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(54) **ELEVATOR CAR OVERLOAD MONITORING TO PREVENT STARTING**

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(52) **U.S. Cl.**
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(58) **Field of Classification Search**
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(Continued)

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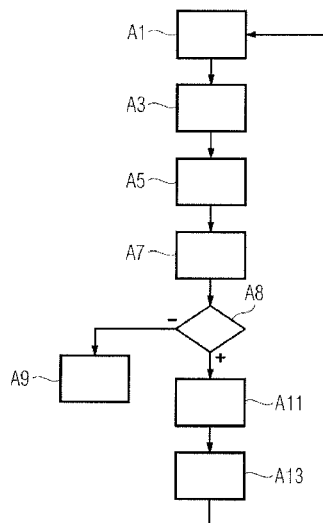
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(57) **ABSTRACT**

An elevator includes a control system for monitoring the load of a car, which control system is adapted to prevent the normal starting of the elevator, optionally also including relevelling, when there is an overload in the car. The elevator includes at least one position measuring device, speed measuring device and/or movement measuring device in order to determine the movement and/or position of the car, and the control system of the elevator is adapted to remove the prevention of normal starting when at least one said position measuring device, speed measuring device and/or movement measuring device detects that the car moved or is moving upwards in the elevator shaft. In the method, the control system of the elevator is used to determine the load situation of the car, including both the steps to prevent the normal starting of the elevator, optionally also including relevelling, when there is an overload in the car and to open some of the machinery brakes and to keep the remaining machinery brakes closed in order to determine the load situation.

16 Claims, 3 Drawing Sheets



Legend

- A1** - machinery brakes 160, 162 of elevator 1 are opened
- A3** - the movement of car 102 is stopped by means of a moment accomplished by the motor current
- A5** - the moment and load produced by motor 110 are calculated from the current of motor 110, preferably in the frequency converter of control system 114
- A7** - the load information calculated in step A5 is exported from the frequency converter of control system 114 to the elevator control unit of control system 114
- A8** - control unit 114 deduces, on the basis of the load information it has received, whether there is an overload in car 1 or not
- A9** - if no overload is detected, the driving of elevator 1 begins
- A11** - if an overload is detected, machinery brakes 160, 162 of elevator 1 are closed
- A13** - the position of car 102 is examined and the overload information is kept active, until car 102 moves or moved upwards