Oct. 15, 1968 J. H. PEARSON 3,405,612

METHOD AND APPARATUS FOR HANDLING URBAN SHOPPER TRAFFIC

Filed Nov. 25, 1966 4 Sheets-Sheet 1

Fig. 1.

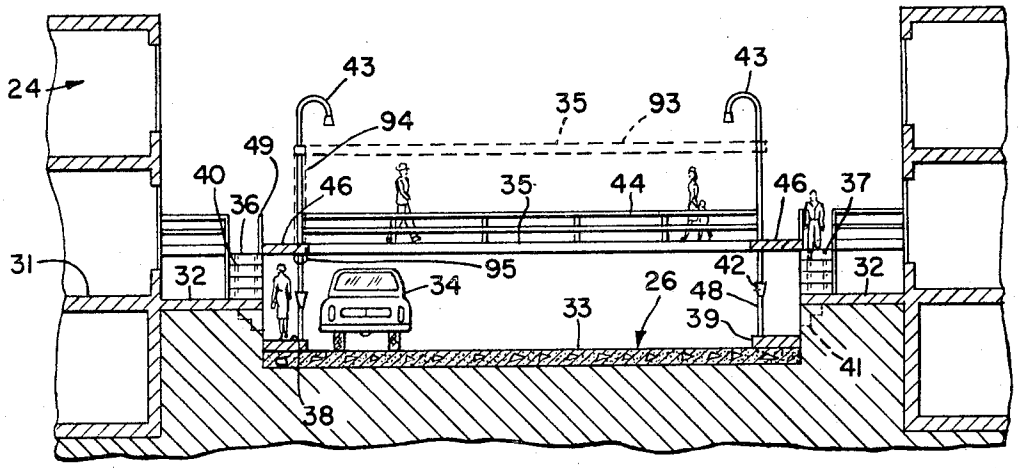
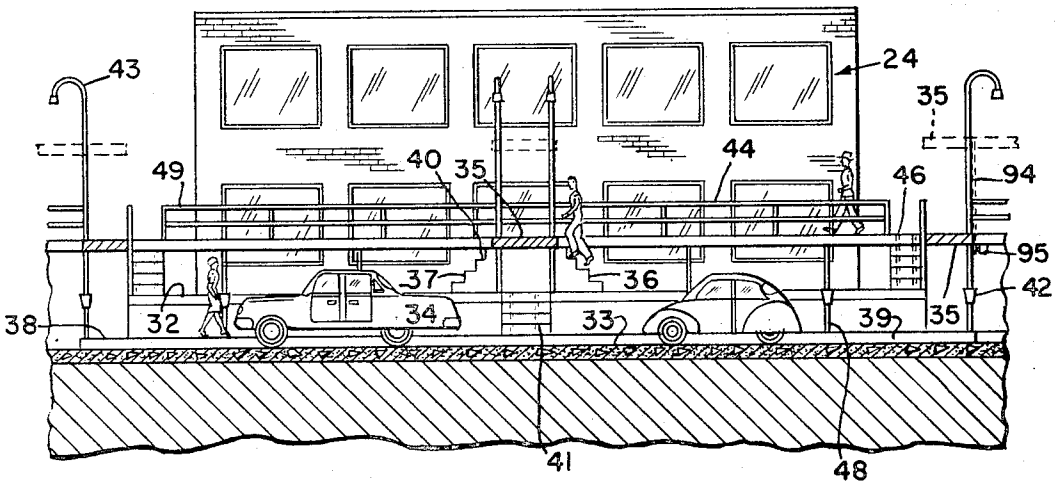


Fig. 2.

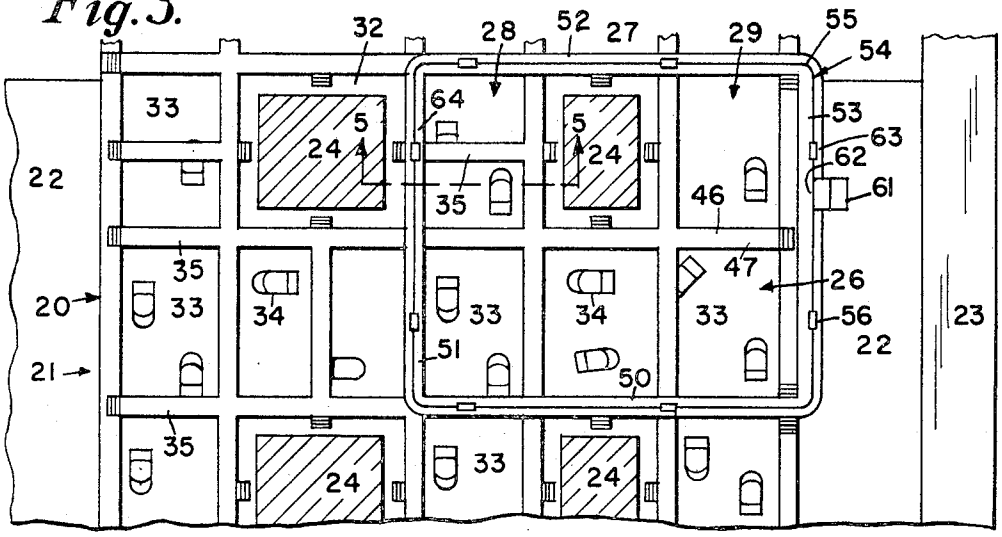


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METHOD AND APPARATUS FOR HANDLING URBAN SHOPPER TRAFFIC

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Fig. 3.



