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System and method for allocating space inside elevator cars

(57)

To more efficiently organize passenger traffic at an elevator stop, an elevator operational method includes receiving a destination call of a passenger at a computer (8). The destination call defines a boarding floor (L1, L2, L3) and a destination floor (L1, L2, L3). The method allocates an elevator car (10) to service the destination call of the passenger, and assigns a zone (P1, P2, P3) inside the elevator car (10) for the passenger to occupy after entering the elevator car (10) at the boarding floor (L1, L2, L3). The method communicates the allocated elevator car (10) and the assigned zone (P1, P2, P3) to the passenger.

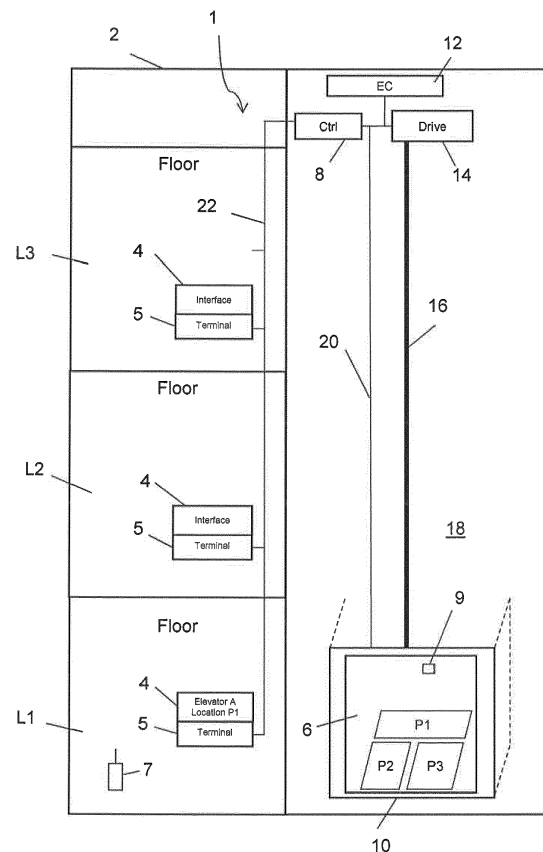


Fig. 1

Description

[0001] The various embodiments described herein generally relate to elevator installations. More particularly, the various embodiments described herein relate to a system and method for managing passenger traffic in elevator installations.

[0002] Elevator installations are expected to operate as efficiently as possible. An elevator installation, equipped with a destination call control system, provides for an improved efficiency compared to a conventional up/down control system. This is, for example, because a destination control system requires a passenger to enter the destination floor already at a floor terminal before boarding an elevator car (entry of such a call is referred to as "destination call"). In response to such a destination call, an elevator car is allocated to service that destination call, as described for example in WO2014/195564. In contrast, a conventional up/down control systems allows the passenger to enter a destination floor only from within the elevator car (entry of such a call is referred to as "car call").

[0003] An elevator installation can be configured for as high an efficiency as technically feasible, but behavior of passengers may negate these efforts. There is, therefore, a need for a technology that facilitates improving the efficiency of the elevator installation.

[0004] Accordingly, an aspect of such a technology involves a method of operating an elevator installation. The method includes receiving a destination call of a passenger at a computer, wherein the destination call defines a boarding floor and a destination floor. It includes further allocating an elevator car to service the destination call of the passenger, and assigning a zone inside the elevator car for the passenger to occupy after entering the elevator car at the boarding floor. The method includes also communicating the allocated elevator car and the assigned zone to the passenger.

[0005] Another aspect involves an elevator installation having an elevator car and a controller unit. The elevator car is movable between floors of a building. The controller unit processes at least one received destination call of a passenger and controls the elevator car in accordance with at least one destination call. A destination call defines a trip from a boarding floor to a destination floor. The controller unit includes a computer that allocates an elevator car to service the destination call of the passenger, that assigns a zone inside the elevator car for the passenger to occupy after entering the elevator car at the boarding floor, and which communicates the allocated elevator car and the assigned zone to the passenger.

[0006] Briefly, the technology described herein provides for an alternative way of organizing and influencing passenger traffic at an elevator stop. In known elevator installations, passenger traffic occurs rather randomly so that passengers that need to disembark first are often in the back of an elevator car, with the effect that their leaving the car is slowed down by passengers standing in

their way. Sometimes, especially for heavily loaded cars during peak traffic times, passengers nearest to an elevator door (i.e., an exit of the elevator car) need to step out of the car to let disembarking passengers pass. This negatively affects the efficiency of the elevator installation, for example, since doors need to stay open for a longer period of time or closing doors need to be reversed because of passengers blocking the closing doors.

