

AIR-INLET GRILLE OF CLOTHES TREATMENT DEVICE, AND CLOTHES TREATMENT DEVICE

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to Chinese Patent Application No.
5 202111007036.9 filed on August 30, 2021, the entire contents of which are incorporated
herein by reference.

FIELD

[0002] The present disclosure relates to the technical field of clothes treatment, and in
particular, to an air-inlet grille of a clothes treatment device and a clothes treatment device.

BACKGROUND

10 **[0003]** The related art discloses a filtration grille of a clothes dryer, which is disposed at
an annular support plate located between a front sealing door and a clothes treatment tub. The
filtration grille is formed as an arc-shaped plate extending in a circumferential direction of a
clothes access opening. Moreover, a surface of the filtration grille is flush with a surface of
15 the annular support plate. Since a size of the filtration grille is limited by the annular support
plate, a number of filtration holes at the filtration grille is limited, thereby affecting use effect.

SUMMARY

[0004] The present disclosure aims to solve at least one of the technical problems existing
in the related art. To this end, an objective of the present disclosure is to provide an air-inlet
20 grille of a clothes treatment device. Air inflowing and filtration effects of the air-inlet grille
are better.

[0005] The present disclosure also provides a clothes treatment device having an air-inlet grille of the clothes treatment device as described above.

[0006] An air-inlet grille of a clothes treatment device according to an embodiment of a first aspect of the present disclosure includes: a top plate having a plurality of top through
5 holes arranged at intervals; and a rear side plate. An upper end of the rear side plate is connected to a rear side edge of the top plate. The rear side plate has a plurality of side through holes arranged at intervals.

[0007] With the air-inlet grille of the clothes treatment device according to the embodiments of the present disclosure, the air-inlet grille is provided to include the top plate
10 and the rear side plate. Moreover, each of the top plate and the rear side plate has a plurality of through holes provided thereon. An outer side surface of the top plate and an outer side surface of the rear side plate serve as windward surfaces. In this way, effects of air inflowing and filtration in different directions can be achieved. Moreover, a number of through holes and an occupied area of through holes in a predetermined space are increased. Therefore, an
15 air inflowing amount in unit time is improved.

[0008] According to some embodiments of the present disclosure, an upper surface of the top plate is formed as an inclined surface or a curved surface.

[0009] According to some embodiments of the present disclosure, an upper surface of the top plate at least partially extends downwards gradually from back to front.

[0010] According to some embodiments of the present disclosure, an upper surface of the
20 top plate at least partially extends downwards gradually from two ends of the top plate to a middle part of the top plate.

[0011] According to some embodiments of the present disclosure, the plurality of top through holes includes a plurality of first through holes. The plurality of first through holes is
25 uniformly distributed in a length direction of the top plate and/or a width direction of the top plate.

[0012] In some embodiments, each of the plurality of first through holes is formed as a square hole, a triangular hole, or a circular hole.

[0013] According to some embodiments of the present disclosure, the plurality of top
30 through holes includes a plurality of second through holes. The plurality of second through

holes is arranged at intervals in a length direction of the top plate; and each of the plurality of second through holes is disposed close to a front side edge of the top plate.

[0014] In some embodiments, each of the plurality of second through holes is formed as an elongated hole extending in the length direction of the top plate.

5 **[0015]** According to some embodiments of the present disclosure, each of the plurality of side through holes is formed as a square hole, a triangular hole, or a circular hole.

[0016] According to some embodiments of the present disclosure, the rear side plate has a mounting protrusion provided at an outer side surface of the rear side plate and protruding backwards; the plurality of side through holes is disposed on the mounting protrusion; and a
10 lower side wall of the mounting protrusion is adapted to be supported at a front support of the clothes treatment device.

[0017] According to some embodiments of the present disclosure, the rear side plate has a plurality of engagement portions. The plurality of engagement portions is arranged at intervals in a length direction of the rear side plate; and each of the plurality of engagement portions is
15 adapted to be engaged with a front support of the clothes treatment device.

[0018] According to some embodiments of the present disclosure, the air-inlet grille of the clothes treatment device further includes a front side plate opposite to the rear side plate. The front side plate has an upper end connected to a front side edge of the top plate and a lower end adapted to be supported at a front support of the clothes treatment device.

20 **[0019]** In some embodiments, the air-inlet grille of the clothes treatment device further includes a mounting frame and a filtration mesh. The mounting frame is connected to the lower end of the front side plate and a lower end of the rear side plate. The mounting frame has a plurality of receiving openings arranged at intervals. The filtration mesh is disposed at the mounting frame and covers the plurality of receiving openings. A filtration space defined
25 by the mounting frame, the top plate, the front side plate and the rear side plate is in communication with the plurality of receiving openings.

[0020] According to some embodiments of the present disclosure, the air-inlet grille of the clothes treatment device further includes: a left end plate having an upper end connected to a left end of the top plate and a rear side edge connected to a left end of the rear side plate; and
30 a right end plate having an upper end connected to a right end of the top plate and a rear side

edge connected to a right end of the rear side plate.

[0021] A clothes treatment device according to an embodiment of a second aspect of the present disclosure includes an air-inlet grille of the clothes treatment device according to the above embodiments.

5 **[0022]** According to some embodiments of the present disclosure, the clothes treatment device further includes: a clothes treatment tub defining a clothes treatment chamber; and a front support connected to the clothes treatment tub and defining an air duct. The air duct is in communication with the clothes treatment chamber through the air-inlet grille. The front support has a top opening in communication with the air duct. The air-inlet grille is
10 detachably disposed at the top opening.

[0023] In some embodiments, the clothes treatment device further includes a filtration device detachably disposed in the air duct.

[0024] Additional aspects and advantages of the present disclosure will be provided in part in the following description, or will become apparent in part from the following
15 description, or can be learned from practicing of the present disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] The above and/or additional aspects and advantages of the present disclosure will become more apparent and more understandable from the following description of embodiments taken in conjunction with the accompanying drawings, in which:

20 **[0026]** FIG. 1 is a schematic structural view of a clothes treatment device according to an embodiment of the present disclosure;

[0027] FIG. 2 is a schematic structural view of a clothes treatment device according to another embodiment of the present disclosure;

[0028] FIG. 3 is a schematic structural view of a decoration member according to an
25 embodiment of the present disclosure;

[0029] FIG. 4 is a perspective view of an assembly of a decoration member and a front support according to an embodiment of the present disclosure;

[0030] FIG. 5 is a schematic structural view of a decoration member and a front support

according to an embodiment of the present disclosure;

[0031] FIG. 6 is a schematic structural view of an assembly of a front support and a front sealing door according to an embodiment of the present disclosure;

[0032] FIG. 7 is a cross-sectional view at I-I in FIG. 6;

5 **[0033]** FIG. 8 is an enlarged view of part A illustrated in FIG. 7;

[0034] FIG. 9 is a schematic structural view of an air-inlet grille at a viewing angle according to an embodiment of the present disclosure;

[0035] FIG. 10 is a schematic structural view of the air-inlet grille illustrated in FIG. 9 at another viewing angle;

10 **[0036]** FIG. 11 is an exploded view of a structure of the air-inlet grille illustrated in FIG. 9;

[0037] FIG. 12 is a structural cross-sectional view of the air-inlet grille illustrated in FIG. 9;

[0038] FIG. 13 is a side view of the air-inlet grille illustrated in FIG. 9;

15 **[0039]** FIG. 14 is a schematic structural view of an assembly of a front support and filtration device and an air-inlet grille according to an embodiment of the present disclosure;

[0040] FIG. 15 is a cross-sectional view at II-II in FIG. 14;

[0041] FIG. 16 is a partially enlarged view of the structure illustrated in FIG. 15;

[0042] FIG. 17 is a schematic structural view of an air-inlet grille according to another
20 embodiment of the present disclosure;

[0043] FIG. 18 is an exploded view of the structure of the air-inlet grille illustrated in FIG. 17;

[0044] FIG. 19 is a structural cross-sectional view of the air-inlet grille illustrated in FIG. 17;

25 **[0045]** FIG. 20 is a schematic structural view of a filtration member according to an embodiment of the present disclosure;

[0046] FIG. 21 is an exploded view of a structure of a filtration device according to an embodiment of the present disclosure;

[0047] FIG. 22 is an enlarged view of part B illustrated in FIG. 21;

30 **[0048]** FIG. 23 is a schematic structural view of a filtration device according to an

embodiment of the present disclosure;

[0049] FIG. 24 is a schematic structural view of a filtration device according to another embodiment of the present disclosure;

[0050] FIG. 25 is a schematic structural view of a filtration device according to yet
5 another embodiment of the present disclosure;

[0051] FIG. 26 is a schematic structural view of a filtration device, an air-inlet grille, a front support, and a front sealing door according to an embodiment of the present disclosure;

[0052] FIG. 27 is a schematic structural view of a second filtration sheet according to an embodiment of the present disclosure;

10 **[0053]** FIG. 28 is a perspective view of an assembly of a second filtration sheet and a front support according to an embodiment of the present disclosure;

[0054] FIG. 29 is an enlarged view of part C illustrated in FIG. 28;

[0055] FIG. 30 is a cross-sectional view of an assembly of a second filtration sheet and a front support according to an embodiment of the present disclosure; and

15 **[0056]** FIG. 31 is a partially enlarged view of the structure illustrated in FIG. 30.

[0057] Reference numerals:

[0058] clothes treatment device 100

[0059] housing 10, front sealing door 11, first engagement opening 111, second engagement opening 112, mounting recess 113,

20 **[0060]** clothes treatment chamber 201,

[0061] front support 30, clothes access opening 301, side opening 302, top opening 303, air duct 304, engagement protrusion 31, guide inclined surface 311, annular convex rib 321, positioning convex post 322, first engagement groove 331, second engagement groove 332, guide portion 34, locking recess 35, limiting protrusion 36,

25 **[0062]** filtration device 40,

[0063] mounting base 41, top access opening 4101, ventilation opening 4102, positioning post 4103, anti-disengagement protrusion 4104,

[0064] bottom plate 411, front panel 412, mounting groove 4120, side plate 413, support protrusion 4131, locking protrusion 4132, elastic lock catch 4133, avoidance recess 4134,

30 support rod 414, decoration surface cover 415, decoration plate 4151, decoration flange 4152,

engagement groove 416, engagement portion 417,

[0065] filtration member 42, support frame 421, first frame 4211, second frame 4212, first transverse rod 4221, second transverse rod 4222, longitudinal rod 4223, first baffle 4224, second baffle 4225, connection rod 4226, first air passing opening 4231, second air passing opening 4232, third air passing opening 4233, positioning rod 4241, positioning groove 4242, support flange 425,

[0066] first filtration sheet 43, positioning hole 430, sealing ring 44,

[0067] air-inlet grille 50

[0068] grille body 51, top plate 511, top through hole 5110, first through hole 5111, second through hole 5112,

[0069] accommodation recess 5113, emission hole 5114, support sink 5115, insertion hole 51150,

[0070] water adding recess 5116, water adding hole 5117, mounting sink 5118, mounting hole 5119, rear side plate 512, side through hole 5120, mounting protrusion 5123, fixing portion 5124, front side plate 513, left end plate 514, right end plate 515,

[0071] aromatherapy cover 52, insertion post 521, stop portion 522, guide surface 523,

[0072] water adding cover 53, mounting post 531, mounting frame 54, receiving opening 540,

[0073] second filtration sheet 60,

[0074] first plate section 611, second plate section 612, third plate section 613, first support rod 614, second support rod 615, connection rod 616, first limiting convex rib 61711, second limiting convex rib 61712, connection flange 6172, engagement rib 6173, engagement hole 619,

[0075] decoration member 70, engagement hole 71, extending protrusion 72.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0076] Embodiments of the present disclosure will be described in detail below with reference to examples thereof as illustrated in the accompanying drawings, throughout which same or similar elements, or elements having same or similar functions, are denoted by same

or similar reference numerals. The embodiments described below with reference to the drawings are illustrative only, and are intended to explain, rather than limiting, the present disclosure.