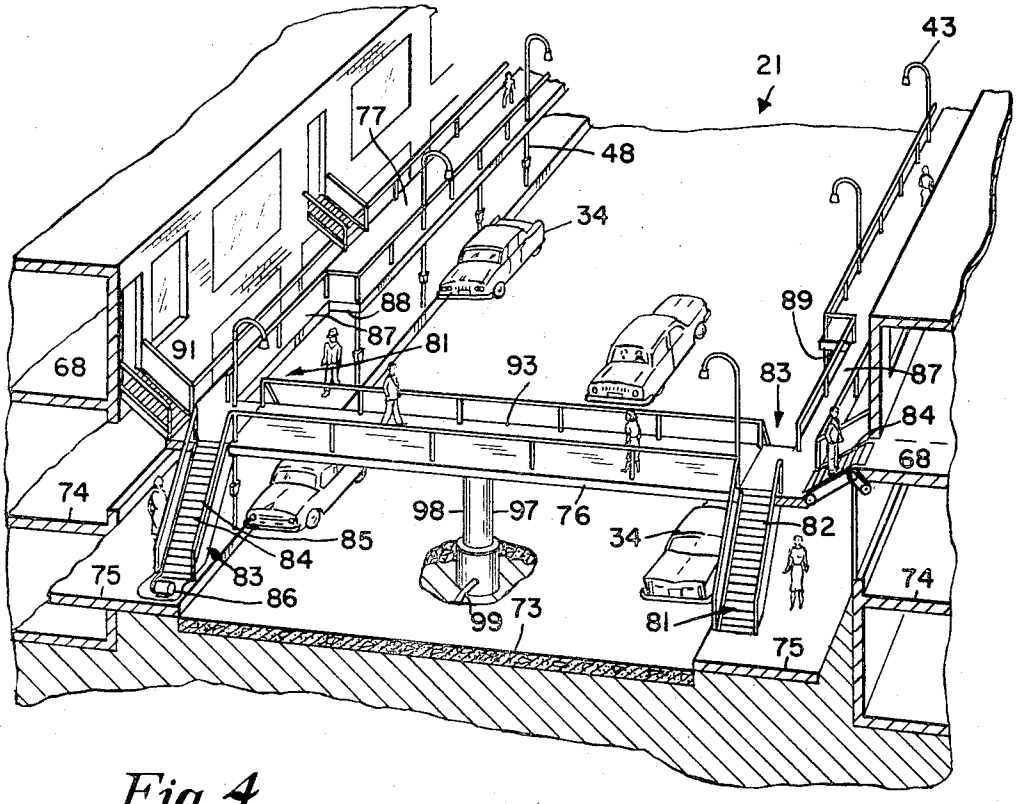


Fig. 4.

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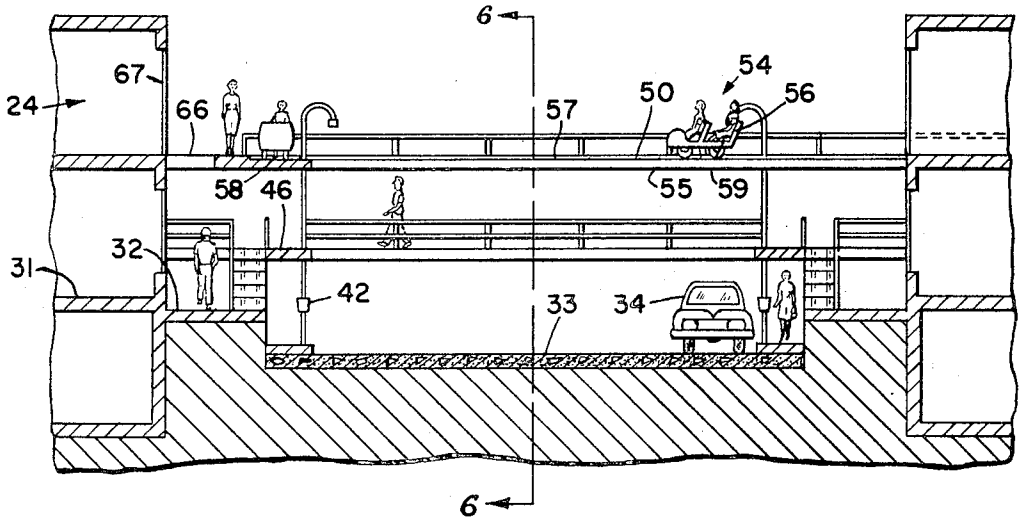
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METHOD AND APPARATUS FOR HANDLING URBAN SHOPPER TRAFFIC

Filed Nov. 25, 1966 4 Sheets-Sheet 3

Fig. 5.



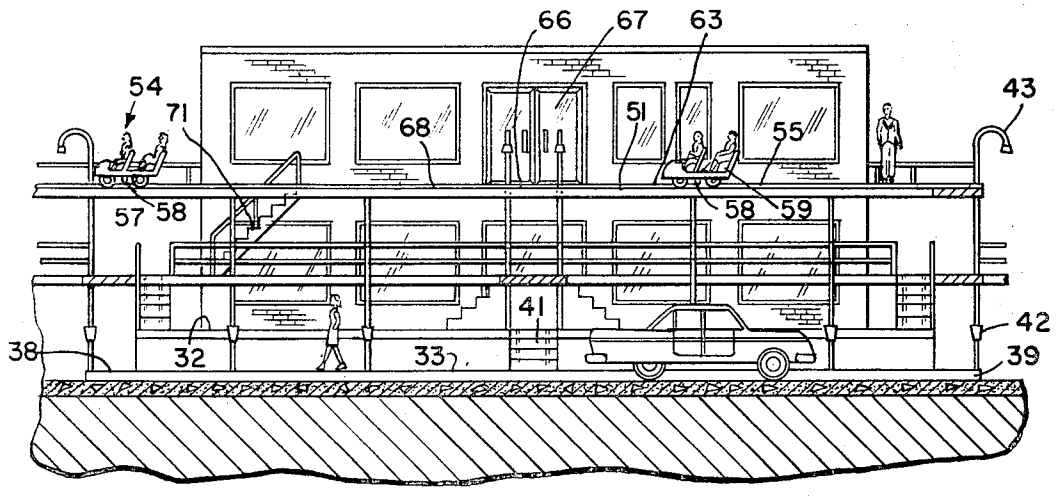


Fig. 6.

