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(54) Device for facilitating the parking of a motor vehicle in a relatively narrow garage

(57) Device for facilitating the parking of a motor vehicle in a relatively narrow garage comprises a self-propelled horizontal platform (1) to be positioned on the floor (100) of the garage (9) to support the front wheels (66) of a motor vehicle (6), and provided with a remotely controllable operating system (3, 4) which causes the platform (1) to slide parallel to itself along the longitudinal axis of the garage (9) between a first position situated at the entrance to said garage (9) and a second position situated in proximity to the rear wall of the garage (9).

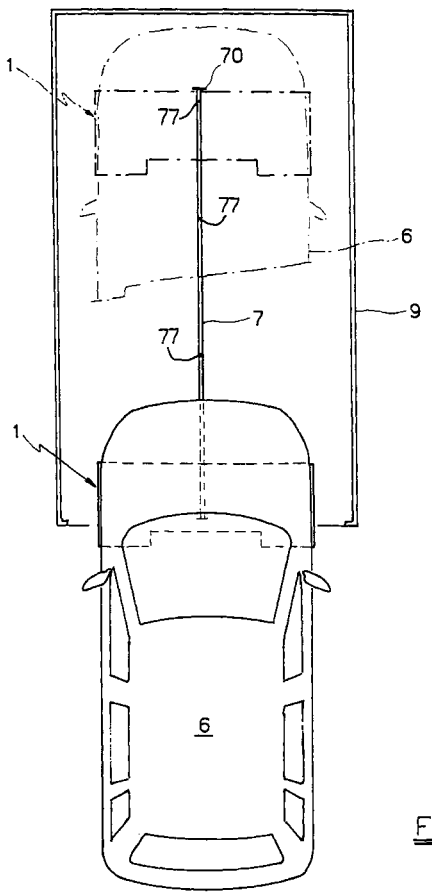


FIG.1

EP 0 985 784 A2

Description

[0001] This invention relates to device by means of which a motor vehicle, typically an automobile, can be parked within a relatively narrow garage in a simple manner.

[0002] A typical but not exclusive use of the invention is when a driver, because of lack of space, has difficulty in leaving and entering his vehicle parked in its garage.

[0003] As is well known, it often happens that a driver when deciding to change his automobile chooses a model of larger dimensions than the preceding model.

[0004] The height and length of the new model normally create no problem, whereas its width is often a drawback because to be able to leave the automobile and subsequently re-enter it, the driver is compelled to park it as close as possible to that garage side wall distant from the wall facing the driving seat, with the risk of damaging the bodywork on the distant side.

[0005] Moreover even if the automobile is carefully parked in this manner, in many cases the space available for opening the door on the driver's side makes it particularly difficult to leave and enter the automobile.

[0006] Finally, totally similar situations occur if the garage is of sufficient width for the automobile, but the driver also possesses a motorcycle for which there is no specific parking space, but which in order not to leave it outside he is compelled to park in the garage together with and to the side of the automobile.

[0007] Consequently in this sector there is a deeply felt requirement for means to obviate the aforesaid problem.

[0008] The main object of the invention is to satisfy said requirement within the context of a rational, reliable and low-cost construction.

[0009] Said object is attained according to the invention by a device having the characteristics defined in the claims.

[0010] In particular, the device in question comprises a self-propelled horizontal platform to be positioned on the garage floor to support the front wheels of a motor vehicle, and provided with a remotely controllable operating system which causes it to slide parallel to itself along the longitudinal axis of the garage between a first position situated at the entrance to said garage and a second position situated in proximity to the rear wall of the garage.

[0011] The constructional characteristics and merits of the invention will be more apparent from the ensuing detailed description given with reference to the accompanying figures, in which:

Figure 1 is a plan view from above showing the invention associated with a relatively narrow garage.

Figure 2 is a plan view of the invention from above, with parts cut away to better show parts which would otherwise not be visible.

Figure 3 is a view in the direction III of Figure 2.

Figure 4 is an enlarged view in the direction IV of Figure 2, the cover of the motor unit being omitted.

[0012] From said figures, and in particular Figures 1 and 2, it can be seen that the invention comprises a flat elongate horizontal structure 1 inscribable within an ideal rectangle having its longitudinal axis positioned transversely to the longitudinal axis of the garage 9.

[0013] The illustrated garage 9 is of such dimensions as to be able to receive only one automobile (see Figure 1), which in this case has a width such as to make it difficult for the driver to enter and leave the automobile when parked in said garage 9.

