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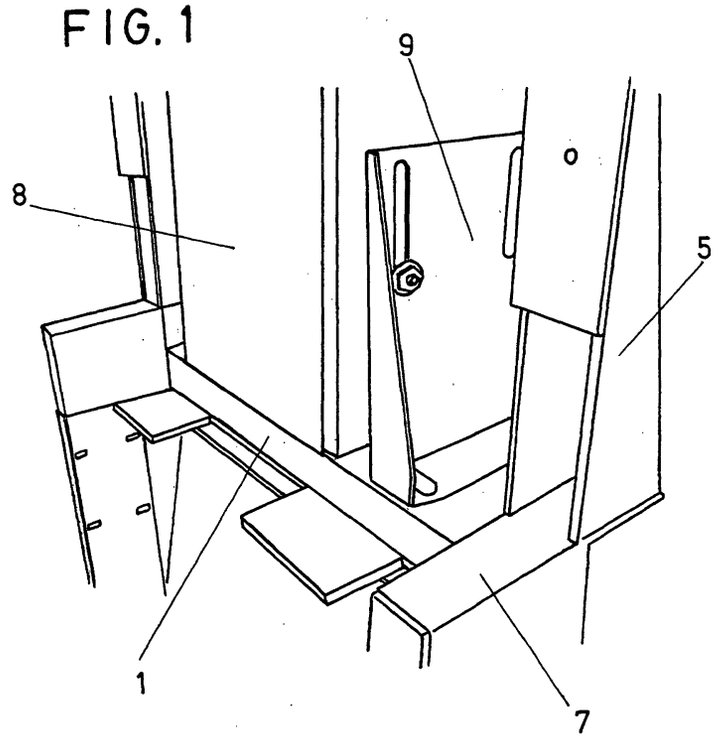
(54) MACHINE AND MACHINE BED ARRANGEMENT INSIDE THE ELEVATOR PIT

(57) It consists of the arrangement of the machine in a way such that the existence of the elevator machine room is obviated, being arranged therefore in the elevator shaft, for which purpose a bed (1) has been arranged on which the machine (8) is located, the bed (1) resting on the ends of the guide rails of the counterweight (2) using for this individual fastening plates (3) which are angular in form, being screwed both to the bed and to the counterweight guide rails. The means by which the bed is fastened to the guide rails of the car (4) is by means of some upper arms (5) which project from the ends of the bed (1), using for this some auxiliary pieces (5.1) and some tightening flanges (6), underneath the bed some lower arms (7) are arranged for engaging the car on guide rails.

FIG. 1



EP 1 396 459 A1

Description

OBJECT OF THE INVENTION

[0001] The object of the present invention is the arrangement of machine and bed for elevators, that is, it relates to the arrangement of a bed on which rests the elevator machine.

[0002] The present invention is characterised in the configuration with which the elevator has been provided such that the existence of the elevator machine room is made unnecessary, which implies a saving of built-up floor space.

[0003] It is likewise an object of the present invention to facilitate an arrangement of the necessary elements for an elevator car without involving the shaft, since the bed is not fixed to the wall, the machine being arranged in such a way that it continues to be likewise accessible.

[0004] Therefore the present invention lies within the ambit of elevator cars and more specifically of the configuration in the arrangement of the machine and bed which supports said machine.

BACKGROUND OF THE INVENTION

[0005] Up to the present time elevator cars always have an elevator machine room which is usually located on the roof, it being necessary to meet a series of requirements, like the strength of the slab on which the elevator machine room stands, which slab has to be reinforced, as well as the necessary space for the location of the control and safety panels and those for operating and the actual machinery of the elevator.

[0006] Thus the presence of the elevator machine room signifies an increase in built-up floor space necessary for the elevator.

[0007] Thus the objective of the present invention is to implement an arrangement of machine and bed which obviates the use of an elevator machine room, with the consequent increase built-up floor space. All of this being arranged so that the machine or motor of the elevator is accessible from the roof of the car and visible from the rescue hatch.

DESCRIPTION OF THE INVENTION

[0008] The arrangement of machine and bed consists in having all the aforementioned elements outside the elevator machine room, avoiding the use of built-up floor space, being arranged inside the elevator shaft.

[0009] To which end the machine will be arranged on a bed which serves for supporting and securing the machine. Said bed rests or is secured on the upper ends of the guide rails of the counterweight, which are arranged on the inside of the car guide rails, these last surpassing the guide rails of the counterweight, that is to say they are longer.

