(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 176 281 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
30.01.2002 Bulletin 2002/05

(51) Int Cl.[7]: **E05F 17/00**, B66B 13/08

(21) Application number: **01500154.8**

(22) Date of filing: **22.06.2001**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **27.07.2000 ES 200002010 U**

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(54) Movement transmitting device for telescopic leaves of elevator doors

(57) Movement transmitting device for telescopic leaves of elevator doors, which is to be assembled in elevator doors of telescopic leaves fastened to the corresponding carriage that mounts some pairs of wheels in order to convey and guide the carriage by a guide of a support plate, transmitting movement in the opening and closing of the door from a rapid carriage to a slow carriage by means of a transmitting cable, assembled between two pulleys of the slow carriage and anchored to the rapid carriage, in such a way that a horizontally aligned wheel (6) of each pair of wheels for conveying and guiding the slow carriage (3), defines on its surface two channels (7) and (8), the channel (8) being for the positioning thereof in the guide of a support plate (5) and the cable (9) for transmitting movement from the rapid carriage to the slow carriage being assembled in the channel (8).

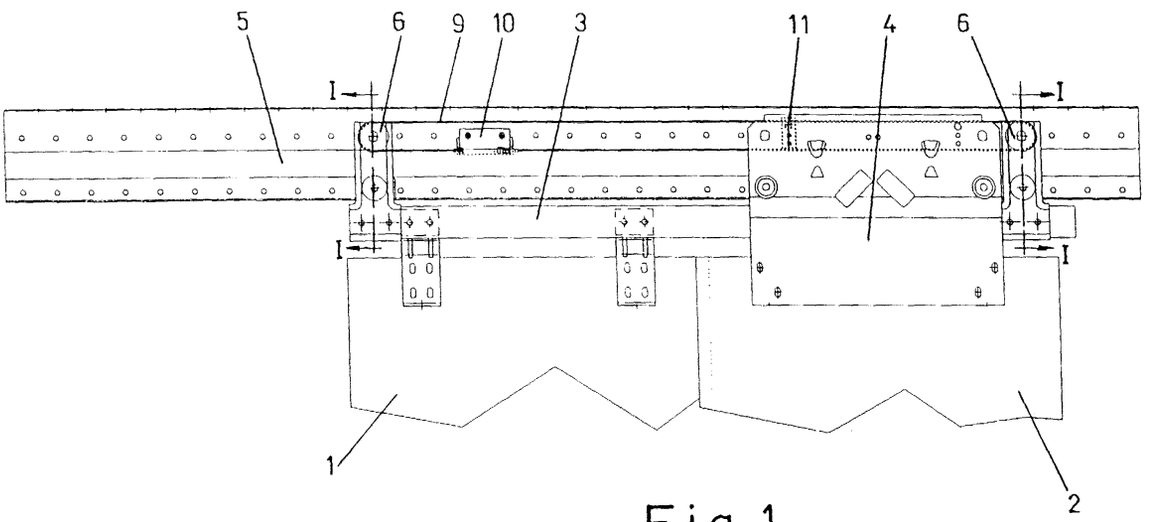

Fig. 1

EP 1 176 281 A1

Description

OBJECT OF THE INVENTION

[0001] As expressed in the title of this specification, the following patent refers to a movement transmitting device for telescopic leaves of elevator doors, which is to be installed in elevator doors of telescopic leaves where in the closing and opening of the door the rapid leaf conveys in its movement the slow leaf, in such a way that a pair of horizontally aligned wheels, used to move and guide the slow carriage by the guide of the support plates, defines two channels, one to be coupled to the guide and the other for passing and conveying the cable for transmitting movement to the slow carriage.

[0002] In this way, a pair of wheels for conveying and guiding the slow carriage has a double channel and hence it is not necessary to install specific pulleys for the cable transmitting movement from the rapid carriage to the slow carriage. This simplifies the structure of the slow carriage itself and the manufacturing thereof, reducing the number of pieces and the nuts and bolts, which implies a reduction in labor, thus achieving a reduction of costs.

FIELD OF APPLICATION

[0003] The movement transmitting device that is presented is applicable to elevator doors comprised of some telescopic leaves, which are connected to the corresponding conveying and guiding carriage, in such a way that the rapid carriage transmits movement to the slow carriage by means of the corresponding movement transmitting cable.