[0014] With reference in particular to Figure 2, said structure 1 comprises:

- two opposing lateral horizontal plates 2 on which the front wheels 66 of a motor vehicle, such as the automobile indicated by 6 in Figures 1 and 4, are intended to rest,
- two horizontally lying annular frames 44 fixed to the facing sides of said two plates 2, and
- two robust channel irons 33 connecting together the facing edges of said two frames 44.

[0015] It should be noted that the width of said plates 2 and their distance apart are such as to be able to receive front wheels 66 having any known wheel gauge.

[0016] Each plate 2 is provided with: a rear ramp 24 along which the respective wheel 66 climbs and descends; a lateral guide 20 for guiding the side of said wheel 66, said guide 20 having a lead-in at the lower edge of said ramp 24; an upwardly projecting front plate 22 acting as a travel stop for the wheel 66 during its climb and a retention element for it when the structure 1 withdraws; and a rear transverse projection 21, the purpose of which is to retain the wheel 66 when it has climbed onto the plate 2 and the structure advances in the manner described hereinafter.

[0017] The lower edge of said ramp 24 is slightly spaced from the floor 100 of the garage 9 as shown in Figures 3 and 4, to prevent undesirable rubbing against the floor 100.

[0018] Said structure 1 or platform rests on said floor 100 via four wheels of horizontal axis, which are contained within said frames 44 (see Figure 2) and have their longitudinal axes parallel to that of the structure 1.

[0019] Specifically the two front wheels 51 are idle, whereas the rear wheels 50 are linked via two cardan shafts 5 to a central two-output reduction gear 4 with which an electric operating motor 3 is associated.

[0020] It should be noted that the reduction gear 4 has a high step-down ratio so that the structure 1 travels at a very low speed.

[0021] It should be further noted that the motor 3 can be activated either by a specific switch situated at the entrance to the garage 9 or by a portable system with a remote control.

[0022] Said geared motor unit 3, 4 and said cardan shafts 5 are associated with said channel irons 33 (see Figure 2), these latter being fitted with a removable cover 55 (see Figure 3).

[0023] Finally, on the underside of said channel irons 33 there is centrally fixed a channel-shaped transverse guide 8 with its mouth facing downwards to engage a square bar 7 removably fixed to the floor 100.

[0024] Said bar 7 is fixed by usual expansion plugs 77, and is provided with terminal stops to define the end-of-travel positions of the structure or platform 1.

[0025] The invention operates in the following manner.

[0026] After opening the garage 9 and positioning the structure 1 at the entrance to the garage as shown in Figure 1, the driver positions the front wheels 66 on the plates 2, then leaves the automobile 6 and closes the door, after which he activates the motor 3, as a result of which the automobile 6 becomes parked in the garage 9 as indicated by dashed and dotted lines in Figure 1.

[0027] The reverse procedure is employed to extract the automobile 6.

Claims

1. A device for facilitating the parking of a motor vehicle in a relatively narrow garage, characterised by comprising a self-propelled horizontal platform (1) to be positioned on the floor (100) of the garage (9) to support the front wheels (66) of a motor vehicle (6), and provided with a remotely controllable operating system (3, 4) which causes the platform to slide parallel to itself along the longitudinal axis of the garage between a first position situated at the entrance to said garage and a second position situated in proximity to the rear wall of the garage.

2. A device as claimed in claim 1, characterised in that said platform comprises two opposing runways for supporting said wheels (66), each runway comprising a horizontal plate (2) on which the wheel rests, a front transverse projection (22) for said wheel, a rear transverse projection (21) for the same wheel, a rear ramp (24) along which said wheel climbs and descends, and a lateral guide (20) for retaining the side of the wheel.

3. A device as claimed in claim 1, characterised in that said platform rests on said floor via two opposing pairs of coaxial wheels having their horizontal axes lying perpendicular to said longitudinal axis of the garage, one pair (51) of said wheels being idle, and the other (50) being linked to said operating system.

4. A device as claimed in claim 1, characterised in that said operating system consists of a central geared motor unit (3, 4) with two outputs, these latter being provided with respective cardan shafts (5) for rotating said drive wheels (50).

5. A device as claimed in claim 1, characterised in that said platform is provided on its underside with at least one channel-shaped seat parallel to the longitudinal axis of the garage, to engage a matching guide bar (7) to be fixed to the floor.