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METHOD AND APPARATUS FOR HANDLING URBAN SHOPPER TRAFFIC

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Fig. 7.

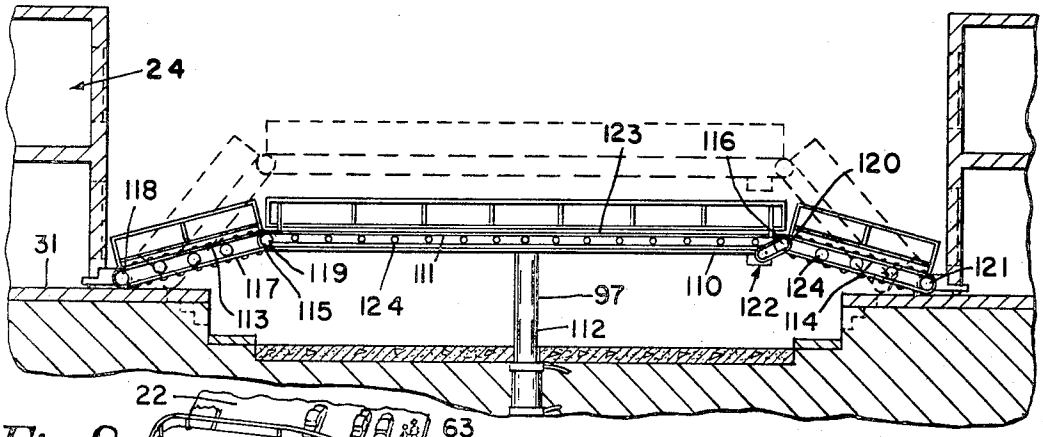
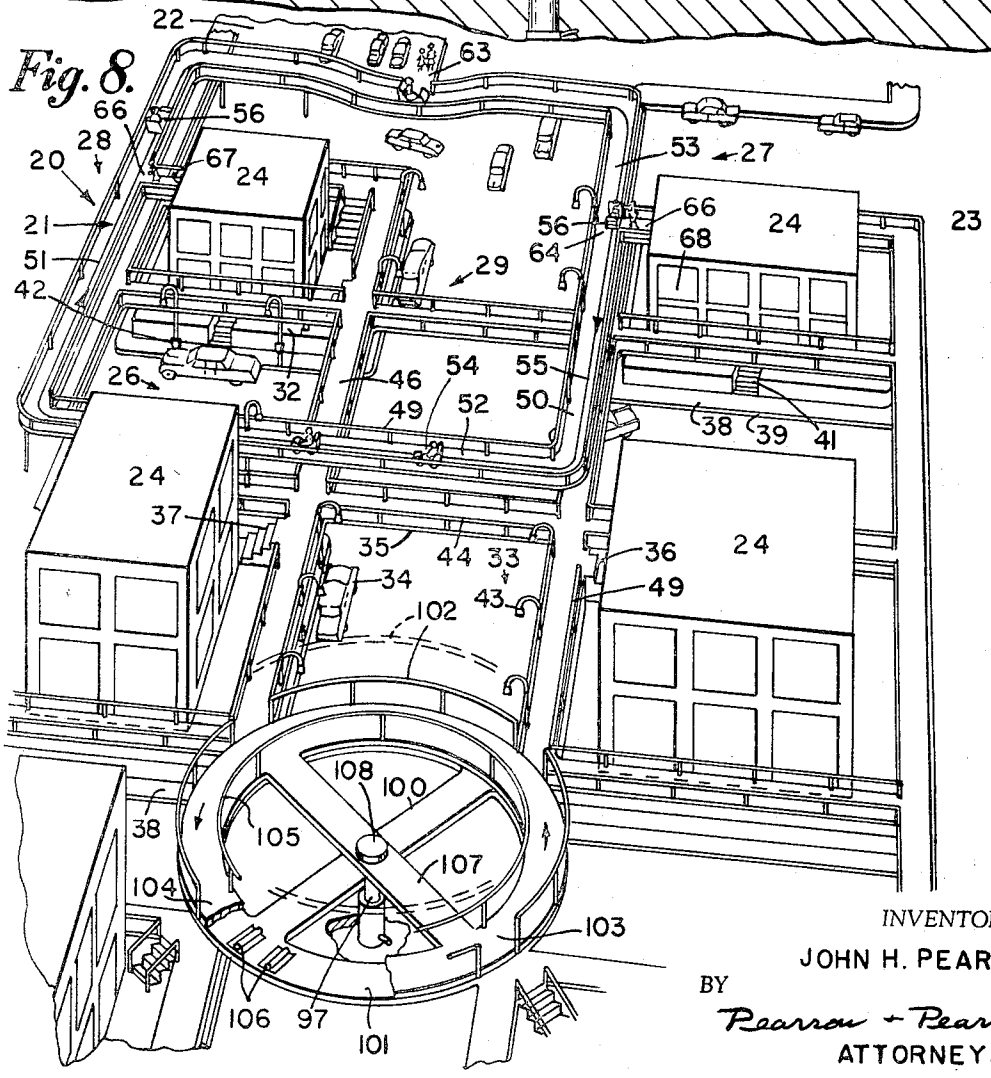


Fig. 8.



