Claims

1. An escalator or moving walkway having two access regions, each with a comb plate, and a conveying region arranged between the access regions, which conveying region extends between the two comb plates and is bounded longitudinally by balustrades and balustrade bases, comprising:

at least one projection projecting into the conveying region and arranged at at least one stationary part of the escalator or moving walkway; and

at least one monitoring sensor arranged at least partly in the at least one projection for detecting objects, wherein a position of the at least one projection relative to an associated one of the access regions to be monitored is so arranged that the associated one of the access regions is covered in a width defined by the balustrades and the balustrade bases, and in a length extending from an associated one of the comb plates to at least ends of the balustrades arranged in a vicinity of the associated one of the access regions, by a detection cone of the at least one monitoring sensor, and wherein the associated one of the comb plates is included in the detection cone of the at least one monitoring sensor.

2. The escalator or moving walkway according to Claim 1 wherein the at least one monitoring sensor monitors the associated one of the access regions.

3. The escalator or moving walkway according to Claim 1 wherein the objects are detectable in the detection cone of the at least one monitoring sensor along a wall in or at which the at least one projection with the at least one monitoring sensor is arranged.

4. The escalator or moving walkway according to Claim 1 wherein a device projecting into the conveying region is arranged at the at least one projection.

5. The escalator or moving walkway according to Claim 4 wherein the device extends over at least a quarter of a length of the conveying region.

6. The escalator or moving walkway according to Claim 5 wherein at least one monitoring sensor in a projection is associated with each of the two access regions and the device extends between the two projections.

7. The escalator or moving walkway according to Claim 5 wherein the at least one stationary part is a balustrade base, the device is a deflector brush and the at least one projection is a start element of the deflector brush arranged at the balustrade base.

8. The escalator or moving walkway according to Claim 5 wherein the at least one stationary part is a balustrade, the device is a handrail guide of the balustrade and the at least one projection is formed at the handrail guide.

9. The escalator or moving walkway according to Claim 5 wherein the at least one stationary part is balustrade lighting means, the device is a cover of the balustrade lighting means and the at least one projection is formed at the cover.

10. The escalator or moving walkway according to Claim 5 wherein the at least one stationary part is a balustrade base, the device is step belt lighting means or plate belt lighting means and the at least one projection is a start element of the step belt lighting means or the plate belt lighting means.

11. The escalator or moving walkway according to Claim 1 wherein a sensor head of the at least one monitoring sensor is arranged in the at least one projection and a sensor housing of the at least one monitoring sensor is arranged in an interior space delimited by a wall of the escalator or the moving walkway.

12. The escalator or moving walkway according to Claim 1 wherein the at least one monitoring sensor is a radar sensor, an infrared sensor, a laser scanner, a charge-coupled-device camera or a time-of-flight camera.

13. A method of modernizing an existing escalator or an existing moving walkway, comprising the steps of:

arranging at least one projection to project into a conveying region at at least one stationary part of the escalator or the moving walkway; and

arranging at least one monitoring sensor at least partly in the at least one projection, wherein a position of the at least one projection relative to an associated access region to be monitored is so arranged that the associated access region is covered in a width defined by balustrades and balustrade bases and in a length extending from a comb plate to at least ends of the balustrades arranged in a vicinity of the associated access region. by a detection cone of the at least one monitoring sensor, and wherein the comb plate is included in the detection cone of the at least one monitoring sensor.

14. A method of operating an escalator or a moving walkway having two access regions, each with a comb plate, and a conveying region arranged between the access regions, which conveying region extends between the two comb plates and is bounded longitudinally by balustrades and balustrade bases, and at least one monitoring sensor arranged in a projection projecting into the conveying region adjacent an associated one of the comb plates, comprising the steps of:

evaluating monitoring signals generated by the at least one monitoring sensor with respect to whether a user rapidly approaches the associated one of the comb plates, whether the user slowly approaches the associated one of the comb plates, or whether the user remains for a longer period of time in one of the access regions monitored by the at least one monitoring sensor; and

operating the escalator or moving walkway in response to the evaluated monitoring signals, wherein a position of the projection relative to the one of the access regions monitored is so arranged that the one of the access regions is covered in a width defined by the balustrades and the balustrade bases, and in a length extending from the associated one of the comb plates to at least ends of the balustrades arranged in a vicinity of the one of the access regions, by a detection cone of the at least one monitoring sensor, and wherein the associated one of the comb plates is included in the detection cone of the at least one monitoring sensor.

15. The method of operating an escalator or a moving walkway according to Claim 14 wherein at least one of the following steps is carried out:

if the user rapidly approaches the associated one of the comb plates the speed of a step belt or a plate belt is increased from a slow conveying speed to a normal conveying speed before the user has gone past the associated one of the comb plates in a direction of the conveying region;

if the user slowly approaches the associated one of the comb plates the step belt or the plate belt is brought to a slow conveying speed, which speed is maintained until the user has left the conveying region;

if the user slowly approaches the associated one of the comb plates the speed of the step belt or the plate belt is already at the slow conveying speed the slow conveying speed is maintained until the user has left the conveying region;

if the user slowly approaches the associated one of the comb plates the speed of the step belt or the plate belt is reduced from the normal conveying speed to the slow conveying speed and is increased from the slow conveying speed to the normal conveying speed only when the user has left the conveying region;

if the user slowly approaches the associated one of the comb plates the speed of the step belt or the plate belt is increased from the slow conveying speed to the normal conveying speed only when the user has gone past the associated one of the comb plates;

if the user slowly approaches the associated one of the comb plates the speed of the step belt or the plate belt is reduced from the normal conveying speed to the slow conveying speed and is increased from the slow conveying speed to the normal conveying speed only when the user has gone past the associated one of the comb plates; and

if the user remains for a longer period of time in the access region monitored by the at least one monitoring sensor the step belt or the plate belt is stopped.

16. The method of operating an escalator or a moving walkway according to Claim 14 wherein in a presence of a slow user and a fast user a slow conveying speed is maintained or a normal conveying speed is reduced until the slow user has left the conveying region.