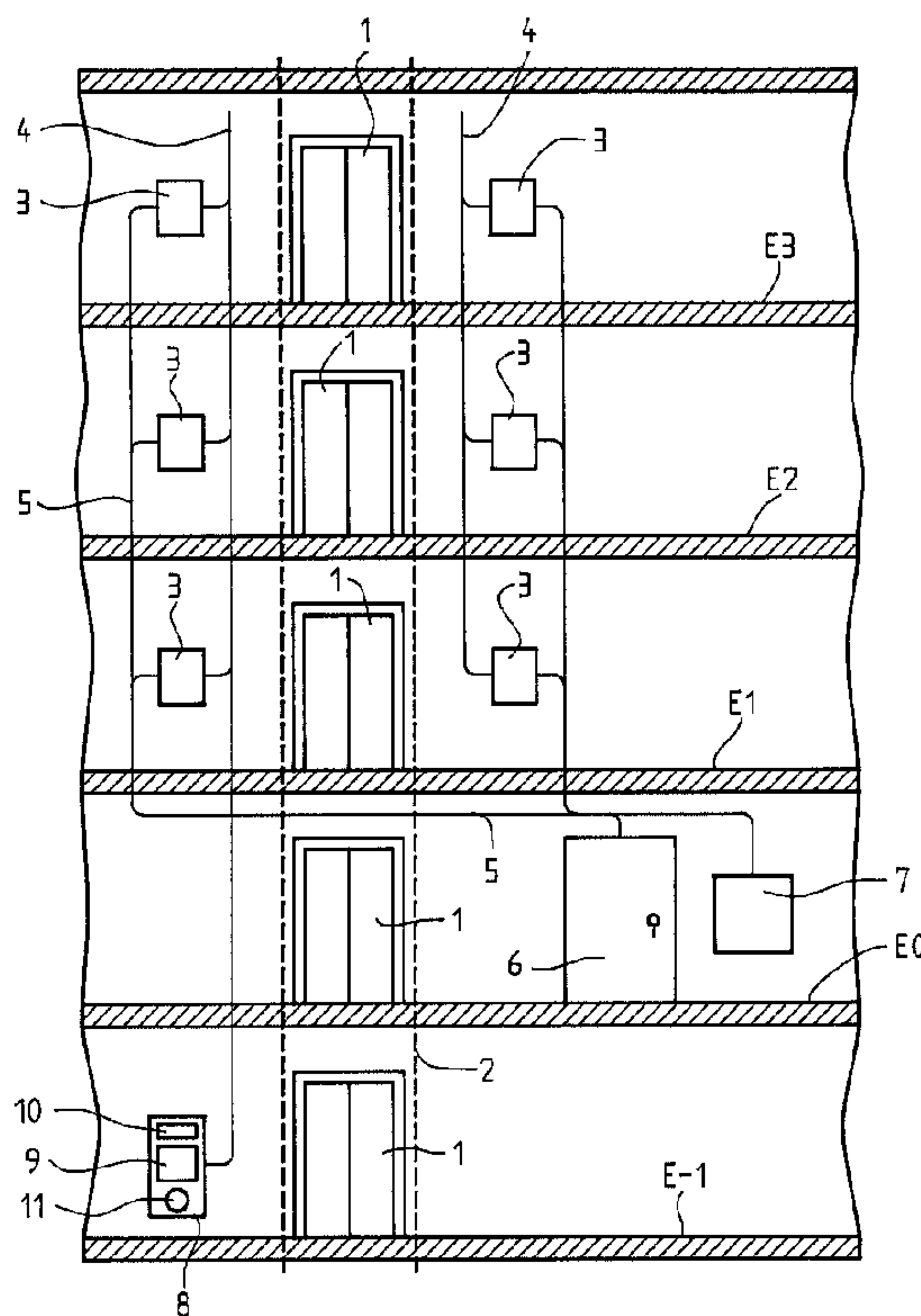




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 (54) Title: CONTROL DEVICE FOR A LIFT