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3,405,612

METHOD AND APPARATUS FOR HANDLING URBAN SHOPPER TRAFFIC

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Continuation of application Ser. No. 337,886, Jan. 15, 1964. This application Nov. 25, 1966, Ser. No. 597,172
19 Claims. (Cl. 94—1)

ABSTRACT OF THE DISCLOSURE

Urban pedestrian and vehicle traffic is handled by barring all vehicles, of greater than passenger automobile height, from the streets during shopping hours, by lowering street levels about three or four feet so that only the windowed portions of the passenger automobiles are above normal sidewalk level and by providing a multiplicity of pedestrian bridges over the streets, at just above the level of the tops of the windowed portions of the automobiles. No loss of parking spaces occurs but shoppers may easily cross from sidewalk to sidewalk, by ascending three or four steps to a bridge, without waiting for traffic to stop. The bridges are movable to pass fire engines at any time, or to pass trucks at desired times.

Related applications

This application is a continuation of my application Ser. No. 337,886 filed Jan. 15, 1964, now abandoned.

This invention relates to structures for, and to a method for, handling pedestrian and automobile traffic in a shopping centre and especially to shopping centres of the established city, urban type.

In designing a suburban shopping centre, where land areas are available at relatively low cost, it is possible to locate the shops and offices in a central core around a pedestrian mall, to provide large automobile parking areas around the exterior of the core and to feed the parking areas from adjacent highways. Thus the shopper may easily reach the parking area by highway, walk from the parking area to the core without breasting through traffic and pass from shop to shop and back to the parking area without vehicular annoyance or danger.

On the other hand in the long established, urban shopping centres, such as a typical city laid out before the advent of the automobile, shopping has become increasingly difficult. In many urban shopping centres, through truck, bus and automobile traffic is not routed around the centre but continues to pass through the main streets. To avoid jamming up such vehicle traffic, traffic control systems tend to penalize the pedestrian so that a shopper must wait several minutes to cross an intersection and takes life in hand crossing a street between shops.

Sometimes an outer belt route has been constructed around urban shopping centres and buildings demolished to create outer belt parking areas, but the shopper is still faced with the task of crossing busy streets from the parking area to the shops and crossing busy streets between shops. Sometimes, a single main shopping street, has been closed to vehicular traffic and converted into a mall, still without regard to enabling the shopper to safely and conveniently walk from the parking area to the mall and without regard to the number of parking spaces unusable because of the mall.

It is the principal object of this invention to provide structures, and a method, for enabling pedestrians to freely travel from a parking area to the shops of an urban shopping centre and back to the parking area without breasting vehicle traffic while at the same time enabling passenger automobiles to freely travel into, or through, the centre and to continue to park in the streets of the

centre, while such automobiles have their lower portions just below conventional sidewalk level and their upper, windowed, portions just above conventional sidewalk level.

Summary of the invention

In general this objective is accomplished by permitting only modern low passenger cars on the streets of the centre, erecting pedestrian bridges across the streets at just above passenger automobile height and by lowering the surfaces of the streets about three to four feet. Thus by ascending a height of three or four steps, a pedestrian may cross over the traffic from the ground level sidewalks and by descending similar steps the shopper can enter an automobile parked as usual on the streets.

Further objects of the invention are to not only provide bridges across the streets accessible by no more than about five steps above original sidewalk level, but to also provide a pedestrian supporting roof, at or above bridge height, along, and beyond the outside edge, of the original sidewalks, the roof extending to the nearest automobile parking areas. Thus shoppers walking therebelow are protected from the elements and shoppers walking thereon may travel from the parking areas, over any intervening traffic to the desired shop without changing levels and while viewing not only first floor show windows, but also viewing second floor show windows.

Another object of the invention is to provide a power operated pedestrian conveyor on a roof at second floor level, for example, spaced vehicles indexed from one station to another around a closed loop connecting the parking areas, with the shops. Thus a shopper is not only conveyed to the shops, but may be conveyed from one shop to another, or up to the second floor of a building having no elevator and down to sidewalk level, by suitable dips and rises in the roof.

Still another object of the invention is to provide power means for moving the low height bridges, from their normal low position, barring all vehicular traffic of greater height than a conventional passenger automobile, to a higher position where they are up out of the way of trucks and buses in an emergency, or at designated times of day.

Still another object of the invention is to provide an urban shopping centre with pedestrian bridges extending across all streets, at predetermined spaces, each bridge having pedestrian ascent and descent means at each end, having an overall height above ground floor level of no more than about four feet, thereby requiring only the minimum foot pounds of energy for climbing that the average shopper appears to be willing to exert.

Thus the bridges are only about a foot above the top of a modern automobile, the automobile surface is no more than about four feet below the sidewalk and the shopper must climb no more than about four feet above the conventional sidewalk to cross the bridge. Where the lowered road surface of the invention is impossible, or undesirable, the bridges will necessarily be about seven feet above sidewalk level and the pedestrian ascent means to the bridges will preferably consist of a power operated moving belt or an equivalent low cost conveyor.

Other objects and advantages of the invention will be apparent from the claims, the description of the drawings and from the drawings in which:

FIG. 1 is an end elevation, in section, of a typical street in an urban shopping centre showing one embodiment of the invention;

FIG. 2 is a side elevation, in section, of the structures shown in FIG. 1;

FIG. 3 is a plan view, on a reduced scale showing a zone of an urban shopping centre with belt road, parking area and business establishments shown diagrammatically with the invention hereof installed therein;

FIG. 4 is a perspective view, in section, showing the invention installed with the automobile supporting surface only slightly below sidewalk level and showing powered ascent means to the bridges.

