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(54) Machine and support assembly for elevators

(57) The invention relates to an operation device for elevators, comprising a motor - ratiomotor assembly (1), provided with an output shaft (2) projecting from both sides of the engine, pulley means (3) and support means (4), symmetrically placed on said output shaft (2), upper support means (7), to which said support means (4) are coupled, and having at least a fixing point (8) for said motor - ratiomotor assembly (1), said device being fixed above to the self-bearing structure comprised of the guides of the elevator car and by the counterweight.

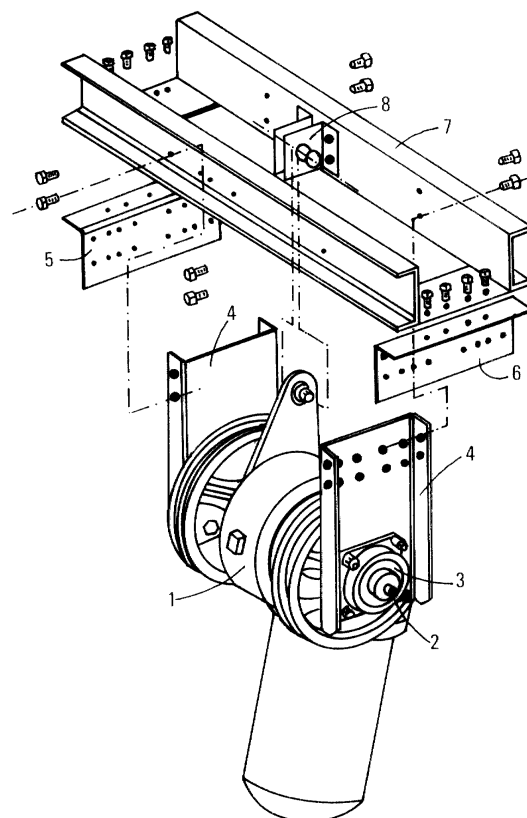


FIG. 2

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Description

[0001] The present invention relates to an improved operation device for elevators.

[0002] More specifically, the invention concerns a device of the above kind for the electrical operation of an elevator.

[0003] The invention described in the following is directed to electrical operation elevators.

[0004] As it is well known, known electrical operation elevators use motors or winch - motor assembly, suitably realised for the elevators.

[0005] More specifically, they are studied since they must support heavy radial loads due to the ropes and to the car - counterweight assembly.

[0006] In view of the above, the Applicant has realised a device allowing to use an industrial kind ratiomotor, not exploiting the casing of the machine as second support element of the slow shaft of the traction pulley, but a real support, in such a way that the ratiomotor only has to transmit the torque.

[0007] Another peculiar feature of the device according to the present invention is that of providing a solution that allows to fraction the rope loading on two pulleys symmetrically laterally placed with respect to the ratiomotor.

[0008] By this kind of technical choice, it is possible to reduce the dimensions of the shaft and consequently those of the ratiomotor, thus making it possible to position the same ratiomotor within the room, without penalising the dimension of the same with respect to a traditional system.

[0009] In this way, reduced dimensions of the machinery are obtained, the latter being a basic requirement that must be born in mind to avoid that the advantage obtained freeing the required spaces for the machine room are frustrated by the need of larger dimensions for the stroke room.

[0010] It is therefore specific object of the present invention an operation device for elevators, comprising a motor - ratiomotor assembly, provided with an output shaft projecting from both sides of the engine, pulley means and support means, symmetrically placed on said output shaft, upper support means, to which said support means are coupled, and having at least a fixing point for said motor - ratiomotor assembly, said device being fixed above to the self-bearing structure comprised of the guides of the elevator car and by the counterweight.

[0011] Preferably, according to the invention, said upper support means are comprised of a structure resting on the guides.

[0012] Furthermore, according to the invention, it is provided the fixing of the motor - ratiomotor group, in order to prevent the rotation.

[0013] Always according to the invention, said support means are comprised of plates.

[0014] Still according to the invention, said motor - ra-

tiomotor assembly is an industrial kind assembly.

