element are inhaled through the both ends of the suction path 60 for the first time. That is, the outer air and foreign elements flows into the inside through the intake 58 and 58 formed at the left end of the front path 54 and the right end of the rear path 56.

[0045] The air and foreign elements flows through the front path 54 and the rear path 56 are inhaled into the central path 52 as each of the direction is changed at the right end of the front separation wall 72 and the left end of the rear separation wall 74. Therefore, the air and foreign element inhaled from the left and right sides of the central path 52 are inhaled into the suction nozzle through the intake 50.

[0046] Here, air and foreign elements also flow through

the grooves 80. That is, the air flowing through the front path 54 flows to the central path 52 as passing the front separation wall when it passes through the front grooves 82, and the air flows into the central path 52 as passing the rear separation hole 74 when it passes through the rear grooves 84.

[0047] The air inhaled into the central path 52 through the front grooves 82 and the rear grooves 84 form swirls due to the interaction of each other. That is, swirls are naturally generated at the central path 52, since the front grooves 82 and the rear grooves 84 crosses against each other, and FIG. 7 illustrates the state in detail.

[0048] As describing the flowing of the air and foreign elements as referring to FIG. 7, the velocity of the air becomes relatively faster at the left end of the front path 54 and the right end of the rear path 56 which are the first intakes of air and foreign elements inhaled from the left and right sides. It is because the cross section of the left end of the front path 54 and the right end of the rear path 56 is narrower than the cross sections of other part of the suction path 60.

[0049] Most of the air and foreign elements flows to the central path 52 after flowing left and right along the front path 54 and the rear path 56 which are the main paths, and a portion of the air and foreign elements flows into the central path 52 after passing through the grooves 80.

[0050] Here, the velocity of the air passing through the grooves 80 is relatively faster than the velocity of the air flowing through suction path 60, since the cross section of the grooves 80 is relatively smaller than the cross section of the suction path 60. Therefore, strong swirls are generated at the central path 52, and the foreign elements in the carpets such as sands and etc are easily inhaled into the intake 50 by the swirls.

[0051] More particularly, when a user pushes the suction nozzle as putting it very close to the carpet, the pile of the carpet is pushed by the bottom of the suction nozzle or a scraper-not illustrated- and the foreign elements in the piles are hidden. Here, if the above-mentioned swirls are generated, the foreign elements such as sand and etc hidden in the piles come out of the pile and easily inhaled into the intake 50.

[0052] The scope of the present invention as above is not limited to the described preferred embodiment, but is possible to be changed in various ways by common engineers in the present business with the present invention as a basis in the scope of the field of art as above.

[0053] For instance, the front grooves 82 formed on the front separation wall 72 and the rear grooves 84 formed on the rear separation wall 74 cross against each other, but it is not necessary for the grooves 80 to be crossed against each other, and it is also possible that the front grooves 82 and the rear grooves 84 are not crossed against each other. For sure, the formation of the swirls at this time would be different to the formation of the swirls illustrated in FIG. 7.

[0054] Further, the structure illustrated in FIG. 8 is possible. Referring to FIG. 8, a girt guide 92 is protruded upwardly along the girt of the suction path 60. That is, the lose of suction force is prevented as the girt guide 92 that the top is rounded protruded upwardly at some part along the outer girt of the suction path 60 and as the girt guide 92 blocks the current of the air into the suction path 60 through other parts excluding the intakes 58 and 68' when the cleaning is performed as the cleaner is moving at the state close to the floor of indoors.

Claims

1. A nozzle (5) for a cleaner comprising:

an intake (50) inhaling air and foreign elements;
a suction path (60) which communicates with the intake (50) and has at least two directional components to lead air and foreign elements into the intake (50); and
at least one separation wall (70) formed between the adjacent suction paths (60) to separate the adjacent suction paths (60),
characterized in that,
the at least one separation wall (70) is provided in plurality,
wherein grooves (80) are formed on the separation wall (70) to enable the air in the adjacent suction paths (60) to mutually flow,
the grooves (80) formed on one separation wall are alternately disposed with the grooves formed on another separation wall.

2. The nozzle (5) for a cleaner according to claim 1, wherein the suction path (60) includes:

a central path (52) which is connected with the left and right sides of the intake (50) and leads the inhaled air in to the intake (50);
a front path (54) which is formed at the front of the central path (52) and leads the inhaled air into the central path (52); and
a rear path (56) which is formed at the rear of the front path (54) and leads the inhaled air to the central path (52),
wherein the groove (80) is shallower than the central path (52).

