

Description

Background of the Invention

Field of the Invention

The present invention relates to a hood device for coupling cars for use in railway cars or the like, and more particularly to a hood device for coupling cars which includes an interference prevention means for side panels provided internally of the side portions of hood components.

Description of the Prior Art

Heretofore, there has been known a hood device for coupling cars in which a hood component is divided into two parts in the longitudinal direction of car bodies to be coupled with each other, thereby constituting a first hood component having one end secured to one car body and a second hood component having one end secured to the other car body, the other ends of both the hood components being interconnected when the car bodies are coupled with each other. Side panels are provided in positions adjacent to both side portions of each of the hood components. Such a hood device for coupling cars is disclosed, by way of example, in the Japanese Patent Publication No. 59-41426.

US-A-4 252 065 describes a passageway system for providing a space and passage for passengers to walk between two railway cars. The passageway includes two portal halves which are held in a central position between two box end faces. The passageway is sealed by a completely closed surrounding rubber membrane. Lateral cover plates are attached to provide lateral shielding between the rubber membrane and the passenger space. Each lateral cover plate is pivotally attached to one of the boxes by a hinge extending in the vertical direction, and is glidingly supported on the central portion of the respective portal half.

The conventional hood device using a pair of divided hood components as mentioned above has accompanied a problem that, when the coupled cars are abnormally approached exceeding a predetermined amount, the side panels may be damaged due to mutual interference and collision between the side panel of one hood component and that of the other hood component.

Summary of the Invention

It is an object of the present invention to provide a hood device for coupling cars which can solve the above problem encountered in the prior art, and with which a side panel of one hood component is displaced relative to a side panel of the other hood component to avoid mutual interference therebetween, when car bodies coupled with each other are abnormally approached,

thereby preventing damages of the side panels.

More specifically, in accordance with the present invention, there is provided a hood device for coupling cars comprising; a first hood component having one end secured to one of a pair of car bodies to be coupled with each other; the first hood component having side panels disposed internally of and adjacent to both side portions thereof; and a second hood component having one end secured to the other of the pair of car bodies and the other end to be coupled with the other end of the first hood component; the second hood component having side panels disposed internally of and adjacent to both side portions thereof and arranged to be substantially aligned with the side panels of the first hood component in the longitudinal direction of the cars, respectively, when both the hood components are coupled with each other in a normal condition: wherein each of the side panels comprises a fixed panel having one end secured to the other end of corresponding one of the hood components, and a movable panel having one end mounted to the corresponding car body turnably about a substantially vertical axis and the other end urged to be engaged with the inner surface of the fixed panel; characterised in that the movable panel of one of each alignment pair of the side panels substantially aligned with each other in the longitudinal direction of the cars when both the hood components are coupled with each other in a normal condition, includes an interference prevention means for guiding the latter movable panel to turn inwardly of the corresponding hood component about the vertical axis, to thereby prevent the latter movable panel from striking against another movable panel substantially aligned therewith, when both the car bodies are approached exceeding a predetermined amount.

Other object, features and advantages of the present invention will be more apparent from the following description of a preferred embodiment with reference to the accompanying drawings.

Brief Description of the Drawings

Fig. 1 is a side view of a hood device for coupling cars according to an embodiment of the present invention with the hood device mounted on car bodies coupled with each other;

Fig. 2 is a view of one hood component of the hood device as seen from the rear side toward the front of the car;

Fig. 3 is an enlarged side view, partially sectioned, of the hood device of Fig. 1,;

Fig. 4 is a schematic sectional view of the hood device as seen from above;

Figs. 5 and 6 are a side view and a plan sectional view of a fixed panel, respectively;

Figs. 7 and 8 are a side view and a plan sectional view of a movable panel, respectively;

Fig. 9 is a perspective view of a projection constituting an interference prevention member; and

Fig. 10 is a schematic plan sectional view showing the condition of side panels when the coupled cars are abnormally approached.

Description of the Preferred Embodiment

There will now be described an embodiment of the invention as illustrated in the drawings.