BACKGROUND OF THE INVENTION

[0004] Conventionally, the telescopic leaves of elevator doors are fastened to the corresponding conveying and guiding carriage by the movement guide in the opening and closing operations, in such a way that in order to transmit movement from the rapid carriage to the slow carriage, the conveying and guiding carriage has a transmitting cable installed between a pair of pulleys assembled in the structure of the slow carriage itself, and whose cable is fastened to the structure of the rapid carriage, whereby when the pin relative to the cabin door conveys the rapid carriage in the closing and opening of the door said carriage is moved and the transmitting cable transmits movement to the slow carriage.

[0005] In this way, the slow carriage is conveyed by the corresponding guide of the support plate by two pairs of wheels that permit stable movement as each pair is aligned with respect to the guide and for the assembly of the cable transmitting movement to the slow carriage from the rapid carriage, the slow carriage should include a pair of pulleys between which there is the cable that is fastened to the rapid carriage and that in turn is fastened to the support plate itself.

[0006] Hence, the slow carriage should be mechanized so that the two pairs of guiding wheels of the carriage and the pair of assembly pulleys of the cable transmitting movement from the rapid carriage to the slow carriage are mounted in the slow carriage. The cited cable is connected by its ends to the support plate itself which permits the rapid carriage in its movement in the closing and opening to travel double the space traveled by the slow carriage.

[0007] With this structure it is necessary to include two pairs of wheels in order to convey and guide the slow carriage to which the corresponding leaf of the door and a pair of pulleys between which the cable transmitting movement from the rapid carriage to the slow carriage is mounted, are fastened. This involves the corresponding group of pieces and nuts and bolts, as well as the assembly time used therein.

DESCRIPTION OF THE INVENTION

[0008] The present specification describes a movement transmitting device, that is to be assembled in elevator doors of telescopic leaves that are fastened to the corresponding carriage that mounts some pairs of wheels in order to convey and guide the carriage by the guide of the support plate, transmitting the movement in the opening and closing of the door from the rapid carriage to the slow carriage by means of a transmitting cable assembled between two pulleys of the slow carriage and anchored to the rapid carriage. The transmitting device is defined by a wheel, aligned horizontally, of each pair of wheels for conveying and guiding the carriage, having on its surface two channels. One channel is for the positioning thereof in the guide of the support plate and the cable transmitting movement from the rapid carriage to the slow carriage is assembled in the second channel, which is considerably smaller than the channel guiding both wheels.

[0009] In this way, the installation of the pair of conventional pulleys in which the transmitting cable is assembled, as well as the group of pieces and nuts and bolts necessary for this purpose, is avoided. Furthermore, there is a reduction of labor which results in a lower economic cost.

[0010] In order to complement the description that is going to be made hereinafter and providing a better understanding of the characteristics of the invention, the present specification is accompanied by a set of drawings, in whose figures the most characteristic details of the invention are represented in an illustrative and non-restrictive manner.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Figure 1 shows a front detailed view of the pair of telescopic leaves, components of an elevator door,

showing how they are anchored to the respective conveying and guiding carriage, as well as the cable transmitting movement from the rapid carriage to the slow carriage assembled between a pair of wheels for conveying and guiding the slow carriage, for which purpose said wheels have on their surface a double channel.

[0012] Figure 2 shows a schematic sectioned view, according to sections I-I of the preceding figure with regard to a diametric vertical plane with respect to the wheels for conveying and guiding the slow carriage, showing how one of them has a double channel, one channel for adaptation thereof to the conveying guide and the other considerably smaller channel for the passing of the movement transmitting cable.

DESCRIPTION OF A PREFERRED EMBODIMENT

[0013] In view of the commented figures and in accordance with the numbering used, we can see how the telescopic leaves (1) and (2) that comprise the corresponding elevator door are fastened to the respective carriage (3) and (4) for conveying and guiding same by the guide of the mechanism support plate (5), in such a way that the carriages (3) and (4) have two pairs of wheels, each one of them for conveyance thereof by the guide of the support plate (5).

[0014] A wheel (6) of each one of the two pairs for conveying and guiding the slow carriage has a double channel, in such a way that by means of the channel (7) it is arranged in the guide of the support plate (5) and by the channel (8), which is considerably smaller, the cable (9) transmitting movement from the rapid carriage (4) to the slow carriage (3) being made to pass through.

[0015] As it conventionally happens, the cable (9) transmitting movement from the rapid carriage (4) to the slow carriage (3) is fastened by one of its ends at a place (10) and it can be appropriately tightened, whereas at the other place, the cable is fastened to the structure of the rapid carriage (4), in such a way that the movement of said rapid carriage (4) causes movement of the cable (9) and in turn of the slow carriage (3).