[0007] The technology alleviates these issues by instructing passengers to occupy assigned zones within the car at the beginning of a trip or after an intermediate stop, which may be beneficial in a heavily loaded car during peak traffic times. The way passengers exit the elevator car is no longer left to random movement, but occurs in a more efficient way because passengers exiting before other passengers will occupy a zone near an elevator door. Those exiting last will at least initially occupy a zone farther away from an elevator door. Ideally, those staying in the elevator car will no longer stand in the way of those disembarking. The incident of a door reversal can thereby be reduced which leads to reduced trip times, especially for heavily loaded cars during peak traffic times. Also, passengers do not have to wonder where to stand, or even feel uncomfortable with asking other passengers to move aside so they can get off the car.

[0008] Communicating the allocated elevator car and the assigned zone to a passenger can occur in a variety of ways. One or more visual indications or audible indications may inform (show or announce) a passenger about the assigned zone. Of course, visually impaired passengers benefit from audible indications. One or more indicators inside the elevator car can be configured as markings on an interior surface of the car, a display or a loudspeaker. A loudspeaker and a display may be combined in a multimedia set that may provide additional information explaining the reasons for assigning the zones. This may result in a higher acceptance of the technology described herein and compliance with the instructions to occupy an assigned zone.

[0009] The marking on the surface may be colored and/or numbered areas. They may also be configured as illuminated markings that can be dynamically controlled by the controller unit. Such markings allow, for example in connection with additional instructions over a display, reassigning the zones during a trip. Such flexibility allows the technology to be adapted to a particular elevator installation, e.g., regarding design requirements (e.g., LED illuminated markings) or passenger traffic needs (e.g. an office building may experience peak traffic during lunch time, requiring reassignment to improve transport efficiency). Additional flexibility is achieved through resizing the zones to accommodate passengers boarding at an intermediate stop.

[0010] The novel features and method steps characteristic of the improved technology are set out in the claims below. The improved technology itself, however, as well as other features and advantages thereof, are

best understood by reference to the detailed description, which follows, when read in conjunction with the accompanying drawings, wherein:

- Fig. 1 shows a schematic illustration of an elevator installation in which the improved technology is implemented;
- Fig. 2a is a schematic illustration of a first allocation example at an initial state; and
- Fig. 2b is a schematic illustration of the first allocation example at a subsequent state;
- Fig. 3a is a schematic illustration of a second allocation example at an initial state;
- Fig. 3b is a schematic illustration of the second allocation example at a subsequent state;
- Fig. 4 is a block diagram of an exemplary embodiment of a computer for use in the elevator installation of Fig. 1; and
- Fig. 5 is an exemplary flowchart illustrating one embodiment of operating the elevator installation.

[0011] Fig. 1 illustrates one embodiment of an elevator installation 1 installed in a building 2. Building users and occupants have access and egress to various floors L1, L2, L3 of the building 2 using the elevator installation 1. Depending on a particular configuration of the building 2, the floor L1 may be a lobby of an office building or a hotel. In the illustrated embodiment, the elevator system 1 includes an elevator car 10, having a door 6, and a central controller 12 (also referred to as elevator controller 12 (EC)) that acts on a drive 14 to move the elevator car 10, for example suspended by one or more tension members 16, in an elevator shaft 18, from one of the floors L1, L2, L3 to another. A tension member 16 may be a steel rope having a round cross-section, or a group of (steel or non-metallic) cords embedded in synthetic material having a non-round cross-section, e.g., a rectangular cross-section.

[0012] The general physical structure of the elevator installation 1 corresponds to the physical structure of a generally known elevator installation. In one embodiment, the physical structure includes in addition to the mentioned components (central controller 12, drive 14 and tension member 16) a counterweight, guide rails for the elevator car 10 and the counterweight, safety equipment such as brakes and safety circuits for door mechanisms, etc. For illustrative purposes, these components are not shown. It is contemplated that, depending on a particular embodiment of the elevator installation 1, the configuration and disposition of these elements in a shaft 18 may vary. For example, the drive 14 may be arranged in a separate machine room or directly in the shaft 18 ("machine room less elevator") at the top, as shown, or at the bottom of the shaft 18. The operation of such an elevator installation 1 is known to the skilled person and, therefore, not described here.

[0013] In one embodiment, the elevator installation 1 is equipped with a destination call control system, for

example, including a SchindlerID® or PORT Technology System, both being available from Schindler. As a destination call control system is typically used in connection with one or more groups of elevators, it is contemplated that the elevator installation 1 can include more than one elevator car 10, each in a separate shaft 18 and controlled by a separate controller 12 and drive 14. If groups of elevators are defined, a group controller controls the individual groups. For illustrative purposes, however, the elevator installation 1 of Fig. 1 is illustrated as having only one elevator.

