

AUSTAND CH-3000 MRL HOME/RESIDENTAIL LIFTS
HOME LIFT TRACTION MACHINE ASSEMBLY MOUNTED ON THE RAILS OF HOME LIFT
COUNTERWEIGHT AND CAR

This invention is specially devised in order to provide arrangement plan of an home lift traction machine mounted on the rails of home lift counterweight and car.

5 For a traditional home lift, it has to be considered to invest a considerable cost in the construction of a machine room. This invention will provide arrangement plan of a home lift traction machine mounted on the rails of above home lift counterweight and car so that the home with this invention mentioned arrangement is a kind of home lift without machine room. The total mass of the moving parts of the home lift will not be held by surround walls of the hoistway.

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The following advantages can be achieved by applying this invention:

The arrangement plan of this invention has an advantage that the cost of construction of machine room of traditional home lift can be reduced obviously.

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The arrangement plan of this invention has a second advantage that the space of machine room of traditional home lift can be saved.

20 The arrangement plan of this invention has a third advantage that the look of top of building can be more improved because the building will not need a bulgy top for a machine room of elevator.

25 The arrangement plan of this invention has a fourth advantage that the total mass of the moving system of the home lift can be held by rails of counterweight and cabin and transmitted to the floor of pit of home lift so that the force on the side walls of the hoistway can be obviously reduced. This can reduce the cost of the construction of the hoistway walls.

30 The arrangement plan of this invention has a fifth advantage that some top frames mounted on the top portion of hoistway walls for fixing the traction machine of the traditional home lift can not be used. This will not only reduce the cost of home lift material but also reduce the labour for fixing relating heavy frames,

In this invention, following schematics will help to describe this invention in detail:

FIG.2 presents the top plan view of the home lift traction machine arrangement on the rails of the home lift counterweight and car of this invention.

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FIG.3 presents the side plan view of the FIG.2 with roping system of the home lift.

FIG.4 presents the the other side plan view of FIG.2

10 FIG.5 presents the fixing position of the traction machine which is applied in this invention.

The home lift traction machine arrangement according to this invention is presented in FIGS.2-3-4 diagrammatically.

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The elevator with the traction machine arrangement of this invention runs in hoistway 200 surrounded by structure 100. The structure 100 has sidewalls 201, 202, 203, 204.

20 The home lift traction machine assembly 88 contains traction machine 1 with a driving sheave 2, machine frame 3. The traction machine 1 with a driving sheave 2 is mounted on machines frame 3 with bolts. The two sides of the machine frame 3 are mounted on the car rails (40 and 41) and counterweight rails (50 and 51). The machine frame 3 is fixed with the sidewall 202 with the anchors or bolts in the structure 100.

25 The projection of the driving sheave 2 of the home lift traction machine assembly 88 overlaps with the projection of the home lift counterweight 21. The distance between one side of the projection of the driving sheave 2 and the rope hitch plate 22 on the home lift car 20 is not larger than 40mm. The center line of the driving sheave 2 is parallel with the center line 301 of the car 20.

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The home lift car 20 is suspended by traction ropes 10 and runs upwardly or downwardly along car guide rails 40, 41.

The machine shown in FIG.5 is a kind of gearless machine.

The Claims defining the invention are as follows:

- 5 1. Home lift traction machine assembly arrangement comprising a traction machine
assembly positioned on the top portion of home lift car guide rails and counterweight
guide rails in a hoistway with surrounded structure. The two sides of the home lift
traction machine assembly are mounted on the home lift car guide rails and
counterweight guide rails. The home lift traction machine assembly is also fixed to
10 the side wall of hoistway with anchors or bolts.
2. Elevator traction machine assembly arrangement as defined in claim 1, wherein the
projection of the driving sheave of the traction machine assembly overlaps the
projection of the counterweight. The distance between one side of the projection of
15 the driving sheave and the rope hitch plate on the home lift car is not larger than
40mm.
3. Elevator traction machine assembly arrangement as defined in claim 1, wherein the
direction of the diameter of the driving sheave of the machine is substantially vertical
20 to the plane between car guide rails and counterweight guide rails.

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