[0077] A clothes treatment device 100 according to some embodiments of the present disclosure are described below with reference to the drawings.

[0078] As illustrated in FIG. 1, FIG. 2, and FIG. 4 to FIG. 6, the clothes treatment device 100 according to an embodiment of the present disclosure includes a housing 10. The housing 10 defines an air duct 304. The air duct 304 has a side opening 302 and a top opening 303, i.e., the side opening 302 is located at a side of the air duct 304. The top opening 303 is located above the air duct 304. The side opening 302 and the top opening 303 are each in communication with the air duct 304.

[0079] The clothes treatment device 100 further includes a filtration device 40 and an air-inlet grille 50. The filtration device 40 is drawably disposed at the air duct 304. The filtration device 40 is adapted to be taken and placed from the side opening 302 in a front-rear direction. The air-inlet grille 50 is disposed at the top opening 303. The air-inlet grille 50 is adapted to be taken and placed from the top opening 303 in an up-down direction.

[0080] Further, the clothes treatment device 100 further includes a door body (not shown). The door body is rotatably disposed at the housing 10. The door body completely covers the filtration device 40 and the air-inlet grille 50 when the door body is in a closed state.

[0081] With the clothes treatment device 100 according to the embodiments of the present disclosure, the filtration device 40 that can be taken and placed from the side opening 302 and the air-inlet grille 50 that can be taken and placed from the top opening 303 are provided. In this way, the filtration device 40 and the air-inlet grille 50 can be respectively taken and placed from different directions at different periods of time. Moreover, the filtration device 40 and the air-inlet grille 50 can also be taken and placed simultaneously. Therefore, not only is diversity of assembly and replacement manners increased, but assembly and disassembly efficiency are also improved, thereby facilitating cleaning. By fully covering the filtration device 40 and the air-inlet grille 50 with the door body, the filtration device 40 and the air-inlet grille 50 are each hidden at an inner side of the door body, making the clothes treatment device 100 flat and attractive in appearance.

[0082] According to some embodiments of the present disclosure, the housing 10 further has a clothes access opening 301. The clothes access opening 301 is in communication with the air duct 304 through the top opening 303. In this way, the air duct 304 is made in communication with a clothes treatment chamber 201 of the clothes treatment device. When the door body is in the closed state, the door body covers the clothes access opening 301.

[0083] During operation, a high-temperature and high-humidity gas in the clothes treatment chamber 201 is discharged from the clothes access opening 301, and then enters the air duct 304 through the air-inlet grille 50, and flows to a deep position of the air duct 304 after being filtered by the filtration device 40. The filtration device 40 may filter out most foreign matter, to prevent too much foreign matter from entering the deep position of the air duct 304 for circulating flow, or from dirtying and blocking components located downstream of the air duct 304. The air-inlet grille 50 can achieve a ventilation effect, but can also prevent clothes from being drawn into the air duct 304.

[0084] In some examples, the air duct 304 is located below the clothes access opening 301. The top opening 303 is located between the clothes access opening 301 and the air duct 304.

[0085] When the clothes are taken out, the air-inlet grille 50 may be taken out passingly for cleaning. The operation is simple. Since the air duct 304 is located below the clothes access opening 301, the side opening 302 is located below the clothes access opening 301. Moreover, the filtration device 40 is located below the clothes access opening 301. When the clothes are taken out, the filtration device 40 can also be taken out passingly for cleaning. The operation is simple.

[0086] In some examples, the housing 10 has a mounting recess 113 provided at a middle part of the housing 10. The mounting recess 113 is configured to accommodate the door body. The clothes access opening 301 and the side opening 302 are located in the mounting recess. By providing the clothes access opening 301 and the side opening 302 in the mounting recess 113, it is facilitated that the door body covers the filtration device 40 and the air-inlet grille 50 when the door body is closed.

[0087] As illustrated in FIG. 6, FIG. 7, and FIG. 14 to FIG. 16, in some embodiments, the housing 10 includes a front support 30. The clothes access opening 301, air duct 304, side opening 302, and top opening 303 are formed at the front support 30. Certainly, the clothes

access opening 301 may also be disposed at the front support 30. In some embodiments, the clothes access opening 301 passes through the front support 30 in the front-rear direction.

[0088] Further, the housing 10 further includes a front sealing door 11. The front sealing door 11 is disposed at a front side of the front support 30. The front sealing door 11 has a first engagement opening 111 and a second engagement opening 112. The first engagement opening 111 corresponds to a position of the side opening 302. The second engagement opening 112 corresponds to a position of the clothes access opening 301. The door body is rotatably disposed at the front sealing door 11. When the door body is in the closed state, the door body covers the first engagement opening 111 and the second engagement opening 112, thereby covering the clothes access opening 301 and the side opening 302. In this way, the filtration device 40 and the air-inlet grille 50 can each be hidden at the inner side of the door body, making the clothes treatment device 100 flat and attractive in appearance.

[0089] A front support assembly of the clothes treatment device according to some embodiments of the present disclosure is described below with reference to the accompanying drawings.

[0090] As illustrated in FIG. 3 to FIG. 5, the front support assembly of the clothes treatment device according to some embodiments of the present disclosure includes a front support 30. The front support 30 has a clothes access opening 301 and a side opening 302. The clothes access opening 301 passes through the front support 30 in the front-rear direction. The side opening 302 is located at a front part of the front support 30.

[0091] The clothes access opening 301 and the side opening 302 may be spaced apart from each other. For example, the clothes access opening 301 and the side opening 302 are spaced apart from each other in the up-down direction. Moreover, the clothes access opening 301 is located above the side opening 302. Certainly, an arrangement manner of the clothes access opening 301 and an arrangement manner of the side opening 302 are not limited to the foregoing form.

[0092] Further, the front support assembly further includes a decoration member 70. The decoration member 70 is disposed at the front side of the front support 30. The decoration member 70 extends in a circumferential direction of the side opening 302, to cover a position of the front support 30 close to the side opening 302.

[0093] With the front support assembly according to the embodiments of the present disclosure, by providing the decoration member 70 at the front side of the front support 30, a position of the front side of the front support 30 close to the side opening 302 may be shielded by using the decoration member 70. In this way, the position of the front side of the front support 30 close to the side opening 302 is made look flatter, which not only can lower difficulty of an engagement between other components and the front support 30, but can also improve appearance attractiveness.

[0094] In order to ensure difficulty and reliability of a connection between the decoration member 70 and the front support 30, the decoration member 70 may be engaged with the front support 30. Certainly, the decoration member 70 may also be mounted at the front side of the front support 30 through a fastener. The decoration member 70 may also be adhesively connected to the front side of the front support 30.

[0095] As illustrated in FIG. 3 to FIG. 6 and FIG. 8, the front support 30 has a plurality of engagement portions. The plurality of engagement portions is arranged at intervals in the circumferential direction of the side opening 302. The decoration member 70 has a plurality of engagement mating portions. The plurality of engagement portions has a one-to-one engagement correspondence to the plurality of engagement mating portions.

[0096] Therefore, by providing the plurality of engagement portions and the plurality of engagement mating portions, an engagement between the decoration member 70 and the front support 30 may be realized in the circumferential direction of the side opening 302, thereby further improving the reliability of the connection between the decoration member 70 and the front support 30. In this way, the decoration member 70 is prevented from being disengaged from the front support 30. Therefore, a phenomenon of local warping of the decoration member 70 occurs.

[0097] In some embodiments, the engagement portion is formed as an engagement protrusion 31. The engagement mating portion is formed as an engagement hole 71. The engagement protrusion 31 is at least partially engaged in the engagement hole 71 when the decoration member 70 is mounted in place at the front support 30. In this way, the reliability of the connection between the decoration member 70 and the front support 30 is ensured. Moreover, the engagement protrusion 31 and the engagement hole 71 are simple in structure

and easy to implement.

[0098] In some embodiments, the decoration member 70 has a plurality of extending protrusions 72. Each extending protrusion 72 extends towards the front support 30. The engagement mating portion is disposed at the extending protrusion 72. By providing the extending protrusion 72, a mounting position is provided for the engagement mating portion. Moreover, the engagement mating portion has no interference occurring, i.e., an engagement position of the decoration member 70 and the front support 30 does not affect leakproofness of the engagement between the decoration member 70 and the front support 30.

[0099] In some embodiments, as illustrated in FIG. 8, in the embodiment, the extending protrusion 72 is disposed at a rear side of the decoration member 70. Moreover, the extending protrusion 72 protrudes from a rear side surface of the decoration member 70. The plurality of extending protrusions 72 is arranged at intervals in a circumferential direction of the decoration member 70. For example, the plurality of extending protrusions 72 may be arranged at equal intervals in the circumferential direction of the decoration member 70. In this way, consistency of the engagement between the decoration member 70 and the front support 30 at different positions is ensured. Therefore, reliability of the engagement between the decoration member 70 and the front support 30 is further improved.

[00100] In some embodiments, the engagement portion has a guide inclined surface 311. The guide inclined surface 311 extends away from a center of the side opening 302 gradually from front to back. When the decoration member 70 is mounted at the front side of the front support 30, the decoration member 70 may be pushed backwards. Under guidance of the guide inclined surface 311, the engagement mating portion can be smoothly engaged with the engagement portion, thereby improving assembly efficiency of the engagement portion and the engagement mating portion.

[00101] According to some embodiments of the present disclosure, the front support 30 has an annular convex rib 321 provided at a front part of the front support 30. The annular convex rib 321 defines the side opening 302. The decoration member 70 abuts against and is engaged with the annular convex rib 321. By providing the annular convex rib 321, mounting of the decoration member 70 at the front support 30 is facilitated. Moreover, the leakproofness of the engagement between the front support 30 and the decoration member 70 is also improved.

[00102] In some embodiments, the decoration member 70 is formed to be in a closed annular shape. The decoration member 70 is sleeved at an outer side of the annular convex rib 321. Moreover, an inner peripheral surface of the decoration member 70 abuts against and is engaged with an outer peripheral surface of the annular convex rib 321. The decoration member 70 of an annular structure may shield an annular region of the front support 30 close to the side opening 302. In this way, the annular region of the front support 30 close to the side opening 302 appears to be flatter, thereby further lowering the difficulty of the engagement between other components and the front support 30.

[00103] As illustrated in FIG. 4 and FIG. 5, the front support 30 defines an air duct 304. The air duct 304 is in communication with the side opening 302. The front support assembly further includes a filtration device 40. The filtration device 40 is adapted to be drawably disposed in the air duct 304 from the side opening 302.

[00104] Therefore, by providing the filtration device 40 in the air duct 304, the filtration device 40 can be used to filter the foreign matter, to prevent the foreign matter from entering the deep position of the air duct 304 for circulating flow, or from dirtying and blocking the components located downstream of the air duct 304. By providing the side opening 302, taking and placing of the filtration device 40 from the side opening 302 can be facilitated, thereby facilitating replacement or cleaning of the filtration device 40.

[00105] The clothes treatment device 100 according to an embodiment of the present disclosure includes a front support assembly according to the above embodiments.

[00106] Since the front support assembly according to the embodiments of the present disclosure has the above technical effects, the clothes treatment device 100 according to the embodiments of the present disclosure also has the above technical effects, i.e., the position of the front side of the front support 30 close to the side opening 302 can be shielded by using the decoration member 70, the position of the front side of the front support 30 close to the side opening 302 appears flatter, not only can the difficulty of the engagement between other components of the clothes treatment device 100 and the front support 30 be lowered, but the appearance attractiveness of the clothes treatment device 100 can also be improved.

[00107] As illustrated in FIG. 6 and FIG. 7, the clothes treatment device 100 further includes a front sealing door 11. The front sealing door 11 is disposed at the front side of the

front support 30. Moreover, the front sealing door 11 is connected to the front support 30.