3. The nozzle (5) for a cleaner according to claim 2, wherein the separation wall (70) includes:

a front separation wall (72) formed between the central path (52) and the front path (54) to separate the central path (52) and the front path (54); and
a rear separation wall (74) formed between the central path (52) and the rear path (56) to separate the central path (52) and the rear path (56).

4. The nozzle (5) for a cleaner according to claim 1, wherein the cross sectional area of the suction path (60) becomes wider as getting closer to a predetermined inner portion from the end portion.

5. The nozzle (5) for a cleaner according to claim 1, wherein width of the end portion of the suction path (60) is narrower than the width of the inner portion thereof.

6. The nozzle (5) for a cleaner according to claim 1, wherein the depth of the suction path (60) is gradually increased as getting closer to a predetermined inner portion from the end portion thereof.

7. The nozzle (5) for a cleaner according to claim 1, wherein the intake (50) has a rounded leading surface.

8. The nozzle (5) for a cleaner according to claim 1, further comprising a girt guide (92) protruded along the girt of the suction path (60).

9. The nozzle (5) for a cleaner according to claim 1, wherein the suction path (60) is non-linear shaped.

10. The nozzle (5) for a cleaner according to claim 1, wherein the width of the separation wall (70) is varying as getting closer to one side thereof.

11. The nozzle (5) for a cleaner according to claim 10, wherein the width of the separation wall (70) becomes narrower as getting closer to the inside from the outside.

12. The nozzle (5) for a cleaner according to claim 1, wherein the grooves (80) are formed along the separation wall (70) at regular distance.

13. The nozzle (5) for a cleaner according to claim 1, wherein the depth of the grooves (80) is smaller than the depth of the suction path (60).

Patentansprüche

1. Düse (5) für einen Reiniger mit:

einem Einlass (50), der Luft und Fremdkörper ansaugt;
einem Saugpfad (60), der mit dem Einlass (50) kommuniziert und mindestens zwei Richtungskomponenten aufweist, um Luft und Fremdkörper in den Einlass (50) zu führen; und
mindestens einer zwischen den nebeneinanderliegenden Saugpfaden (60) gebildeten Trennwand (70), um die nebeneinanderliegenden Saugpfade (60) zu trennen,

dadurch gekennzeichnet, dass
die mindestens eine Trennwand (70) in Vielzahl vorgesehen ist,
wobei auf der Trennwand (70) Rillen (80) gebildet sind, damit die Luft in den nebeneinanderliegenden Saugpfaden (60) wechselseitig fließt, die auf einer Trennwand gebildeten Rillen (80) abwechselnd mit den Rillen auf einer anderen Trennwand gebildet sind.

2. Düse (5) für einen Reiniger nach Anspruch 1, wobei der Saugpfad (60) aufweist:

einen zentralen Pfad (52), der mit der linken und der rechten Seite des Einlasses (50) verbunden ist und die eingesaugte Luft in den Einlass (50) führt;
einen vorderen Pfad (54), der an der Vorderseite des zentralen Pfades (52) angeordnet ist und die eingesaugte Luft in den zentralen Pfad (52) führt; und
einen hinteren Pfad (56), der an der Rückseite des vorderen Pfades (54) angeordnet ist und die eingesaugte Luft in den zentralen Pfad (52) führt,
wobei die Rille (80) weniger tief ist, als der zentrale Pfad (52).

3. Düse (5) für einen Reiniger nach Anspruch 2, wobei die Trennwand (70) aufweist:

eine vordere Trennwand (72), die zwischen dem zentralen Pfad (52) und dem vorderen Pfad (54) gebildet ist, um den zentralen Pfad (52) vom vorderen Pfad (54) zu trennen; und
eine hintere Trennwand (74), die zwischen dem zentralen Pfad (52) und dem hinteren Pfad (56) gebildet ist, um den zentralen Pfad (52) und den hinteren Pfad (56) zu trennen.

4. Düse (5) für einen Reiniger nach Anspruch 1, wobei der Querschnittsbereich des Saugpfades (60) vom Endabschnitt zu einem vorbestimmten Innenabschnitt hin weiter wird.

5. Düse (5) für einen Reiniger nach Anspruch 1, wobei die Weite des Endabschnitts des Saugpfades (60) enger ist, als die Weite seines Innenabschnitts.