[0014] The elevator installation 1 of Fig. 1 includes further user terminals, for example floor terminals 5 located on the floors L1, L2, L3. Each floor terminal 5 includes a user interface 4 that allows a passenger to enter a destination call and to receive information about the elevator that has been allocated to service that destination call. It is contemplated that in certain buildings 2 a floor L1, L2, L3 may be provided with more than one floor terminal 5. The floor terminals 5 are communicatively coupled to a computer 8, which is part of the destination call control system.

[0015] Also, it is contemplated that a destination call may be entered and information may be received using an electronic mobile device 7 as user terminal, such as a mobile phone, smart phone, tablet PC or the like. Such a mobile device 7 may communicate with the elevator installation 1 via a wireless connection, e.g., using a mobile communications network, a local network within the building 2 and/or near-field communications (NFC) or Bluetooth communications between a mobile device and floor terminal 5 or RF/Bluetooth beacons. Depending on a particular configuration of the elevator installation 1 in the building 2, some or all of the floor terminals 5 may be omitted.

[0016] A communicative connection or coupling as used herein is a direct or indirect connection, which enables the unidirectional or bidirectional communication between two entities. Via such a connection or coupling, data signals and/or control signals are transmitted in a manner (e.g., regarding electrical characteristics and data protocol) known to the skilled person. The connection or coupling may be achieved by an electrical wiring system (either as a system of point-to-point connections or as an electrical bus system, where entities connected to the bus system can be addressed), a radio system or a combination of a radio system and an electrical wiring system. Fig. 1 shows the communicative coupling through lines 20, 22, wherein the line 20 extends between the computer 8 and the elevator car 10, and the line 22 extends between the computer 8 and the floor terminals 5. In one embodiment, the line 22 is a bus system to which the floor terminals 4 are connected.

[0017] As described below in more detail, the computer 8 processes a destination call, allocates an elevator to service the destination call (i.e., to transport a passenger to a desired destination floor), assigns a zone P1, P2, P3 within the elevator car 10 to the passenger entering the

destination call, and communicates with the floor terminals 5 and the controller 12. For that purpose, the computer 8 is communicatively coupled to the elevator controller 12 and the floor terminals 5. The computer 8 and the elevator controller 12 together may be considered to form a controller unit. The skilled person recognizes that the computer 8 or its functionality of, e.g., processing a destination call may be implemented, for example, in the elevator controller 12, in one of the floor terminals 5, or in an electrical component of the building 2, e.g., in an access control system that controls access to the building 2, floors L1, L2, L2 and/or rooms of the building 2. In such a case, the separately shown computer 8 might be omitted from Fig. 1. Depending on a particular embodiment, the implementation of the communicative connection or coupling changes accordingly. As a matter of principle, Fig. 1, therefore, is to be viewed as an exemplary embodiment.

[0018] The user interface 4 of a floor terminal 5 may be configured in one of several ways; for example, it may include a keyboard, a touchscreen, an electronic reader, or a combination of these components. As mentioned above, a mobile device may also serve as a user interface. A passenger may enter a destination call using one of these components. These components are further configured to communicate the allocated elevator and the assigned zone P1, P2, P3 to the passenger, via a visual indication and/or an audible indication. Depending on its configuration, the user interface 4 displays the allocated elevator and the assigned zone P1, P2, P3 on a display. In the shown elevator installation 1 the display is associated with a keyboard or an electronic reader, or on a touchscreen. In the example of Fig. 1, a passenger entered a destination call on floor L1 and the user interface 4 displays in response the allocated elevator as "Elevator A" and the assigned zone as "Location P1". To assist, for example, visually impaired passengers the user interface 4 may announce the allocated elevator and the assigned zone P1, P2, P3 through a loudspeaker, either exclusively or in addition to displaying this information.

[0019] The user interface 4 is in one particular embodiment configured to read information from an information carrier carried by a person/passenger. For that purpose, the user interface 4 is equipped with a reader to read data from that information carrier when it is presented to the reader. The data may represent an authorization to operate the floor terminal 5, for example, only registered employees or registered hotel guests may use the elevators. In one embodiment, the information carrier has a form factor that corresponds to a credit card or an employee badge. Depending on a particular configuration, the information carrier includes an embedded memory chip having leads to the surface of the information carrier, an embedded RFID transponder in connection with a memory chip, an optical code on the surface (e.g., a barcode or QR code), or a combination of these technologies. In the alternative, the functionality of the information

carrier may be implemented in an electronic mobile device (e.g., mobile phone, smart phone or tablet PC). These devices may display optical codes, and may also allow radio communication with other electronic devices using known technologies such as Bluetooth or NFC (near field communication). It is contemplated that the reader is compatible with the technology, or the several technologies, used by the information carrier.