(57) **Abrégé/Abstract:**

By this control device, access and lift use destined for a predetermined storey can be allowed for persons in multi-family dwellings or other buildings, so that optimal convenience and security are guaranteed. For this purpose, call input devices (3), which comprise a first input button (12) and a second input button (13), are provided in the upper storeys of a building, especially in the individual apartments or offices. On processing of a call which has been input by the first input button initially a predetermined destination storey and thereafter the input storey are served, whereagainst on processing of a call which has been input by the second input button initially the input storey and thereafter the predetermined destination storey are served. The call input device (3) moreover comprises an identification device.

## Summary

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5 convenience and security are guaranteed. For this purpose, call input devices (3), which comprise a first input button (12) and a second input button (13), are provided in the upper storeys of a building, especially in the individual apartments or offices. On processing of a call which has been input by the first input button initially a predetermined destination storey and thereafter the input storey are  
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15

(Fig. 1)

## Control Device for a Lift

The invention relates to a control device for a lift, with call input devices which are provided at the storeys and by means of which calls for destination storeys can be input, wherein when the input is made a call characterising the input storey and a call characterising the destination storey are stored.

A control device for lifts has become known by EP-A-0 246 395, which device comprises call registering devices with the features of the foregoing category. The call registering devices arranged at the storeys are equipped with numeric keypads for the input of calls for desired destination storeys. As in that case the destination calls correspond with the cage calls of conventional controls, no cage call buttons are provided in the lift cages. Such control devices, also called destination controls, are used in particular for the control of lift groups, wherein considerable advantages such as, for example, optimising of the assignments of cage to call, shorter waiting and travel times of the passengers and increase in the elevating capacity are achieved.

It is further known from EP-A-0 699 617 to provided the call registering devices of the above-described control devices with so-called recognition devices. The recognition devices respond to a data transmitter, for example in the form of a credit card, wherein the data exchange takes place by way of electromagnetic fields according to the transmitter/receiver principle. The data transmitter in that case can contain, for example, an identification code of a person authorised to use a lift or the number of a desired destination storey. The call registering device is released and the identified destination call automatically triggered by the identification. In the case of a lift installation of that kind, persons who have no data transmitter must initially find out their destination storey and then input manually. Moreover, the access of these persons cannot be monitored without further measures.

The invention has as its object the proposing of a control device for a lift, which does not exhibit the above-mentioned deficiencies and facilitates tracing of the desired occupant by persons unfamiliar with the building.

This object is met by the invention indicated in patent claim 1. In that case the call input devices provided on the storeys have a first and a second input button. On the processing of a call which has been input by the first input button initially a determined destination storey and thereafter the input storey are served, whereagainst on the processing of a call which has been input by the second input button initially the input storey and thereafter the determined destination storey are served.

The invention has the advantage that a building occupant can on opening of the building door at the same time make available to a visitor a lift which brings him exactly to the right storey without additional buttons for the lift use having to be pressed by one of the participants. Moreover, the occupants can order a lift already from the apartment.

Advantageous developments and improvements of the control device are possible through the measures expressed in the further claims. A resident or a visitor can be identified by an identification device such as an answer-phone installation, a telephone or a speech or fingerprint recognition device. In a preferred embodiment for dwellings, the identification device is an answer-phone and the predetermined destination storey is the main stopping place on the entrance storey. Moreover, the call input device is operatively connected with the entrance door and an entrance board of the building, so that additional input boards in front of the lifts or in the lift cages can be dispensed with. Persons such as, for example, tenants or owneroccupiers, who prove their identity at an entrance board by means of a corresponding data transmitter, get admission and reservation of a lift exactly to their dwelling without call input buttons having to be actuated.