Referring to Fig. 1, designated at reference numerals 1, 2 are car bodies to be coupled with each other. As shown, a pair of first and second hood components 3, 4 divided in the longitudinal direction of the car bodies are mounted between the end faces of the car bodies opposite to each other, and have each a body side metal frame secured to the end face of the associated car body. When the car bodies are moved away from each other by decoupling a pair of couplers 5, 6, the hood components 3, 4 are separated at their divisible opposite faces lying at the centers, while when the couplers 5, 6 are coupled with each other, the hood components 3, 4 are pushed together and interconnected at their divisible opposite faces so as to cover the circumference of a through passage between the car bodies. Each of the hood components 3, 4 includes a hood member 9 including a hood framework and hood cloth for expansion and contraction, the hood member 9 being disposed between a fixed side metal frame 7 secured to the end face of the associated car body and an open side metal frame 8 serving as a free end, as well as a hood pushing unit 10 for urging the open side metal frame 8 forwardly by virtue of resilient forces, the hood pushing unit 10 being disposed between the end face of the associated car body and the open side metal frame 8. When the car bodies 1, 2 are coupled, the open end metal frames 8, 8 of both the hood components 3, 4 are pushed against and interconnected to each other by means of the hood pushing units 10, 10. Designated at reference numeral 11 is a hood sling or a metal frame suspender. Within each of the hood components 3, 4, there are provided panels to surround a ceiling portions and both side wall portions of its own through passage as follows. Note that because both the hood components 3, 4 have the same panel construction, the description will be made mainly on the first hood component 3.

First, a ceiling panel is constructed in separable fashion such that, as shown in Figs. 2 and 3, it comprises a fixed ceiling panel 12 fixed at its right end (as viewed in Fig. 3) to the open side metal frame 8 of the hood component 3, and a movable ceiling panel 13 supported at its left end (as seen in Fig. 3) to the end face of the car body 1 and partially covering the panel 12 from above.

Side panels will now be described. Each of the side panels are constructed in separable fashion such that, as shown in Figs. 2 and 3, it comprises a fixed panel 14 secured at one end thereof to the open end metal frame 8 of the hood component 3

or 4, and a movable panel 15 mounted at one end thereof to the car body turnably about a substantially vertical axis and partially covering the inner surface of the panel 14. Such a side panel is disposed on each of both sides of the through passage. First, the fixed panel 14 of the hood component 3 will be described. As shown in Figs. 3 and 4, the fixed panel 14 is formed into a rectangular shape having a longitudinal length substantially equal to a half of that of the hood component 3 and a vertical length substantially equal to that of the hood component 3, with a base end thereof (right end as viewed in Fig. 4) being secured to the open side metal frame 8 by means of not shown bolts or the like. Also, as shown in Figs. 4 and 6, the front portion, i. e., free end portion, of the fixed panel is bent outwardly while extending from substantially from its center. The fixed panel 14 is so constructed that, as shown in Fig. 6, an inner plate 17 and an outer plate 18 are secured to a framework 16 at their sides facing the interior and exterior of the through passage, respectively, and a space defined between the inner and outer plates 17, 18 is filled with a sound and heat insulating material. Furthermore, a pair of side guide plates 20 are bonded to the upper and lower portions of the inner plate 17 on its surface facing the interior of the through passage over the entire length thereof in the longitudinal direction, and a slip-off prevention plate 21 formed of a flexible material such as a hard rubber plate is projected out of the front end of the fixed panel 14.

The movable panel 15 of the hood component 3 will now be described.

As shown in Figs. 2 and 4, the movable panel 15 is disposed inside the fixed panel 14 and has its base end (left end as viewed in Fig. 4) mounted to the car body turnably about a vertical axis.

A longitudinal length of the movable panel 15 is so selected that its distal end (right end as viewed in Fig. 4) reaches the rectilinear portion of the fixed panel 14. Further, the movable panel 15 has the outer configuration as shown in Fig. 7 and the plan sectional configuration as shown in Fig. 8.

The movable panel 15 is also constructed by an inner plate, an outer plate, and a sound and heat insulating material in a like manner to the fixed panel 14. Designated at reference numeral 22 is a hinge member for attaching the movable panel 15 to the car body turnably about a vertical axis. Designated at 23 is a spring for resiliently urging the movable panel 15 to be pushed at its distal end portion against the inner surface of the fixed panel 14.

Designated at reference numeral 24 is a roller provided at the distal end of the movable panel 15 on the outer side thereof, which roller is disposed in number of two at vertically spaced positions for abutment with the upper and lower slide guide plates 20 bonded to the fixed panel 14, so that each roller 24 is rolled over the slide guide plate 20 as the fixed panel 14 is moved forth and back.