6. Düse (5) für einen Reiniger nach Anspruch 1, wobei die Tiefe des Saugpfades (60) vom Endabschnitt zu einem vorbestimmten Innenabschnitt hin nach und nach zunimmt.

7. Düse (5) für einen Reiniger nach Anspruch 1, wobei der Einlass (50) eine abgerundete Führungsoberfläche aufweist.

8. Düse (5) für einen Reiniger nach Anspruch 1, ferner mit einem Umfangsführungsteil (92), das entlang des Umfangs des Saugpfades (60) hinausragt.

9. Düse (5) für einen Reiniger nach Anspruch 1, wobei der Saugpfad (60) nicht-linear geformt ist.

10. Düse (5) für einen Reiniger nach Anspruch 1, wobei die Weite der Trennwand (70) zu einer ihrer Seiten hin variiert.

11. Düse (5) für einen Reiniger nach Anspruch 10, wobei die Weite der Trennwand (70) von außen nach innen hin schmaler wird.

12. Düse (5) für einen Reiniger nach Anspruch 1, wobei die Rillen (80) in gleichmäßigem Abstand an der Trennwand (70) entlang gebildet sind.

13. Düse (5) für einen Reiniger nach Anspruch 1, wobei die Tiefe der Rillen (80) geringer ist, als die Tiefe des Saugpfades (60).

Revendications

1. Suceur (5) pour un aspirateur, comprenant :

une admission (50) pour l'aspiration d'air et d'éléments étrangers ;
un chemin d'aspiration (60) communiquant avec l'admission (50) et ayant au moins deux composantes directionnelles pour guider l'air et les éléments étrangers dans l'admission (50) ; et
au moins une paroi de séparation (70) formée entre les chemins d'aspiration (60) adjacents pour séparer lesdits chemins d'aspiration (60) adjacents,
caractérisé en ce que
ladite au moins une paroi de séparation (70) est prévue en pluralité,
des encoches (80) étant formées sur la paroi de séparation (70) pour permettre à l'air de s'écouler entre les chemins (60) adjacents,
les encoches (80) formées sur une paroi de séparation étant disposées de manière alternée avec les encoches formées sur l'autre paroi de séparation.

2. Suceur (5) pour un aspirateur selon la revendication 1, où le chemin d'aspiration (60) comprend :

un chemin central (52) relié aux côtés gauche et droit de l'admission (50) et guidant l'air aspiré vers l'admission (50) ;
un chemin avant (54) formé en avant du chemin central (52) et guidant l'air aspiré vers le chemin central (52) ; et
un chemin arrière (56) formé en arrière du chemin avant (54) et guidant l'air aspiré vers le chemin central (52),
l'encoche (80) étant moins profonde que le chemin central (52).

3. Suceur (5) pour un aspirateur selon la revendication 2, où la paroi de séparation (70) comprend :

une paroi de séparation avant (72) formée entre le chemin central (52) et le chemin avant (54) pour séparer le chemin central (52) du chemin avant (54) ; et
une paroi de séparation arrière (74) formée entre le chemin central (52) et le chemin arrière (56) pour séparer le chemin central (52) du chemin arrière (56).

4. Suceur (5) pour un aspirateur selon la revendication 1, où la surface de section transversal du chemin d'aspiration (60) s'élargit à mesure qu'on s'approche d'une partie intérieure définie depuis la partie d'extrémité.

5. Suceur (5) pour un aspirateur selon la revendication 1, où la largeur de la partie d'extrémité du chemin d'aspiration (60) est inférieure à la largeur de la partie intérieure de celui-ci.

6. Suceur (5) pour un aspirateur selon la revendication 1, où la profondeur du chemin d'aspiration (60) augmente progressivement à mesure qu'on s'approche d'une partie intérieure définie depuis la partie d'extrémité de celui-ci.

7. Suceur (5) pour un aspirateur selon la revendication 1, où l'admission (50) présente une surface avant arrondie.

8. Suceur (5) pour un aspirateur selon la revendication 1, comprenant en outre un guidage de tablier (92) en saillie le long du tablier du chemin d'aspiration (60).

9. Suceur (5) pour un aspirateur selon la revendication 1, où le chemin d'aspiration (60) a une forme non linéaire.

10. Suceur (5) pour un aspirateur selon la revendication 1, où la largeur de la paroi de séparation (70) change à mesure qu'on s'approche d'un côté de celle-ci.

