

AN ELEVATOR

Abstract

The invention relates to an elevator comprising

an elevator car (1);

a counterweight (2);

a drive wheel (3) mounted stationary, and having a rotational axis (X);

first diverting wheel(s) (4), mounted on the elevator car, and having a rotational axis (W) parallel with the rotational axis (X) of the drive wheel;

a second and a third diverting wheel (5, 6 ; 5', 6'; 5'', 6'') mounted on the counterweight (2) radially side by side, each having a rotational axis (Y, Z ; Y', Z' ; Y'', Z''), which is at an angle of 60 to 90 degrees relative to the rotational axis (X) of the drive wheel (3);

a roping (R) suspending the elevator car (1) and counterweight (2) and comprising a first belt-like rope (a , a') and a second belt-like rope (b, b'), each having a first end and a second end fixed to a stationary rope fixing (f), and each comprising one or more load bearing members (8, 8') made of fiber-reinforced composite material;

wherein the first rope (a, a') and the second rope (b, b') are arranged

to pass side by side from the fixing (f) of the first end downwards to the elevator car (1); and

to turn side by side under said first diverting wheel(s) (4);
and

to pass upwards to the drive wheel (3); and

to turn side by side over the drive wheel (3); and

to pass downwards to the counterweight (2), each rope (a, b ; a, b) turning around its longitudinal axis an angle of 60 to 90 degrees, and into the gap (g) between the rims of the second and third diverting wheel (5, 6 ; 5', 6'; 5'', 6''), the first rope (a) passing to the second diverting wheel (5) and the second rope (b) passing to the third diverting wheel (6), the first rope (a) passing under the second diverting wheel (5) and the second rope (b) passing under the third diverting wheel (6), the diverting wheels (5, 6 ; 5', 6'; 5'', 6'') rotating in opposite directions guiding the ropes (a, b ; a, b) arriving to them from the drive wheel (3) to turn away from each other; and

to pass upwards to the fixing (f) of the second end.

Figure 1