[00108] The front sealing door 11 has a first engagement opening 111 and a second engagement opening 112. The first engagement opening 111 and the second engagement opening 112 are spaced apart from each other. The first engagement opening 111 corresponds to the position of the side opening 302. The second engagement opening 112 corresponds to the position of the clothes access opening 301. By providing the front sealing door 11 having the first engagement opening 111 and the second engagement opening 112, the clothes access opening 301 and the side opening 302 can be made exposed. In this way, loading and unloading of the clothes and taking and placing of the filtration device 40 are facilitated.

[00109] In some embodiments, the clothes treatment device 100 includes a housing 10. The housing 10 includes a front sealing door 11 located in front of the housing 10. The front sealing door 11 has a mounting recess 113 provided at a middle part of the front sealing door 11. The first engagement opening 111 and the second engagement opening 112 are spaced apart from each other at a bottom wall of the mounting recess 113. The front sealing door 11 is provided with an openable and closable door body (not shown). The door body may have a same shape as the mounting recess 113. When the door body is in the closed position, the door body corresponds to the position of the mounting recess 113 to cover the first engagement opening 111 and the second engagement opening 112.

[00110] In some embodiments, a side edge of the first engagement opening 111 is located at an outer side of a side edge of the side opening 302, i.e., a size of the first engagement opening 111 is greater than a size of the side opening 302. The decoration member 70 is at least partially located between the side edge of the first engagement opening 111 and the side edge of the side opening 302.

[00111] That is, the side edge of the first engagement opening 111 and the side edge of the side opening 302 are spaced apart from each other. In a state where the front sealing door 11 and the front support 30 are connected in place, the front sealing door 11 covers an outer circumferential edge of the decoration member 70. Moreover, the decoration member 70 is at least partially located between the side edge of the first engagement opening 111 and the side edge of the side opening 302. Therefore, the difficulty of the engagement between the front support 30 and the front sealing door 11 is lowered on the basis of ensuring the flat and

attractive appearance of the clothes treatment device 100.

[00112] As illustrated in FIG. 23 to FIG. 26 and FIG. 28 and FIG. 29, the front support assembly of the clothes treatment device according to some other embodiments of the present disclosure includes a front support 30 and a filtration device 40. The front support 30 defines an air duct 304. The front support 30 has a side opening 302 provided at the front part of the front support 30. The side opening 302 is in communication with the air duct 304. The filtration device 40 is movably disposed at the air duct 304. Moreover, the filtration device 40 is adapted to be taken and placed from the side opening 302.

[00113] The air duct 304 is provided with a locking portion at an inner wall surface of the air duct 304. The filtration device 40 has a locking engagement portion. In the state where the filtration device 40 is mounted in place in the air duct 304, the locking portion is engaged with the locking engagement portion to fix the filtration device 40.

[00114] For the front support assembly of the clothes treatment device according to the embodiments of the present disclosure, the locking portion is provided at the inner wall surface of the air duct 304. The locking engagement portion is provided at the filtration device 40. The filtration device 40 is fixed in the air duct 304 through an engagement between the locking portion and the locking engagement portion. In this way, the filtration device 40 is prevented from being disengaged from the air duct 304. Moreover, mounting reliability and stability of the filtration device 40 are ensured. Therefore, the filtration device 40 is ensured to be capable of operating normally.

[00115] In some embodiments, one of the locking portion and the locking engagement portion is a pressable locking protrusion 4132, and another one of the locking portion and the locking engagement portion is a locking recess 35.

[00116] In some embodiments, as illustrated in FIG. 23 and FIG. 29, the locking protrusion 4132 is located at the filtration device 40. The locking recess 35 is located at the inner wall surface of the air duct 304. When the filtration device 40 is mounted, the filtration device 40 is pushed backwards. Moreover, the locking protrusion 4132 moves under the pressing action of the filtration device 40 to avoid the filtration device 40. When the filtration device 40 is mounted in place in the air duct 304, the locking protrusion 4132 is reset, allowing the locking protrusion 4132 to be partially engaged in the locking recess 35. Therefore, the filtration

device 40 is locked in the air duct 304. Certainly, the locking protrusion may also be disposed at the inner wall surface of the air duct 304. The locking recess is disposed at the filtration device 40, which may be specifically designed as required.

[00117] In some examples, an inner surface of the locking recess 35 is a concave arc surface. The locking protrusion 4132 is formed as a spherical structure. By configuring the inner surface of the locking recess 35 as the concave arc surface and the locking protrusion 4132 to be of a spherical structure, it is ensured that the locking protrusion 4132 and the locking recess 35 can be smoothly engaged with each other and be smoothly disengaged from each other.

[00118] In some embodiments, one of the locking portion and the locking engagement portion is an elastic lock catch 4133. The other one of the locking portion and the locking engagement portion is a limiting protrusion 36.

[00119] In some embodiments, as illustrated in FIG. 24 and FIG. 29, the elastic lock catch 4133 is located at the filtration device 40. The limiting protrusion 36 is located at the inner wall surface of the air duct 304. When the filtration device 40 is mounted, the filtration device 40 is pushed backwards. Moreover, the elastic lock catch 4133 is elastically deformed under the action of the filtration device 40. In this way, the elastic lock catch 4133 is allowed to avoid the filtration device 40. When the filtration device 40 is mounted in place in the air duct 304, the elastic lock catch 4133 resets, enabling the elastic lock catch 4133 to be staggered from and be engaged with the limiting protrusion 36. The limiting protrusion 36 may stop the elastic lock catch 4133. Therefore, the filtration device 40 is locked in the air duct 304.

[00120] Further, the filtration device 40 has an avoidance recess 4134 provided at a wall surface of the filtration device 40. The elastic lock catch 4133 has an end connected to a side wall of the avoidance recess 4134 and another end formed as a free end. The avoidance recess 4134 provides an active space for the elastic lock catch 4133, thereby ensuring that the elastic lock catch 4133 can elastically deform. Therefore, the structure is simple and easy to implement.

[00121] According to some embodiments of the present disclosure, the air duct 304 is provided with a guide portion 34 at the inner wall surface of the air duct 304. The filtration device 40 has a guide engagement portion. The guide engagement portion is slidably engaged

with the guide portion 34.

[00122] Therefore, the guide portion 34 is provided at the inner wall surface of the air duct 304, the guide engagement portion is provided at the filtration device 40. Since the guide portion 34 is slidably engaged with the guide engagement portion, when the filtration device 40 is taken and placed, the guide portion 34 may play a guide role. Therefore, it is ensured that the filtration device 40 can be smoothly taken and placed.

[00123] In some embodiments, the guide portion 34 is a guide rail extending in the front-rear direction. The guide portion 34 may play a role in limiting and guiding. In this way, the filtration device 40 is allowed to move in the front-rear direction. Therefore, it is ensured that the filtration device 40 can be smoothly taken and placed from the side opening 302.

[00124] In some embodiments, two guide portions 34 are provided and opposite to each other. Two ends of the filtration device 40 are slidably engaged with the two guide portions 34 in a one-to-one correspondence manner. Therefore, stability of a movement of the filtration device 40 is further ensured.

[00125] In some embodiments, as illustrated in FIG. 28, in the embodiment, the air duct 304 is provided with a guide rail at each of two opposite positions of the inner wall surface of the air duct 304. In this way, the two guide rails are allowed to be opposite to each other. The two ends of the filtration device 40 are respectively supported at the two guide rails. Therefore, the structure is simple.

[00126] As illustrated in FIG. 20 to FIG. 25, the filtration device 40 includes a mounting base 41 and a filtration member 42. The mounting base 41 defines a mounting space. The mounting base 41 has a ventilation opening 4102. The ventilation opening 4102 is in communication with the mounting space. The locking engagement portion and the guide engagement portion are located in the mounting base 41. The filtration member 42 is disposed in the mounting space.

[00127] Therefore, by providing the mounting base 41 and providing the ventilation opening 4102, which is in communication with the mounting space, on the mounting base 41, the mounting base 41 may provide the filtration member 42 with the mounting space. In this way, the arrangement of the filtration member 42 is facilitated. Moreover, flow of an airflow is not affected. In addition, by providing the mounting base 41, the mounting base 41 may

also be provided with the locking engagement portion and the guide engagement portion. In this way, fixing of the filtration member 42 to the air duct 304 is facilitated. Moreover, the taking and placing of the filtration member 42 is facilitated.

[00128] As illustrated in FIG. 21, in some embodiments, the mounting base 41 includes a bottom plate 411, a front panel 412, and two side plates 413. A lower end of the front panel 412 is connected to a front side edge of the bottom plate 411. Lower ends of the two side plates 413 are connected to two ends of the bottom plate 411. Front side edges of the two side plates 413 are connected to two ends of the front panel 412, respectively. Therefore, the structure is simple and is easy to be processed and manufactured.

[00129] The ventilation opening 4102 is disposed at the bottom plate 411. The filtration member 42 is supported at the front panel 412 and/or the two side plates 413. In this way, the filtration member 42 is made stably and reliably mounted in the mounting space to ensure that the filtration member 42 can be normally used. The locking engagement portion and the guide engagement portion are formed at the side plate 413. The side plate 413 provides the locking engagement portion and the guide engagement portion with a mounting position. In this way, the fixing of the filtration member 42 to the air duct 304 is facilitated. Moreover, the taking and placing of the filtration member 42 is facilitated.

[00130] In some examples, a support protrusion 4131 is provided at each of sides of the two side plates 413 facing away from each other. The support protrusion 4131 is formed as a guide engagement portion, i.e., the two support protrusions 4131 are located at two sides of the filtration device 40, respectively. In this way, the two sides of the filtration device 40 are respectively engaged with the guide portions 34 through the two support protrusions 4131, thereby improving the stability of the movement of the filtration device 40. The locking engagement portion is disposed at the support protrusion 4131.

[00131] In some embodiments, the mounting base 41 further has a top access opening 4101. The top access opening 4101 is in communication with the mounting space. The filtration member 42 is adapted to be taken and placed from the top access opening 4101, thereby facilitating the replacement and cleaning of the filtration member 42.

[00132] As illustrated in FIG. 21, according to some embodiments of the present disclosure, the filtration device 40 further includes a first filtration sheet 43. The first filtration sheet 43 is

detachably disposed in the mounting space. In a flow direction of the airflow, the first filtration sheet 43 is located between the filtration member 42 and the ventilation opening 4102.

[00133] Therefore, by providing the first filtration sheet 43, the air filtered by the filtration member 42 may be further filtered by the first filtration sheet 43, thereby effectively improving a filtration effect of the filtration device 40. Moreover, the filtration member 42 and the first filtration sheet 43 are integrated together at the mounting base 41. In this way, the filtration member 42 and the first filtration sheet 43 can be taken and placed simultaneously, which is convenient for a user to take and place and clean.

[00134] As illustrated in FIG. 28, according to some embodiments of the present disclosure, the front support assembly further includes a second filtration sheet 60. The second filtration sheet 60 is disposed in the air duct 304. Moreover, the second filtration sheet 60 is adapted to be taken and placed from the side opening 302 in the front-rear direction. The second filtration sheet 60 is located below the filtration device 40

[00135] Therefore, by providing the second filtration sheet 60, the air entering the air duct 304 can be further filtered. In this way, a treatment effect of the clothes is improved. Moreover, when the clothes or the filtration device 40 is taken out, the second filtration sheet 60 can be taken out passingly for cleaning. The operation is simple. In addition, foreign matter accumulated in a gap between the filtration device 40 and the front support 30 may be prevented from falling into the air duct 304 during a process of individually taking out the filtration device 40.

[00136] In some embodiments, the air duct 304 has an engagement groove provided at the inner wall surface of the air duct 304. A side edge of the second filtration sheet 60 is engaged with the engagement groove. In this way, a stable and reliable engagement between the second filtration sheet 60 and the front support 30 is allowed to be realized. Therefore, stability of the second filtration sheet 60 in the air duct 304 is ensured.

[00137] The clothes treatment device 100 according to an embodiment of the present disclosure includes a clothes treatment tub and a front support assembly of the clothes treatment device of the above embodiments. The clothes treatment tub defines a clothes treatment chamber 201. The front support 30 is connected to the clothes treatment tub.

