Claims

1. A vehicle sliding door device comprising:

a sliding door rail formed along a movement direction; and

a sliding door including an engagement unit engaged with the sliding door rail, and which is opened and closed when the engagement unit is moved along the sliding door rail in the movement direction,

wherein the sliding door rail includes a rattling pr evention unit in the region of an end portion correspondin g to at least one of an open position and a closed positio n of the sliding door, in which a gap between the engageme nt unit of the sliding door and the sliding door rail is n arrower than that in other regions,

wherein the sliding door rail includes a protruding portion having a T-shaped section perpendicular to the movement direction, and extending in the movement direction,

wherein the engagement unit of the sliding door incl udes a recessed portion having a C-shaped section perpendicular to the movement direction, ex tending in the movement direction, and which is engaged wi th the protruding portion,

wherein the rattling prevention unit is formed of an enlarged portion protruding from the protruding portion o

f the sliding door rail to both sides in a width direction of the sliding door rail perpendicular to the movement direction, and

wherein the enlarged portion of the rattling prevention unit is formed in such a way that positions in the movement direction, in which decreasing of the gap between the engagement unit of the sliding door and the sliding door rail is started, are different from each other on both sides in the width direction.

2. The vehicle sliding door device according to claim 1,

wherein the rattling prevention unit is formed in such a way that the gap between the engagement unit of the sliding door and the sliding door rail is gradually decreased from the other regions to the end portion.

3. A vehicle sliding door device comprising:

a sliding door rail formed along a movement direction; and

a sliding door including an engagement unit engaged with the sliding door rail, and which is opened and closed when the engagement unit is moved along the sliding door rail in the movement direction,

wherein the sliding door rail includes a rattling prevention unit in the region of an end portion correspondin

g to at least one of an open position and a closed positio n of the sliding door, in which a gap between the engageme nt unit of the sliding door and the sliding door rail is n arrower than that in other regions, wherein

the vehicle sliding door

further comprises:

a speed control unit configured to switch the movement speed of the sliding door at a speed switching point such that the movement speed of the sliding door when the sliding door is positioned in the end portion of the sliding door rail is lower than that of the sliding door when the sliding door is positioned in the other regions,

wherein the rattling prevention unit is provided bet ween the speed switching point and the end portion.

4. A vehicle comprising:

a vehicle body configured to accommodate a transportation target; and

the vehicle sliding door device according to any one of claims 1-3 configured to open and close an opening portion which is an entrance of the vehicle body.