Oct. 9, 1962 R. MARTINEZ 3,057,487

AUTOMOBILE PARKING SYSTEM

Filed March 6, 1961 3 Sheets-Sheet 1

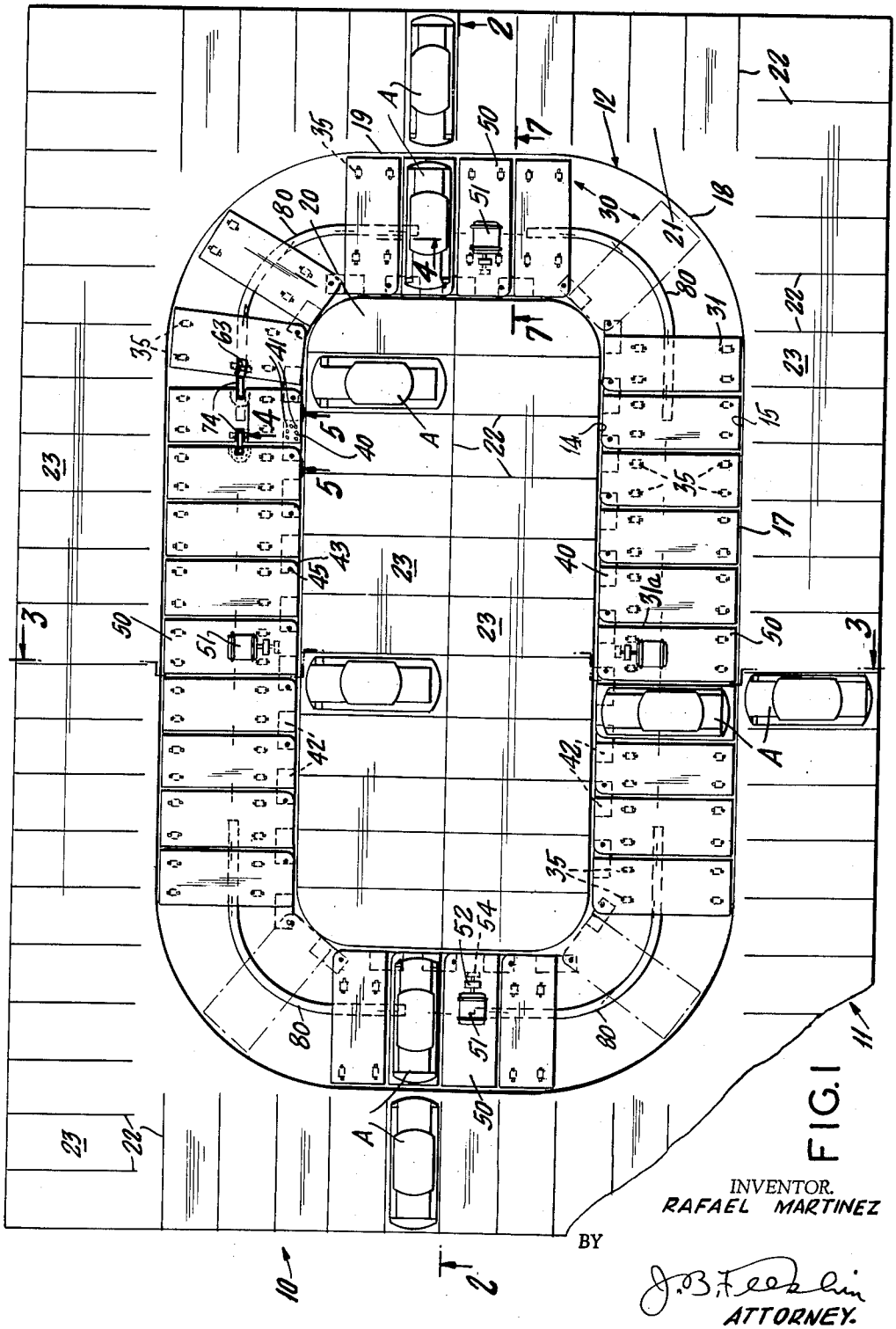


FIG. 1

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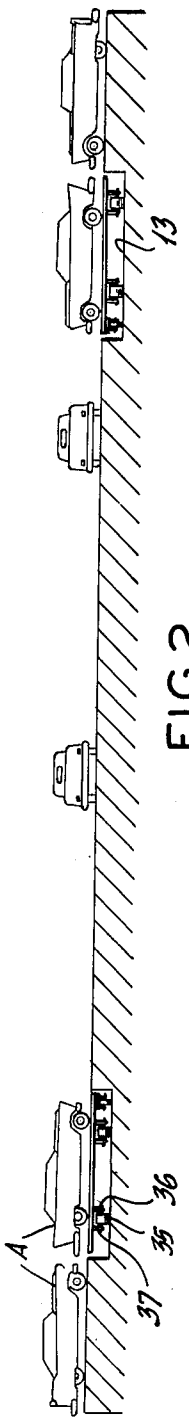


FIG.2