[00138] With the clothes treatment device 100 according to the embodiments of the present disclosure, by using the front support assembly described above, the filtration device 40 and the air-inlet grille 50 can be respectively taken and placed from different directions at directions periods of time. The filtration device 40 and the air-inlet grille 50 can also be taken and placed simultaneously. Therefore, not only is the diversity of assembly and replacement manners increased, but the assembly and disassembly efficiency are also improved.

[00139] By providing the locking portion at the inner wall surface of the air duct 304 and providing the locking engagement portion at the filtration device 40, the filtration device 40 is fixed in the air duct 304 through the engagement between the locking portion and the locking engagement portion, to prevent the filtration device 40 from being disengaged from the air duct 304. In this way, the mounting reliability and stability of the filtration device 40 are ensured. Therefore, it is ensured that the filtration device 40 can operate normally.

[00140] The filtration device 40 according to the embodiments of the present disclosure is described below with reference to the accompanying drawings.

[00141] As illustrated in FIG. 20 to FIG. 25, the filtration device 40 according to an embodiment of the present disclosure includes a mounting base 41 and a filtration member 42. The mounting base 41 defines a mounting space. The mounting base 41 has a top access opening 4101 and a ventilation opening 4102. Each of the top access opening 4101 and the ventilation opening 4102 is in communication with the mounting space. The filtration member 42 is detachably disposed in the mounting space. Moreover, the filtration member 42 is adapted to be taken and placed from the top access opening 4101.

[00142] With the filtration device 40 according to the embodiments of the present disclosure, by providing the mounting base 41, the mounting space can be provided for the filtration member 42. In this way, not only is the arrangement of the filtration member 42 according to different requirements facilitated, but a modular design can also be implemented. It is convenient to take and place the filtration member 42 by providing the top access opening 4101. In this way, it is convenient to replace and clean the filtration member 42. The air filtered by the filtration member 42 can be allowed to be normally discharged from the ventilation opening 4102 by providing the ventilation opening 4102, thereby realizing separation of the air inflowing and air outflowing.

[00143] In order to ensure that the filtration device 40 can be normally used, one of the top access opening 4101 and the ventilation opening 4102 is formed as an air inlet, and another one of the top access opening 4101 and the ventilation opening 4102 is formed as an air outlet. For example, the top access opening 4101 is an air inlet and the ventilation opening 4102 is an air outlet. For another example, the top access opening 4101 is an air outlet and the ventilation opening 4102 is an air inlet.

[00144] As illustrated in FIG. 21, the filtration device 40 further includes a first filtration sheet 43. The first filtration sheet 43 is detachably disposed in the mounting space. In a flow direction of the airflow, the first filtration sheet 43 is located between the filtration member 42 and the ventilation opening 4102.

[00145] Therefore, by providing the first filtration sheet 43, the air filtered by the filtration member 42 may be further filtered by the first filtration sheet 43, thereby effectively improving the filtration effect of the filtration device 40. Moreover, the filtration member 42 and the first filtration sheet 43 are integrated together on the mounting base 41. In this way, the filtration member 42 and the first filtration sheet 43 can be taken and placed simultaneously, which is convenient for the user to take and place and clean.

[00146] In some embodiments, the mounting base 41 has a positioning post 4103. The first filtration sheet 43 has a positioning hole 430. The positioning post 4103 is engaged with the positioning hole 430. In this way, the first filtration sheet 43 is positioned on the mounting base 41.

[00147] At least two positioning posts 4103 and at least two positioning holes 430 may be provided. The at least two positioning posts 4103 are inserted into and engaged with the at least two positioning holes 430 in a one-to-one correspondence manner, thereby achieving an anti-rotation effect. Further, the mounting reliability and stability of the first filtration plate 43 on the mounting base 41 are improved.

[00148] In order to prevent the first filtration sheet 43 from being disengaged from the positioning post 4103, an anti-disengagement protrusion 4104 may be provided at the peripheral wall of the positioning post 4103. For example, two anti-disengagement protrusions 4104 facing away from each other may be provided on the peripheral wall of the positioning post 4103. The first filtration sheet 43 may be filtration cotton.

[00149] In some embodiments, the mounting base 41 includes a bottom plate 411, a front panel 412, and two side plates 413. The lower end of the front panel 412 is connected to the front side edge of the bottom plate 411. The lower ends of the two side plates 413 are connected to the two ends of the bottom plate 411. The front side edges of the two side plates 413 are connected to two ends of the front panel 412, respectively. Therefore, the structure is simple and is easy to be processed and manufactured.

[00150] The ventilation opening 4102 is disposed at the bottom plate 411. The filtration member 42 is supported on the front panel 412 and/or the two side plates 413. The first filtration sheet 43 is disposed between the bottom plate 411 and the filtration member 42. In an embodiment of the mounting base 41 having the positioning post 4103, the positioning post 4103 is disposed on the bottom plate 411. In this way, the first filtration sheet 43 is allowed to be tightly attached to the bottom plate 411. Moreover, the mounting reliability and stability of the first filtration sheet 43 are further ensured.

[00151] As illustrated in FIG. 21, in some examples, the mounting base 41 further includes a support rod 414. The support rod 414 and the bottom plate 411 are spaced apart from each other in the up-down direction. The support rod 414 and the front panel 412 are spaced apart from each other in the front-rear direction. The two ends of the support rod 414 are connected to upper portions of the two side plates 413. The filtration member 42 is further supported at the support rod 414, thereby further ensuring the mounting reliability and stability of the filtration member 42.

[00152] In some examples, the mounting base 41 further includes a decoration surface cover 415. The outer surface of the front panel 412 is at least partially covered by the decoration surface cover 415, i.e., the decoration surface cover 415 shields the front panel 412, thereby forming the appearance of the filtration device 40, which is beneficial to improving the beauty of the appearance.

[00153] In order to ensure reliability of a connection between the decoration surface cover 415 and the front panel 412, the decoration surface cover 415 can be engaged with the front panel 412. Certainly, the connection between the decoration surface cover 415 and the front panel 412 may also be achieved through a fastener. Alternatively, the decoration surface cover 415 is adhesively connected to the front panel 412.

[00154] As illustrated in FIG. 22, in some specific examples, the decoration surface cover 415 includes a decoration plate 4151 and a decoration flange 4152. The decoration flange 4152 extends in the circumferential direction of the decoration plate 4151. The decoration flange 4152 is connected to the peripheral edge of the decoration plate 4151. The decoration flange 4152 is provided with a plurality of engagement portions 417. The plurality of engagement portions 417 is arranged at intervals in an extending direction of the decoration flange 4152.

[00155] The front panel 412 has a plurality of engagement grooves 416 provided at the peripheral wall of the front panel 412. The plurality of engagement grooves 416 is arranged at intervals in a circumferential direction of the front panel 412. In a state where the decoration surface cover 415 and the front panel 412 are connected in place, the decoration plate 4151 covers the front side surface of the front panel 412. The peripheral wall of the front panel 412 is at least partially covered by the decoration flange 4152. The plurality of engagement portions 417 is engaged with the plurality of engagement grooves 416 in a one-to-one correspondence manner. In this way, the reliability of the connection between the decoration surface cover 415 and the front panel 412 can be further ensured.

[00156] In order to avoid occurrence of air leakage between the filtration device 40 and the front support 30, the front panel 412 has a mounting groove 4120 provided at the peripheral wall of the front panel 412. The mounting groove 4120 extends in the circumferential direction of the front panel 412. A sealing ring 44 is provided in the mounting groove 4120. The sealing ring 44 is located between the filtration device 40 and the front support 30 when the filtration device 40 is mounted in place in the air duct 304.

[00157] As illustrated in FIG. 20 and FIG. 21, the filtration member 42 according to an embodiment of the present disclosure includes a support frame 421 and a plurality of filtration meshes. The support frame 421 has a plurality of air passing openings. The plurality of air passing openings is arranged at intervals. The plurality of filtration meshes is disposed at the plurality of air passing openings in a one-to-one correspondence.

[00158] The support frame 421 is switchable between an expanded state and a fold state. When the support frame 421 is in a fold state, at least two air passing openings are located at different sides of the support frame 421. In this way, at least two filtration meshes are allowed

to be filtered from different directions.

[00159] With the filtration member 42 according to the embodiments of the present disclosure, by providing the support frame 421 switchable between the expanded state and the fold state, a carrier may be provided for the plurality of filtration meshes. In the fold state, the support frame 421 not only can increase a number and total surface area of the filtration meshes in a predetermined space, thereby improving the filtration effect, but can also filter from different directions, thereby further improving the filtration effect.

[00160] As illustrated in FIG. 20, the support frame 421 includes a first frame 4211 and a second frame 4212. The first frame 4211 and the second frame 4212 are connected to each other.

[00161] The plurality of air passing openings include a first air passing opening 4231 and a second air passing opening 4232. The first air passing opening 4231 is disposed at the first frame 4211. The second air passing opening 4232 is disposed at the second frame 4212. When the support frame 421 is in the fold state, the first air passing opening 4231 is opposite to the second air passing opening 4232, i.e., the filtration mesh disposed at the first air passing opening 4231 is opposite to the filtration mesh disposed at the second air passing opening 4232, thereby achieving an effect of filtration from both sides.

[00162] In some embodiments, the first frame 4211 has a same extending direction as the second frame 4212. Each of the first air passing opening 4231 and the second air passing opening 4232 may include a plurality of lateral through openings. The plurality of lateral through openings on the first frame 4211 is arranged at intervals in an extending direction of the first frame 4211. The plurality of lateral through openings on the second frame 4212 is arranged at intervals in an extending direction of the second frame 4212.

[00163] Therefore, by defining the plurality of lateral through openings on the first frame 4211, a structure between two adjacent lateral through openings on the first frame 4211 can support a filtration mesh at the position. In this way, the filtration mesh can be prevented from being disengaged from the first frame 4211 due to occurrence of excessive deformation under airflow impact. Moreover, it is ensured that the filtration mesh can be smoothly and reliably disposed at the first air passing opening 4231.

[00164] Similarly, by defining the plurality of lateral through openings on the second frame

4212, a structure between two adjacent lateral through openings on the second frame 4212 can support a filtration mesh at the position. In this way, the filtration mesh can be prevented from being disengaged from the second frame 4212 due to occurrence of excessive deformation under the airflow impact. Moreover, it is ensured that the filtration mesh can be smoothly and reliably disposed at the second air passing opening 4232. Therefore, use reliability of the filtration member 42 is ensured.

[00165] As illustrated in FIG. 20, in some embodiments, each of the first frame 4211 and the second frame 4212 includes a first transverse rod 4221, a second transverse rod 4222, a first baffle 4224, and a second baffle 4225. The first transverse rod 4221 and the second transverse rod 4222 are spaced apart from each other. The first baffle 4224 is connected to an end of the first transverse rod 4221 and an end of the second transverse rod 4222. The second baffle 4225 is connected to another end of the first transverse rod 4221 and another end of the second transverse rod 4222.

[00166] An air passing opening is defined between the first baffle 4224, the second baffle 4225, the first transverse rod 4221, and the second transverse rod 4222. In some embodiments, a first air passing opening 4231 is defined between the first baffle 4224, the second baffle 4225, the first transverse rod 4221, and the second transverse rod 4222 of the first frame 4211. A second air passing opening 4232 is defined between a first baffle 4224, a second baffle 4225, a first transverse rod 4221, and a second transverse rod 4222 of the second frame 4212.

The structure is simple and easily processed and manufactured, and easy to implement.

[00167] In some examples, when the support frame 421 is in the fold state, the first baffle 4224 of the first frame 4211 is engaged with the first baffle 4224 of the second frame 4212, the second baffle 4225 of the first frame 4211 is engaged with the second baffle 4225 of the second frame 4212. In this way, the occurrence of an air leakage phenomenon between the first baffle 4224 of the first frame 4211 and the first baffle 4224 of the second frame 4212 and between the second baffle 4225 of the first frame 4211 and the second baffle 4225 of the second frame 4212 is prevented. Therefore, the filtration effect of the filtration member 42 is ensured.