A further advantage is to be seen in that security of privacy, for example in a multifamily apartment block, is optimally guaranteed. Visitors are conducted exactly to the right storey; a going astray into wrong storeys is excluded.

## 2a

In one aspect, the present invention resides in a remote control device for a lift for a multistory structure, comprising at least one call input device located at a story for the entry of lift call data, said data comprising the identity of the story of the input device initiating the entry  
5 and an intended destination story characterized in that the call input devices have a first and a second input means, said first means providing for the travel of a lift cage first to the destination story and subsequently to an input story, said second input means providing for the travel of a lift cage first to the input story and subsequently to the  
10 destination story.

The invention is more closely explained in the following on the basis of an example of embodiment in conjunction with the drawing, in which:

15 Fig. 1 shows a schematic illustration of the control device according to the invention,

Fig. 2 shows an elevation of a call input device in a scale enlarged relative to Fig. 1, and

5 Fig. 3 shows an elevation of an entrance board in a scale enlarged relative to Fig. 1.

Shaft doors of a lift are designated by 1 in Fig. 1, which doors are arranged on storeys E-1, E 0, E 1, E 2 and E 3 of, for example, a multi-family apartment block and by way of which a lift cage guided in a lift shaft 2 is accessible. The main  
10 stopping place is disposed on the entrance storey, usually in the ground floor E 0. Call input devices 3 are arranged in the individual dwellings, offices, practices, etc., accommodated on the storeys or also near a shaft door 1, which forms an apartment door. The call input devices 3 are connected by way of lines 4 with a lift control,  
15 which is not further described or illustrated and which preferably works according to the destination control principle which has become known from, for example, EP-A-0 246 395. The call input devices 3 moreover are connected by way of lines 5 with an entrance door 6, which forms the access to the main stopping place E 0, and an entrance board 7 mounted in the region of the entrance door 6.

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A further call input device 8 is arranged on the storey E-1 serving as, for example, an underground garage. This further call input device 8 has, like as known from EP-A-0 699 617, a numeric keypad 9, an indicating device 10 and a recognition device 11. The recognition device 11 responds to a data transmitter, for example,  
25 in the form of a credit card, which contains, for example, the number of the desired destination storey or an identification code of an authorised lift user, to which a destination storey filed in a store is assigned, wherein a call for this destination storey is triggered automatically. Moreover, calls for other destination storeys can also be input by way of the numeric keypad 9. The recognition device 11 can also  
30 be constructed as a speech recognition module or pattern recognition module for fingerprints. Thus, registered occupants of a building are recognisable even without a data transmitter in credit card form.

Fig. 2 shows a call input device 3, which comprises a first input button 12 - also  
35 visitor button - characterised here by a symbol of a person and a second input button 13 characterised here by, for example, a downward arrow. In the case of

processing of a call, which is input by the first input button 12, by the lift control initially a predetermined destination storey - for example, the main stopping place E 0 - is served and thereafter the input storey. In the case of processing of a call which is input by the second input button 13, by contrast initially the input storey and thereafter the predetermined destination storey are served. The lift control can be designed in such a manner that a further predetermined destination storey - for example the basement floor or the underground garage E-1 - is served. For that purpose the second input button 13 is pressed twice or several times in short succession or constantly for a long period.

10

The call input device 3 further comprises an identification device which, for example, consists of a conventional answer-phone installation, wherein a changeover button, which is characterised as known by a loudspeaker symbol, for speaking and listening is designated by 14 and sound slots are designated by 15.

15

Instead of a dedicated call input device for the lift, a telephone set of an internal communications installation can also be used, which is particularly of advantage in office buildings. The lift call is then effected by input of a preset code, which passes on the signal to the lift control.

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Numbered name plates, with which are associated signal transmitters 21 in the form of a numeric keypad, are designated by 20 in Fig. 3. Bells or buzzers as usually mounted in dwellings can be activated by means of the signal transmitters 21. Arranged above the signal transmitters 21 are an indicator device 22 and sound slots 23 of the answer-phone installation. Provided below the signal transmitters 21 is a recognition device 24, which works in the same manner as the recognition device described by reference to Fig. 1.