[0016] Given that the wheels themselves (6) are materialized by a double channel (7) and (8) in order to guide them by the guide of the support plate (5) and for the guiding of the transmitting cable (9), the need to adapt the structure of the slow carriage for the installation of two pulleys in order to assemble the transmitting cable, as well as the two pulleys themselves and the corresponding elements for the assembly thereof is avoided. Consequently, the material cost and labor are reduced, and thus a reduction of the overall cost is obtained.

Claims

1. Movement transmitting device for telescopic leaves of elevator doors, to be used in the assembly of elevator doors with telescopic leaves that are fastened to the corresponding carriage that mounts some pairs of wheels for the conveying and guiding thereof by the guide of the support plate, transmitting the movement in the opening and closing of the door from the rapid carriage to the slow carriage by means of a transmitting cable, assembled between two pulleys of the slow carriage and anchored to the rapid carriage, **characterized in that** a horizontally aligned wheel (6) of each pair of wheels for conveying and guiding the slow carriage (3) defines on its surface two channels (7) and (8), the channel (8) being for the positioning thereof in the guide of the support plate (5) and the cable (9) transmitting movement from the rapid carriage to the slow carriage is assembled in the channel (8), which is considerably smaller than the channel (7) of both wheels (6).

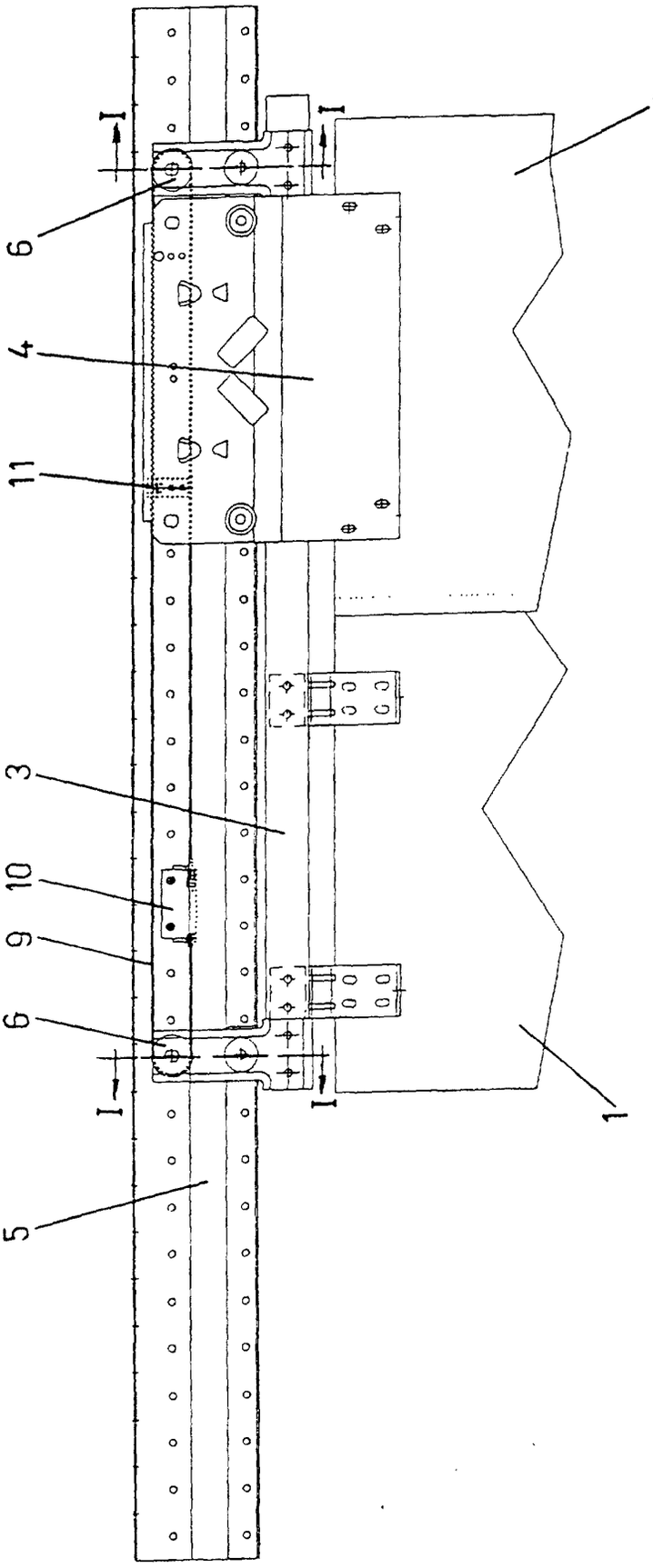

Fig. 1

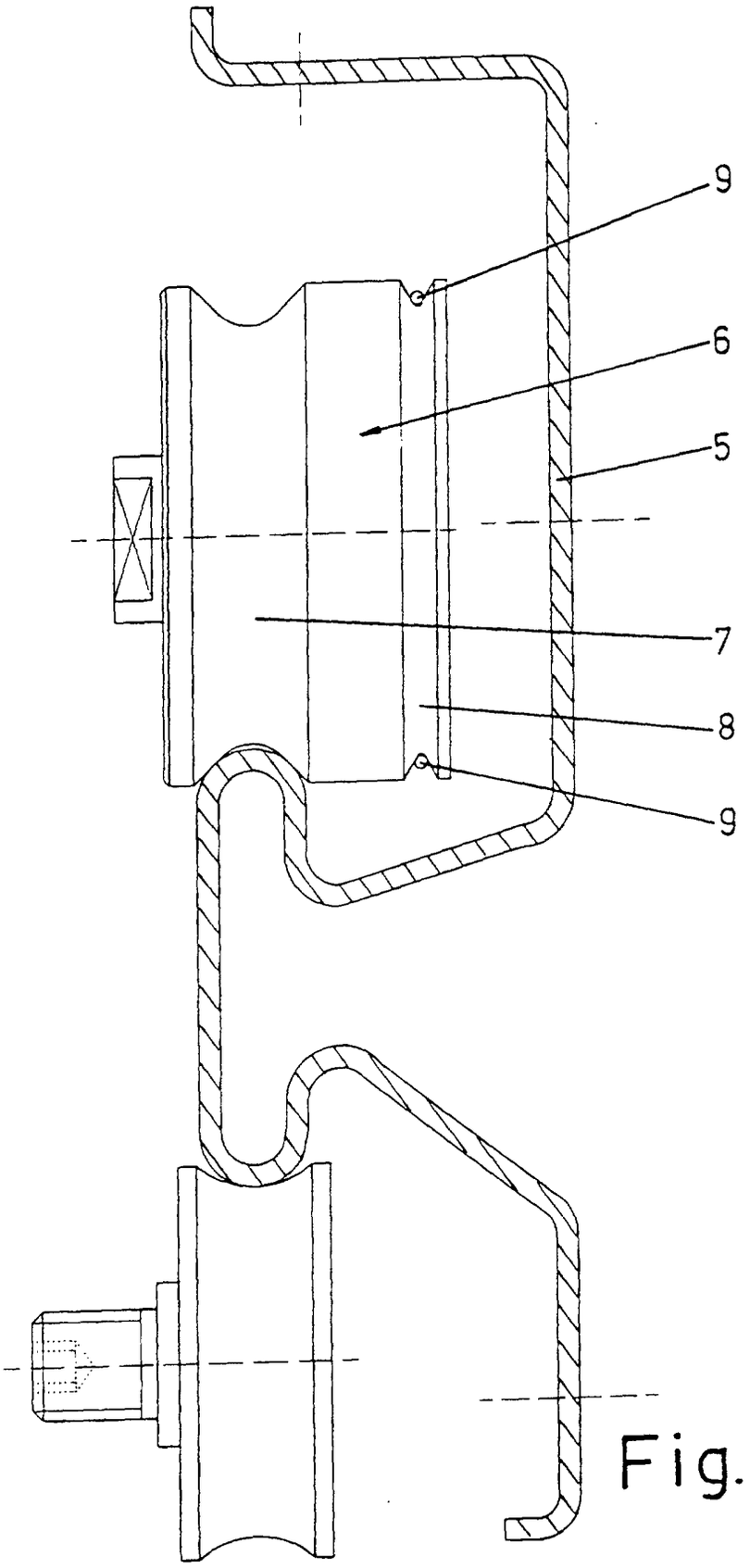

Fig. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 01 50 0154

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	ES 2 017 309 A (OTIS ELEVATOR CO) 16 January 1991 (1991-01-16) * abstract; figures 5-7 * * page 3, column 4, line 17 - line 23 * -----	1	E05F17/00 B66B13/08

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

E05F
B66B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	6 November 2001	Nelis, Y

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
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T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 01 50 0154

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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06-11-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
ES 2017309 A	16-01-1991	ES 2017309 A6	16-01-1991

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