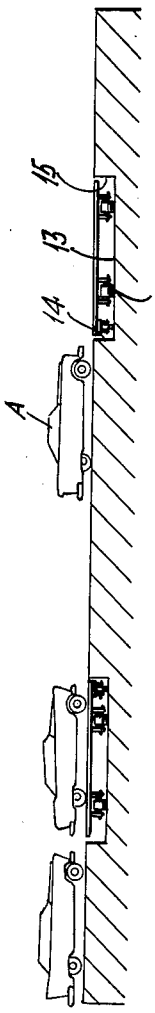


FIG.3

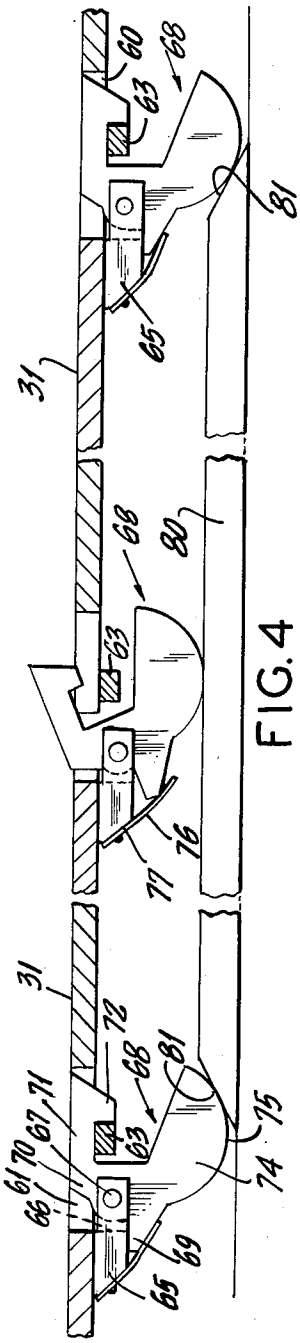


FIG.4

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AUTOMOBILE PARKING SYSTEM

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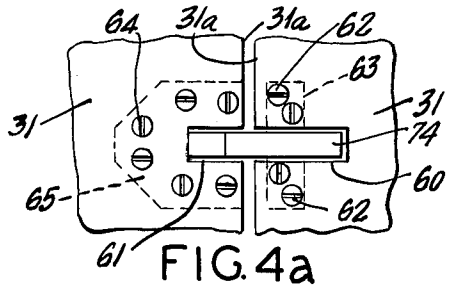