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The numeric keyboard can be omitted in an example of embodiment, which is not shown. The bell buttons at the name plates, which are connected with the control device for the lift, then can simply serve as signal transmitter.

30

The above-described control device operates as follows:

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On reception of a visitor, he or she reports by means of the signal transmitters 21 and after positive identification has taken place is let in by way of the answer-

phone installation. For that purpose, the occupant doing the letting-in actuates the visitor button 12 of the call input device 3 located in his apartment, whereby the entrance door 6 is opened and a call characterising the predetermined destination storey and a call characterising the input storey are triggered. In the now ensuing processing of the call by the lift control the lift cage initially travels to the destination storey (main stopping place, ground floor E 0) and stands ready for the visitor. After he or she has boarded, which can be automatically recognised by, for example, load measuring in the cage, the lift cage travels to the input storey on which the apartment of the occupant being visited is located. During use of the lift the visitor does not come into the dilemma of having to press any buttons, as buttons are provided neither at the main stopping place E 0 nor in the lift cage. If the destination storey and input storey are the same, the lift call is obviously redundant.

If an occupant wants to leave the apartment and the building he presses the second input button 13, whereupon a call characterising the predetermined destination storey and a call characterising the input storey are triggered. The lift cage in that case, however, travels initially to the input storey and, after the boarding by the occupant, to the destination storey (main stopping place E 0). The occupant can now leave the building by the entrance door 6 which can normally be opened from the inside without problems.

On entrance into a building an occupant is identified, by means of his data transmitter, by the recognition device 24 at the entrance board 7 as a person authorised for access. The entrance door 6 is thereby opened and, as the residential storey of the person concerned is also known by the identification, the corresponding data is passed on to the lift control. The lift cage thereupon travels to the main stopping place E 0 and, after the resident has boarded, to his residential storey.

According to the respective character of a building, usage customs of the user or occupant, desired service convenience and required access checking, only individual ones of the above-described call input devices or a combination thereof can find use. Also, the access to the underground garage can be integrated, wherein on driving or stepping into the same the prospective lift user can already be identified and a call for the lift is triggered later, for example when making use



of a door between underground garage and lift. In the same way, the call triggering can be stopped for persons who like to use the stairs.

**Claims:**

1. A remote control device for a lift for a multistory structure, comprising at least one call input device located at a story for the entry of lift call data, said data comprising the identity of the story of the input device initiating the entry and an intended destination story characterized in that the call input devices have a first and a second input means, said first means providing for the travel of a lift cage first to the destination story and subsequently to an input story, said second input means providing for the travel of a lift cage first to the input story and subsequently to the destination story.
2. A control device according to claim 1, characterized in that the call input device comprises an identification device.
3. A control device according to claim 1, characterized in that the call input device stands in operative connection with an entrance door and an entrance board of the structure.
4. A control device according to claim 1, characterized in that the call input device is located in a dwelling or room of a respective story.
5. A control device according to claim 1, characterized in that the predetermined destination story is a main stopping place.
6. A control device according to claim 2, characterized in that the identification device is an answer-phone or a telephone.
7. A control device according to claim 1 wherein one of said input means further comprises means to providing for the travel of a lift cage to the input story and subsequently to a further predetermined destination story upon the input of a unique operating sequence for the input means.

8. A control device according to claim 7, characterized in that the further predetermined destination story is an underground garage.

9. A control device according to claim 3, wherein the entrance board has name plates and signal transmitters associated therewith and an answer-phone installation, characterized in that a recognition device is provided at the entrance board.