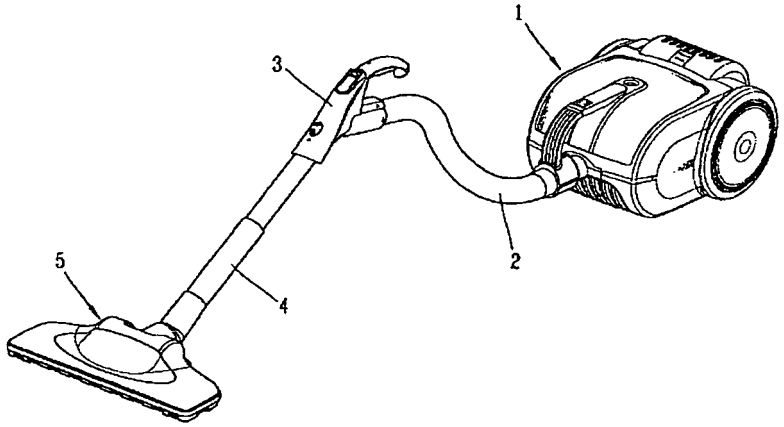
11. Suceur (5) pour un aspirateur selon la revendication 10, où la largeur de la paroi de séparation (70) diminue à mesure qu'on s'approche de l'intérieur depuis l'extérieur.

12. Suceur (5) pour un aspirateur selon la revendication

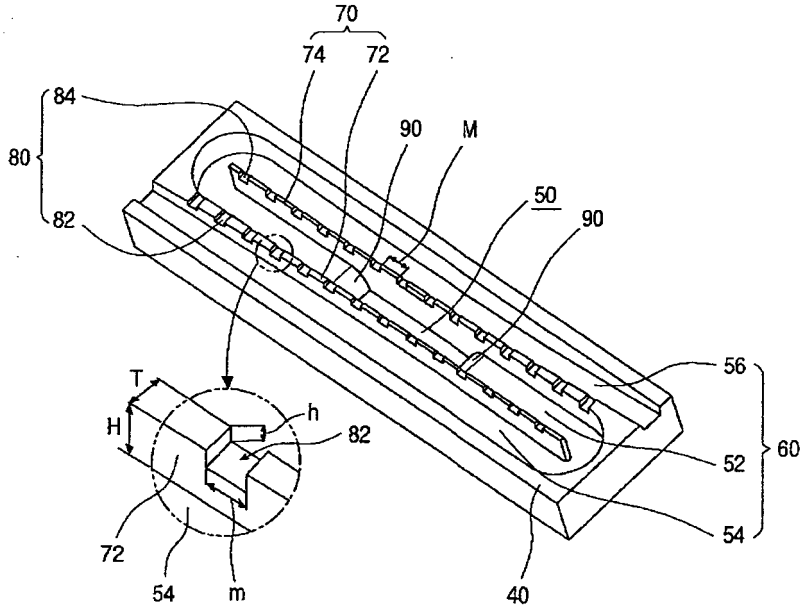
1, où les encoches (80) sont formées à intervalles réguliers le long de la paroi de séparation (70).

13. Suceur (5) pour un aspirateur selon la revendication 1, où la profondeur des encoches (80) est inférieure à la profondeur du chemin d'aspiration (60).

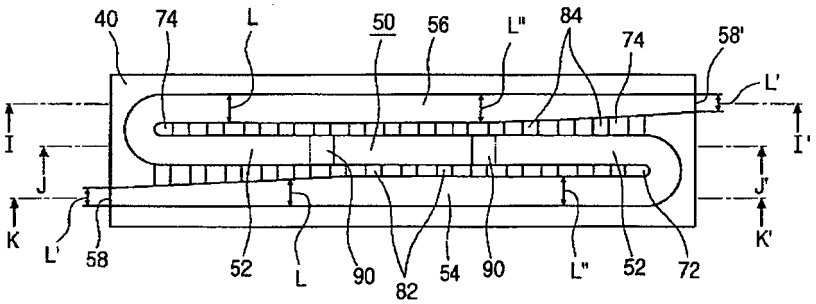
[Fig. 1]



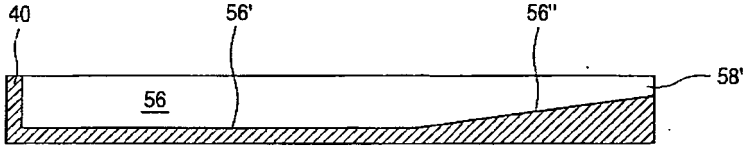
[Fig. 2]



