Passenger Conveyor

FIELD OF THE INVENTION

Embodiments of the present application relate to a passenger conveyor, especially to a step bushing of the passenger conveyor.

BACKGROUND

A passenger conveyor for an escalator, a powerwalk or the like usually comprises: a plurality of steps moving circularly; a step shaft assigned to each step; a loop-shaped step chain coupled to the step shaft at either side of each step; and a plurality of chain wheels for engaging between the step chains to drive the steps via the step shafts.

As mentioned above, in such a passenger conveyor, each step is assigned with the step shaft. Moreover, a bushing is provided between the step and the step shaft. With regard to the bushing, patent publication No. 1 discloses a kind of bushing, which comprises bushing body. An oil groove is provided in an inner wall of the bushing body. An oil filling hole is opened in the bushing body such that it passes through the bushing body's wall and thus is in communication with the oil groove. Lubricant oil or grease can be filled into the oil groove by the oil filling hole. According to the bushing recorded by the patent publication No. 1, lubricating effect between the bushing body and the step shaft can be greatly improved, and refilling the lubricant oil can be readily carried out without disassembling the bushing from the step shaft.

However, several shortcomings exist in the bushing recorded by the patent publication No. 1. Particularly, as the passenger conveyor is being operated, the step shaft may rotate and in the meanwhile may swing from side to side along the step's left-right direction. If the swing is too great in amplitude and too long in time, the bushing of the step shaft may escape from the step shaft and the step. Therefore, the step shaft may be separated from the step, or even may escape from it, which leads to a risk that the step falls down.

PATENT PUBLICATION No. 1: Chinese Utility Model Patent CN201520029050.2.

CLAIMS

1. A passenger conveyor comprising: a plurality of steps; a loop-shaped step chain coupling the plurality of steps; and a step shaft rotatably mounted to each of the plurality of steps, the step shaft being connected to the step chain at either end, the passenger conveyor being characterized in that

a step bushing is provided between the step shaft and the step, and

the step bushing is provided with a clip for engaging with the step.

2. The passenger conveyor as claimed in claim 1, characterized in that

the step is provided with a shaft mounting seat, and the clip engages with the shaft mounting seat.

3. The passenger conveyor as claimed in claim 1 or 2, characterized in that

the clip as a whole is wedge-shaped and resilient.

4. The passenger conveyor as claimed in claim 3, wherein the clip is wedged shaped which narrows from a free end towards a joint through which the clip connects to the step bushing.

5. The passenger conveyor as claimed in claim 1 or 2, characterized in that

the clip is integrally formed in the step bushing.

6. The passenger conveyor as claimed in claim 1 or 2, characterized in that

the clip is formed such that it can be separated from the step bushing.

7. The passenger conveyor as claimed in claim 1, characterized in that

the step is provided with a fastening piece for constraining the step bushing between the step and the step shaft.