Aug. 21, 1951 H. L. LAUBSCHER 2,565,243

PARKING GARAGE FOR MOTOR VEHICLES

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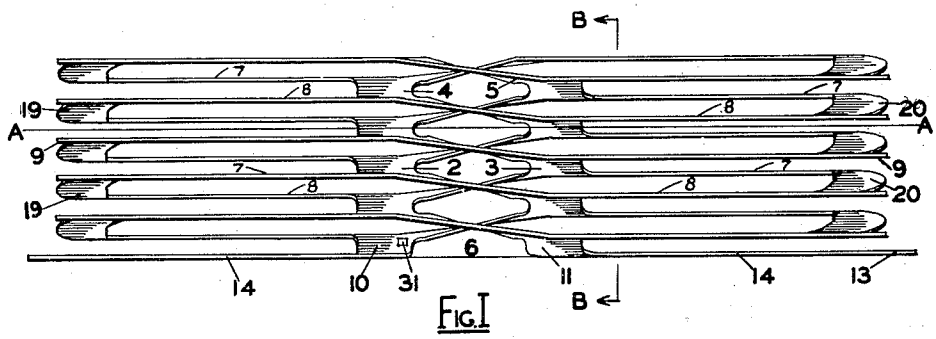


FIG. I

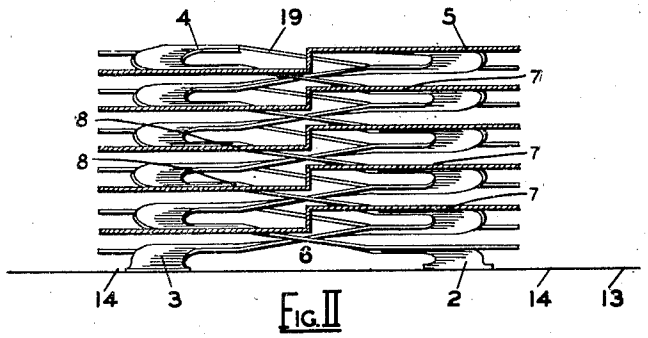


FIG. II

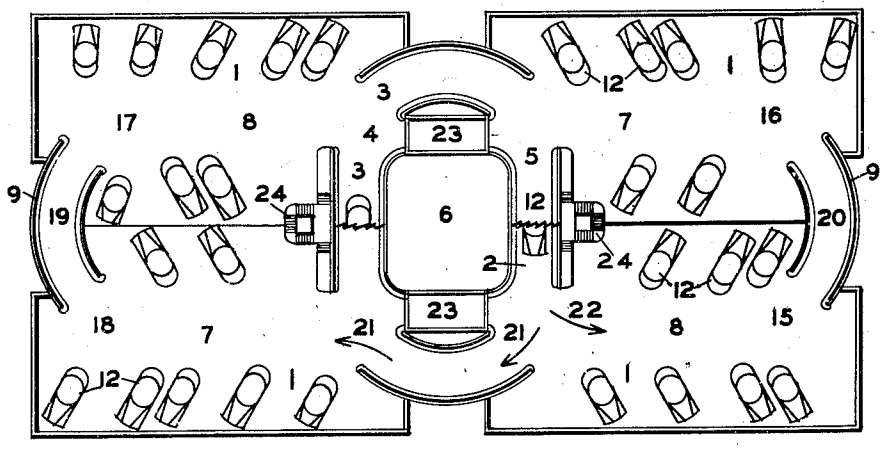


FIG. III

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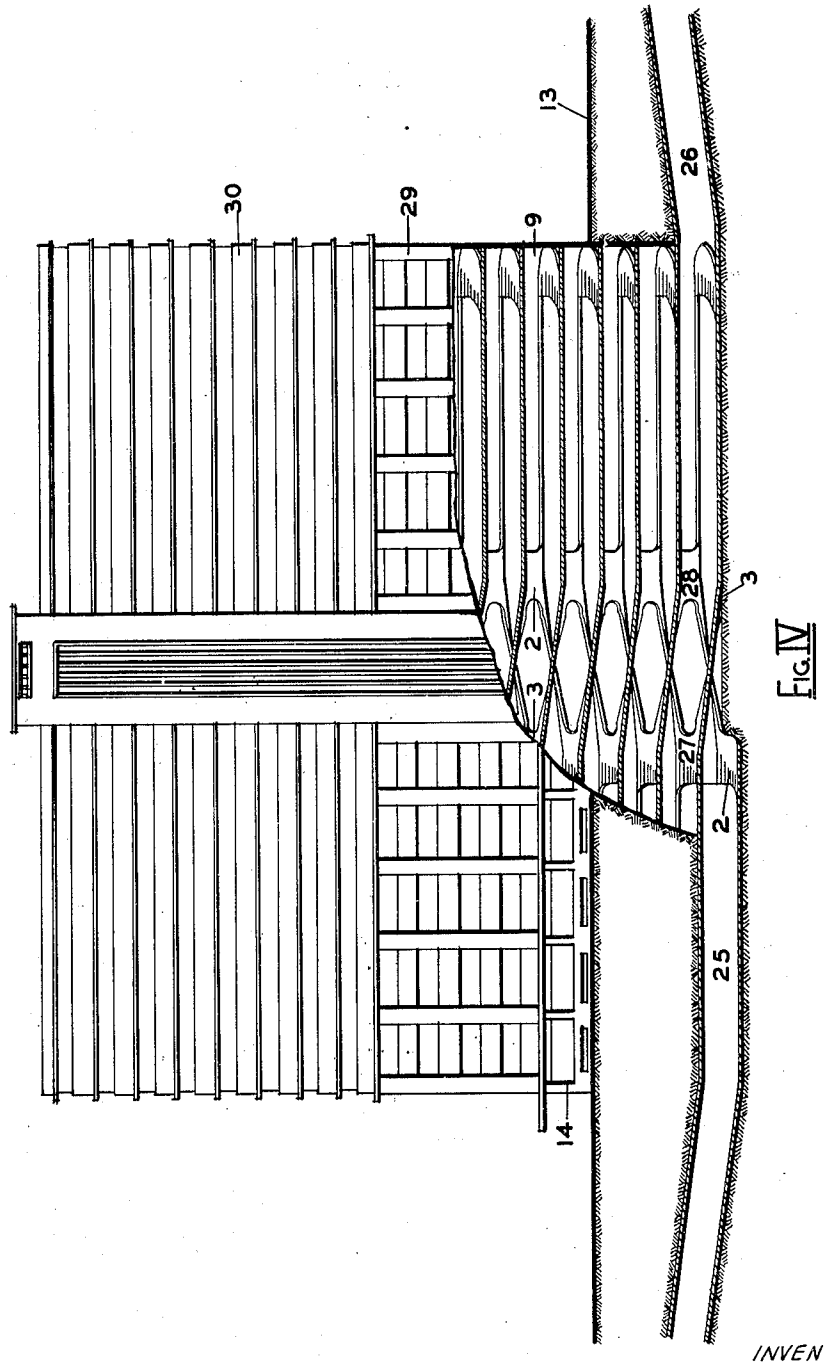


FIG. IV

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Patented Aug. 21, 1951

2,565,243

UNITED STATES PATENT OFFICE

2,565,243

PARKING GARAGE FOR MOTOR VEHICLES

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Application October 29, 1947, Serial No. 782,718
In Union of South Africa December 2, 1946

4 Claims. (Cl. 20—1.13)

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This invention relates to a building of multiple floors adapted to provide parking space for motor vehicles.

The object of this invention is to provide a motor vehicle parking garage having multiple superimposed parking bays with separate one way roadways for ingoing and outgoing traffic providing access to the parking bays.