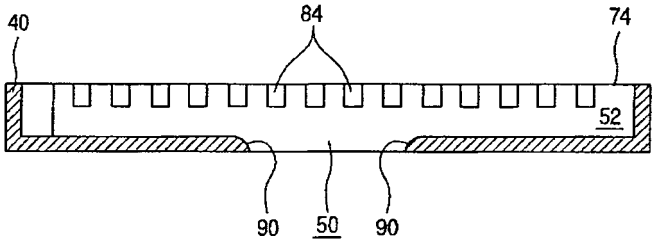
[Fig. 3]



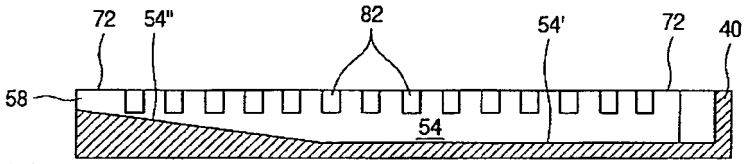
[Fig. 4]



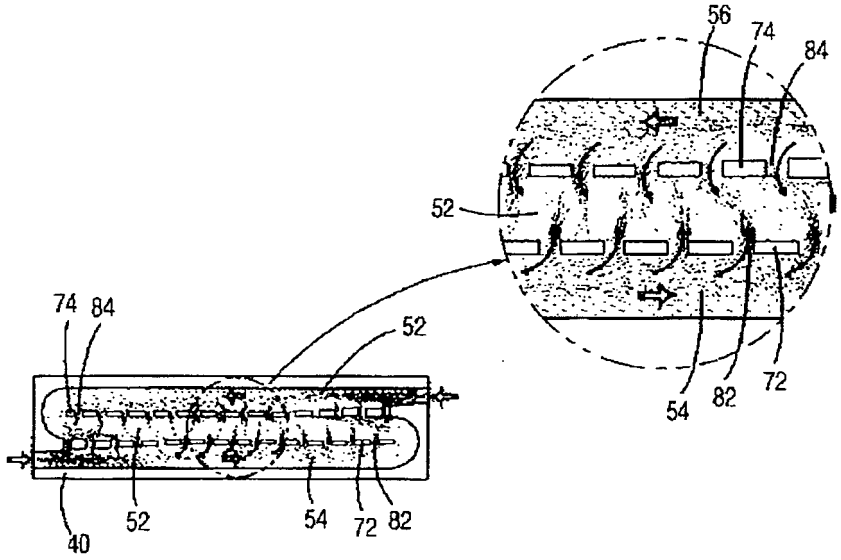
[Fig. 5]



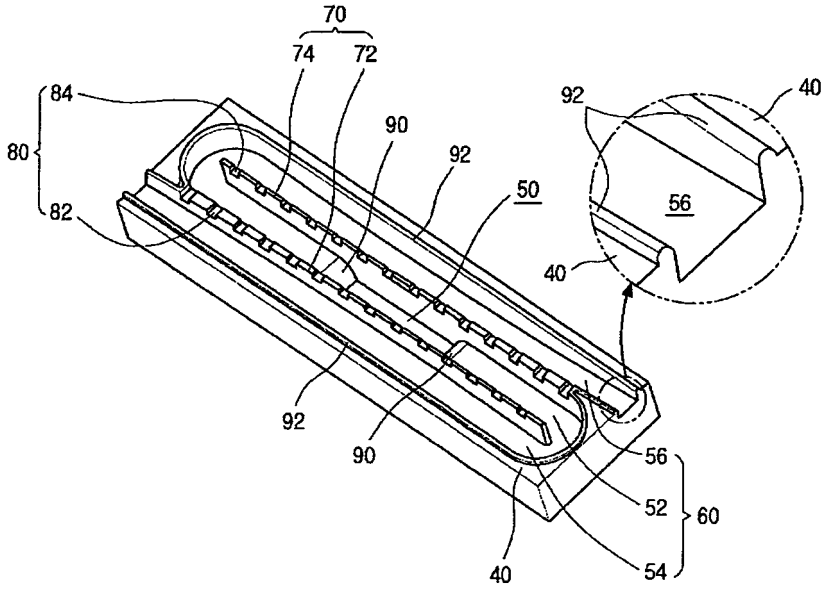
[Fig. 6]



[Fig. 7]



[Fig. 8]



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Patent documents cited in the description

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