

Description



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Device for Attaching a Code Strip to a Supporting Structure of an Elevator

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The invention relates to a device for attaching a code strip to a supporting structure of an elevator, a fitting tool being guidedly movable along the supporting structure, and the code strip being attachable to the supporting structure by means of the fitting tool.

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From published patent specification DGM 92 10 996.9 U1 a position-measuring device has become known in which a magnetic head scans a magnetic strip. The magnetic head is arranged on the elevator car, which is guided in the elevator hoistway by means of guide rails. The magnetic strip arranged on a guide rail contains information regarding distance, stops, etc. The self-adhesive magnetic strip is realized with such a width that the magnetic head is always situated over the magnetic strip, even if the magnetic strip is arranged crookedly or laterally offset.

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A disadvantage of the known device is that the magnetic strip arranged by hand runs crookedly when considered over the height of the hoistway. So that no information is lost when scanning the magnetic strip, the magnetic strip and the magnetic head must be realized sufficiently wide.

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It is here that the invention sets out to provide a remedy. The invention as characterized in Claim 1 provides a solution for avoiding the disadvantages of the known device and creating a tool by means of which a code support can be attached to a supporting structure precisely when considered over the height of the hoistway.

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The advantages achieved by the invention are to be seen essentially in that a magnetic strip with fine resolution can be used. Its being laid straight allows a code strip



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with greater information density to be used. With the fitting tool according to the invention, the code strip can be arranged, for example, on the guide rails, without being overstretched. An overstretched or wrinkled code strip would result in distortion of the read information. Furthermore, a finer code strip allows the use of a space-saving, compact, reading head. With the fitting tool according to the invention, the magnetic strip can be fitted in a shorter time, and with an accuracy which is consistently good over the entire height of the hoistway.

The present invention is described in greater detail with the aid of the attached figures. These show in

Fig. 1
a three-dimensional representation of the fitting tool according to the invention,

Fig. 2
a plan view of the fitting tool,

Fig. 3
a side view of the fitting tool, and

Fig. 4
a cross-section along the line A-A of Fig. 1 or Fig. 3.

Fig. 1 shows a three-dimensional representation of a fitting tool 1 according to the invention which is movable along, for example, a guide rail 2. The guide rail 2 serves to guide an elevator car which can be caused to travel in an elevator hoistway. The guide rail 2 comprising a guide limb 4 and a rail base 5 is fastened by means of, for example, clips 6 to a hoistway wall or to anchor rails.

The fitting tool 1 consists of a guide shoe 7 with handle 8 and a strip station 9 for attaching a code strip 10 to the guide limb 4 of the guide rail 2. The guide shoe 7 has on

each side of the guide limb 4 a flange 7.1, whereby a U-shaped space is formed in which a sliding body 7.2 is arranged. Arranged on a station-support 11 of the strip station 9 are a strip lead-in 12, a guide roller 13, and an arm 14 with a pressure shoe 15. A connecting pin 16 with adjusting screws 17 connects the station-support 11 to the guide shoe 7, the connecting pin 16 being supported in a bearing on a support 19 connected to a bracket 18. Arranged on the bracket 18, which is detachably connected to the guide shoe 7 and which can be moved along elongated holes arranged above and below, is a holder 21 to which a container with adhesive for the code strip 10 can be attached. The holder 21 can also be arranged on the station-support 11.

The guide roller 13 arranged on a roller axle 22 has on each of its end-faces a flange-like disk 23 by means of which the code strip 10 is laterally guided. The roller axle 22 is arranged on the station support 11. The arm 14 with spring bolt 25 arranged on the station support 11 carries the pressure shoe 15. The press-on force for the code strip 10 can be adjusted by means of an adjusting screw 26.

The fitting work for the code strip 10 takes place, for example, from the roof of the elevator car. The code strip 10 is arranged loosely in the elevator hoistway or is kept available as a roll on the car roof. The fitting tool 1 is placed on the guide limb of the guide rail 2 at the upper end of the guide rail, and the strip station 9 is adjusted into position by means of the adjusting screws 17. The bracket 18 is correspondingly adapted by means of the elongated holes 20. The container with the adhesive is then arranged. If the code strip 10 is magnetically self-adhesive, no adhesive is necessary. The movability of the bracket 18 serves the adaptation of the fitting tool to different rail sizes, and the compensation of rail tolerances.

The code strip 10 is laid in the strip lead-in 12, pushed under the guide roller 13, and pulled under the press-on shoe 15. Fig. 4 shows the path of the code strip 10 in the strip station 9. The mechanic standing on the car roof holds the end of the code strip 10 firmly with his hand and moves the fitting tool 1 downward until the code strip 10 adheres to the adhesive applied to the guide limb 4, or adheres to the guide limb 4 itself through its own magnetism. The fitting tool 1 is then moved steadily further downward with both hands and the elevator car caused to move downward until the entire height of the elevator hoistway has been traveled.

Instead of the guide rail 2 serving as supporting structure for the code strip 10, other rails or supports in the elevator hoistway can be used.

Patent Claims

1.

5 Device for attaching a code strip (10) to a supporting structure (2) of an elevator, a fitting tool (1) being guidedly movable along the supporting structure (2) and the code strip (10) being attachable to the supporting structure (2) by means of the fitting tool (1).

10 2.

Device according to Claim 1, characterized in that

15 the fitting tool (1) has a guide shoe (7) and a strip station (9) which is connected to the guide shoe (7), the guide shoe (7) being guidedly movable along the supporting structure (2) and the strip station (9) for attaching the code strip (10) being provided on the supporting structure (2).

20 3.

Device according to one of Claims 1 or 2, characterized in that

the strip station (9) is adjustable perpendicular to the direction of movement of the guide shoe (7).

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4.

Device according to one of the foregoing claims, characterized in that

30 the strip station (9) has a station-support (11) connected to the guide shoe (7) on which a strip lead-in (12), a guide roller (13), and a pressure shoe (15) are arranged, the code strip (10) being guided by means of the strip lead-in (12) and by means of the guide roller (13), and being attachable to the supporting structure (2) by means of the pressure shoe (15).

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5.

Device according to Claim 4,
characterized in that
the pressure shoe (15) is arranged adjustably on an arm (14)
5 of the station-support (11).

6.

Device according to one of the foregoing claims,
characterized in that
10 a holder (21) is provided to which a container with adhesive
for the code strip (10) can be attached.