[00168] In some specific examples, when the support frame 421 is in the fold state, the first baffle 4224 of the first frame 4211 abuts against, is engaged with, and partially overlaps the

first baffle 4224 of the second frame 4212, the second baffle 4225 of the first frame 4211 abuts against, is engaged with, and partially overlaps the second baffle 4225 of the second frame 4212, i.e., a side of the first baffle 4224 of the first frame 4211 is lapped on the first baffle 4224 of the second frame 4212, a side of the second baffle 4225 of the first frame 4211 is lapped on the second baffle 4225 of the second frame 4212. In this way, the occurrence of an air leakage phenomenon between the first baffle 4224 of the first frame 4211 and the first baffle 4224 of the second frame 4212 and between the second baffle 4225 of the first frame 4211 and the second baffle 4225 of the second frame 4212 is further prevented. Therefore, the filtration effect of the filtration member 42 is ensured.

[00169] In some specific examples, the first frame 4211 includes at least one longitudinal rod 4223. Two ends of the longitudinal rod 4223 are connected to the first transverse rod 4221 of the first frame 4211 and the second transverse rod 4222 of the first frame 4211, respectively. The longitudinal rod 4223 divides the first air passing opening into a plurality of side through openings.

[00170] For example, one longitudinal rod 4223 is provided. The longitudinal rod 4223 may divide the first air passing opening into two side through openings. For another example, a plurality of longitudinal rods 4223 is provided. The plurality of longitudinal rods 4223 is arranged at intervals in a length direction of the first transverse rod 4221/ in a length direction of the second transverse rod 4222. The plurality of longitudinal rods 4223 may divide the first air passing opening into a plurality of side through openings.

[00171] In some specific examples, the second frame 4212 includes at least one longitudinal rod 4223. Two ends of the longitudinal rod 4223 are connected to the first transverse rod 4221 of the second frame 4212 and the second transverse rod 4222 of the second frame 4212, respectively. The longitudinal rod 4223 divides the second air passing opening into a plurality of side through openings.

[00172] For example, one longitudinal rod 4223 is provided. The longitudinal rod 4223 may divide the second air passing opening into two side through openings. For another example, a plurality of longitudinal rods 4223 is provided. The plurality of longitudinal rods 4223 is arranged at intervals in a length direction of the first transverse rod 4221/ in a length direction of the second transverse rod 4222. The plurality of longitudinal rods 4223 may

divide the second air passing opening into a plurality of side through openings.

[00173] Therefore, by providing the longitudinal rod 4223, the longitudinal rod 4223 can be used to support the filtration mesh at a corresponding position at the first air passing opening 4231/the second air passing opening 4232, thereby improving the filtration efficiency and the filtration effect.

[00174] In some embodiments, the support frame 421 further includes a connection portion. The connection portion is connected between the first frame 4211 and the second frame 4212. When the support frame 421 is in a fold state, the first frame 4211 is opposite to the second frame 4212. By providing the connecting portion, the first frame 4211 and the second frame 4212 are allowed to be spaced apart from each other. In this way, a distance between the first frame 4211 and the second frame 4212 can be increased when the support frame 421 is in the fold state, thereby increasing an air filtration amount per unit time of the filtration member 42 and improving the filtration efficiency.

[00175] In some embodiments, the plurality of air passing openings include a third air passing opening 4233. The third air passing opening 4233 is located between the first frame 4211 and the second frame 4212. By providing the third air passing opening 4233, the filtration mesh can be arranged at the position. In this way, not only can the number and the total area of the filtration mesh be increased, further improving the filtration efficiency, but the air outflowing effect in different directions of the support frame 421 can also be achieved.

[00176] As illustrated in FIG. 20, in some examples, the support frame 421 further includes at least one connection rod 4226. Two ends of the connection rod 4226 are respectively connected to the first frame 4211 and the second frame 4212, i.e., a connection between the first frame 4211 and the second frame 4212 is realized by the connection rod 4226. The connection rod 4226 may divide the third air passing opening 4233 into a plurality of bottom through openings.

[00177] For example, one connection rod 4226 is provided. The connection rod 4226 may divide the third air passing opening 4233 into two bottom through openings. For another example, a plurality of connection rods 4226 is provided. The plurality of connection rods 4226 is arranged at intervals in the length direction of the first transverse rod 4221/ in the length direction of the second transverse rod 4222. The plurality of connection rods 4226 may

divide the third air passing opening 4233 into a plurality of bottom through openings.

[00178] Therefore, by providing the connection rod 4226, the connection rod 4226 can be used to support a filtration mesh at the position at the third air passing opening 4233, thereby improving the filtration efficiency and the filtration effect.

5 **[00179]** As illustrated in FIG. 20, one of the first frame 4211 and the second frame 4212 has a positioning protrusion. Another one of the first frame 4211 and the second frame 4212 has a positioning recess. The positioning protrusion is engaged with the positioning recess when the support frame is in the fold state. The positioning protrusion is disengaged from the positioning recess when the support frame is in the expanded state. By providing the
10 positioning protrusion and the positioning recess, the support frame 421 can be kept in a fold state, thereby ensuring the use reliability of the filtration member 42.

[00180] The positioning protrusion is formed as the positioning rod 4241. The positioning recess is formed as the positioning groove 4242, which has a simple structure and is easy to implement.

15 **[00181]** As illustrated in FIG. 20 to FIG. 22, according to some embodiments of the present disclosure, when the support frame 421 is in the fold state, the filtration member 42 defines a filtration space. The filtration space has a top through opening. The support frame 421 has a support flange 425. The support flange 425 extends in a circumferential direction of the top through opening.

20 **[00182]** Therefore, by providing the support flange 425, it is convenient to provide the filtration member 42 stably at a to-be-mounted position. For example, the support flange 425 can be supported at a side edge of the top access opening 4101, thereby ensuring that the filtration member 42 can be normally used.

[00183] The filtration device 40 according to an embodiment of the present disclosure
25 includes a mounting base 41 and a filtration member 42 according to the above embodiments. The filtration member 42 is detachably disposed on the mounting base 41. By using the filtration member 42, not only can the number and total surface area of the filtration mesh in a predetermined space be increased, thereby improving the filtration effect, but filtration can also be performed in different directions, thereby further improving the filtration effect.

30 **[00184]** The clothes treatment device 100 according to an embodiment of the present

disclosure includes a clothes treatment tub, a front support 30, and the filtration device 40 according to the above embodiments. The clothes treatment tub defines a clothes treatment chamber 201. The front support 30 is connected to the clothes treatment tub. Moreover, the front support 30 defines an air duct 304. The air duct 304 is in communication with the clothes treatment chamber 201. The front support 30 has a side opening 302. The side opening 302 is in communication with the air duct 304. The filtration device 40 is adapted to be drawably disposed in the air duct 304 through the side opening 302.

[00185] With the clothes treatment device 100 according to the embodiment of the present disclosure, by using the filtration device 40 as described in the above embodiments, the filtration device 40 can be used to filter the foreign matter, to prevent the foreign matter from entering the deep position of the air duct 304 for circulating flow, or from dirtying and blocking the components located downstream of the air duct 304. By providing the side opening 302, the taking and placing of the filtration device 40 from the side opening 302 can be facilitated, thereby facilitating the replacement or cleaning of the filtration device 40.

[00186] A second filtration sheet 60 of the clothes treatment device according to an embodiment of the present disclosure is described below with reference to the accompanying drawings.

[00187] As illustrated in FIG. 27, the second filtration sheet 60 of the clothes treatment device according to an embodiment of the present disclosure includes a support portion and a filtration mesh. The support portion has an air passing opening. The support portion is at least partially formed as a curved structure. The filtration mesh is disposed on the support portion. The filtration mesh at least partially covers the air passing opening.

[00188] With the second filtration sheet 60 of the clothes treatment device according to the embodiments of the present disclosure, by providing the support portion and providing the air passing opening at the support portion, the filtration mesh can be integrated on the support portion. The support portion not only can support the filtration mesh, but also provide the filtration mesh in the to-be-mounted position conveniently. In this way, taking and placing convenience is improved. Moreover, an improvement in a user's usage experience is facilitated. In addition, the support portion is at least partially configured as a curved structure. In this way, a flow passage area of the air passing opening within a predetermined range can

be increased. Therefore, a total area of the filtration mesh is increased. Moreover, an improvement in the filtration efficiency of the second filtration sheet 60 is facilitated.

[00189] According to some embodiments of the present disclosure, the support portion is formed as a support plate. The support plate sequentially includes a first plate section 611, a second plate section 612, and a third plate section 613 in a length direction of the support plate. The second plate section 612 is connected between the first plate section 611 and the second plate section 612. Each of the first plate section 611, the second plate section 612, and the third plate section 613 has at least one air passing opening provided thereon. The structure is simple. Moreover, processing and manufacturing are easy.

[00190] In some embodiments, the first plate section 611, the second plate section 612, and the third plate section 613 are not coplanar, i.e., parts of the filtration mesh on the first plate section 611, the second plate section 612, and the third plate section 613 are each not coplanar. In this way, the flow passage area of the air passing opening within a predetermined range can be increased, thereby increasing the total area of the filtration mesh within a predetermined length range. Therefore, the improvement in the filtration efficiency of the second filtration plate 60 is facilitated.

[00191] In some embodiments, the second plate section 612 is formed as a horizontal plate section. The first plate section 611 and the third plate section 613 respectively form an arc-shaped plate section. For example, the first plate section 611 and the second plate section 613 may be symmetrically arranged with each other relative to a central axis of the second plate section 612. Certainly, a structures of each of the first plate section 611, the second plate section 612, and the third plate section 613 is not limited to the foregoing form.

[00192] In some embodiments, each of the first plate section 611, the second plate section 612, and the third plate section 613 has at least one air passing opening provided thereon. A structure between two adjacent air passing openings can support the filtration mesh to ensure an extending effect of the filtration mesh. Therefore, the filtration effect of the second filtration sheet 60 is ensured.

[00193] As illustrated in FIG. 27, according to some embodiments of the present disclosure, the support portion includes a first support rod 614, a second support rod 615, and a plurality of connection rods 616. The first support rod 614 and the second support rod 615 are spaced

apart from each other. The plurality of connection rods 616 is arranged at intervals in an extending direction of the first support rod 614/ in an extending direction of the second support rod 615. Two ends of each connection rod 616 are connected to the first support rod 614 and the second support rod 615, respectively. An air passing opening is defined between two adjacent connection rods 616 and the first support rod 614 and the second support rod 615. The structure is simple. Moreover, processing and manufacturing are easy.

[00194] Each of the first support rod 614 and the second support rod 615 is at least partially formed as a bending rod. In some embodiments, a middle rod section of the first support rod 614 is formed as a linear rod section. A left rod section and a right rod section of the first support rod 614 are formed as an arc-shaped rod section, respectively. A middle rod section of the second support rod 615 is formed as a linear rod section. Each of a left rod section and a right rod section of the second support rod 615 are formed as an arc-shaped rod section. In this way, the total area of the filtration mesh in a predetermined length range can be increased. Moreover, the improvement in the filtration efficiency of the second filtration sheet 60 can be facilitated.

[00195] In some embodiments, the first support rod 614 has a same extending direction as the second support rod 615.

[00196] According to some embodiments of the present disclosure, the support portion is provided with a first limiting convex rib 61711 at a surface of a side of the support portion (such as a lower side surface as illustrated in FIG. 27). The front support 30 has a first limiting groove (not shown) provided thereon. In a state where the second filtration sheet 60 is mounted in place on the front support 30, the first limiting convex rib 61711 is engaged with the first limiting groove to ensure the mounting reliability and stability of the second filtration sheet 60 on the front support 30.

[00197] In some embodiments, the first limiting convex rib 61711 is located at a middle part of the support portion in a length direction of the support portion. An extending direction of the first limiting convex rib 61711 and a length direction of the support portion are perpendicular to each other. In this way, the middle part of the second filtration sheet 60 can be engaged with the front support 30, thereby ensuring the reliability of the connection between the middle part of the second filtration sheet 60 and the front support 30.