Fig. 1

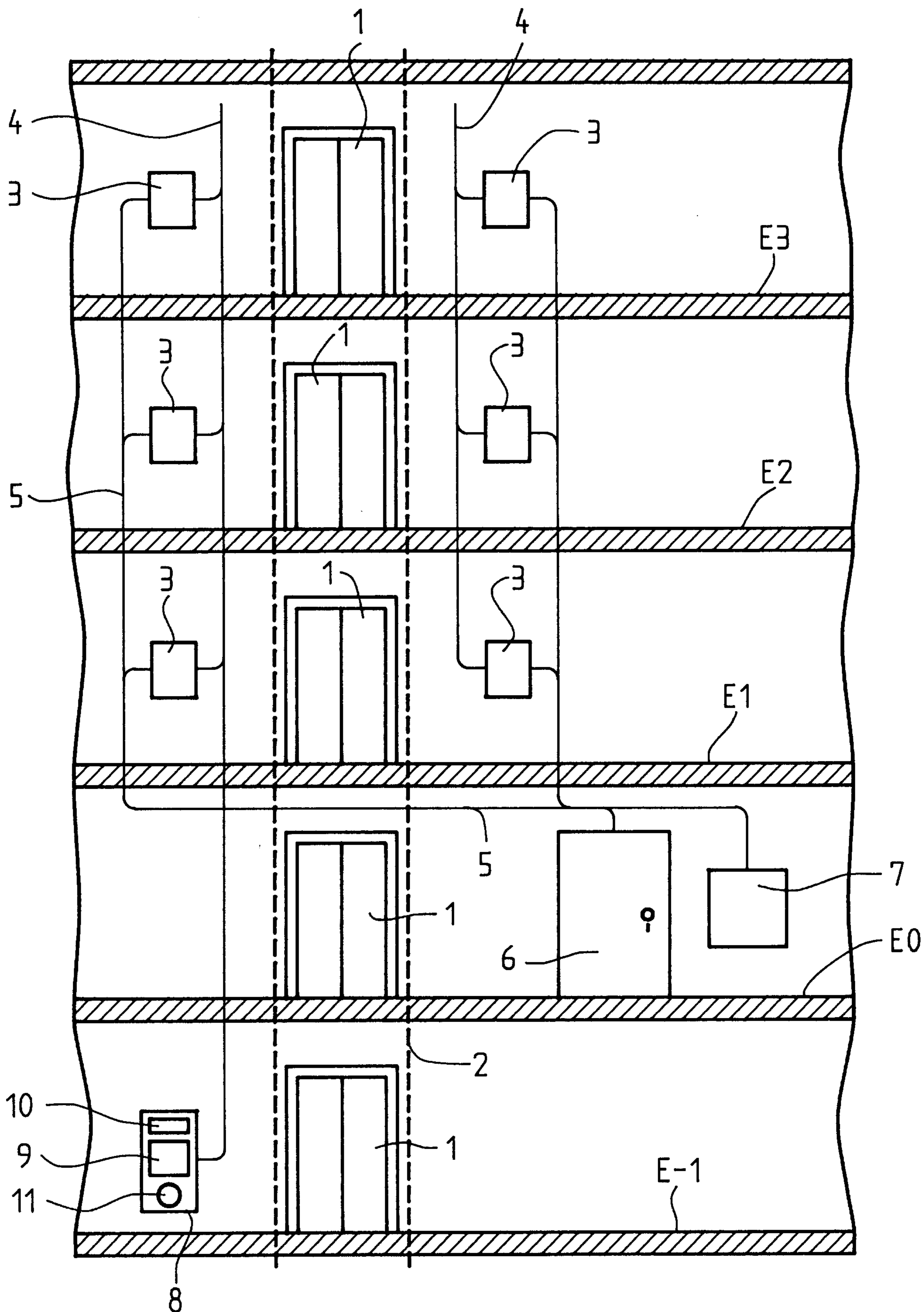


