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GARAGE ELEVATOR

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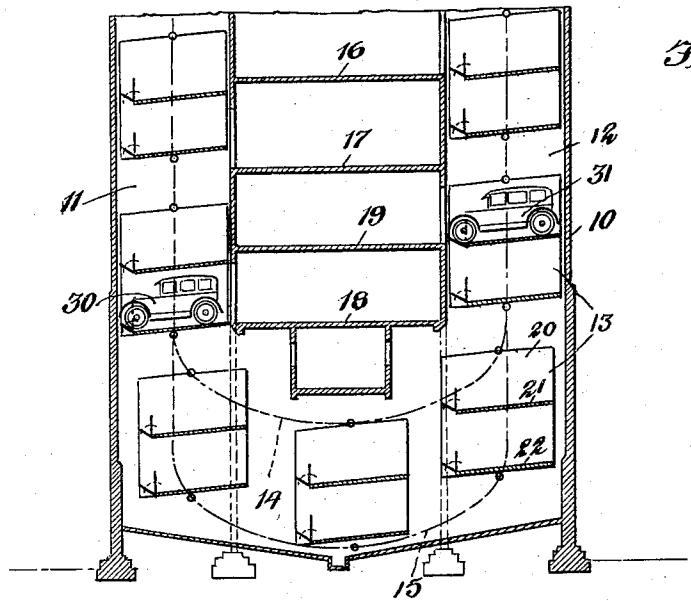


Fig. 1.

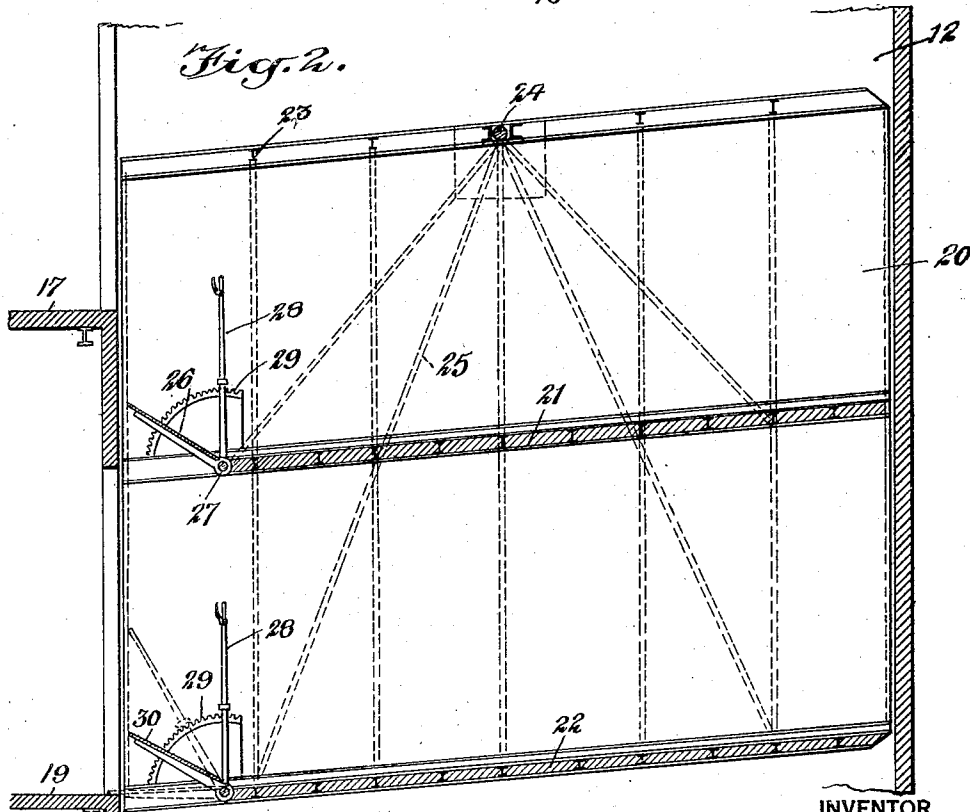


Fig. 2.

WITNESSES
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GARAGE ELEVATOR

Application filed November 3, 1927. Serial No. 230,847.

The present invention is concerned with the provision of an improved elevator primarily intended for use in (skyscraper) garages of the general character disclosed in my prior Patent No. 1,636,600, dated July 19, 1927.

It will be recalled that in the prior patent I showed a garage structure in which an endless chain of storage cabins or elevators ran around a central space, which space provided receiving and delivery floors for cars to be stored in the cabins. In accordance with the patent, receiving and delivery floors were arranged at different levels. Cars on the receiving floors were driven into the cabins, and the cabins transferred to the opposite side of the structure, so that the stored cars could be driven out on to the opposite side of the delivery floor, whereby the necessity for backing the cars either into or out of the cabins was eliminated.

In accordance with the present invention I have devised an improved type of storage cabin or elevator for use in the endless cabin chains, which will permit the cars to be loaded in the cabins and unloaded therefrom without the attendance of an operator in the car.