The movable panel 15 includes a pair of interference prevention members 25 secured onto the

outer surface thereof in vertically spaced positions, each of which members 25 is constituted in the form of a projection projecting outwardly, i. e., toward the adjacent fixed panel, as shown in Figs. 4, 7 and 8. As shown in Fig. 3, the members 25 are located at positions vertically deviated from the slip-off prevention plates 21 and hence they do not engage with the latter. Each interference prevention member 25 is so constructed that, as shown in Fig. 9, a bar material is bent into a substantially triangle shape in plan view, which is secured to a base plate 26, and then the base plate 26 is in turn secured to the outer surface of the movable panel 15. The interference prevention member 25 is provided on only one of the movable panels 15, 15 of the hood components 3, 4 located opposite to and aligned with each other in the longitudinal direction. The member 25 is at a location not engaged with the inner surface of the adjacent fixed panel 14 when the hood components are coupled with each other in a normal condition. However, the member 25 is moved in such a manner that, immediately before the distal ends of both the opposite movable panels 15, 15 strike against each other, the interference prevention member 25 rides over the rectilinear portion of the adjacent fixed panel 14, thereby causing the distal end of the movable panel 15 having the interference prevention member 25 to be escaped inwardly of another movable panel 15 disposed opposite to and aligned with the former movable panel.

Operation of this embodiment will be described below.

In a normal condition where the car bodies 1, 2 are coupled with each other on straight railroads, the respective fixed panels 14 are arranged, as shown in Fig. 4, parallel to the longitudinal center axis O of the car bodies with one end of each fixed panel 14 of the first hood component 3 disposed opposite to one end of the corresponding fixed panel 14 of the second hood component 4. The respective movable panels 15 are likewise positioned parallel to the longitudinal center axis O with their distal ends locating in contact with the inner surfaces of the adjacent fixed panels 14.

When the car bodies 1, 2 are subjected pitching, the side panels follow the pitching with their fixed panels 14 and the movable panels 15 being vertically displaced relative to each other.

Next, when the car bodies 1, 2 are passing over curved railroads, the movable panels 15 are each turned about the hinge member 22 lying in a vertical axis, thereby following lateral movements (vertical movements as seen in Fig. 4) of the fixed panels 14 to cope with passage of the car bodies over the curved railroads.

At this time, because the rollers 24 of the movable panels 15 are rolled on the slide guide plates 20 of the fixed panels 14 relative displacements between the movable and fixed panels are effected smoothly.

During the foregoing operation, when the distal end of the movable panel 15 is slipped out of the distal end of the fixed panel 14 due to abnormal

extension of the hood components, the roller 24 provided at a bracket 30 (Fig. 8) projecting from the distal end or free end of the movable panel 15 forwardly, i. e., toward the open side metal frame 8, is engaged with a slip-off prevention plate 21 projecting from the distal end of the slide guide plate 20 forwardly, i. e., in the direction opposite to the metal frame 8, so that the engagement between both the panels 14 and 15 will never be released.

Further, during passage of the car bodies along the curved railroads by way of example, when the hood components are too contracted so that the distal ends of both the opposite movable panels 15, 15 would be abnormally approached to make interference on the contracted side of the hood components, the interference prevention member 25 rides over the rectilinear portion of the adjacent fixed panel 14 causing the distal end of the movable panel 15 having the interference prevention member 25 to be escaped inwardly of the distal end of another movable panel 15 opposite to the former movable panel, as shown in Fig. 10, thereby preventing damages of both those movable panels 15, 15 due to their mutual collision.

According to the present invention, as fully described above, it becomes possible to prevent interference between the movable panels and hence to prevent damages thereof, when the successive car bodies are abnormally approached to each other.