[0010] In order to achieve a union between the bed and the car guide rails, from the bed from each of its ends and on the upper part, arms project which, making use of auxiliary piece, to which they are secured by means of screws, they are joined to the car guide rails, to which end, on said auxiliary piece, some flanges are arranged tightened and adjusted by means of screws.

[0011] Likewise from the lower part of the bed, individual arms project, screwed thereto, which will serve as means for engaging the car on the guide rails. These arms are also joined with flanges to the car guide rails.

[0012] The elevator machine is one of the worm-gear speed reducer with crown wheel type, and the manner in which the union between the upper ends of the guide rails of the counterweight and the bed is implemented is by means of an angle plate screwed both to the bed and to the counterweight guide rails.

DESCRIPTION OF THE DRAWINGS

[0013] To complete the description which will be made hereunder and with the object of assisting in a better understanding of its characteristics, the present descriptive specification is accompanied by a set of drawings in the figures of which, by way of illustration and not restrictively, the most significant details in the invention are represented.

[0014] Figure 1 shows a representation in perspective of the arrangement of the machine and bed.

[0015] Figure 2 shows an elevation of how absconder the union is implemented between the internal guide rails, the external guide rails and the bed.

[0016] Figure 3 shows the profile of the previous representation.

[0017] Figure 4 shows the plan of the same representation.

[0018] Figure 5 shows a representation of the arrangement of the engagement arms on the bed.

PREFERRED EMBODIMENT OF THE INVENTION

[0019] In the light of the aforementioned figures a preferred method of embodiment of the invention is described hereunder, together with the explanation of the drawings.

[0020] In figure 1 it can be observed how the machine (8) is arranged on the bed (1) by means of an angular fastening (9). Likewise the upper arms (5), as well as one of the lower arms (7) for the engagement can be seen.

[0021] In the following figures it can be observed how the bed (1) is arranged on the counterweight guide rails (2), which in turn are between the car guide rails (4).

[0022] With object of favouring the union between the guide rails of the counterweight (2) and the bed (1), on the ends of said guide rails have been arranged some plates (3) which have an angular form being joined by means of the screws (3.1) to the bed (1), and by means of the screws (3.2) to the counterweight guide rails (2).

[0023] From the ends of the bed {1) and with the object of proceeding to the union with the guide rails of the car (4), individual arms (5) project, which by means of the auxiliary piece (5.1) to which they are screwed, securing to the guide rails is achieved, using for this some tightening flanges (6).

[0024] With the previously described configuration the use is avoided of more floor space through having to build a machine room, the machine is arranged in an independent form. A double embedding is also avoided, it being sufficient to have the lower supports well anchored.

[0025] In figure 5 it is seen how from the ends of the main body of the bed (1), the lower arms of engagement (7) are arranged, which have some perforations (10) for fastening to the car guide rails (4).

[0026] It is not considered necessary to extend this description further for any expert in the matter to comprehend the scope of the invention and the advantages that derive from the same.