More particularly the object is to provide superimposed parking bays conforming to a regular pattern for each level, separate inlet and outlet roadways in the form of two interwoven helicoids, and a plurality of superimposed roadways connecting the inlet and outlet roadways and providing access to the parking bays.

The preferred embodiment of this invention is illustrated diagrammatically in the accompanying drawings in which:

Fig. I is a side elevation in diagrammatic form of the roadways and parking bays of the garage with the walls of the latter omitted.

Fig. II is a sectional end elevation on the line B—B—Fig. I.

Fig. III is a sectional plan on the line A—A in Fig. I, and with some vehicles in position, and

Fig. IV is a side elevation, partly in section, of a garage according to this invention.

As shown in the drawings each of the parking bays 1 conforms to a regular pattern; each bay 1 is connected by separate inlet and outlet roadways 2, 3 to the one below or above it providing it is not the top or bottom bay. The roadways 2, 3 are in the form of two interwoven helicoids 4, 5. These helicoids 4, 5 are conveniently positioned at or near the centre 6 of the garage and surround a central space therein.

Access to the parking bays 1 is provided by roadways 7, 8 which extend approximately tangentially from the helicoidal inlet and outlet roadways 2, 3 respectively. The roadways 7, 8 are on different levels and are connected near the ends 9 of the garage by means of ramps as hereafter described.

In the embodiment of this invention illustrated in Figs. I, II, and III the garage has, centrally positioned at opposite sides of its length an entrance 10 and exit 11 respectively for motor vehicles 12 on the ground level 13. The entrance 10 and exit 11 connect with the helicoidal roadways 2, 3 respectively.

If desired however the ground floor 14 may be provided with a plurality of entrances and exits traversing in any suitable direction the ground floor 14 to connect with the helicoidal roadways 2, 3. Ramps may be used for this purpose where

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necessary. This arrangement will allow the remainder of the space on the ground floor 14 to be available for other purposes such as shops or offices.

As shown in Fig. III, the helicoidal roadways 2, 3 are preferably of elliptical shape in plan and they extend a fairly large distance across the width of the garage so that their gradient will be minimised and the roadways 7, 8 extending tangentially therefrom will be most suitably placed to provide access to the parking bays 1.

The adjacent arms 15, 16 and 17, 18 of the roadways 7, 8 are on different levels and are connected together by the curved ramps 19 or 20, positioned towards the ends of the building. The arms 15, 17, or 16, 18 and thus the parking bays 1 served from the same, on diagonally opposite sides of the garage, are on substantially the same level. The arms 15, 17 connect on the same level with the inlet and outlet roadways 2, 3 respectively and the arms 18, 16, connect on a higher level with said roadways 2, 3 respectively. To allow for the necessary elevation of a vehicle 12 travelling from the arm 15 to the arm 16 or the lowering of a vehicle travelling from the arm 18 to the arm 17, the ramps 20 and 19 respectively are provided. Thus a vehicle 12 coming up the inlet roadway 2 (see Fig. III), may turn off in the direction of the arrows 21 to the parking bays 1 on the left hand side of the garage or in the direction of the arrow 22 to the parking bays 1 on the right hand side of the garage. In the former case the vehicle 12 may travel along the arm 18 of the roadway 7 and go down the ramp 19 to return to the outlet roadway 3 at a lower level.

In the latter case a vehicle 12 following the direction of the arrow 22 will go up the ramp 20 to return to the outlet roadway 3 at a higher level. Once a vehicle 12 has turned off the inlet roadway 2 it cannot again get onto the same but must park or travel along the arms 15 and 16 or 18 and 17 and so move onto the outlet roadway 3.

In certain cases as when a motor vehicle 12 has broken down or become immobile it is desirable to use lifts 23. For this purpose, as shown in Fig. III, the space 6 in the centre of the helicoids 4, 5 is utilised and the lifts 23 are positioned so as to be easily accessible from the roadways 7 or 8. Passenger lifts 24 are also provided and are conveniently positioned adjacent to the parking bays 1.