FIG. 5 is a view similar to FIG. 1, and taken on line 5—5 of FIG. 3, showing the preferred embodiment of the invention in which the road surface is at sub surface level, the bridges and high level sidewalk are at a level about three feet above the surface level sidewalk and the high level, conveyor is at second floor lever, directly over the high level sidewalk to form a roof over the same.

FIG. 6 is a side elevation on line 6—6 of FIG. 5.

FIG. 7 is a view similar to FIG. 1 showing a preferred type of bridge especially useful for crossing a side street at its intersection with a main street, and

FIG. 8 is a diagrammatic, perspective view showing a preferred type of bridge, especially useful at the four corners of an intersection, and showing the closed loop of the conveyor superposed on certain of the bridges and sidewalks as it would appear from the left of FIGURE 3.

As shown diagrammatically in FIGURE 3, this invention is intended for use in an urban shopping centre **20** such as a typical city, an urban zone, or section thereof being shown at **21**, it being understood that there may be several such zones each having an automobile parking area, or garage **22**, easily accessible from the outer belt highway **23**. The business, or commercial establishments **24**, forming the attraction to shoppers, are usually multi-storied buildings, housing stores and offices, occupying a city block and bounded by the usual cross streets such as **26, 27, 28** and **29**. It will be apparent that to reach the stores **24** from the parking areas **22**, it is necessary, at present, for the shopper to cross several streets and that street crossing is also necessary in progressing from store to store in zone **21**.

In practicing the method of this invention the first step is to bar all vehicles from the streets of zone **21**, of a height greater than that of an average passenger automobile, such height at present being less than six feet and often only about four to five feet. Buses pick up and deliver shoppers at the automobile parking areas. Delivery or other trucks are permitted to deliver to the stores **24** only at night, or are provided access routes to the rear of the stores or are required to transfer goods to passenger height vehicles.

The first, or ground, floor **31** of each store **24** and the sidewalks **32** extending therealong are usually at about ground, or surface, level while the road surface of the streets **26, 27, 28** and **29** is usually about six inches below ground level for surface water drainage purposes.

In this invention, however, the conventional street level is preferably lowered and provided with an automobile supporting road surface **33** which is about half the height of a passenger automobile **34**, or about four feet, below the level of the conventional sidewalks **32**, preferably uniformly along all streets in zone **21**. To tunnel the roads, or to deepen the road surface more than about this amount, would prevent automobile passengers from seeing the store windows with a consequent loss of business objectionable to the merchants.

The next step in the method of the invention is the provision of a plurality of pedestrian walk way bridges **35**, at spaced distances along the conventional sidewalks **32**, especially at street intersections, each bridge extending from the sidewalk across the automobile passageways **26, 27, 28** and **29**, to the other side thereof usually to another sidewalk. Each bridge **35** is at a predetermined level above the road surface **33**, at a height slightly greater than the height of an automobile **34** for example, about seven feet to permit automobiles to freely pass therebelow while pedestrians freely pass thereabove. Because of the predetermined, uniform sub surface level of the road surface **33**, pedestrian ascent means **36** and pedestrian descent means **37** at each opposite end of each bridge may be only about three feet in height above the level of the conventional sidewalk **32**. Thus in the preferred form of the invention means **36** and **37** may be three or four stairs **40** connecting the sidewalk **32** to the bridges **35**, or a short inclined ramp, and the foot pounds exerted in climbing the same are well within the capability of the average lady shopper.

It will be understood that prior pedestrian bridges over automobile traffic, have usually required a climb of twelve to fifteen feet to cross over trucks and buses and the ascent descent means has usually been a ramp over thirty feet long, such means not being appealing to a tired shopper.

It would be possible to cover a major portion of the road surface **33** with a pedestrian supporting bridge to form a mall, but such a structure would form a tunnel for the automobiles while preventing shoppers on one side of the streets from viewing the show windows on the other side. It is, therefore, preferred, to provide lightly framed bridges, at predetermined spaced distances apart which are relatively narrow as shown in the drawings and therefore do not block the view of a shopper to any appreciable extent.

As shown in the drawing, the low level road surface **33**, functions as usual, with no loss of parking spaces. Preferably a low level sidewalk **38** and curb **39** are provided along one, or both, sides of the road surface **33**, the sidewalk **38** permitting parkers to walk therealong without danger from traffic to the flight of three or four steps **41** providing access to the sidewalk **32**. Parking meters **42** and street lights **43** are provided, as usual, the latter serving as bridge supports if desired and the bridges having suitable railings **44**.

In the embodiment of the invention, shown in FIGURES 1 and 2, a continuous, pedestrian, walk-way roof **46** is provided at bridge level and extending between bridges at pedestrian height above the low level sidewalk **39** to form a high level sidewalk.

The roof **46** preferably includes extensions **47** reaching to the parking area **22** so that a shopper may travel thereunder throughout the zone **21** while protected from the elements. Suitable spaced posts **48** support the roof **46** at bridge level, or about three feet above and outside conventional sidewalk **32** so that it serves as a fence to prevent falls into the lowered road surface **33**. A railing **49** is also provided on both sides of the roof **46**, for the same purpose. The walk-way roof **46**, not only shields shoppers from sun and rain, but also permits a shopper to travel at roof level, as far as desired, across any and all streets and descending to sidewalk **32** only when it is desired to enter a particular shop.