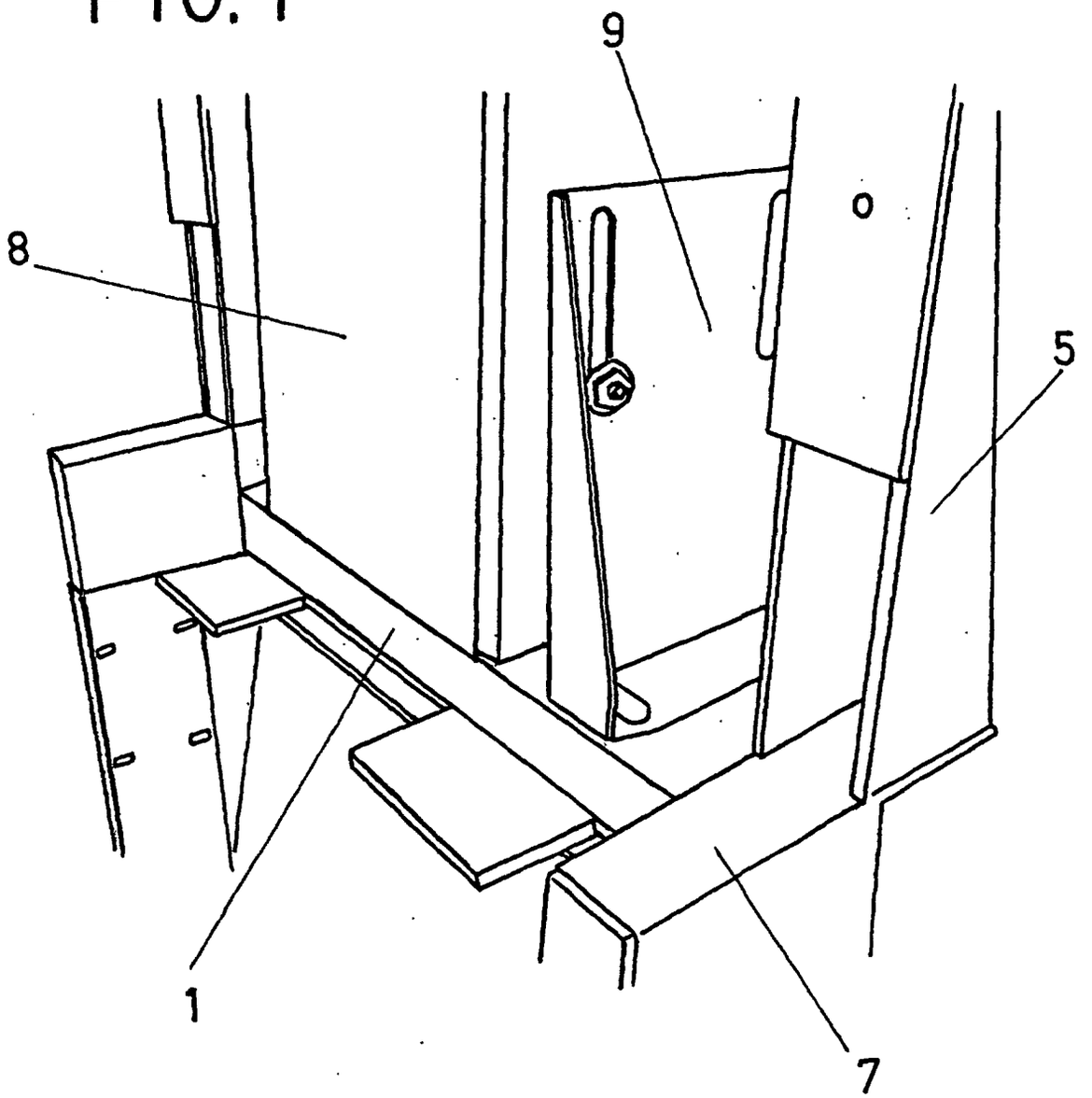
[0027] The materials, forms, size and arrangement of the elements will be capable of variation provided they do not alter the essential nature of the invention.

[0028] The terms in which this specification have been written are to be taken always in the broadest sense and not restrictively.

Claims

1. Arrangement of machine and bed in the elevator shaft **characterised in that** the aforementioned elements are inside the elevator shaft obviating the construction of the elevator machine room, with the subsequent saving in built-up floor space, the machine (8) being arranged on a bed (1) and joined to the same by means of some screws in its base and an angular fastening (9), wherein the bed (1) rests on the ends of the guide rails of the counterweight (2), which are arranged on the inside of the car guide rails (4). On the ends of the guide rails of the counterweight (2) and with the object of favouring the securing of the bed thereto, each has a plate (3) which is angular in form, being screwed to the bed (1) and to the counterweight guide rails (2) by means of the screws (3.1) and (3.2) respectively, moreover, the securing of the bed with the car guide rails (4), is carried out by means of some upper arms (5) which project from the ends of the bed (1). Said upper arms (5) have some auxiliary pieces (5.1), to which they are secured, and wherein said auxiliary pieces (5.1) have some tightening flanges (6) to fasten them to the guide rails of the car (4). Underneath the bed (1) are some arms (7) which serve to house the system of engagement of the car to the guide rails, having some perforations (10) for the fastening of said lower arms to the car guide rails (4).