[0020] In the embodiments described herein, a passenger not only receives information about the elevator that has been allocated for the trip to the destination floor, but also about the zone P1, P2, P3 that has been assigned to the passenger inside that elevator's car 10. For the latter purpose, the car 10 is configured to indicate - under control of the computer 8 - the assigned zone P1, P2, P3 to the passenger so that the passenger knows where to stand inside the car 10 during the trip. The car 10 may have an indicator 9 to indicate the space or location in at least one of several ways. In Fig. 1, the zones P1, P2, P3 are indicated on the car floor through marked areas, e.g., colored and/or illuminated border lines, illuminated or illuminable floor tiles, projected colored or numbered areas. Known LED technology may be used to illuminate such markings. In this case, the zones P1, P2, P3 may be viewed as indicators. In addition to such marked areas, the indicator 7 may include a loudspeaker to produce an audible announcement that instructs the passenger where to stand during the trip. It is contemplated that indicating the zones P1, P2, P3 to a passenger may also be achieved via a wall or ceiling of the car 10, by means of light beams, or other means used to provide instructions to individual people, such as a multimedia set. Further, it is contemplated that the number of zones P1, P2, P3 may vary, for example, depending on a size of the car 10, or the number of registered passengers. In addition, it is contemplated that more than one passenger (i.e., a group) may be assigned to a zone P1, P2, P3.

[0021] As mentioned above, the elevator installation 1 is equipped with a destination call control system. As is known in the art, the destination call control system is based on the principle of grouping passengers with same destinations to service the calls as efficiently as possible. The destination call control system processes a destination call and assigns - e.g., with respect to waiting time, travel time or number of stops - the most suitable elevator to that destination call. More than one destination call and, hence, several passengers may be allocated to a single car 10, which may have more than one stop. The destination call control system, therefore, identifies every passenger by destination within the elevator installation 1, and "knows" where a passenger boards and disembarks the car 10. Since that information is available within the destination call control system, the computer 8 can generate personalized directions and guidance regarding which zones passengers should occupy when they first enter the car 10. In one embodiment, the computer 8 may further direct the passengers to alternative loca-

tions (zones P1, P2, P3) inside the car 10 as the trip progresses and more people exit and enter the car 10.

[0022] That process is described in more detail with reference to allocation examples shown in Figs. 2a, 2b, 3a, and 3b that show top views of the inside of the elevator car 10. The elevator car 10 is shown as having a single exit via the elevator door 6. However, another embodiment of an elevator car 10 may have, for example, two exits via two doors on opposite or adjacent sides of the car 10. To describe the assignment of a zone P1, P2, P3 relative to an exit, terms like near, close, away or farther away may be used. In a car 10 as depicted in Figs. 2a, 2b, 3a, and 3b, terms like front, rear or back may be suitable as well.

[0023] Fig. 2a is a schematic illustration of a first allocation example at an initial state, and Fig. 2b is a schematic illustration of the first allocation example at a subsequent state. Fig. 2a shows one example of a possible allocation example for three groups of people entering the car 10 at a floor L1, L2, L3, wherein a group may include one or more passengers. In that example, the passenger(s) in the first group would be the first to exit. The first group is assigned to the zone P1 located closest to the door 6 of the car 10. At the time the passenger enters the destination call, the user interface 4 instructs the (first group) passenger, for example, to take "Elevator A" and to occupy "Location P1", as illustrated in Fig. 1. The passengers in the second and third groups would also enter "Elevator A", but would get assigned zones P2 and P3, respectively. These passengers would stay in the car 10 for a longer time than the passenger in the first group, but not too different from each other.

[0024] Fig. 2b schematically illustrates the first allocation example at an exemplary subsequent state. At that state, it is assumed that the car 10 is at a first stop, where the first group is disembarking the car 10. When the first group has disembarked, the remaining passengers could be invited, e.g., by the computer 8 controlling the indicator 7, e.g., the markings in the car 10, to move from the initially assigned zone P1, P2, P3 to a newly assigned zone P1, P2, P3. For example, with the zone P1 now being available, the group in the zone P2 could move to the zone P1. Of course, passengers will move around naturally once other passengers get off the car 10, but now there is an assigned place to go. In Fig. 2b, the movements of the passengers are indicated through arrows. As mentioned above, such a reassignment may be assisted by additional explanations, for example, using a multimedia set.