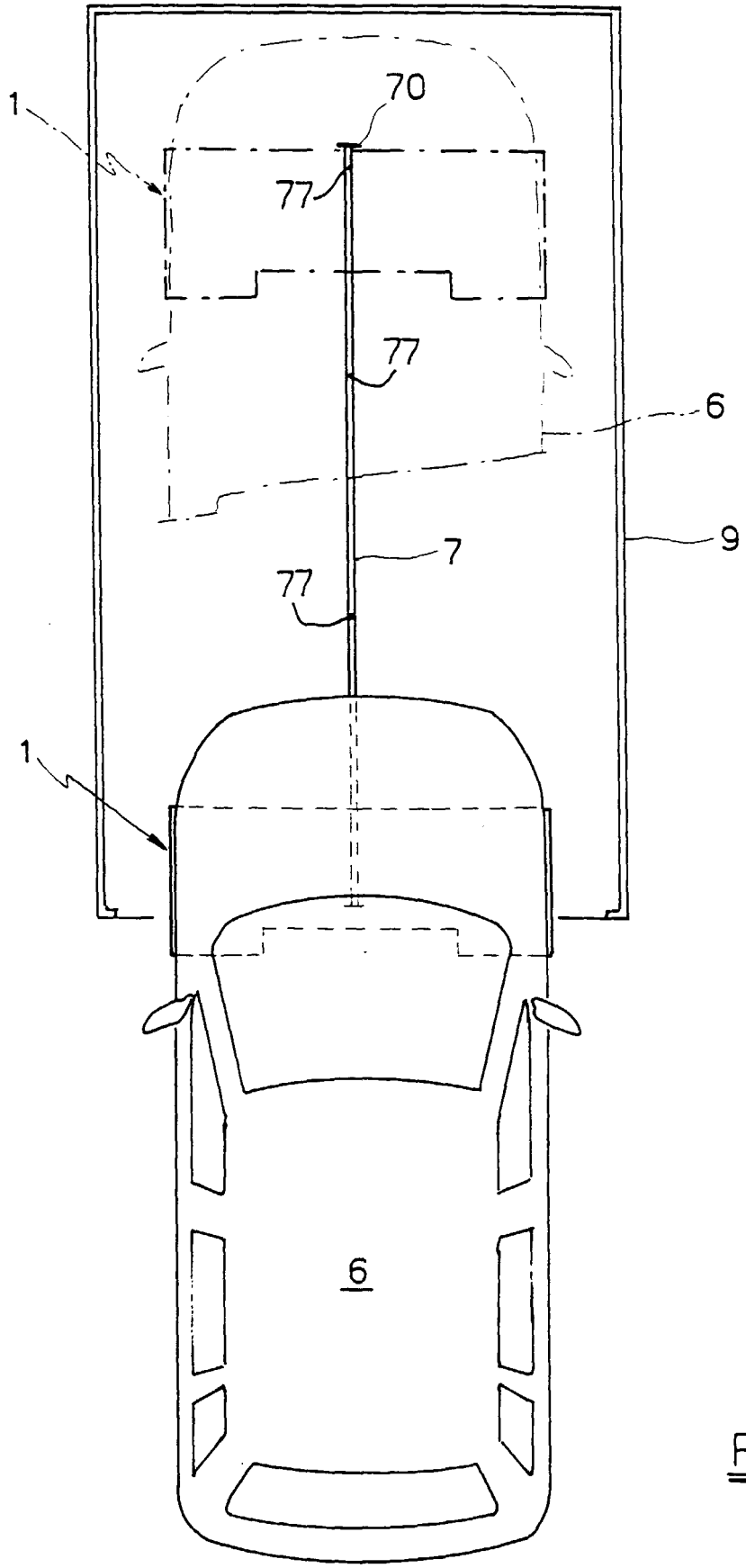
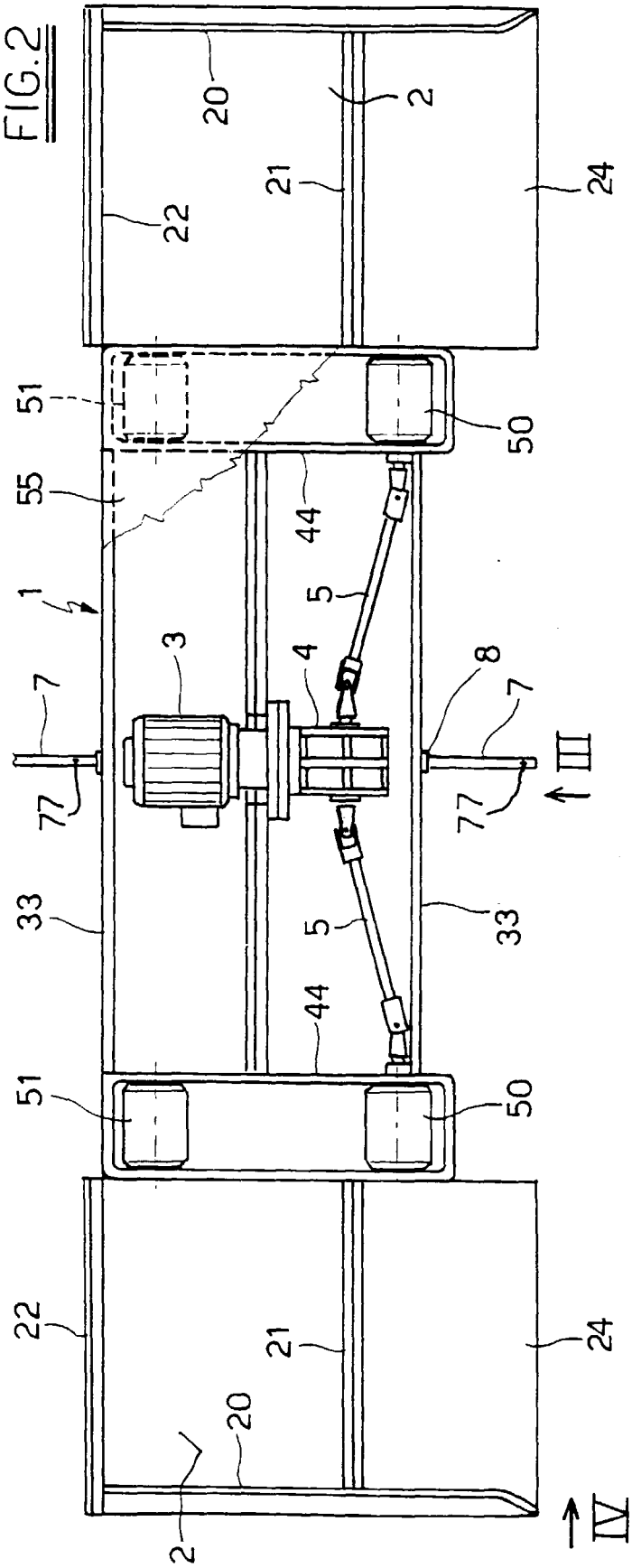