Claims

1. A hood device for coupling cars comprising a first hood component (3) having one end secured to one of a pair of car bodies (1, 2) to be coupled with each other; said first hood component (3) having side panels (14, 15) disposed internally of and adjacent to both side portions thereof; and a second hood component (4) having one end secured to the other of said pair of car bodies (1, 2) and the other end to be coupled with the other end of said first hood component (3), said second hood component (4) having side panels (14, 15) disposed internally of and adjacent to both side portions thereof and arranged to be substantially aligned with the side panels (14, 15) of said first hood component (3) in the longitudinal direction of the cars (1, 2), respectively, when both said hood components (3, 4) are coupled with each other in a normal condition, each of said side panels (14, 15) including a fixed panel (14) having one end secured to said other end of corresponding one of said hood components (3, 4), and a movable panel (15) having one end mounted to the corresponding car body (1, 2) turnably about a substantially vertical axis and the other end urged to be engaged with the inner surface of said fixed panel (14), characterised in that the movable panel (15) of one of each alignment pair of said side panels (14, 15) substantially aligned with each other in longitudinal direction of the cars (1, 2) when both said hood

outer surface thereof in vertically spaced positions, each of which members 25 is constituted in the form of a projection projecting outwardly, i. e., toward the adjacent fixed panel, as shown in Figs. 4, 7 and 8. As shown in Fig. 3, the members 25 are located at positions vertically deviated from the slip-off prevention plates 21 and hence they do not engage with the latter. Each interference prevention member 25 is so constructed that, as shown in Fig. 9, a bar material is bent into a substantially triangle shape in plan view, which is secured to a base plate 26, and then the base plate 26 is in turn secured to the outer surface of the movable panel 15. The interference prevention member 25 is provided on only one of the movable panels 15, 15 of the hood components 3, 4 located opposite to and aligned with each other in the longitudinal direction. The member 25 is at a location not engaged with the inner surface of the adjacent fixed panel 14 when the hood components are coupled with each other in a normal condition. However, the member 25 is moved in such a manner that, immediately before the distal ends of both the opposite movable panels 15, 15 strike against each other, the interference prevention member 25 rides over the rectilinear portion of the adjacent fixed panel 14, thereby causing the distal end of the movable panel 15 having the interference prevention member 25 to be escaped inwardly of another movable panel 15 disposed opposite to and aligned with the former movable panel.

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When the car bodies 1, 2 are subjected pitching, the side panels follow the pitching with their fixed panels 14 and the movable panels 15 being vertically displaced relative to each other.

Next, when the car bodies 1, 2 are passing over curved railroads, the movable panels 15 are each turned about the hinge member 22 lying in a vertical axis, thereby following lateral movements (vertical movements as seen in Fig. 4) of the fixed panels 14 to cope with passage of the car bodies over the curved railroads.

At this time, because the rollers 24 of the movable panels 15 are rolled on the slide guide plates 20 of the fixed panels 14 relative displacements between the movable and fixed panels are effected smoothly.

During the foregoing operation, when the distal end of the movable panel 15 is slipped out of the distal end of the fixed panel 14 due to abnormal

extension of the hood components, the roller 24 provided at a bracket 30 (Fig. 8) projecting from the distal end or free end of the movable panel 15 forwardly, i. e., toward the open side metal frame 8, is engaged with a slip-off prevention plate 21 projecting from the distal end of the slide guide plate 20 forwardly, i. e., in the direction opposite to the metal frame 8, so that the engagement between both the panels 14 and 15 will never be released.

Further, during passage of the car bodies along the curved railroads by way of example, when the hood components are too contracted so that the distal ends of both the opposite movable panels 15, 15 would be abnormally approached to make interference on the contracted side of the hood components, the interference prevention member 25 rides over the rectilinear portion of the adjacent fixed panel 14 causing the distal end of the movable panel 15 having the interference prevention member 25 to be escaped inwardly of the distal end of another movable panel 15 opposite to the former movable panel, as shown in Fig. 10, thereby preventing damages of both those movable panels 15, 15 due to their mutual collision.

According to the present invention, as fully described above, it becomes possible to prevent interference between the movable panels and hence to prevent damages thereof, when the successive car bodies are abnormally approached to each other.

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1. A hood device for coupling cars comprising a first hood component (3) having one end secured to one of a pair of car bodies (1, 2) to be coupled with each other; said first hood component (3) having side panels (14, 15) disposed internally of and adjacent to both side portions thereof; and a second hood component (4) having one end secured to the other of said pair of car bodies (1, 2) and the other end to be coupled with the other end of said first hood component (3), said second hood component (4) having side panels (14, 15) disposed internally of and adjacent to both side portions thereof and arranged to be substantially aligned with the side panels (14, 15) of said first hood component (3) in the longitudinal direction of the cars (1, 2), respectively, when both said hood components (3, 4) are coupled with each other in a normal condition, each of said side panels (14, 15) including a fixed panel (14) having one end secured to said other end of corresponding one of said hood components (3, 4), and a movable panel (15) having one end mounted to the corresponding car body (1, 2) turnably about a substantially vertical axis and the other end urged to be engaged with the inner surface of said fixed panel (14), characterised in that the movable panel (15) of one of each alignment pair of said side panels (14, 15) substantially aligned with each other in longitudinal direction of the cars (1, 2) when both said hood