[0025] Fig. 3a is a schematic illustration of a second allocation example at an initial state. Fig. 3a also illustrates three groups of passengers entering the car 10 at a floor L1, L2, L3. Those in the first group will be the first to exit; the first group 1 is, therefore, located closest to the car door 6. At the time of entering the destination call(s), the computer 8 would - via the user interface 4 - instruct each passenger of the first group to take "Elevator A" and to occupy "Location P1". The passenger(s) in

the second group will travel longer than those in the first group, and would also enter "Elevator A", but would get assigned to "Location P2". The passenger(s) of the third group will travel the farthest and will stay in the car 10 until the first and second groups have exited; the third group is assigned to zone P3, which is towards the rear of the car 10, or farthest away from the door 6.

[0026] Fig. 3b schematically illustrates the second allocation example at an exemplary subsequent state. At that state, it is assumed that the car 10 is at a first stop, where the first group has disembarked the car 10 (as indicated by an arrow). For illustrative purposes, the first group is shown outside the car 10 and labeled corresponding to its previous location (zone P1) inside the car 10. Fig. 3b further illustrates adjusted locations in zones P2, P3 for the passengers of the remaining groups.

[0027] Although not explicitly shown in Figs. 2a, 2b, 3a, and 3b, it is contemplated that the zones P1, P2, P3 may have varying sizes, e.g., when the car 10 on its travel from the initial boarding floor L1, L2, L3 to a final destination floor stops at an intermediate destination floor and a larger group of passengers with the same destination boards the car 10. In such a situation, the area P1, P2, P3 assigned to that group may be larger than the other zones P1, P2, P3. In one embodiment, the elevator installation 1 may, therefore, be configured to resize the zones P1, P2, P3 based on a space requirement of individual passengers or groups of passengers, either at the initial boarding floor L1, L2, L3 or at an intermediate destination floor. The resizing may, for example, also be triggered in case a wheelchair needs to be accommodated.

[0028] FIG. 4 shows a block diagram of an exemplary embodiment of a computer 8 (which may be part of an access control system control unit, part of the elevator controller 12, part of a reader, or part of a database system) that can be used with one or more of the embodiments disclosed herein. The computer 8 comprises one or more processors 24. The processor 24 is coupled to a memory 26, which comprises one or more computer-readable storage media storing software instructions 28 and a database. The computer-readable storage media can comprise, for example, one or more of optical disks, volatile memory components (such as DRAM or SRAM), or nonvolatile memory components (such as hard drives, Flash RAM or ROM).

[0029] When executed by the processor 24, the software instructions 28 cause the processor 24 to perform one or more of the method steps disclosed herein. Further embodiments of the computer 8 can comprise one or more additional components. The computer 8 can be connected to one or more other computers or electronic devices through an input/output component (interface) 30. In at least some embodiments, the computer 8 can connect to other computers or electronic devices through a network. In particular embodiments, the computer 8 works with one or more other computers, which may be located locally, remotely, or both. One or more of the disclosed methods can thus be performed using a dis-

tributed computing system.

[0030] With the understanding of the structure of the elevator installation 1 and the functionalities of its components described in connection with Fig. 1 - Fig. 4, various embodiments of a method of operating the elevator installation 1 are described in connection with Fig. 5. This figure describes an exemplary flowchart of a method of operating the elevator installation 1.

[0031] Referring to Fig. 5, the method starts at a step S1 and ends at a step S9. At a step S2, the method waits for the input of at least one destination call, as indicated through a YES branch and a NO branch. At a step S3, every received destination call is registered, i.e., the boarding floor and the desired destination floor. In the embodiment of Fig. 1, the computer 8 receives and registers each destination call.

[0032] At a step S4, the computer 8 processes each destination call, and allocates in a step S5 an elevator (i.e., car 10) to each destination call. Depending on the prevailing traffic volume within the building 2, only one passenger may be allocated to an elevator. The car 10 then stops only at the destination floor. It is, however, also possible that more than one destination call, and, hence, several passengers are assigned to the same car 10. The destination floors may differ in such a case. On its way to the last destination floor, the car 10 then stops at one or more intermediate destination floors to allow passengers to board or disembark. Since every destination call is registered, the computer 8 knows after processing the destination calls and typically before starting a trip to service the destination calls, if and where passengers board and disembark.

[0033] At a step S6, the method determines if multiple stops are planned for the trip. If in step S6 the method determines that there is at least one intermediate stop between the first boarding floor and the (final) destination floor, the method proceeds along the YES branch to a step S7. In step S7, the method causes the computer 8 to assign a location inside the car 10 to each destination call. The assigned location is communicated to the floor terminal 5 at which the respective destination call has been entered, as described above. Once all destination calls are processed and the elevator and locations have been assigned, the planning of the trip is done, and the method proceeds to a step S8 and executes the trip.

[0034] At step S6, if there are no intermediate stops between the first boarding floor and the (final) destination floor, the method proceeds along the NO branch to step S8. In step S8, the method causes the elevator controller 12 to execute the trip according to the destination call.