FIG. 1



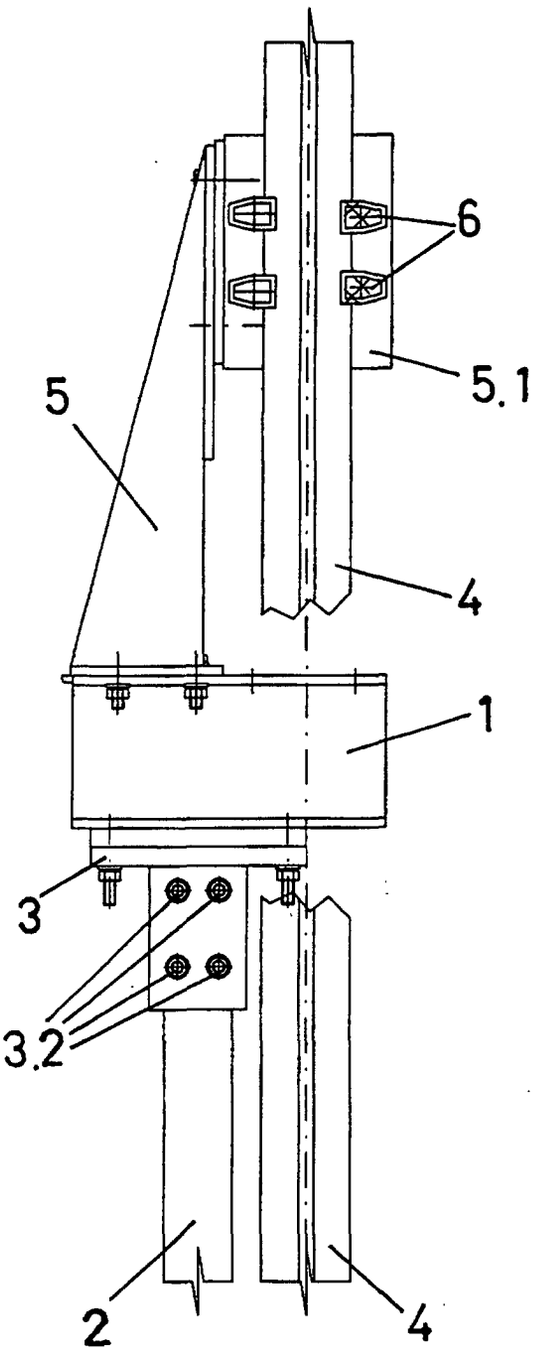


FIG. 3

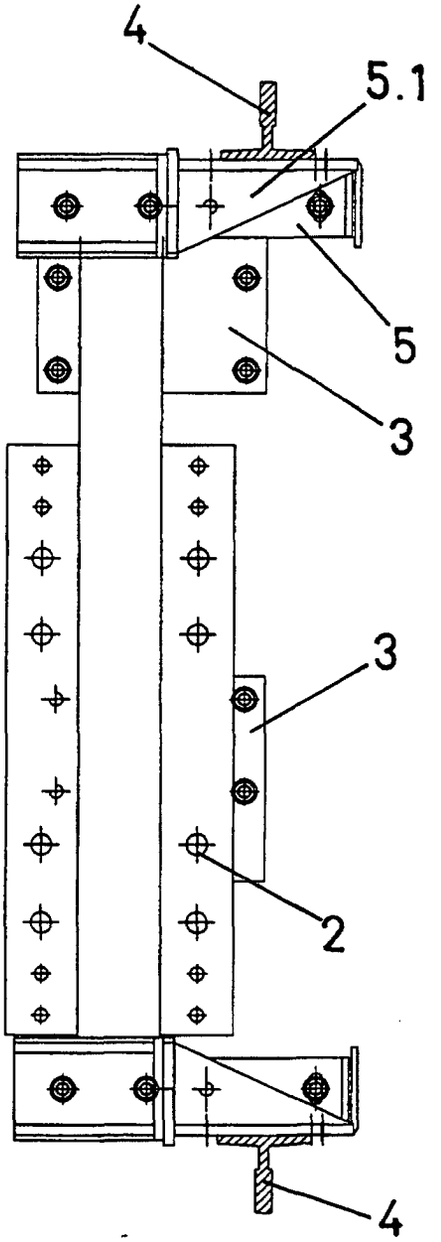


FIG. 4

FIG. 5

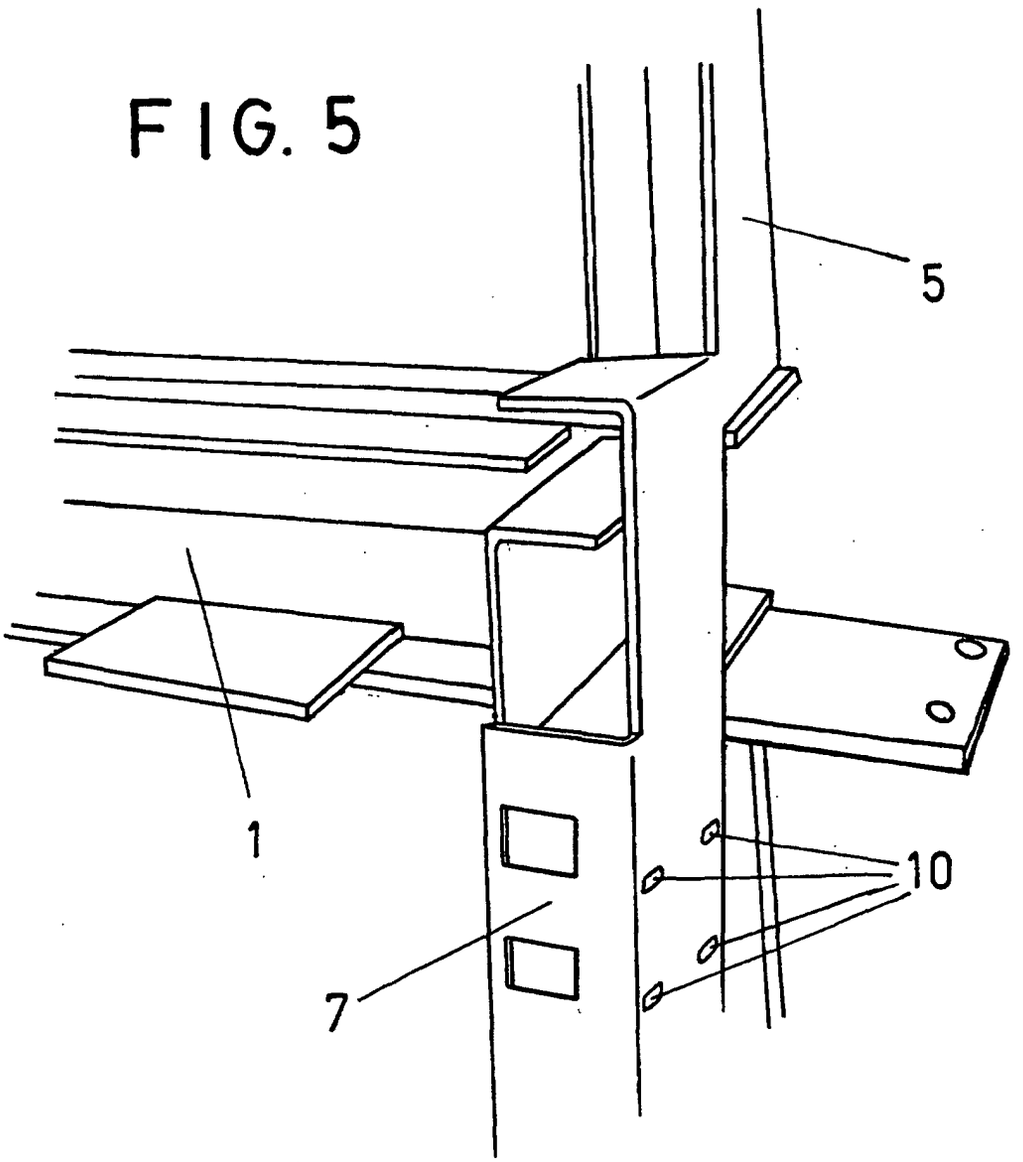
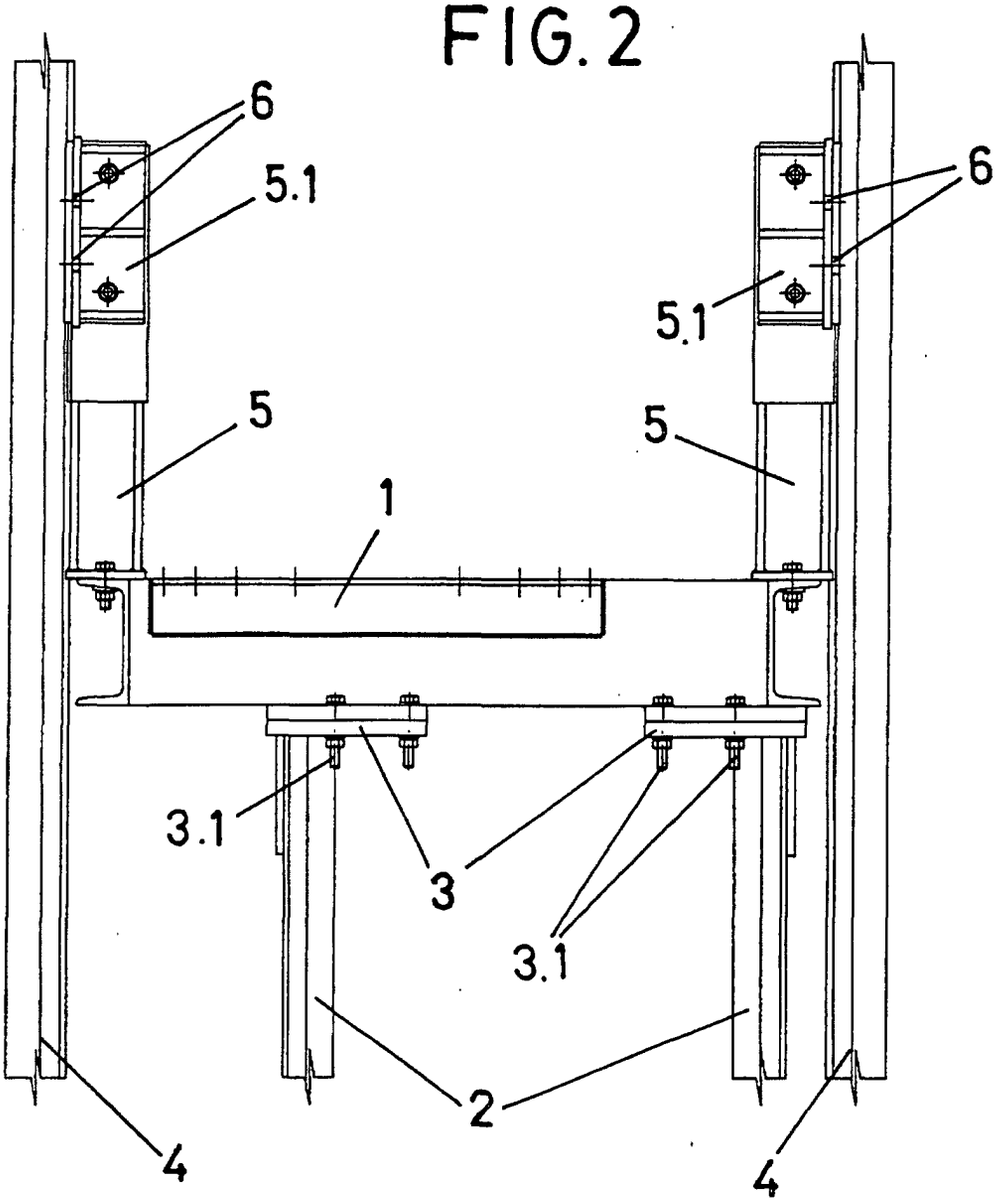


FIG. 2



INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES 01/00238

A. CLASSIFICATION OF SUBJECT MATTER

IPC[7] B66B 11/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC[7] B66B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 2773363 A (FICHEUX) 09 July 1999 (09.07.99), the whole document	1
A	WO 0076898 A (ELEX S.P.A.) 21 December 2000 (21.12.00), page 4, lines 14-25; figures	1
A	WO 9933742 A (INVENTIO A.G.) 08 July 1999 (08.07.99), abstract, figures	1
A	EP 972739 A (INVENTIO A.G.) 19 January 2000 (19.01.00), abstract, figures	1
A	EP 905081 A (TOSHIBA K.K.) 31 March 1999 (31.03.99), column 23, lines 16-32; column 24, lines 25-49; figures 35, 38.	1
A	ES 2148402 T (KONE CO.) 16 October 2000 (16.10.00), column 3 , lines 59- column 4, line 20; figure.	1

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
21 August 2001 (21.08.01)	07 September 2001 (07.09.01)
Name and mailing address of the ISA/ S.P.T.O Facsimile No.	Authorized officer Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Information on patent family members

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