As shown in FIGURES 3, 5, 6 and 8, a continuous high level walk-way roof **50**, similar to roof **46**, but at a greater height, forms a closed loop, including a stretch reaching to the relatively remote parking area **22** and including one or more stretches such as **51, 52** and **53** extending along one side, or the other of the streets **26, 27, 28** and **29**. Preferably, pedestrian conveyor means **54** extends along roof **50** in the form of an endless member **55** having small passenger-carrying wheeled vehicles **56** uniformly spaced therealong, the member **55** being recessed in a slot **57** and the vehicles connected thereto by an arm **58** so that the slot serves as a guideway, or track. Unlike continuously moving sidewalks which are costly and may cause a pedestrian to lose balance, in this invention the vehicles **56** have seats **59** and the member **55** is operatively connected to power means **61**, such as an electric motor, by intermittent, or indexing means **62**. The vehicles **56** are so spaced that one is stopped at one location, or station, such as at **63** in the parking area **22** while others are stopped at other stations such as **64** at the second floor entrance of a store **24**, thereby permitting shoppers to enter and leave without danger and without being required to exercise unusual agility.

The roof **50** is sufficiently wide, for example six feet, to permit pedestrians to walk along one strip thereof,

while the slot 57 and vehicles 56 occupy another strip thereof, the vehicles being less than three feet in width.

In the shopping centres of most cities the multi-story buildings with elevators bring higher rents than the two or three story walk-up buildings without elevators. The latter tend to become vacant on the second floor, as other buildings are modernized, thereby reducing building income and ability to pay real estate taxes. On the other hand, the installation of an elevator, or moving stairway, in walk-up buildings is relatively expensive and the cost not recoverable in increased rents. One of the advantages of the continuous roof 50, and its endless pedestrian conveyor means 54, is that it runs generally parallel to ground surface level, generally at second floor level above the sidewalks and bridges to convey shoppers to second floor entrances to department stores and to certain buildings in zone 21 having no elevators, while also protecting pedestrians on the bridges and on the sidewalks therebelow, from the elements. As shown in FIG. 6, the roof 50 carries each successive vehicle 56 to a platform 66 at a second floor entrance 67, thereby bringing the second floor 68 back into an income producing category for both the owner and the city.

If the roof 50 were at bridge height, it would be necessary for shoppers, using the bridges 35, to avoid oncoming vehicles 56, in using the ascent means 36 and descent means 37, this being contrary to the spirit of the invention. However, by running the roof 50 generally parallel to, and about second floor level above, sidewalks 32, the conveyor means 54 does not interfere with use of the bridges. Suitable ramps, or stairs, 71 permit passengers in the vehicles 56, or pedestrians walking on roof 50, to ascend or descend between the level of the roof 50 and the level of the bridges 35.

As shown in FIGURE 4, in cities where lowering of the vehicle surfaces 33 is impossible due to drainage, utility pipes or other problems, the automobile supporting road surface 73 may remain at slightly below the level of ground floors 74 and conventional sidewalks 75. In such case the pedestrian bridges 76, corresponding to bridges 35, are at a level just above the height of the automobiles 34 on surface 73 or about seven feet. The continuous roof 77, corresponding to roofs 46 and 50, is at the level of bridges 76. Descent means 81 may be in the form of an inclined ramp or stairway 82 while ascent means 83 is preferably in the form of a short, inclined, endless belt 84, having transverse ribs 85 serving as a foot hold. The upper stretch of belt 84 moves continuously upwardly at slow speed by drive connection to suitable power such as an electric motor and gear reduction unit 86. The strip 87, of roof 77, proximate the roadway may be cut away as shown at 88 and 89, to accommodate the ascent and descent means. A stairway 91 is provided along roof 77, at each location where access to second floors 68 of walk-up, or other, buildings 24 is desired and, in place thereof, a powered belt 84 may be provided if desired.

Preferably each bridge such as 35 or 76 includes a portion 93 mounted to be moved out of the path of emergency vehicles such as fire trucks or out of the way of delivery trucks serving stores 24 at nighttime or during non-shopping hours. As best shown in FIG. 1 in dotted lines, the portion 93 of each bridge such as 35 is vertically liftable to a height thirteen feet above road surface 33 on vertical guides such as the pairs of posts 43, by power means such as the chain type lift 94 at each end automatically actuated by the electric motor 95.

Alternatively, each bridge whether a single span 76, or a set of such spans crossing from corner to corner at a road intersection, has its extremities detachably supported on the stair or ramp means 82 or 83 and is centrally supported on the piston 97 of a hydraulic lift 98 of the type used in gasoline stations for lifting vehicles. Thus the bridge, or bridge unit can be raised from normal level six or seven feet above the automobile supporting surface below to a level twelve or thirteen thereabove for the passage of trucks, by hydraulic power means indicated at 99 and commercially available.

As shown in FIG. 8, each bridge may have a horizontal wheel-like frame centrally supported by a hydraulic lift and piston 97, in the centre of an intersection, with non-rotatable arms 100 terminating in an annular plate 101, the latter having a railing 102 with suitable gaps 103 at each corner. An annular plate 104 having a continuous inner railing 105 is rotatably mounted on plate 101, by suitable rollers 106, so that the plate 104 may be continuously, unidirectionally turned by the arms 107 and motor 108 to convey pedestrians from corner to corner across the intersection and above traffic. In an emergency, or at night, the entire rotating bridge may be raised to the dotted line position, to permit normal traffic flow, pedestrians then crossing the street as usual whether at surface level as in FIG. 4, or at sub surface level as in FIG. 1.

If desired, all stair or ramp means may be telescopable or extensible to permit the raised bridges to be used in low or high position or elongated ramps may be used at normal heights which simply slide to a more inclined angle as the bridges are raised to the higher level. The especial advantage of lowering the street level as in FIG. 1, is that the bridges and walk-way roofs are thus lowered to about three feet above conventional sidewalk level, pedestrians, up to six feet in height, may walk thereon without interference from a conveyor 54, and the conveyor 54 may be at the usual second floor level of ten to twelve feet, on a high level roof without causing a secondary traffic problem.