[0015] The present invention will be now described, for illustrative but not limitative purposes, according to its preferred embodiments, with particular reference to the figures of the enclosed drawings, wherein:

figure 1 schematically shows an elevator provided with a device according to the invention;

figure 2 is a perspective view of a device according to the invention; and

figure 3 is a lateral view of the device of figure 2.

[0016] Observing the figures of the enclosed drawings, the device according to the invention provides a motor - ratiomotor assembly 1 of the industrial kind, having a shaft, projecting from both sides.

[0017] Pulleys 3 and two supports 4 are symmetrically inserted on said shaft 2.

[0018] Said supports 4 are fixed by the plates 5, 6 to an upper cross member 7.

[0019] Said upper cross member 7 centrally provides a fixing point 8, to which the assembly 1 of the device according to the invention is coupled in order to prevent its rotation.

[0020] All the assembly 1, along with the relevant support frame 7, is fixed at the top of the self-bearing structure comprised of the car 10 guides 9 and of the counterweight.

[0021] By the device according to the invention, it is possible a ratiomotor of the industrial kind, not exploiting the casing of the machinery as second support element of the slow shaft of the traction pulley, but a real support, in such a way that the ratiomotor must only transmit the torque.

[0022] Another basic feature of the device according to the invention is that of fraction the rope loads on the two pulleys 3, that are symmetrically laterally placed on the ratiomotor 1.

[0023] The fractioning allows reducing the dimensions of the shaft 2, and consequently those of the ratiomotor 1, thus making it possible its positioning within the room without penalising the dimensions of the same with respect to a traditional system.

[0024] The present invention has been described for illustrative but not limitative purposes, according to its preferred embodiments, but it is to be understood that modifications and/or changes can be introduced by those skilled in the art without departing from the relevant scope as defined in the enclosed claims.

Claims

1. Operation device for elevators, characterised in that it comprises a motor - ratiomotor assembly, provided with an output shaft projecting from both sides of the engine, pulley means and support means, symmetrically placed on said output shaft, upper

support means, to which said support means are coupled, and having at least a fixing point for said motor - ratiomotor assembly, said device being fixed above to the self-bearing structure comprised of the guides of the elevator car and by the counterweight. 5

2. Operation device for elevators according to claim 1, characterised in that said upper support means are comprised of a structure resting on the guides. 10
3. Operation device for elevators according to claim 1 or 2, characterised in that it is provided the fixing of the motor - ratiomotor group, in order to prevent the rotation. 15
4. Operation device for elevators according to one of the preceding claims, characterised in that said support means are comprised of plates.
5. Operation device for elevators according to one of the preceding claims, characterised in that said motor - ratiomotor assembly is an industrial kind assembly. 20
6. Operation device for elevators according to each one of the preceding claims, substantially as illustrated and described. 25