FIG. 4a

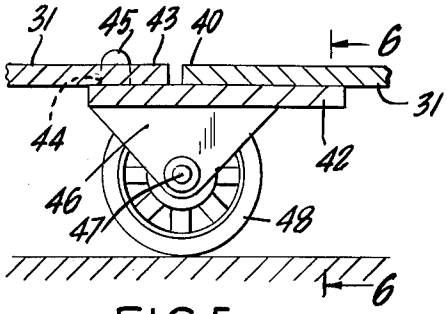


FIG. 5

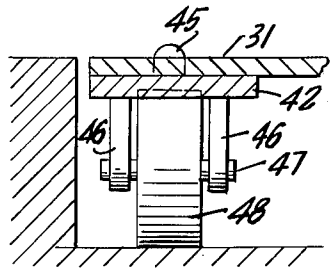


FIG. 6

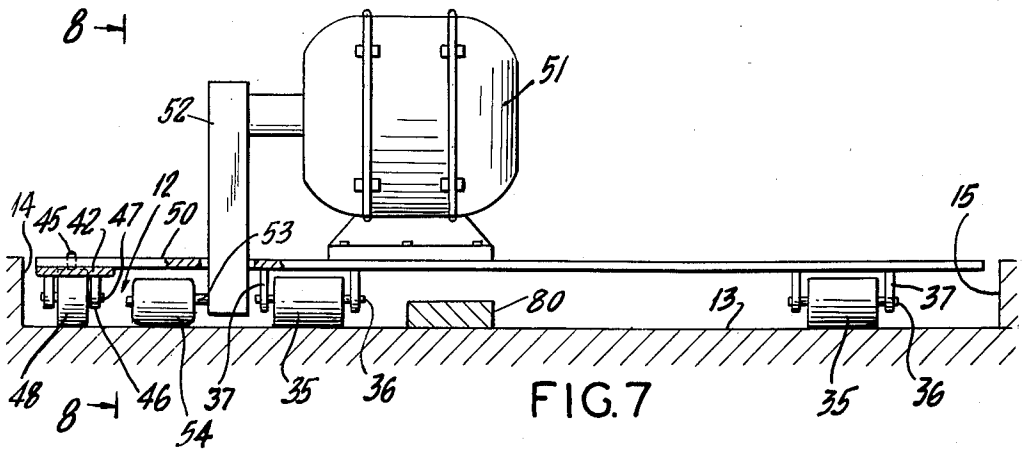


FIG. 7

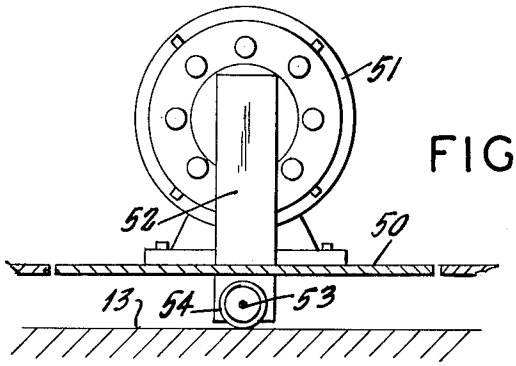


FIG. 8

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3,057,487
AUTOMOBILE PARKING SYSTEM

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5 Claims. (Cl. 214—16.1)

This invention relates to automobile parking system.

An object of this invention is to provide an automobile parking system comprising a plurality of platforms on a depressed circuitous track, adjacent platforms being hinged together at their inner ends in side by side parallel relation at straightaways of the track, and said platforms being swingable about their inner interpivoted ends, at curved portions of the track which interconnect the straightaway portions of the track.

Another object of this invention is to provide wheel or roller supports at the interpivoted inner ends of the platforms, resting on the depressed track.

Still another object of this invention is to provide idler wheel or roller supports for the outer ends of the platforms likewise resting on the depressed track.

Yet another object of this invention is to provide selected spaced platforms with electric motor drives for wheels or rollers contacting the depressed track.

A further object of this invention is to provide in a parking system of the character described, means to releasably interconnect edge portions of adjacent platforms, outwardly of their inner ends, at the straightaways, and to release said interconnecting means at the curves in the track, to permit swinging of the platforms around curves.

A still further object of this invention is to provide a strong, rugged and durable parking system of the character described, which shall be relatively inexpensive to manufacture, which shall be smooth and positive in operation and practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described and of which the scope of invention will be indicated in the following claims.

