Claims

1. Elevator, which comprises at least an elevator car (C) and means for moving the elevator car, preferably along guide rails, and a counterweight (CW), and one or more ropes (R,R',R"), which rope connects the elevator car and the counterweight (CW) and is separate from the supporting function and passes around a diverting pulley (11) mounted on the bottom end of the elevator hoistway, **characterized** in that the rope (R,R',R") comprises a power transmission part (2) or a plurality of power transmission parts (2), for transmitting power in the longitudinal direction of the rope, which power transmission part (2) is essentially fully of non-metallic material and wherein the means for moving the elevator car comprise hoisting roping that moves the elevator car and the counterweight, and the hoisting roping comprises a plurality of ropes (H,H',H"), each of which comprises a power transmission part (5) or a plurality of power transmission parts (5), for transmitting force in the longitudinal direction of the rope, which power transmission part (5) is essentially fully of non-metallic material.

2. Elevator according to any of the preceding claims, **characterized** in that it comprises a cable (6) in the elevator hoistway (8), which cable hangs supported by the elevator car (C) and the building, the first end of which cable (6) is fixed to the elevator car (C) and the second end of which cable is fixed to a fixed structure (9) of the building.

3. Elevator according to any of the preceding claims, **characterized** in that the rope (R,R',R") is arranged to transmit force in the longitudinal direction of the rope between the elevator car (C) and the counterweight (CW) with the aforementioned power transmission part (2) or a plurality of power transmission parts (2), more particularly for slowing down the upward movement of the counterweight (CW) in emergency braking of the downward movement of the elevator car (C).

4. Elevator according to any of the preceding claims, **characterized** in that the aforementioned cable (6) is a data transmission cable and/or an electricity transmission cable.

~~5. Elevator according to any of the preceding claims, **characterized** in that the means for moving the elevator car comprise hoisting roping that moves the elevator car and the counterweight, which hoisting roping comprises a plurality of ropes (H,H',H"), each of which comprises a power transmission part (5) or a plurality of power transmission parts (5), for~~

~~transmitting force in the longitudinal direction of the rope, which power transmission part (5) is essentially fully of non-metallic material.~~

~~6.~~5. Elevator according to any of the preceding claims, **characterized** in that essentially all the power transmission parts (2) of the rope (R,R',R''), and preferably also essentially all the power transmission parts (5) of the rope (H,H',H''), for transmitting power in the longitudinal direction of the rope are essentially fully of non-metallic material.

~~7.~~6. Elevator according to any of the preceding claims, **characterized** in that each power transmission part (2) of the rope (R,R',R''), and preferably also each power transmission part (5) of the rope (H,H',H''), are of a material which comprises non-metallic fibers (F) which are essentially in the longitudinal direction of the rope (R,R',R'',H,H',H'').

~~8.~~7. Elevator according to any of the preceding claims, **characterized** in that the rope (R,R',R'') passes around the aforementioned diverting pulley (11) bending at the point of the diverting pulley around an axis that is in the width direction of the rope, and in that the width of the rope (R,R',R'') is greater than the thickness.

~~9.~~8. Elevator according to any of the preceding claims, **characterized** in that the material of the aforementioned power transmission part (2) and preferably also of the power transmission part (5) is a composite material, which comprises non-metallic fibers (F) as reinforcing fibers in a polymer matrix (M).

~~10.~~9. Elevator according to any of the preceding claims, **characterized** in that the aforementioned non-metallic fibers (F) are carbon fibers or glass fibers or aramid fibers.

~~11.~~10. Elevator according to any of the preceding claims, **characterized** in that the density of the aforementioned non-metallic fibers (F) is less than 4000kg/m3, and the strength is over 1500 N/mm2, more preferably so that the density of the aforementioned fibers (F) is less than 4000kg/m3, and the strength is over 2500 N/mm2, most preferably so that the density of the aforementioned fibers (F) is less than 3000kg/m3, and the strength is over 3000 N/ mm2.

~~12.~~11. Elevator according to any of the preceding claims, **characterized** in that the aforementioned non-metallic fibers (F) are of a first material, preferably carbon fibers, in the rope (H) of the hoisting roping and of a second material, preferably glass fibers, in the rope

passing around the diverting pulley (11) mounted on the bottom end of the elevator hoistway (8).

~~13.~~12. Elevator according to any of the preceding claims, **characterized** in that the aforementioned first material is lighter than the aforementioned second material.