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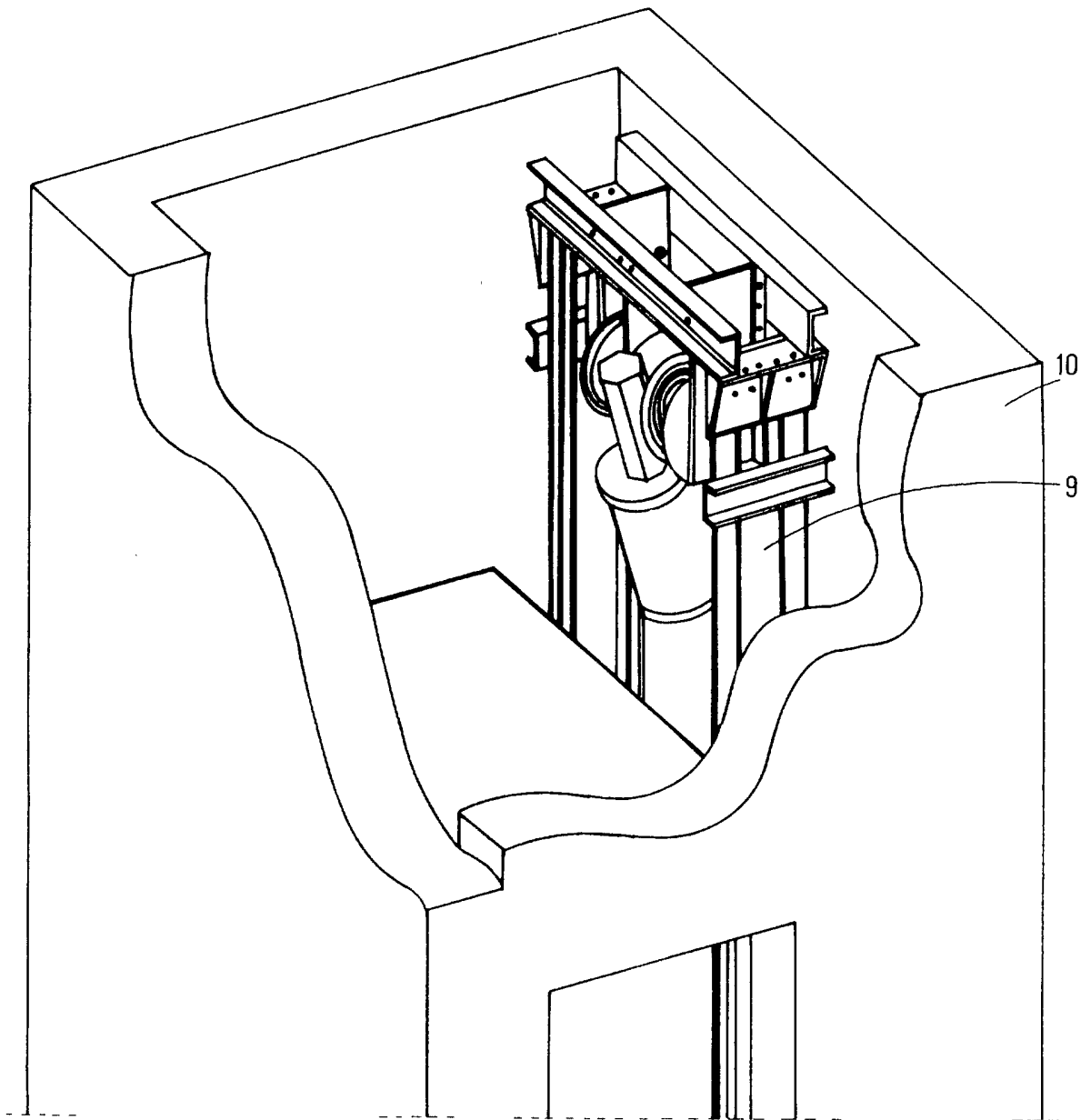