[00198] According to some embodiments of the present disclosure, the support portion is provided with a second limiting convex rib 61712 at a surface of another side of the support portion (such as an upper side surface as illustrated in FIG. 27). The filtration device 40 of the clothes treatment device has a second limiting groove. In a state where the second filtration sheet 60 and the filtration device 40 are mounted in place on the front support 30, the second limiting convex rib 61712 is engaged with the second limiting groove to further ensure the mounting reliability and stability of the second filtration sheet 60.

[00199] In some embodiments, the second limiting convex rib 61712 is located at the middle part of the support portion in the length direction of the support portion. The extending direction of the second limiting convex rib 61712 and the length direction of the support portion are perpendicular to each other. In this way, the middle part of the second filtration sheet 60 can be engaged with the filtration device 40 to ensure the connection reliability of the middle part of the second filtration sheet 60 and the filtration device 40.

[00200] As illustrated in FIG. 28 to FIG. 31, according to some embodiments of the present disclosure, a side edge of the support portion is adapted to be engaged with the first engagement groove 331 on the front support 30 of the clothes treatment device 100. Another side edge of the support portion is adapted to be engaged with the positioning portion on the front support 30. In this way, two opposite sides of the second filtration sheet 60 may be engaged with the front support 30, respectively. Therefore, the reliability of a connection between the second filtration sheet 60 and the front support 30 is further ensured.

[00201] As illustrated in FIG. 29 to FIG. 31, in some embodiments, the support portion is provided with a connection flange 6172 at an edge of the other side of the support portion. The connection flange 6172 extends in the length direction of the support portion. The connection flange 6172 is provided with a positioning engagement portion. Each positioning engagement portion is adapted to be engaged with the positioning portion on the front support 30. The structure is simple and easy to form.

[00202] The positioning engagement portion is an engagement hole 619 or a positioning protrusion post, i.e., one of the positioning portion and the positioning engagement portion is an engagement hole and another one of the positioning portion and the positioning engagement portion is a positioning protrusion post adapted to the engagement hole. The

structure is simple and easy to implement.

[00203] As illustrated in FIG. 28 and FIG. 29, according to some embodiments of the present disclosure, the support portion is provided with an engagement rib 6173 at each of two ends of the support portion in the length direction of the support portion. The engagement rib 6173 is adapted to be engaged with a second engagement groove 332 on the front support 30 of the clothes treatment device 100. In this way, two ends of the second filtration sheet 60 can be engaged with the front support 30, thereby ensuring connection reliability of the two ends of the second filtration sheet 60 and the front support 30.

[00204] In some embodiments, the extending direction of the engagement rib 6173 and the length direction of the support portion are perpendicular to each other.

[00205] In some embodiments, as illustrated in FIG. 31, a rear side edge of the support portion is engaged with the first engagement groove 331 on the front support 30. The support portion is provided with a connection flange 6172 at a front side edge of the support portion, and the connection flange 6172 is bent downwards. The connection flange 6172 has a plurality of engagement holes 619 arranged at intervals. The plurality of engagement holes 619 is inserted and engaged with the plurality of positioning convex posts 322 on the front support 30 in a one-to-one correspondence manner. The left end and the right end of the support portion are respectively provided with engagement ribs 6173 extending upwards. The engagement rib 6173 is engaged with the second engagement groove 332 on the front support 30. Therefore, the second filtration sheet 60 is firmly mounted on the front support 30.

[00206] The clothes treatment device 100 according to an embodiment of the present disclosure includes a second filtration sheet 60 of the clothes treatment device according to the above embodiments. Since the second filtration sheet of the clothes treatment device according to the embodiments of the present disclosure has the above technical effect, the clothes treatment device 100 according to the embodiments of the present disclosure also has the above technical effect, i.e., by using the second filtration sheet 60, the filtration mesh can be conveniently arranged in the to-be-mounted position. Therefore, the taking and placing convenience are improved. Moreover, the usage experience of the user is improved.

[00207] The clothes treatment device 100 further includes a clothes treatment tub and a front support 30. The clothes treatment tub defines a clothes treatment chamber 201. The front

support 30 is connected to the clothes treatment tub. The front support 30 defines an air duct 304. The air duct 304 is in communication with the clothes treatment chamber 201. The second filtration sheet 60 is disposed in the air duct 304.

[00208] During operation, the high-temperature and high-humidity air discharged from the clothes treatment chamber 201 enters the air duct 304, and then enters the deep position of the air duct 304 after being filtered by the second filtration sheet 60. In this way, the entry of foreign matter into the deep position of the air duct 304 can be prevented from dirtying and blocking the components located downstream of the air duct 304. It is ensured that the clothes treatment device 100 can operate normally.

[00209] An air-inlet grille 50 of the clothes treatment device according to an embodiment of the present disclosure is described below with reference to the accompanying drawings.

[00210] As illustrated in FIG. 9 to FIG. 13, the air-inlet grille 50 of the clothes treatment device according to an embodiment of the present disclosure has a plurality of through holes. The plurality of through holes is arranged at intervals. The plurality of through holes include a top through hole 5110 and a side through hole 5120.

[00211] In some embodiments, the air-inlet grille 50 includes a top plate 511 and a rear side plate 512. An upper end of the rear side plate 512 is connected to a rear side edge of the top plate 511. The top plate 511 has a plurality of top through holes 5110. The rear side plate 512 has a plurality of side through holes 5120. The plurality of top through holes 5110 is arranged at intervals. The plurality of side through holes 5120 is arranged at intervals.

[00212] With the air-inlet grille 50 of the clothes treatment device according to the embodiments of the present disclosure, the air-inlet grille 50 is configured to include the top plate 511 and the rear side plate 512. Each of the top plate 511 and the rear side plate 512 is provided with a plurality of through holes. The outer side surface of the top plate 511 and the outer side surface of the rear side plate 512 serve as windward surfaces. In this way, the effect of air inflowing from different directions can be achieved. Moreover, the number and the occupied area of the through holes in a predetermined space are increased. Therefore, the air inflowing amount per unit time is increased.

[00213] As illustrated in FIG. 9, the air-inlet grille 50 includes a grille body 51. The grille body 51 includes a top plate 511 and a rear side plate 512. The upper surface of the top plate

511 is formed as an inclined surface or a curved surface. By providing the upper surface of the top plate 511 to be an inclined surface or a curved surface, the area of the windward surface can be further increased. In this way, the number and the occupied area of the top through hole 5110 in a predetermined space are increased. Further, the air inflowing amount per unit time is improved.

[00214] The upper surface of the top plate 511 at least partially extends downwards gradually from back to front. After the top plate 511 is mounted in place, the upper surface of the top plate 511 at least partially extends downwards gradually from the clothes treatment chamber 201 to the clothes access opening 301. In this way, not only can the area of the windward surface be further increased, thereby increasing the number and the occupied area of the top through hole 5110 and improving the air inflowing amount in unit time, but the top plate 511 of the air-inlet grille 50 can also guide the foreign matter to the lower side of an outer part of the top plate 511, thereby preventing the foreign matter from blocking the top through hole 5110.

[00215] In some embodiments, an upper surface of the top plate 511 at least partially extends downwards gradually from two ends of the top plate 511 to a middle part of the top plate 511. In this way, not only can the area of the windward surface be increased, thereby increasing the number and the occupied area of the top through hole 5110 and improving the air inflowing amount in unit time, but the foreign matter can also be gathered in the middle part of the top plate 511. Therefore, cleaning is facilitated.

[00216] In some embodiments, the top through hole 5110 includes a first through hole 5111. The plurality of first through holes 5111 is uniformly distributed in the length direction and/or the width direction of the top plate 511. In this way, the consistency of the air inflowing effects of the top plate 511 at different positions can be ensured. The first through hole 5111 is formed as a square hole, a triangular hole, or a circular hole.

[00217] According to some embodiments of the present disclosure, the top through hole 5110 includes a second through hole 5112. The plurality of second through holes 5112 is arranged at intervals in the length direction of the top plate 511. Each second through hole 5112 is disposed close to the front side edge of the top plate 511, i.e., the second through hole 5112 is located at a lower position on the top plate 511.

[00218] Each of the plurality of second through holes 5112 is formed as an elongated hole extending in the length direction of the top plate 511. A length of the elongated hole is greater than or equal to 10 mm. A width of the elongated hole is greater than or equal to 2 mm. For example, the length of the elongated hole may be 10 mm, 12 mm, 15 mm, and the like. The width of the elongated hole is 2 mm, 2.5 mm, 3 mm, and the like.

[00219] Therefore, by providing the second through hole 5112 at a position close to the front side edge of the top plate 511, foreign matters such as hair with a great length can be filtered. In this way, the foreign matters such as hair with a great length are collected in the filtration device 40.

[00220] In some embodiments, the plurality of side through holes 5120 is uniformly arranged on the rear side plate 512. In this way, the consistency of the air inflowing effects of the rear side plate 512 at different positions can be ensured. The side through hole 5120 is formed as a square hole, a triangular hole, or a circular hole.

[00221] As illustrated in FIG. 11 to FIG. 12 and FIG. 15, according to some embodiments of the present disclosure, the rear side plate 512 has a mounting protrusion 5123 provided at an outer side surface of the rear side plate 512 and protruding backwards. The plurality of side through holes 5120 is disposed on the mounting protrusion 5123. A lower side wall of the mounting protrusion 5123 is adapted to be supported at a front support 30 of the clothes treatment device 100. By providing the mounting protrusion 5123, the air-inlet grille 50 can be positioned and mounted on the front support 30, thereby ensuring the stability of the air-inlet grille 50 on the front support 30.

[00222] As illustrated in FIG. 11 and FIG. 13, the rear side plate 512 has a plurality of engagement portions 5124. The plurality of engagement portions 5124 is arranged at intervals in a length direction of the rear side plate 512. Each of the plurality of engagement portions 5124 is adapted to be engaged with a front support 30 of the clothes treatment device 100. The mounting reliability and stability of the air-inlet grille 50 on the front support 30 are further ensured.

[00223] According to some embodiments of the present disclosure, the air-inlet grille 50 further includes a front side plate 513. The front side plate 513 is opposite to the rear side plate 512. The front side plate 513 has an upper end connected to a front side edge of the top

plate 511 and a lower end adapted to be supported at a front support 30 of the clothes treatment device 100. A front side and a rear side of the air-inlet grille 50 are both supported on the front support 30. Therefore, the mounting reliability and stability of the air-inlet grille 50 on the front support 30 are further ensured.

5 **[00224]** As illustrated in FIG. 17 to FIG. 19, in some embodiments, the air-inlet grille 50 further includes a mounting frame 54 and a filtration mesh. The mounting frame 54 is connected to the grille body 51. A filtration space is defined between the mounting frame 54 and the grille body 51. The mounting frame 54 has a plurality of receiving openings 540 arranged at intervals. The receiving opening 540 is in communication with the filtration space.
10 The filtration mesh is disposed on the mounting frame 51. The filtration mesh covers the plurality of receiving openings 540.

[00225] Therefore, by providing the air-inlet grille 50 to include the grille body 51, the mounting frame 54, and the filtration mesh, i.e., by integrating the grille body 51 and the filtration mesh together, it is convenient to take and place the grille body 51 and the filtration
15 mesh simultaneously for cleaning. In this way, use convenience is improved. Moreover, the air-inlet grille 50 can collect the foreign matters into the filtration space.

[00226] In some embodiments, the mounting frame 54 is connected to the lower end of the front side plate 513 and the lower end of the rear side plate 512. The filtration space defined by the mounting frame 54, the top plate 511, the front side plate 513 and the rear side plate
20 512 is in communication with the plurality of receiving openings 540. The structure is simple. Moreover, processing and manufacturing are easy.