[0035] In an alternative embodiment, step S6 may be omitted. In that case, the assignment of a zone in step S7 is always performed. However, if there is no (intermediate) destination floor, only a (final) one, the entire inside of the car 10 may be viewed as the "assigned" zone.

[0036] It is contemplated that the flowchart of Fig. 5 may be expanded by showing additional steps. For ex-

ample, additional steps may show the reassigning of the zones P1, P2, P3 in case intermediate stops occur, as explained above with reference to Figs. 2a and 2b. Further, other steps may illustrate the resizing of the size of the zones P1, P2, P3, also described above.

[0037] Although some embodiments of the various methods disclosed herein are described as comprising a certain number of method acts, further embodiments of a given method can comprise more or fewer method acts than are explicitly disclosed herein. In additional embodiments, method acts are performed in an order other than as disclosed herein. In some cases, two or more method acts can be combined into one method act. In some cases, one method act can be divided into two or more method acts.

[0038] Having illustrated and described the principles of the disclosed technologies, it will be apparent to those skilled in the art that the disclosed embodiments can be modified in arrangement and detail without departing from such principles. In view of the many possible embodiments to which the principles of the disclosed technologies can be applied, it should be recognized that the illustrated embodiments are only examples of the technologies and should not be taken as limiting the scope of the invention. Rather, the scope of the invention is defined by the following claims and their equivalents.

Claims

1. A method of operating an elevator installation (1), comprising:
 - receiving a destination call of a passenger at a computer (8), the destination call defining a trip from a boarding floor (L1, L2, L3) to a destination floor (L1, L2, L3);
 - allocating an elevator car (10) to service the destination call of the passenger;
 - assigning a zone (P1, P2, P3) inside the elevator car (10) for the passenger to occupy after entering the elevator car (10) at the boarding floor (L1, L2, L3); and
 - communicating the allocated elevator car (10) and the assigned zone (P1, P2, P3) to the passenger.
2. The method of claim 1, further comprising executing a trip from the boarding floor (L1, L2, L3) to the destination floor (L1, L2, L3).
3. The method of claims 1 or 2, further comprising, if a plurality of destination calls is received that identify more than one destination floor (L1, L2, L3) requiring at least one intermediate stop, assigning a passenger scheduled to disembark at a first destination floor to a zone near an elevator door (6a) of the elevator car (10), and a passenger scheduled to disembark

at a subsequent destination floor to a zone farther away from the elevator door (6a).

includes at least one of visible markings on an interior surface of the elevator car (10), a display and a loud-speaker.

4. The method of claim 3, further comprising reassigning the zones (P1, P2, P3) for passengers to occupy after the at least one intermediate stop. 5
5. The method of claim 3 or 4, further comprising resizing the zones (P1, P2, P3) to accommodate passengers boarding at the least one intermediate stop. 10
6. The method of any preceding claim, wherein communicating the allocated elevator car (10) and the assigned zone (P1, P2, P3) occurs through at least one of a visual indication and an audible indication. 15
7. An elevator installation (1), comprising:
 - an elevator car (10) movable between floors (L1, L2, L3) of a building (2); and 20
 - a controller unit (8, 12) to process at least one received destination call of a passenger and to control the elevator car (10) in accordance with the at least one destination call, wherein a destination call defines a trip from a boarding floor (L1, L2, L3) to a destination floor (L1, L2, L3), wherein the controller unit (8, 12) includes a computer (8) 25
 - that allocates an elevator car (10) to service the destination call of the passenger; 30
 - that assigns a zone (P1, P2, P3) inside the elevator car (10) for the passenger to occupy after entering the elevator car (10) at the boarding floor (L1, L2, L3); and
 - that causes communicating the allocated elevator car (10) and the assigned zone (P1, P2, P3) to the passenger. 35
8. The installation of claim 7, further comprising at least one user terminal for entering a destination call and communicating the allocated elevator car (10) and the assigned zone (P1, P2, P3) to the passenger 40
9. The installation of claim 8, wherein the user terminal includes a floor terminal (5) positioned on at least one floor (L1, L2, L3) and communicatively coupled to the controller unit (8, 12). 45
10. The installation of claim 8, wherein the user terminal includes a mobile device (5) configured for wireless communication. 50
11. The installation of any one of claims 7 - 10, wherein the elevator car (10) includes at least one indicator (7) to inform a passenger about the assigned zone (P1, P2, P3). 55
12. The installation of claim 11, wherein the indicator