The parking garage may be positioned below the ground level 13 or as shown in Fig. IV it may extend above as well as below the ground level 13.

In the latter case access to the bays 1 below the ground level 13 is provided by the continuation 28 of the exit roadways 3 and the exit from said bays provided by the continuation 27 of the inlet roadways 2. There will thus be no change in the direction of travel along the roadways 2, 3. In addition to the normal entrances 10 and exits 11 described above tunnelled or other suitable roadways 25, 26 below the ground level 13 and connecting with the continuations 27, 28 of the inlet and outlet roadways 2, 3 may be provided.

The roadways 25, 26 are preferably furnished with inlets and exits positioned some distance away from the garage so as to provide a gentle gradient for said roadways and to avoid congestion of traffic in the immediate vicinity of the garage.

Since it is obviously undesirable to have the parking bays 1 extending to too great a height, as illustrated in Fig. IV, the parking garage may conveniently form the lower portion of a larger building 29 and have above it a block 30 of offices or the like.

It will be seen from Fig. III, that once a vehicle has left the inlet roadway 2, in the event of all the parking bays 1 being full, it can only travel in the one direction along either of the roadways 7 or 8 to join the outlet roadway 3. For this reason it is desirable for the traffic intending to come up the inlet roadway 2 to have suitable indicating devices 31 to show to the drivers whether parking spaces are available at any of the different levels. These indicating devices are preferably automatically operated by any well known means generally controlled by the vehicles themselves moving in or out of position in the parking bays, or along the roadways 7, 8 or along the helicoidal outlet roadways 3.

The invention has been described and shown as applied to a building on a rectangular oblong site so that there are four parking bays at each floor level each bay being roughly of the same shape and size and each extending from the centre to its respective corner, but it will be understood that the invention is not limited to the particular embodiments illustrated.

This invention provides a parking garage of multiple superimposed parking bays and one way roadways having moderate gradients and providing easy access to and exit from the parking bays.

What I claim and desire to secure by Letters Patent is:

1. A multiple floor parking garage for motor vehicles comprising two regularly entwined helicoidally shaped roadways, oppositely disposed pairs of superimposed parking bays each bay flanking said roadways, the parking bays in each pair positioned adjacent to each other on different levels with the diagonally opposite parking bays on substantially the same level said parking bays connected to the helicoidal roadways at their points of intersection therewith such that the adjacent parking bays are connected to different roadways and the opposite parking bays to the same roadway, and ramps connecting each pair of adjacent parking bays.

2. A multiple floor parking garage for motor vehicles comprising two regularly entwined helicoidally shaped roadways, oppositely disposed pairs of superimposed parking bays each bay flanking said roadways, the parking bays in each pair positioned adjacent to each other on different levels with the diagonally opposite parking bays on substantially the same level said parking bays connected to the helicoidal roadways at their points of intersection therewith such that the adjacent parking bays are connected to different roadways and the opposite parking bays to the same roadway with each circuit of each helicoidal roadway connecting with four parking bays on different levels, and ramps connecting the outer opposite ends of each pair of adjacent parking bays.

3. A multiple floor parking garage comprising a separate inlet and outlet roadway in the form of two regularly entwined helicoids, oppositely disposed pairs of superimposed parking bays each bay flanking said roadways, the parking bays in each pair positioned adjacent to each other on different levels with the diagonally opposite parking bays on substantially the same level said parking bays connected to the helicoidal roadways at their points of intersection therewith such that the adjacent parking bays are connected to the inlet and outlet roadways respectively, the opposite parking bays to the same roadway, and the superimposed parking bays connected alternately to the inlet and outlet roadways, and ramps connecting the outer opposite ends of each pair of adjacent parking bays.

4. A multiple floor parking garage as claimed in claim 2 in which the helicoidal roadways are vertically but not horizontally displaced relative to each other a distance substantially equal to the difference in level between the adjacent parking bays said distance being substantially half the pitch of the helicoids.

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