[00227] As illustrated in FIG. 10 and FIG. 11 and FIG. 18, according to some embodiments of the present disclosure, the air-inlet grille 50 further includes a left end plate 514 and a right end plate 515. The left end plate 514 has an upper end connected to a left end of the top plate
25 511 and a rear side edge connected to a left end of the rear side plate 512. The right end plate 515 has an upper end connected to a right end of the top plate 511 and a rear side edge connected to a right end of the rear side plate 512. The structure is simple. Moreover, forming is easy.

[00228] According to some embodiments of the present disclosure, the air-inlet grille 50
30 has an accommodation cavity for accommodating aromatherapy and a plurality of emission

holes 5114. The accommodation cavity is in communication with an outer space through the plurality of emission holes 5114.

[00229] With the air-inlet grille 50 of the clothes treatment device according to the embodiments of the present disclosure, the air-inlet grille 50 is provided with an accommodation cavity having a plurality of emission holes 5114. In this way, a storage space can be provided for the aromatherapy. The position on the air-inlet grille 50 is effectively utilized, to improve a space utilization rate. Moreover, it can also be ensured that fragrance of the aromatherapy is dissipated outwards, making the clothes have fragrance after being dried. Therefore, the use experience of the user is improved.

[00230] As illustrated in FIGS. 10 and 18, the air-inlet grille 50 is partially recessed downwards to form an accommodation recess 5113. The accommodation recess 5113 defines an accommodation cavity. The emission hole 5114 is disposed on a bottom wall of the accommodation recess 5113 and/or a side wall of the accommodation recess 5113, i.e., an arrangement position of the aromatherapy is hidden. In this way, the appearance of the air-inlet grille 50 is not affected. Moreover, an occupied space of the air-inlet grille 50 is effectively utilized. Therefore, the space utilization rate is improved.

[00231] The air-inlet grille 50 includes a grille body 51 and an aromatherapy cover 52. The grille body 51 defines an accommodation cavity. The accommodation cavity has an opening. The aromatherapy cover 52 is detachably disposed on the grille body 51 to open and close the opening of the accommodation cavity.

[00232] Therefore, by providing the air-inlet grille 50 to include the grille body 51 and the aromatherapy cover 52, the aromatherapy cover 52 can prevent the foreign matters from entering the accommodation cavity. Moreover, the aromatherapy is hidden in the accommodation cavity, which does not affect the appearance of the air-inlet grille 50.

[00233] In some embodiments, the grille body 51 is provided with a support sink 5115. The support sink 5115 extends in the circumferential direction of the opening. The aromatherapy cover 52 is supported on the support sink 5115. It can be ensured that the aromatherapy cover 52 can be normally opened and closed. Moreover, the appearance of the aromatherapy cover 52 can be designed as desired. For example, an outer side surface of the aromatherapy cover 52 and an outer side surface of the grating body 51 are kept flat. In this way, the appearance of

the air-inlet grille 50 looks more coordinated and attractive.

[00234] In some embodiments, the aromatherapy cover 52 has an insertion post 521 extending downwards. The grille body 51 has an insertion hole 51150. The insertion post 521 is engaged with the insertion hole 51150 in a state where the aromatherapy cover 52 is mounted in place on the grille body 51. By providing the insertion post 521 and the insertion hole 51150, the aromatherapy cover 52 can be positioned, thereby ensuring the mounting reliability and stability of the aromatherapy cover 52 on the grille body 51.

[00235] In some examples, a peripheral wall of the insertion post 521 on the aromatherapy cover 52 is provided with a stop portion 522. The stop portion 522 protrudes from an outer surface of the insertion post 521 to prevent the aromatherapy cover 52 from being disengaged from the grille body 51.

[00236] In order to smoothly mount the aromatherapy cover 52 to the grille body 51, the stop portion 522 has a guide surface 523. The guide surface 523 gradually extends towards a center line of the insertion post 521 from top to bottom. When the aromatherapy cover 52 is mounted, the guide surface 523 can play a guide role, which is beneficial to improving the mounting efficiency.

[00237] In an embodiment of the air-inlet grille 50 including the top plate 511 and the rear side plate 512, the top plate 511 defines an accommodation cavity. The accommodation cavity and the top through hole 5110 are spaced apart from each other. The upper surface of the top plate 511 has a support sink 5115 extending in a circumferential direction of the accommodation cavity. In this way, the aromatherapy can be conveniently taken and placed in the up-down direction.

[00238] According to some embodiments of the present disclosure, the air-inlet grille 50 has a water adding hole 5117. The water adding hole 5117 is adapted to be in communication with a steam generator of the clothes treatment device 100.

[00239] With the air-inlet grille 50 of the clothes treatment device according to the embodiments of the present disclosure, the water adding hole 5117 is provided on the air-inlet grille 50, i.e., the water adding hole 5117 is integrated on the air-inlet grille 50. In this way, the position on the air-inlet grille 50 is effectively utilized to improve the space utilization rate. Moreover, it is convenient for the user to add water when cleaning the air-inlet grille 50.

Therefore, the use experience of the user is improved.

[00240] As illustrated in FIG. 10 and FIG. 18, the air-inlet grille 50 is at least partially recessed downwards to form a water adding recess 5116. The water adding hole 5117 is disposed on the bottom wall of the water adding recess 5116, i.e., an arrangement position of the water adding hole 5117 is concealed, which does not affect the appearance of the air-inlet grille 50. Moreover, the occupied space of the air-inlet grille 50 is effectively utilized, thereby improving the space utilization rate.

[00241] In some embodiments, the air-inlet grille 50 includes a grille body 51 and a water adding cover 53. The water adding recess 5116 is formed on the grille body 51. The water adding cover 53 is detachably disposed on the grille body 51 for opening and closing the opening of the water adding recess 5116.

[00242] Therefore, by providing the air-inlet grille 50 to include the grille body 51 and the water adding cover 53, the water adding cover 53 can prevent the foreign matter from blocking the water adding hole 5117. The water adding hole 5117 is hidden in the water adding recess 5116, which does not affect the appearance of the air-inlet grille 50. Moreover, it is convenient to add water.

[00243] In some embodiments, the grille body 51 is provided with a mounting sink 5118. The mounting sink 5118 extends in the circumferential direction of the opening of the water adding recess 5116. The water adding cover 53 is supported on the mounting sink 5118. In this way, the water adding cover 53 can be normally opened and closed. Moreover, the appearance of the water adding cover 53 can be designed as required. For example, the outer side surface of the water adding cover 53 and the outer side surface of the grille body 51 are kept flat. In this way, the appearance of the air-inlet grille 50 looks more coordinated and attractive.

[00244] In some embodiments, the water adding cover 53 has a mounting post 531 extending downwards. The air-inlet grille 50 has a mounting hole 5119. The mounting post 531 is engaged with the mounting hole 5119 in a state where the water adding cover 53 is mounted in place on the grille body 51. By providing the mounting post 531 and the mounting hole 5119, the water adding cover 53 can be positioned, thereby ensuring the mounting reliability and stability of the water adding cover 53 on the grille body 51.

[00245] In some examples, the peripheral wall of the mounting post 531 on the water adding cover 53 is provided with an anti-disengagement portion. The anti-disengagement portion protrudes from the outer surface of the mounting post 531 to prevent the water adding cover 53 from being disengaged from the grille body 51.

5 **[00246]** In order to smoothly mount the water adding cover 53 to the grille body 51, the anti-disengagement portion has a guide surface. The guide surface gradually extends in a direction close to the center line of the mounting post 531 from top to bottom. When the water adding cover 53 is mounted, the guide surface can play a guide role, which is beneficial to improving the mounting efficiency.

10 **[00247]** In the embodiment of the air-inlet grille 50 including the top plate 511 and the rear side plate 512, the water adding hole 5117 is disposed on the top plate 511. In this way, water is conveniently added. The water adding hole 5117 is spaced apart from the top through hole 5110. In some embodiments, the top plate 511 defines a water adding recess 5116. An upper surface of the top plate 511 has a mounting sink 5118 extending in the circumferential
15 direction of the water adding recess 5116.

[00248] In some embodiments, the aromatherapy cover 52 and the water adding cover 53 are disposed at two ends of the grille body 51, i.e., the aromatherapy can be placed at an end of the grille body 51, and the water adding opening 5117 is disposed at another end of the grille body 51. In this way, the position on the grille body 51 is effectively utilized. Moreover,
20 the space utilization rate is improved.

[00249] The clothes treatment device 100 according to an embodiment of the present disclosure includes the air-inlet grille 50 of the clothes treatment device according to the above embodiments. Since the air-inlet grille 50 of the clothes treatment device according to the embodiments of the present disclosure has the above technical effect, the clothes treatment
25 device 100 according to the embodiments of the present disclosure also has the above technical effect.

[00250] According to some embodiments of the present disclosure, the clothes treatment device 100 further includes a clothes treatment tub and a front support 30. The clothes treatment tub defines a clothes treatment chamber 201. The front support 30 is connected to
30 the clothes treatment tub. The front support 30 defines an air duct 304. The air duct 304 is in

communication with the clothes treatment chamber 201 through the air-inlet grille 50. The front support 30 has a top opening 303 in communication with the air duct 304. The air-inlet grille 50 is detachably disposed at the top opening 303.

[00251] The emission hole 5114 is in communication with the clothes treatment chamber 201 and the air duct 304. In this way, the clothes have fragrance after being dried, thereby increasing the use experience of the user.

[00252] A specific embodiment of the clothes treatment device according to the present disclosure is described below with reference to the accompanying drawings.

[00253] The clothes treatment device 100 includes a housing 10, a clothes treatment tub, a front support 30, a filtration device 40, an air-inlet grille 50, a second filtration sheet 60, and a decoration member 70.

[00254] The housing 10 includes a front sealing door 11 located in front. The front sealing door 11 has a mounting recess 113 provided at a middle part of the front sealing door 11, and the mounting recess 113 is recessed backwards. The mounting recess 113 has a first engagement opening 111 and a second engagement opening 112 provided at a bottom wall of the mounting recess 113. The first engagement opening 111 and the second engagement opening 112 is spaced apart from each other in the up-down direction. The first engagement opening 111 is located below the second engagement opening 112.

[00255] The door body is disposed on the front sealing door 11 and rotatable between an open position and a closed position. The door body may have a same shape as the mounting recess 113. When the door body is in the closed position, a position of the door body corresponds to a position of the mounting recess 113 to cover the first engagement opening 111 and the second engagement opening 112.

[00256] The clothes treatment tub is disposed in the housing 10. The clothes treatment tub defines a clothes treatment chamber 201.

[00257] The front support 30 has a clothes access opening 301 through front and back and an air duct 304. The clothes access opening 301 is located above the air duct 304. The front support 30 further has a side opening 302 and a top opening 303. The side opening 302 is located at a front side of the front support 30 and is in communication with the air duct 304.

The top opening 303 is provided between the clothes access opening 301 and the air duct 304

and connects the clothes access opening 301 and the air duct 304. The front support 30 is connected between the front sealing door 11 and the clothes treatment tub. Moreover, the side opening 302 is opposite to the first engagement opening 111. The clothes access opening 301 is opposite to the second engagement opening 112. The side opening 302 and the clothes
5 access opening 301 correspond to a tub opening position of the clothes treatment tub. The position where the side opening 302 of the front support 30 is located covers a part of the tub opening. The clothes access opening 301 is opposite to and in communication with another part of the tub opening.

[00258] The front side of the front support 30 is provided with an annular convex rib 321
10 extending in the circumferential direction of the side opening 302. The annular convex rib 321 has a plurality of engagement protrusions 31 provided at an outer peripheral wall of the annular convex rib 321. The plurality of engagement protrusions 31 is arranged at intervals in an extending direction of the annular convex rib 321. Each engagement protrusion 31 has a guide inclined surface 311. The air duct 304 has two guide portions 34 opposite to each other
15 at the inner wall surface of the air duct 304. A locking recess 35 is provided above each guide portion 34.