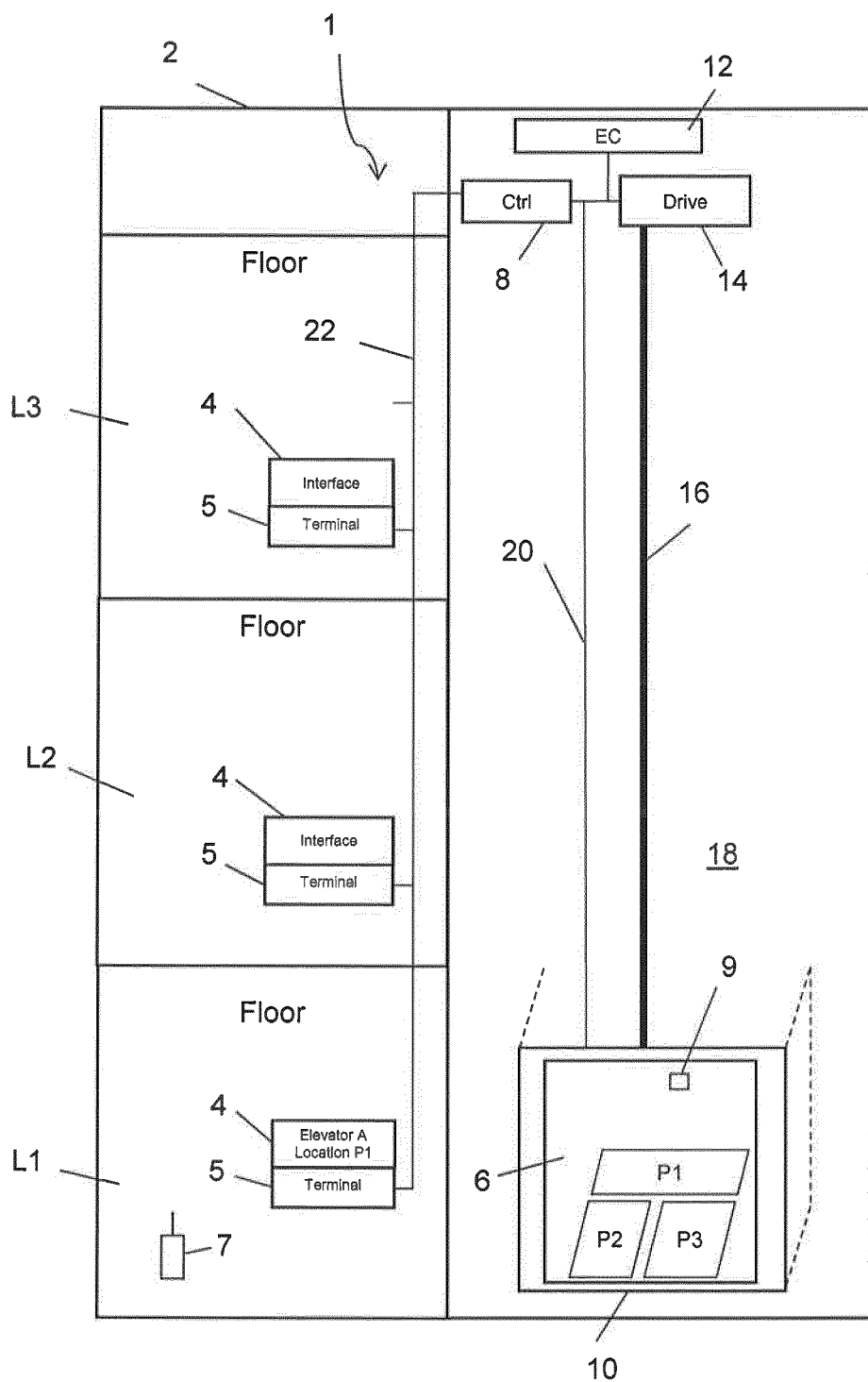
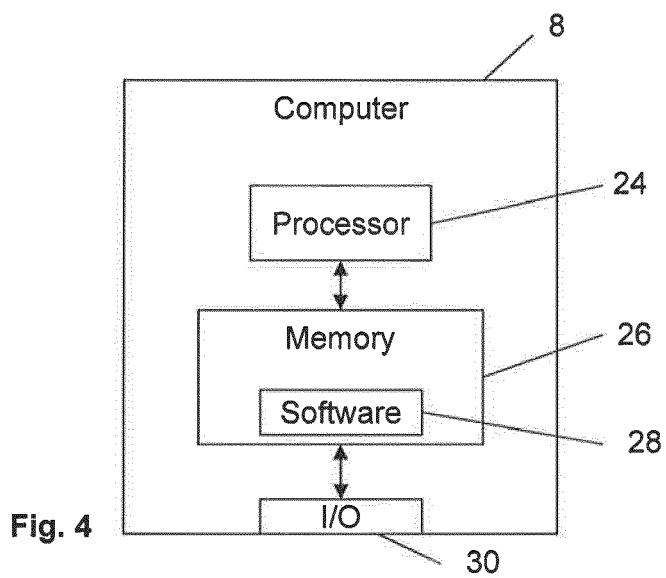
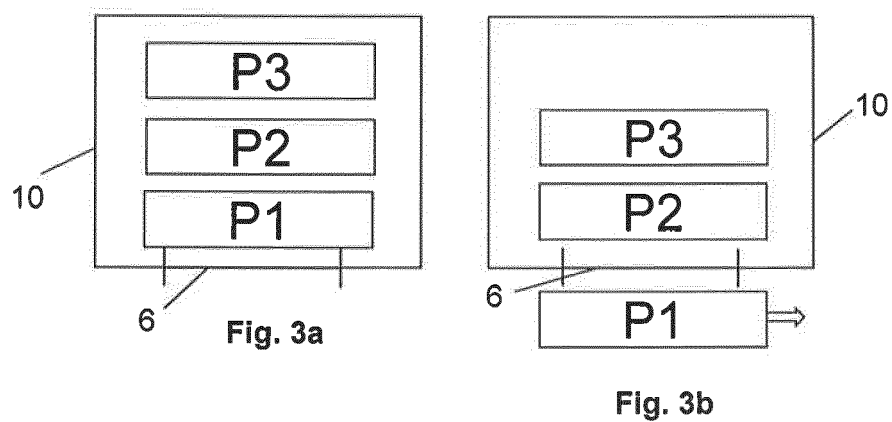
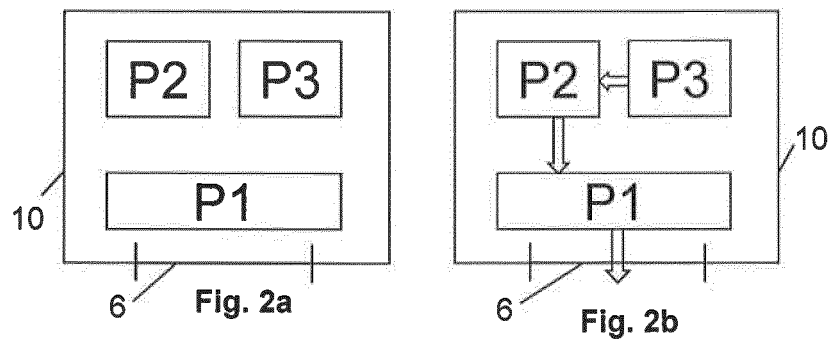