Obviously the low level walk-way roofs could have a belt-type moving sidewalk thereon, but this would necessitate separate belts terminating at the end of each cross bridge, or otherwise disappearing at pedestrian cross-over points, and a conveyor such as 54 is believed to be more economical. As shown in FIG. 7, a low cost conveyor type bridge 110 may be used if desired, consisting of a central section 111, liftable by hydraulic piston 112, located centrally, and moderately sloped ramps 113 and 114 pivoted at 115 and 116 to the span 111. Upon lifting span 111, the ramps continue to function but at a greater angle. A single ribbed endless conveyor belt 117 is trained around suitable rollers 118, 119, 120 and 121, and powered by motor means 122 so that the upper stretch 123 forms a continuous, slow moving, unidirectional pedestrian conveyor. For movement in opposite directions, a pair of such conveyors are mounted side by side, such devices being useful to cross a side street entering a main street or to cross a main street at a location between major department stores or the like. Suitably spaced idler rolls 124 support the upper stretch 123.

In operation the step of supporting passenger vehicles in the urban area with the wheeled lower body portions below ground level and the windowed upper portions above ground level results in uninterrupted flow of traffic in shallow, open channels which fully admit sunlight and air to the streets while retaining visibility of the show windows from the automobile windows. The step of supporting the pedestrians on relatively widely spaced, lightly framed crosswalk bridges, at a level just above the tops of the passenger vehicles passing therebelow results in no blocking of light, air or visibility while enabling uninterrupted pedestrian flow across streets with minimum ascent and minimum expenditure of energy.

What is claimed is:

1. In an urban shopping centre of the type having an automobile passageway therein, pedestrian sidewalks at ground level extending along each opposite side of said way and commercial establishments along said sidewalks, the combination of:

an automobile-supporting road surface in said automobile passageway extending for a substantial distance therealong at a substantially uniform predetermined depth below the level of said sidewalks, said

depth being equal to slightly more than half the height of a conventional passenger automobile;

a plurality of spaced, pedestrian, walkway, bridges extending transversely of said passageway and connecting one said sidewalk to the opposite sidewalk, each said bridge having a portion extending over and above said road surface normally at a substantially uniform predetermined height above the level of said sidewalks equal to about half the height of said automobile and at a height above the level of said road surface equal to slightly more than the full height of said automobile;

means mounting each said bridge portion for movement out of the path of vehicles passing along said road surface and

power means for actuating each said mounting means;

said bridge portions each normally constituting a barrier across said road surface to the passage of vehicles, of greater height than a conventional passenger automobile, such as trucks, buses and fire engines, but being movable to permit the passage of such vehicles during selected periods.

2. A combination as specified in claim **1** wherein:

each said bridge is relatively narrow and lightly framed and said bridges are relatively widely spaced apart from each other,

whereby occupants of said automobiles may see the ground floor show windows of said commercial establishments without obstruction of view by said bridges.

3. In an urban shopping centre of the type having an automobile passageway therein, pedestrian sidewalks at ground level extending along each opposite side of said way and commercial establishments along said sidewalks, the combination of:

an automobile-supporting road surface in said automobile passageway extending for a substantial distance there-along at a substantially uniform predetermined depth below the level of said sidewalks, said depth being equal to slightly more than half the height of a conventional passenger automobile;

a plurality of spaced, pedestrian, walkway, bridges extending transversely of said passageway and connecting one said sidewalk to the opposite sidewalk, each said bridge having a portion extending over and above said road surface normally at a substantially uniform predetermined height above the level of said sidewalks equal to about half the height of said automobile and at a height above the level of said road surface equal to slightly more than the full height of said automobile;

a pedestrian low level sidewalk and curb extending along at least one side of said road surface at about the level thereof and beyond the outer edge of the adjacent ground level pedestrian sidewalk for the use of persons alighting from automobiles parked on said road surface,

and stairs, comprising no more than about five steps, extending from said low level sidewalk up to said ground level pedestrian sidewalks at spaced distances therealong;

said bridge portions each normally constituting a barrier across said road surface to the passage of vehicles of greater height than a conventional passenger automobile, such as trucks, buses and fire engines, but permitting passenger automobiles to freely pass thereunder.

4. In combination:

a shopping centre having at least one store with a first floor at ground level;

a sidewalk alongside said store having a pedestrian supporting surface substantially at said ground level;

a street alongside said sidewalk having a passenger automobile-supporting surface at a predetermined, substantially uniform, sub-surface level about four

feet below said ground level, said street being free of cover to fully admit air and sunlight and forming a shallow open channel for the travel of passenger automobiles with the wheeled lower body portions thereof below ground level and the windowed upper portions thereof above ground level;

a pedestrian cross walk bridge extending transversely of said street from said sidewalk to the opposite side of said street, said bridge including a movable span having a pedestrian supporting surface normally at a predetermined level about three feet above the level of said sidewalk, said span having a clearance thereunder of no more than about seven feet for the passage thereunder of said passenger automobiles;

ascent means at each opposite end of said span, inclining upwardly to a height of about three feet for connecting each said end to said sidewalk and

power means for moving said span out of the path of vehicles of greater height than said passenger automobiles;

whereby said bridge span normally permits passage thereunder only of said passenger automobiles and normally permits pedestrian passage thereover by an ascent and descent of no more than about three feet relative to said ground level.

5. A combination as specified in claim **4** plus:

a low level pedestrian sidewalk extending along one side of said automobile supporting surface, beyond the outside edge of said ground level sidewalk, said low level sidewalk having a pedestrian supporting surface at a predetermined level about six inches above said street level;

and a plurality of stair means, each no more than about four feet in height, located at spaced intervals along said sidewalks and connecting the same to permit shoppers to safely park along said sub-surface street, walk therealong and ascend to said ground level sidewalk.

