Claims

1. Printer device (1) for building a concrete structure (3) of a passenger transport system (5) configured as an escalator or moving walkway in an existing building (7), with the printer device (1) comprising at least the following components:
a printer guide device (9) which can be arranged between two support points (11, 13) of the building (7) provided for supporting the passenger transport system (5) and the printer guide device (9) being configured to, at least during the printing process (77), support on the floors (E1, E2) of the building (7) which are intended to be connected by the passenger transport system (5);

- a 3D concrete printer device (15) which is arranged on and movably guided along said printer guide device (9) and configured to spatially arrange processable concrete (19), wherein the 3D concrete printer device (15) comprises at least a printer nozzle (17), a movement device (23) for moving the printer nozzle (17) and a printer controller (25), said printer controller (25) rendering the movement device (23), the concrete supply through the printer nozzle (17) and the movements of the entire 3D concrete printer device (15) controllable along the printer guide device (9); and
- a control software (27) executable on the printer controller (25) for carrying out the printing process (77) during the construction of the concrete structure (3), **characterized in that** the printer guide device (9) comprises adjustment means with which the printer guide device (9) can be adjusted, aligned with and supported by the two support points (11, 13).

2. Printer device (1) according to claim 1, wherein the printer guide device (9) of the printer device (1) remains in the concrete structure (3) after the printing process (77) as a reinforcement (29) or part of a reinforcement (29) of the concrete structure (3).

3. Printer device (1) according to claim 1 or 2, wherein the printer guide device (9) of the printer device (1) is only temporarily arranged between the support points (11, 13) for carrying out the printing process (77) and is removed again after the printing process (77) .

4. Printer device (1) according to one of claims 1 to 3, wherein, during the printing process (77) and possibly involving bearing components (35, 37), a pivot bearing (35) can be formed at one of the two support points (11, 13) and a sliding bearing (37) can be formed at the other support point (11, 13) during the printing process (77) between the concrete structure (3) and the respective support point (11, 13).

5. Printer device (1) according to one of claims 1 to 4, wherein the printing process (77) can produce fastening areas (49) for components of the passenger transport system (5) and/or guide

~~elements (47) for movable components of the passenger transport system (5).~~

~~6. Printer device (1) according to one of claims 1 to 5, wherein said device comprises a reinforcement feed device (31) through which reinforcement material (33) can be fed during the printing process (77).~~

1~~7~~. Method for building a concrete structure (3) of a passenger transport system (5) configured as an escalator or moving walkway, **characterized in that** a printer device (1) for three-dimensional concrete printing is introduced in an existing structure (7) by:
arranging a printer guide device (9) of the printer device (1) between two support points (11, 13) of the building (7) provided for supporting the passenger transport system (5);
arranging a 3D concrete printer device (15) on this printer guide device (9), which is guided along the printer guide device (9) between the two support points (11, 13); and
building a concrete structure (3) with this printer device (1) and a printing process (77) wherein said concrete structure (3) extending between the two support points (11, 13).

2~~8~~. Method according to claim 1~~7~~, wherein, when the printer device (1) is introduced, its printer guide device (9) can be adjusted and aligned with the two support points (11, 13), which are arranged on different floors (E1, E2) by adjustment means that are part of the printer guide device (9).

3~~9~~. Method according to claim 1~~7~~ or 2~~8~~, wherein at least part of the printer guide device (9) remains as a reinforcement (29) or part of the reinforcement (29) in the concrete structure (3) by arranging it on the support points (11, 13) of the building (7) before the printing process (77) and the remaining part of the printer guide device (9) is inserted into the concrete structure (3) during the printing process (77).

4~~10~~. Method according to claim 1~~7~~ or 2~~8~~, wherein the printer guide device (9) of the printer device (1) only remains temporarily between the support points (11, 13) such that it is aligned with the support points (11, 13) when it is arranged in the structure (7) before the printing process (77) and removed again after the printing process (77).

5~~11~~. Method according to one of claims 1~~7~~ to 4~~10~~, wherein, if applicable by bearing components (35, 37), a pivot bearing (35) is formed on the concrete structure (3) at one of the two support points (11, 13) and a sliding bearing (37) is formed at the other support point (11, 13) during the printing process (77).

612. Method according to one of claims 17 to 511, wherein the concrete structure (3) comprises a U-shaped cross section (45) with two side walls (41) and a base (43) and wherein guide elements (47) for movable components of the passenger transport system (5) are formed in the side walls (41) during the printing process (77).

713. Method according to one of claims 17 to 612, wherein fastening areas (49) for components of the passenger transport system (5) are also printed, wherein at least one fastening element (51) is brought into these fastening areas (49) during the printing process (77).

814. Method according to one of claims 17 to 713, wherein reinforcement material (33) is supplied by means of a reinforcement feed device (31) of the printer device (1) during the printing process (77).