Fig. 1



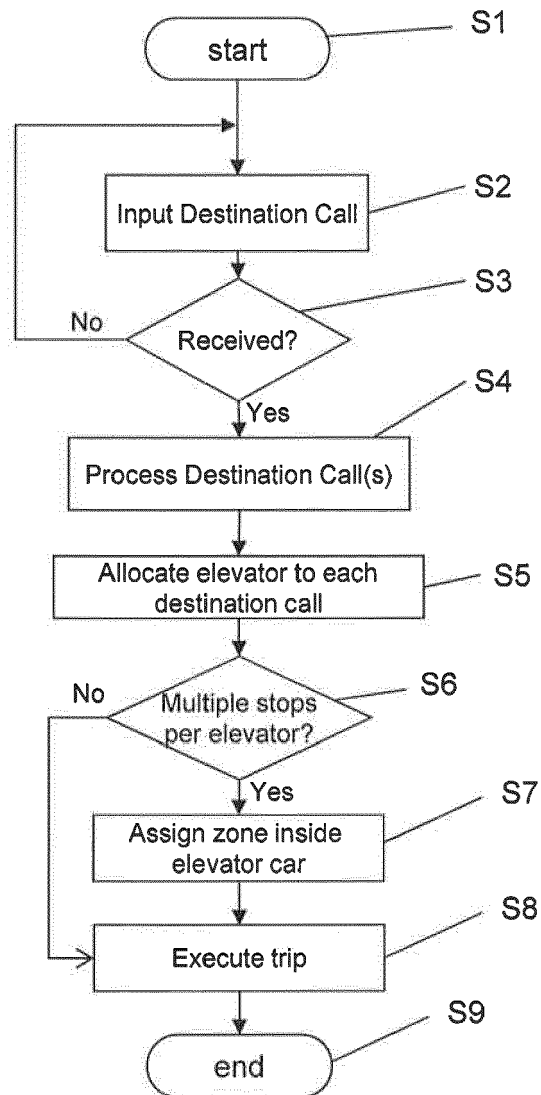


Fig. 5



EUROPEAN SEARCH REPORT

Application Number
EP 15 15 9655

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	JP 2014 237530 A (HITACHI LTD) 18 December 2014 (2014-12-18)	1-7, 10-12 8,9	INV. B66B3/00
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