6. A combination as specified in claim **5** plus:

a pedestrian supporting roof extending over, and in parallelism with said low level sidewalk, beyond the outside edge of said ground level sidewalk, at about the level of the supporting surface of the span of said bridge,

said roof shielding said low level sidewalk from the elements, forming a fence along the outside edge of said ground level sidewalk and serving as a bridge level pedestrian sidewalk,

and spaced post means for supporting said roof at said bridge level above ground level without obscuring the view of said store from the windows of automobiles on said street.

7. A combination as specified in claim **4** plus:

a high level roof extending over, and generally in parallelism with the outer portion of said ground level sidewalk at proximate the level of the second floor of said store, said high level roof being spaced from said store and extending in a closed loop, including a stretch along one side of said street and a stretch over said bridge, to thereby shield the same from the elements;

endless pedestrian conveyor means mounted on said high level roof for carrying pedestrians therealong and around said closed loop and

power means operably connected to said conveyor means for advancing said conveyor means.

8. A combination as specified in claim **4** wherein:

each said ascent means comprises a stairway having no more than about five steps, said stairway being fixed to said sidewalk and detachably supporting the adjacent end of said span.

9. A combination as specified in claim **4** wherein:

each said ascent means comprises an inclined ramp having an upper end pivotally connected to the adja-

cent end of said span and a lower end movably supported at ground level on said sidewalk;

and said power means includes mechanism for lifting said span to a level above said normal level, thereby increasing the incline of said ramp while still being usable for gaining access to said span.

10. A combination as specified in claim **6** plus:

at least one pedestrian ascent means located along said pedestrian supporting roof and connecting said roof to the second floor level of said store;

and power operated, inclined, pedestrian conveyor means, included in said ascent means, for lifting said pedestrians up to said second floor level.

11. A combination as specified in claim **7** wherein:

said conveyor means comprises a plurality of passenger carrying vehicles, and

said power means includes mechanism for indexing said vehicles from one location to another unidirectionally around said loop.

12. A combination as specified in claim **11** wherein:

said high level roof includes at least one dip down to ground level, in said closed loop,

whereby said vehicles serve as a longitudinally extending elevator for moving pedestrians between ground level and second floor level as well as a horizontal conveyor for moving said pedestrians around said loop.

13. A combination as specified in claim **7** plus:

an automobile parking area at a remote distance from said store;

and an extension of said high level walkway roof, forming a stretch of said closed loop, reaching to said area,

whereby passengers are conveyed between said store and said remote parking area at the elevation of said high level roof, thereby crossing over any pedestrians on the bridges and bridge level sidewalks therebelow.

14. A combination as specified in claim **4** wherein:

said bridge span comprises a horizontal wheel-like frame centrally supported by a telescopable lift piston located in the centre of said street, said frame having a nonrotatable, horizontal, annular plate extending across said street, a rotatable, horizontal, annular plate superposed on said non-rotatable plate, means for turning said rotatable plate unidirectionally;

and said power means comprises a hydraulic lift cylinder mechanism for raising and lowering said frame.

15. An urban area traffic system for handling shoppers' vehicles of predetermined relatively low height while barring all vehicular traffic of greater height, said system comprising:

vehicle supporting, road-surface means extending longitudinally in said urban area at a substantially uniform sub-surface level below ground level, said means supporting said shoppers' vehicles with the upper, windowed portions thereof above ground level and the lower body portion thereof below ground level;

shopper-supporting sidewalk means extending longitudinally in said urban area, along each opposite side of said road surface means, at said ground level, said means each having a curb edge about three to four feet in depth separating the same from said road surface means; and

shopper-supporting crosswalk bridge means extending laterally over said road surface means, from one said sidewalk means to the opposite said sidewalk means, at a substantially uniform elevated level above the said sub-surface level of said road surface means, said elevated level being about three to four feet in height above the ground level of said sidewalk means;

said cross walk bridge means including ascent and descent means, proximate each opposite end thereof, connecting the same to said ground level sidewalk means and said bridge means having a predetermined clearance therebelow for passing said shoppers' vehicles while barring the passage thereunder of vehicles of greater height.

16. An urban traffic system as specified in claim **15** plus:

mechanism supporting said crosswalk means for movement out of the path of said vehicles of greater height, and

power means for actuating said mechanism.

17. An urban traffic system as specified in claim **15** plus:

low level, shopper supporting, sidewalk means extending longitudinally in said urban area along each opposite side of said road surface means and at substantially the sub-surface level thereof, said low level sidewalk means each extending alongside the bottom of the curb edge of one of said ground level sidewalk means for permitting shoppers to walk alongside shoppers' vehicles at said sub-surface level.

18. An urban traffic system as specified in claim **17**, plus:

high level shopper supporting sidewalk means extending longitudinally in said urban area along each opposite side of said road surface means substantially at the elevated level above ground surface level of said cross walk bridge means for permitting shoppers to walk longitudinally from one said cross walk bridge means to another said cross walk bridge means without descending to said ground level;

said high level sidewalk means overlying said low level sidewalk means in substantial parallelism therewith at a spaced height thereabove to form a roof thereover and extending alongside the curb edge of said ground level sidewalk means, at a level of about three to four feet thereabove to form a guard rail member therealong.

19. An urban traffic system as specified in claim **18** plus:

high level, shopper supporting roof means extending longitudinally in said urban area along each opposite side of said road surface means, said roof means overlying said high level sidewalk means in substantial parallelism therewith at a spaced height thereabove and extending a predetermined distance beyond said curb edge over said ground level sidewalk means to shield shoppers from the elements, and

powered conveyor means operable on said roof means for carrying shoppers therealong.

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