FIG.1

FIG.2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2
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24
22
51
50
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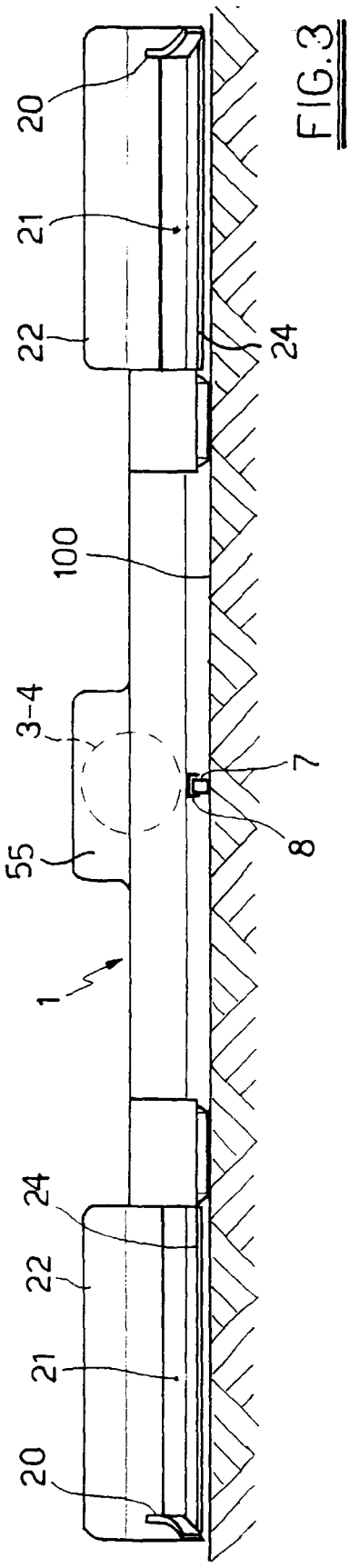
44
5
1
3
4
8
7
77
III
33
IV

FIG.3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100
3-4
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8
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1

FIG.4