FIG. 1

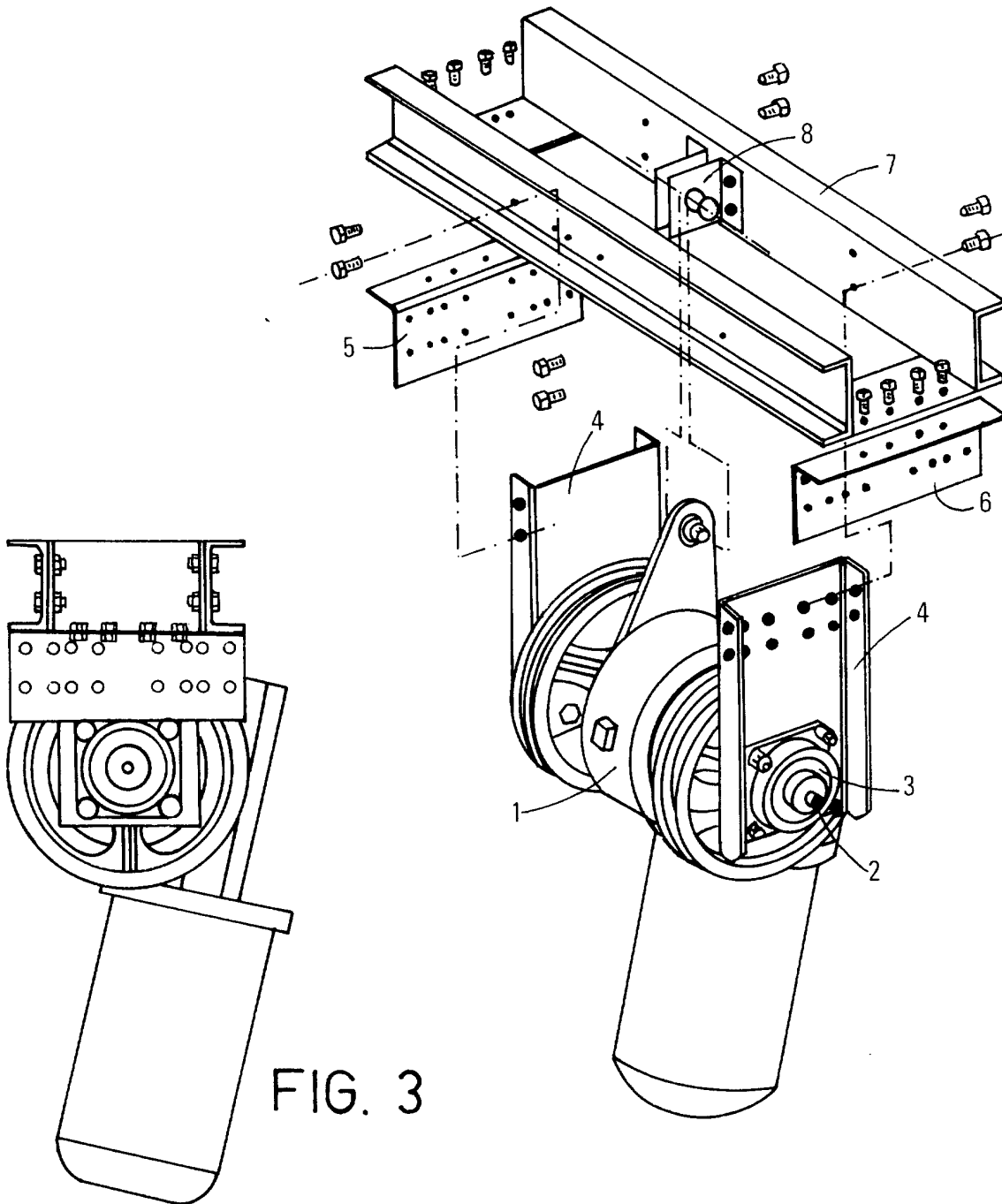


FIG. 3

FIG. 2



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EUROPEAN SEARCH REPORT

Application Number
EP 01 83 0024

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	EP 0 846 645 A (INVENTIO AG) 10 June 1998 (1998-06-10) * column 1, line 45 - line 53 * * column 2, line 9 - line 14 * * column 3, line 12 - line 26 * * column 3, line 32 - line 58 * * column 5, line 30 - line 45 * * figures 1-4 * ---	1-5	B66B11/00
X	EP 0 905 081 A (TOKYO SHIBAURA ELECTRIC CO) 31 March 1999 (1999-03-31) * column 4, line 16 - line 21 * * column 9, line 25 - line 39 * * figures 4,10 * ---	1-5	
X	DE 10 32 496 B (TEPPER J.) 19 June 1958 (1958-06-19) * figures 1,2 * -----	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B66B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 8 June 2001	Examiner Janssens, G
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 O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 83 0024

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The members are as contained in the European Patent Office EDP file on
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08-06-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0846645 A	10-06-1998	AU 726254 B	02-11-2000
		AU 4681597 A	04-06-1998
		BR 9705510 A	14-09-1999
		CA 2223187 A	03-06-1998
		CN 1184073 A	10-06-1998
		CZ 9703822 A	16-09-1998
		HU 9702324 A	30-11-1998
		JP 10167609 A	23-06-1998
		NO 975542 A	04-06-1998
		PL 323374 A	08-06-1998
		TR 9701499 A	22-06-1998
		US 6035974 A	14-03-2000
EP 0905081 A	31-03-1999	JP 11106159 A	20-04-1999
		JP 11157762 A	15-06-1999
		JP 11139730 A	25-05-1999
		CN 1212948 A	07-04-1999
DE 1032496 B		NONE	