Fig. 2

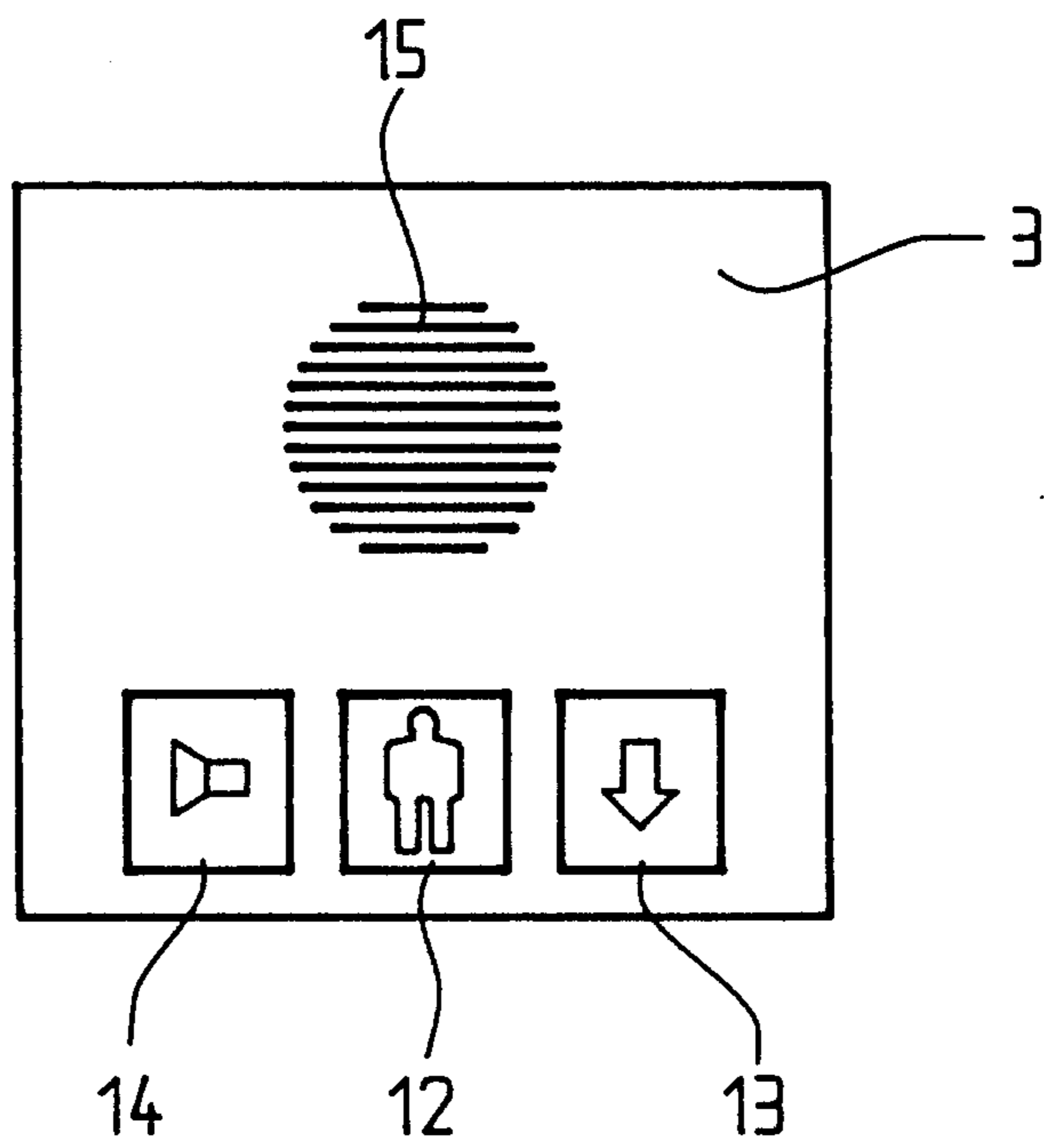


Fig. 3