In the accompanying drawings in which is shown an illustrative embodiment of this invention,

FIG. 1 is a top plan view of a parking system embodying my invention;

FIG. 2 is a cross-sectional view taken on line 2—2 of FIG. 1;

FIG. 3 is a cross-sectional view taken on line 3—3 of FIG. 1;

FIG. 4 is an enlarged, developed view taken on line 4—4 of FIG. 1;

FIG. 4*a* is a partial top plan view of one of the latch connectors shown in FIG. 4;

FIG. 5 is an enlarged cross-sectional view taken on line 5—5 of FIG. 1;

FIG. 6 is a cross-sectional view taken on line 6—6 of FIG. 5;

FIG. 7 is an enlarged cross-sectional view taken on line 7—7 of FIG. 1; and

FIG. 8 is a cross-sectional view taken on line 8—8 of FIG. 7.

Referring now in detail to the drawing, **10** designates a parking system embodying the invention. The same comprises a parking area **11** in which is formed a depressed track **12**. Said track **12** has a flat horizontal bottom surface **13**, an inner edge surface **15**. The track, as illustrated, has longitudinal straightaway portions **17** connected by curved portions **18**, to transverse straightaway portions **19**. It will be understood that the track may vary in shape and may have curved ends. Inside the track is a parking surface **20** and surrounding the track is a coplanar parking surface **21**. The surfaces **20, 21** may be divided by marked lines **22** into substantially rectangular areas **23** each for parking one car.

The depth of the track below the upper surface may be about a foot. The width of the track may be sufficient for the length of a car, with room to spare.

Supported on the track are a plurality of car carriers **30**. Each carrier **30** has a rectangular top platform **31**, the top surface of which is in the plane of the surfaces **20, 21**, and of the dimensions of a marked parking area **23**.

The platforms may be made of metal, wood or any other suitable materials. The carriers **30** are side by side in the straightaway portions **17, 19** of the track, and are disposed transversely of the track. Each platform may be supported on a pair of longitudinally spaced idler wheels or rollers **35** at each end, supported in axles **36** extending longitudinally of the platform and supported in bearing brackets **37** fixed to the underside of the platform.

Means is provided to interpivot the inner ends of adjacent carriers. To this end, there is fixed to the underside of an inner corner **40** of each platform **31**, as by rivets **41**, a plate **42** extending sideways beneath the adjacent corner **43** of the adjacent platform. The corners **43** are rounded and each is formed with a through opening **44**. Fixed to plate **42** is an upstanding pin **45** rotatably received in hole **44**. Fixed to each plate **42** are axles bearing brackets **46** carrying an axle **47** for a wheel or roller **48**. The axle **47** is disposed between adjacent platforms and therebeneath. Said axles are parallel to the longitudinal side edges **31***a* of the platforms **31**.

With this structure, the platforms will remain in side by side relation when the platforms are moved, in the manner hereinafter described, on the straightaway portions of the track and will permit the platforms to swing around curved portions of the track.

Means is provided to move the interconnected platforms around the track. To this end, each of selected spaced platforms carry motive drive means. In the drawing, four such platforms, designated by numeral **50**, are shown, although the number and spacing of such platforms may be varied. The platforms **50** are like the platform **31** except that automobiles will not be driven onto them. Mounted on each platform **50** is an electric motor **51** connected by reduction gearing **52** to a horizontal shaft **53** beneath the platform carrying a drive wheel or roller **54** contacting the bottom surface **13** of the track. The motors may be energized through any suitable electrical circuit which may be under control of an operator on one of said platforms, in the same manner that an electrically operated train is under control of motorman. For this purpose, third rail system may be resorted to.

Means is provided to releasably interconnect adjacent platforms. To this end each platform (**31** or **50**) has a transverse slot **60** extending to one of its longitudinal edges **31***a* and a shorter slot **61** extending to its opposite longitudinal edge. The slots **60** of each platform are aligned with the edges **61** of adjacent platforms. The slots **60, 61** are located preferably about half-way between the ends of the platform.