components (3, 4) are coupled with each other in a normal condition; includes an interference prevention means (25) for guiding the latter movable panel (15) to turn inwardly of the corresponding hood component (3, 4) about the vertical axis, to thereby prevent the latter movable panel (15) from striking against the movable panel (15) substantially aligned therewith, when both said car bodies (1, 2) are approached exceeding a predetermined amount.

2. A hood device for coupling cars according to claim 1, characterised in that the fixed panel (14) of each of said side panels (14, 15) has a portion substantially linearly extending from the other end of the hood component (3, 4) including said fixed panel in the longitudinal direction of the cars (1, 2), and a free end portion extending from the distal end of said linearly extending portion and bent laterally outwardly with respect to said hood component (3, 4), and wherein said interference prevention means (25) includes a projection provided on the outer surface of the movable panel (15) disposed internally of and adjacent to said fixed panel (14), said projection being at a location not engaged with the inner surface of said fixed panel (14) when both said hood components (3, 4) are coupled with each other in a normal condition, and being engaged with the linearly extending portion of said fixed panel (14) to turn said movable panel (15) inwardly, when both said hood components (3, 4) are approached exceeding a predetermined amount.

Patentansprüche

1. Abdeckung zum Koppeln von Waggons, umfassend ein erstes Abdeckteil (3), das mit einem Ende an einem von zwei miteinander zu koppelnden Wagenkästen (1, 2) befestigt ist und Seitenplatten (14, 15) aufweist, die innerhalb von und nahe seinen beiden Seitenabschnitten angeordnet sind, und ein zweites Abdeckteil (4), das mit einem Ende an dem anderen der beiden Wagenkästen (1, 2) befestigt und am anderen Ende mit dem anderen Ende des ersten Abdeckteils (3) koppelbar ist, wobei das zweite Abdeckteil (4) Seitenplatten (14, 15) aufweist, die innerhalb von und nahe seinen beiden Seitenabschnitten angeordnet sind und dann, wenn die beiden Abdeckteile (3, 4) im Normalzustand miteinander gekoppelt sind, in Längsrichtung der Waggons (1, 2) mit den Seitenplatten (14, 15) des ersten Abdeckteils (3) im wesentlichen fluchten, und wobei jede der Seitenplatten (14, 15) eine feste Platte (14), deren eines Ende am anderen Ende des entsprechenden Abdeckteils (3, 4) befestigt ist, und eine bewegliche Platte (15) umfaßt, deren eines Ende um eine im wesentlichen senkrechte Achse schwenkbar an dem entsprechenden Wagenkasten (1, 2) montiert und deren anderes Ende zur Anlage an der Innenwand der festen Platte (14) vorgespannt ist, dadurch gekennzeichnet, daß die bewegliche Platte (15) jedes Paares von Seitenplatten (14, 15),

die dann, wenn die Abdeckteile (3, 4) im Normalzustand miteinander gekoppelt sind, in Längsrichtung der Waggons (1, 2) im wesentlichen miteinander fluchten, eine Störungen verhindernde Einrichtung (25) aufweist, die die besagte bewegliche Platte (15) so führt, daß sie sich um die vertikale Achse bezüglich des entsprechenden Abdeckteils (3, 4) nach innen dreht, und dadurch verhindert, daß diese bewegliche Platte (15) gegen die damit im wesentlichen fluchtende bewegliche Platte (15) schlägt, wenn sich die beiden Wagenkästen (1, 2) über ein vorgegebenes Maß hinaus einander nähern.