[00259] The decoration member 70 is formed as an annular structure. The decoration member 70 has a plurality of extending protrusions 72 provided at a rear side of the decoration member 70. The plurality of extending protrusions 72 is arranged at intervals in the
20 circumferential direction of the decoration member 70. Each extending protrusion 72 has an engagement hole 71 provided thereon. The decoration member 70 is mounted at the front side of the front support 30 and sleeved at the outer side of the annular convex rib 321. The plurality of engagement holes 71 on the decoration member 30 is engaged with the plurality of engagement protrusions 31 on the annular convex rib 321 in a one-to-one correspondence
25 manner, to ensure the connection reliability between the decoration member 70 and the front support 30.

[00260] The filtration device 40 includes a mounting base 41, a filtration member 42, and a first filtration sheet 43.

[00261] The mounting base 41 includes a bottom plate 411, a front panel 412, two side
30 plates 413, a support rod 414, and a decoration surface cover 415. The lower end of the front

panel 412 is connected to the front side edge of the bottom plate 411. The lower ends of the two side plates 413 are connected to the two ends of the bottom plate 411. The front side edges of the two side plates 413 are connected to two ends of the front panel 412, respectively. The support rod 414 is disposed above the bottom plate 411 and located behind the front panel 412. The two ends of the support rod 414 are connected to upper parts of the two side plates 413. A mounting space is defined by the bottom plate 411, the front panel 412, the two side plates 413, and the support rod 414 and has a top access opening 4101 and a ventilation opening 4102. The ventilation opening 4102 is located on the bottom plate 411.

[00262] An upper part of the outer side surface of the two side plates 413 is provided with a support protrusion 4131. The support protrusion 4131 is provided with a locking protrusion 4132. The decoration surface cover 415 includes a decoration plate 4151 and a decoration flange 4152. The decoration flange 4152 is connected to the peripheral edge of the decoration plate 4151. The decoration flange 4152 is provided with a plurality of engagement portions 417. The front panel 412 has a plurality of engagement grooves 416 provided at the peripheral wall of the front panel 412. In a state where the decoration surface cover 415 and the front panel 412 are connected in place, the decoration plate 4151 covers the front side surface of the front panel 412. The peripheral wall of the front panel 412 is at least partially covered by the decoration flange 4152. The plurality of engagement portions 417 is engaged with the plurality of engagement grooves 416 in a one-to-one correspondence.

[00263] The filtration member 42 includes a support frame 421 and a plurality of filtration meshes. The support frame 421 includes a first frame 4211, a second frame 4212, and a connection portion. The connection portion is connected between the first frame 4211 and the second frame 4212. Each of the first frame 4211 and the second frame 4212 includes a first transverse rod 4221, a second transverse rod 4222, a plurality of longitudinal rods 4223, a first baffle 4224, and a second baffle 4225. The first transverse rod 4221 and the second transverse rod 4222 are spaced apart from each other. The plurality of longitudinal rods 4223 is arranged at intervals in the length direction of the first transverse rod 4221/the second transverse rod 4222. Two ends of each longitudinal rod 4223 are connected to the first transverse rod 4221 and the second transverse rod 4222, respectively. The first baffle 4224 is connected to an end of the first transverse rod 4221 and an end of the second transverse rod 4222. The second

baffle 4225 is connected to another end of the first transverse rod 4221 and another end of the second transverse rod 4222. An air passing opening is defined by two adjacent longitudinal rods 4223, the first transverse rod 4221 and the second transverse rod 4222. The connection portion includes a plurality of connection rods 4226. An air passing opening is defined by two adjacent connection rods 4226, the first transverse rod 4221 and the second transverse rod 4222. Each air passing opening is provided with a filtration mesh. The support frame 421 is switchable between a fold state and an expanded state. When the support frame 421 is in the fold state, the support frame 421 defines a filtration space having a top through opening.

[00264] The filtration member 42 is disposed in the mounting space defined by the mounting base 41. Moreover, the filtration member 42 is supported on the front panel 412, the two side plates 413, and the support rod 414.

[00265] The first filtration sheet 43 is formed as filtration cotton. Moreover, the first filtration sheet 43 is disposed on the bottom plate 411 of the mounting base 41. Moreover, the first filtration sheet 43 is located below the filtration member 42.

[00266] The filtration device 40 is adapted to be drawably disposed in the air duct 304 from the side opening 302. Moreover, the locking protrusion 4132 is engaged with the locking recess 35 when the filtration device 40 is mounted in place on the front support 30, thereby locking the filtration device 40 on the front support 30.

[00267] The air-inlet grille 50 includes a grille body 51, an aromatherapy cover 52, and a water adding cover 53. The grille body 51 includes a top plate 511, a rear side plate 512, a front side plate 513, a left end plate 514, and a right end plate 515. An upper end of the rear side plate 512 is connected to a rear side edge of the top plate 511. An upper end of the front side plate 513 is connected to a front side edge of the top plate 511. An upper end of the left end plate 514 and an upper end of the right end plate 515 are connected to a left end and a right end of the top plate 511, respectively.

[00268] The top plate 511 has a plurality of top through holes 5110. The rear side plate 512 has a plurality of side through holes 5120. Positions of the top plate 511 close to the left end and the right end of the top plate 511 are respectively provided with an accommodation recess 5113 and a water adding recess 5116 that are recessed downwards. The aromatherapy cover 52 is detachably disposed above the accommodation recess 5113. The water adding cover 53

is detachably disposed above the water adding recess 5116. The air-inlet grille 50 is detachably mounted at the top opening 303 of the front support 30, to connect the clothes access opening 301 and the air duct 304.

[00269] The second filtration sheet 60 includes a support portion and a filtration mesh. The support portion includes a first plate section 611, a second plate section 612, and a third plate section 613. The second plate section 612 is connected between the first plate section 611 and the second plate section 612. The second plate section 612 is formed as a horizontal plate section. Each of the first plate section 611 and the third plate section 613 is formed as an arc-shaped plate section. Each of the first plate section 611, the second plate section 612, and the third plate section 613 has at least one air passing opening provided thereon. The filtration mesh is disposed on the support portion and covers the air passing opening.

[00270] When the second filtration sheet 60 is mounted in place on the front support 30, the second filtration sheet 60 is located below the filtration device 40. A side edge of the support portion is engaged with the first engagement groove 331 on the front support 30. The engagement ribs 6173 located at the two ends of the support portion are engaged with the second engagement groove 332 on the front support 30. A connection flange 6172 at another side edge of the support portion is engaged with the plurality of positioning convex posts 322 on the front support 30 through the plurality of engagement holes 619 in a one-to-one correspondence manner, thereby ensuring the reliability and stability of the mounting of the second filtration sheet 60 on the front support 30.

[00271] In the description of the present disclosure, it is to be understood that, terms such as “center”, “longitudinal”, “lateral”, “length”, “width”, “thickness”, “over”, “below”, “front”, “back”, “left”, “right”, “vertical”, “horizontal”, “top”, “bottom”, “in”, “out”, “axial”, “radial”, “circumferential”, etc., is based on the orientation or position relationship shown in the drawings, and is only for the convenience of describing the present disclosure and simplifying the description, rather than indicating or implying that the associated device or element must have a specific orientation, or be constructed and operated in a specific orientation, and therefore cannot be understood as a limitation to the present disclosure.

[00272] Other arrangements and operations of the clothes treatment device 100 according to the embodiments of the present disclosure are known to those of ordinary skill in the art,

and the description thereof in detail will omitted herein.

[00273] In the description of this specification, descriptions with reference to the terms “an embodiment,” “some embodiments,” “schematic embodiments,” “examples,” “specific examples,” or “some examples,” etc. mean that specific features, structure, materials or characteristics described in conjunction with the embodiment or example are included in at least one embodiment or example of the present disclosure. In this specification, the schematic representations of the above terms do not necessarily refer to the same embodiment or example. Moreover, the described specific features, structures, materials or characteristics may be combined in any one or more embodiments or examples in a suitable manner.

[00274] Although the embodiments of the present disclosure are illustrated and described above, it can be understood by those of ordinary skill in the art that various changes, modifications, substitutions and alterations may be made to these embodiments without departing from the principles and spirit of the present disclosure. The scope of the present disclosure is defined by the claims and their equivalents.

CLAIMS

What is claimed is:

1. An air-inlet grille of a clothes treatment device, the air-inlet grille comprising:

a top plate having a plurality of top through holes arranged at intervals; and

5 a rear side plate, an upper end of the rear side plate being connected to a rear side edge of the top plate, the rear side plate having a plurality of side through holes arranged at intervals.

2. The air-inlet grille of the clothes treatment device according to claim 1, wherein an upper surface of the top plate is formed as an inclined surface or a curved surface.

3. The air-inlet grille of the clothes treatment device according to claim 1, wherein an
10 upper surface of the top plate at least partially extends downwards gradually from back to front.

4. The air-inlet grille of the clothes treatment device according to claim 1 or 3, wherein an upper surface of the top plate at least partially extends downwards gradually from two ends of the top plate to a middle part of the top plate.

15 5. The air-inlet grille of the clothes treatment device according to claim 1, wherein the plurality of top through holes comprises a plurality of first through holes, the plurality of first through holes being uniformly distributed in a length direction of the top plate and/or a width direction of the top plate.

6. The air-inlet grille of the clothes treatment device according to claim 5, wherein each
20 of the plurality of first through holes is formed as a square hole, a triangular hole, or a circular hole.

7. The air-inlet grille of the clothes treatment device according to claim 1 or 5, wherein:
the plurality of top through holes comprises a plurality of second through holes, the
plurality of second through holes being arranged at intervals in a length direction of the top
25 plate; and

each of the plurality of second through holes is disposed close to a front side edge of the top plate.

8. The air-inlet grille of the clothes treatment device according to claim 7, wherein each

of the plurality of second through holes is formed as an elongated hole extending in the length direction of the top plate.

9. The air-inlet grille of the clothes treatment device according to claim 1, wherein each of the plurality of side through holes is formed as a square hole, a triangular hole, or a circular hole.

10. The air-inlet grille of the clothes treatment device according to claim 1, wherein:
the rear side plate has a mounting protrusion provided at an outer side surface of the rear side plate and protruding backwards;

the plurality of side through holes is disposed on the mounting protrusion; and
a lower side wall of the mounting protrusion is adapted to be supported at a front support of the clothes treatment device.

11. The air-inlet grille of the clothes treatment device according to claim 1, wherein:
the rear side plate has a plurality of engagement portions, the plurality of engagement portions being arranged at intervals in a length direction of the rear side plate; and

each of the plurality of engagement portions is adapted to be engaged with a front support of the clothes treatment device.

12. The air-inlet grille of the clothes treatment device according to claim 1, further comprising:

a front side plate opposite to the rear side plate, wherein the front side plate has an upper end connected to a front side edge of the top plate and a lower end adapted to be supported at a front support of the clothes treatment device.

13. The air-inlet grille of the clothes treatment device according to claim 12, further comprising:

a mounting frame connected to the lower end of the front side plate and a lower end of the rear side plate, the mounting frame having a plurality of receiving openings arranged at intervals; and

a filtration mesh disposed at the mounting frame and covering the plurality of receiving openings,

wherein a filtration space defined by the mounting frame, the top plate, the front side plate and the rear side plate is in communication with the plurality of receiving openings.

14. The air-inlet grille of the clothes treatment device according to claim 1, further comprising:

a left end plate having an upper end connected to a left end of the top plate and a rear side edge connected to a left end of the rear side plate; and

5 a right end plate having an upper end connected to a right end of the top plate and a rear side edge connected to a right end of the rear side plate.

15. A clothes treatment device, comprising an air-inlet grille of the clothes treatment device according to any one of claims 1 to 14.

16. The clothes treatment device according to claim 15, further comprising:

10 a clothes treatment tub defining a clothes treatment chamber; and

a front support connected to the clothes treatment tub and defining an air duct, the air duct being in communication with the clothes treatment chamber through the air-inlet grille, wherein the front support has a top opening in communication with the air duct, and wherein the air-inlet grille is detachably disposed at the top opening.

15 17. The clothes treatment device according to claim 16, further comprising a filtration device detachably disposed in the air duct.