Fixed to the underside of each platform, as by screws **62**, is a bar **63** transversing the end of slot **60**. Fixed to the underside of each platform, as by screws **64**, is a plate **65** formed with a slot or notch **66** registering with slot **61**. Plate **65** carries a pivot pin **67** transversing the notch or slot **66**. Pivoted to said pin **67** is a lever latch **68** having a lug **69** adapted to engage beneath plate **65**, a portion **70** projecting up through slots **66, 61**, a portion **71** ex-

tending from portion 70 and extending into slot 60 and over bar 63, and a downwardly projecting hook 72 to engage said bar. Extending from lug 69 is a weighted arm 74 extending in a direction opposite to said lug and spaced beneath portions 71, 72. The weighted arm 74 retains the latch in hooked engagement with bar 63 and has a cammed or curved under edge 75. Thus the latch 68 of each platform hooks onto the bar 63 of an adjacent platform and is retained in such engagement by the weight of arm 74. A leaf spring 76 fixed to an inclined edge 77 of each plate 65 has a free edge engaging beneath lug 69 to normally retain the latch against flying out of engagement with the bar 63 due to any sudden shock. The latches prevent side sway of the platforms on the straightaway portions of the track.

Means is provided to release or disengage the latches and hold them in released condition around curves. To this end, at each curved portion 18 of the track, there is mounted on the bottom wall 13 of the track, a central longitudinally curved actuating cam 80 having beveled edges 81 at its ends. As a platform approaches a curve, arm 74 engages cam 80 to swing the latch up to disengaged position. At the end of the curve, the arm 74 rides down the end ramp or incline 81 to again latch the adjacent platform.

It will now be understood that automobiles A may be driven onto any platform while the platforms are not moving. The platforms may be moved to any desired position and the automobile may be driven off the platform to any desired area 23 on either the inner parking surface 20 or the outer surface 21.

It will thus be seen that there is provided an apparatus in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. In combination, a flat parking surface having a depressed circuitous track wholly therein providing inner and outer parking surfaces, a plurality of longitudinal automobile carriers comprising platforms adapted to support automobiles, said carriers being disposed on said circuitous track, said circuitous track having straightaway portions interconnected by curved portions, said platforms being in the plane of said surfaces, the platforms in the straightaway portions being side by side and traversing the track whereby automobiles may move from said surfaces onto said platforms, means to interpivot an inner corner of each platform to an adjacent inner corner of an adjacent platform, means to support said

platforms for movement on said track, and motive drive means on selected platforms to move said platforms around the track, in combination with means to releasably latch each platform to an adjacent platform in the straightaway portions of the track.

2. The combination of claim 1, in combination with means to release said latching means at the curved portions of the track.

3. The combination of claim 1, said latching means comprising a lever pivoted to one platform, and having a hooked portion, the adjacent platform having a slot to receive said hooked portion, and means to be engaged thereby, and said lever comprising a weighted arm to normally lower the hooked portion into said slot.

4. The combination of claim 3, in combination with cam means on the track to engage said weighted arm to raise said hooked portion out of said slot.

5. In combination with a parking surface area having a circuitous sunken track wholly therein providing parking surfaces inside of and outside of said track, and comprising straightaway portions interconnected by curved portions, a plurality of carriers each comprising an elongated platform adapted to carry an automobile, and means to support said platforms for movement on the bottom of the track, and said platforms extending side by side transversely of the track and in the plane of the parking surfaces, with the ends of the platforms close to the sides of the track, so that automobiles may roll from said surfaces onto said platforms or from said platforms onto said surfaces, at any positions of the platforms on the track, the width of said inside and outside parking surfaces being at least equal to the length of said platforms, and means to interpivot inner ends of adjacent platforms whereby said platforms may move in side by side condition on the straightaways and swing about their inner ends in the curved portions of the track, and means to move said interpivoted platforms along the track, said moving means comprising motive means on one or more platforms and including rotary drive means engaging the bottom of the track, in combination with releasable latch means to connect each platform, outwardly of its inner end, to an adjacent platform.

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