2. Abdeckvorrichtung zum Koppeln von Waggons nach Anspruch 1, dadurch gekennzeichnet, daß die feste Platte (14) jeder der Seitenplatten (13, 14) einen vom anderen Ende des Abdeckteils (3, 4) einschließlich der festen Platte in Längsrichtung der Waggons (1, 2) im wesentlichen gradlinig verlaufenden Abschnitt und einen von dessen entferntem ausgehenden und bezüglich des Abdeckteils (3, 4) seitlich nach außen gebogenen freien Endabschnitt aufweist, wobei die Störungen verhindernde Einrichtung (25) einen an der Außenfläche der beweglichen Platte (15) vorgesehenen Vorsprung aufweist, der innerhalb von und nahe der festen Platte (15) an einer Stelle angeordnet ist, die dann, wenn die beiden Abdeckteile (3, 4) in einem Normalzustand miteinander gekoppelt sind, von der Innenfläche der festen Platte (14) nicht berührt wird und dann, wenn sich die beiden Abdeckteile (3, 4) über ein vorgegebenes Maß hinaus einander nähern, von dem gradlinig verlaufenden Abschnitt der festen Platte (14) berührt wird und dann die bewegliche Platte (15) nach innen dreht.

Revendications

1. Dispositif d'intercirculation pour relier des voitures comprenant un premier élément d'intercirculation (3) ayant une extrémité fixée à l'une des deux caisses de voiture (1, 2) à accoupler ou à atteler l'une à l'autre, ledit premier élément d'intercirculation (3) ayant des panneaux latéraux (14, 15) disposés à l'intérieur et adjacents aux deux parties latérales de celui-ci, et un second élément d'intercirculation (4) ayant une extrémité fixée à l'autre desdites caisses de voiture (1, 2) et l'autre extrémité reliée à l'autre extrémité dudit premier élément d'intercirculation (3), ledit second élément d'intercirculation (4) ayant des panneaux latéraux (14, 15) disposés à l'intérieur et adjacents aux deux parties latérales de celui-ci en étant disposés pour être sensiblement alignés avec les panneaux latéraux (14, 15) dudit premier élément d'intercirculation (3) dans la direction longitudinale des caisses de voiture (1, 2), respectivement, lorsque les éléments d'intercirculation (3, 4) sont reliés l'un à l'autre en condition normale de fonctionnement, chacun desdits panneaux latéraux (14, 15) incluant un panneau fixe ayant une extrémité fixée à ladite autre extrémité de l'élément d'intercirculation correspondant (3,



4), et un panneau mobile (15) ayant une extrémité montée pivotante autour d'un axe sensiblement vertical sur la caisse de voiture correspondante (1, 2) et l'autre extrémité pressée de manière à être engagée avec la surface interne dudit panneau fixe (14), caractérisé en ce que le panneau mobile (15) de l'une de chaque paire alignée desdits panneaux latéraux (14, 15) sensiblement alignés l'un avec l'autre dans la direction longitudinale des voitures (1, 2), lorsque les deux éléments d'intercirculation (3, 4) sont reliés l'un à l'autre en condition normale de fonctionnement, inclut des moyens anti-collision (25) pour guider ledit panneau mobile (15) de manière à pivoter vers l'intérieur de l'élément d'intercirculation correspondant (3, 4) autour de l'axe vertical, pour empêcher ledit panneau mobile (15) de heurter le panneau mobile (15) sensiblement aligné avec lui, lorsque les deux caisses de voiture (1, 2) sont rapprochées en-deçà d'une valeur prédéterminée.

2. Dispositif d'intercirculation pour relier des voitures selon la revendication 1, caractérisé en ce que le panneau fixe (14) de chacun desdits

panneaux latéraux (14, 15) a une partie sensiblement rectiligne s'étendant depuis l'autre extrémité de l'élément d'intercirculation (3, 4) incluant ledit panneau fixe dans la direction longitudinale des voitures (1, 2), et une partie d'extrémité libre s'étendant à partir de l'extrémité distale de ladite partie s'étendant de façon rectiligne et étant repliée latéralement vers l'extérieur par rapport audit élément d'intercirculation (3, 4), et dans lequel lesdits moyens anti-collision (25) incluent une projection prévue à la surface externe du panneau mobile (15) disposé vers l'intérieur et adjacent audit panneau fixe (14), ladite projection étant à un endroit non engagé avec la surface interne dudit panneau fixe (14) lorsque les deux éléments d'intercirculation (3, 4) sont reliés l'un à l'autre dans une condition normale de fonctionnement, et étant engagée avec la partie dudit panneau fixe (14) s'étendant de façon rectiligne pour faire pivoter ledit panneau mobile vers l'intérieur, lorsque les deux éléments d'intercirculation (3, 4) sont rapprochés en-deçà d'une valeur prédéterminée.

