Claims

1. An elevator system having an elevator car (4) that can travel vertically along a plurality of vertical tracks (3) comprising a stationary vertical guide rail (5), and can travel horizontally by means of a car transfer device (13) comprised in the elevator system, wherein the plurality of vertical tracks (3) are arranged next to each other such that floor stops (12) are assigned to each of the vertical tracks (3), wherein

- the car transfer device (13) has a horizontal displacement unit (16) with a vertical guide rail piece (18) which guides the elevator car (4) in the horizontal displacement unit (16), the horizontal displacement unit (16) being able to be brought into a transit position in which the vertical guide rail piece (18) of the horizontal displacement unit (16) forms a section of each of the vertical tracks (3) together with the stationary vertical guide rail (5),

characterized by
the elevator system further comprising a connecting device (70) by means of which, in the transit position of the horizontal displacement unit (16), the vertical guide rail piece (18) of the horizontal displacement unit (16) can be connected to the stationary vertical guide rail (5), wherein, when the vertical guide rail piece (18) is connected to the stationary vertical guide rail (5) by means of the connecting device (70), the vertical guide rail piece (18) cannot be displaced in the horizontal direction with respect to the stationary vertical guide rail (5).

2. The elevator system according to claim 1
characterized in that

- the plurality of vertical tracks (3) is equipped with a car drive system (7) which comprises a flexible suspension means (8) which can be moved and stopped along each of the vertical track (3), and
- the elevator car (4) has a controllable coupling device (40) with which the elevator car can be coupled to and uncoupled from the suspension means (8).

3. The elevator system according to claim 1 or 2,
characterized in that
the connecting device (70) is designed and arranged in such a way that the vertical guide rail piece (18) of the horizontal displacement unit (16) can be positively connected to the stationary vertical guide rail (5).

4. The elevator system according to claim 1, 2 or 3,
characterized in that
the connecting device (70) has a controllable actuator (72) which is arranged on the vertical guide rail piece (18) of the horizontal displacement unit (16).

5. The elevator system according to claim 3 or 4,
characterized in that
the connecting device (70) has a bolt (74) which can assume a retracted position and an extended position, and a recess (78) corresponding to the bolt (74), that is designed and arranged in such a way that, in the transit position of the horizontal displacement unit (16), the bolt (74) in the extended position enters into said recess (78), and thus the vertical guide rail piece (18) of the horizontal displacement unit (16) is positively connected to the stationary vertical guide rail (5), and the bolt (74) in the retracted position is distanced from said recess (78), and thus the vertical guide rail piece (18) of the horizontal displacement unit (16) is horizontally displaceable relative to the stationary vertical guide rail (5).

6. The elevator system according to claim 5,
characterized in that
the bolt (74) has an insertion bevel (82) in the direction of the recess (78).

7. The elevator system according to claim 5 or 6,
characterized in that
the connecting device (70) has a guide (83) which guides the bolt (74) during a movement from the retracted position into the extended position, and vice versa.

8. The elevator system according to any one of claims 1 to 7,
characterized by
a sensor device (79) which can be used to detect whether the vertical guide rail piece (18) of the horizontal displacement unit (16) is connected to the stationary vertical guide rail (5).

9. The elevator system according to claim 5, 6 or 7 and 8,
characterized in that
the sensor device (79) has a switch (80) which is arranged on the recess (78) of the connecting device (70) and which is actuated by the bolt (74) of the connecting device (70) in the extended position, and

is not actuated in the retracted position of the bolt (74).

10. The elevator system according to claim 8 or 9,
characterized by
a safety controller (81) that is connected to the sensor device (79) and that is provided to only allow a vertical movement of the elevator car (4) into the horizontal displacement unit (16) and out of the horizontal displacement unit (16) if the aforementioned sensor device (79) detects that the vertical guide rail piece (18) of the horizontal displacement unit (16) is connected to the stationary vertical guide rail (5).

11. The elevator system according to any one of claims 1 to 10,
characterized in that
the car transfer device (13) has a displacement drive (24) with a drive unit (32) and a displacement belt (33), wherein

- the horizontal displacement unit (16) can be displaced horizontally by means of the displacement drive (24),
- a drive connection is established between the drive unit (32) of the displacement drive (24) and the horizontal displacement unit (16) by means of the displacement belt (33), and
- the displacement belt (33) is designed as a toothed belt.

12. The elevator system according to claim 11,
characterized in that
the car transfer device (13) has a position detection device (35) by means of which a horizontal position of the horizontal displacement unit (16) within the car transfer device (13) can be detected.