The new type of cabin greatly facilitates handling of the cars insofar as loading and unloading them is concerned, permits the use of relatively smaller cabins or elevators, and consequently eliminates loss of time in the manipulation of the endless elevator chain.

Other objects of the invention are to provide an elevator or cabin of the character noted above, of extremely simple, practical construction, which will be highly efficient in use.

With the above noted and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter set forth and pointed out in the claims. The invention may be more fully understood from the following description in connection with the accompanying drawings, wherein—

Fig. 1 is a fragmentary sectional view through the lower part of a skyscraper garage showing cabins constructed in accordance with the present invention in use.

Fig. 2 is an enlarged vertical sectional view through one of the cabins and associated portions of the shaftway and receiving floor, the dotted lines indicating the position of one bridge and its associated handle when the bridge has been swung downwardly.

Fig. 1, which is for the most part diagrammatic, shows a building 10 having shaftways 11 and 12 at opposite sides thereof. Guided for movement in these shaftways are series of car-storage cabins or elevators 13, these cabins being connected together on an endless chain 14 or other operating device. As the endless chain is driven, cabins pass from one shaftway to another through a shaftway-connecting space 15 in the basement of a building, and through a similar space (not illustrated) near the building roof. The space between the shaftways may be divided into a number of floors. Certain of the floors such as 16 and 17 may be used for offices or for purposes entirely foreign to the garage business, but preferably the lower floor 18 and the superjacent floor 19 constitute receiving and delivery floors respectively for automotive vehicles to be received and stored in the cabins of the garage.

The construction as thus far described is entirely conventional, and disclosed in my prior patent above referred to; the present invention being more particularly concerned with the construction of the elevators of cabins proper, one of which is illustrated in Fig. 2. This cabin is preferably, although not necessarily, of the two-deck type including side walls 20 connected by upper and lower cross decks 21 and 22 upon which the cars are to be received. The cabin is preferably roofed if desired, but may include only a skeleton roof consisting of cross beams 23 and a cross rod 24 connected to the endless chain drive in any convenient or conventional manner. The cabin walls may be reinforced as indicated at 25 by steel beams, suspension wires, or other suitable mechanism.

The elevators are open at both ends, cars being delivered into one end of the open elevators and discharged from the other, as above suggested. The floors or decks 21 and 22 incline downwardly from the receiving to the

discharging ends of the elevators. Each floor adjacent its discharge end includes a tilting platform section 26 mounted on a rock shaft 27 and controlled by a hand lever 28 associated with a sector rack 29. The tilting platform sections 26 are long enough to slightly overlap the delivery floor 19 when the handles are swung to move them into the horizontal dotted line position of Fig. 2. In order to clear the building floors and permit free passage of the cabins up and down the vertical shaftways 11 and 12, the platform sections 26 must be swung upwardly to the full line position of Fig. 2.

These swinging platform sections 26 serve a dual function. In the first place, when a car such as the car 30 is rolled from the receiving floor into one of the cabins, it will roll gravitationally across the floor of the cabin until checked by the up-turned platform 26 which stops it. When a car, such as the car 31 in Fig. 1, is to be discharged on to the delivery floor 19, an attendant on the delivery floor grasps the handle 28 and swings the platform 26 downwardly as shown in dotted lines in Fig. 2. In this position the platform serves as a bridge over which the discharged car gravitationally rolls on to the delivery floor.

By virtue of the construction described above, the cabins may be comparatively small, since there is no necessity for the driver remaining in the car during a loading and unloading operation. The cars may be manually rolled on to the elevators and will roll off under their own momentum when the bridges are lowered. Considerable time is also gained, particularly in unloading the cars. This time factor is of course important in a large plant where there is an almost continuous stream of cars awaiting storage and delivery.

Obviously, various changes and alterations might be made in the general form and arrangement of the parts described without departing from the invention. Hence I do not wish to limit myself to the details set forth, but shall consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

I claim:

1. As a new article of manufacture, an automobile elevator of the class described having a door opening, an inclined floor sloping downwardly toward the door opening, and a tiltable floor section adjacent the door opening normally blocking gravitational rolling movement of a car through the door.

2. As a new article of manufacture, an automobile elevator of the class described having a door opening, an inclined floor sloping downwardly toward the door opening, and a tiltable floor section adjacent the door opening normally blocking gravitational rolling

movement of a car through the door, said tiltable section being movable to a position where it constitutes a bridge over which a car may gravitationally roll from the elevator onto a floor with which the elevator is approximately registered.

3. As a new article of manufacture, an automobile elevator of the class described having a door opening, an inclined floor sloping downwardly toward the door opening, and a tiltable floor section adjacent the door opening normally blocking gravitational rolling movement of a car through the door, said tiltable section being movable to a position where it constitutes a bridge over which a car may gravitationally roll from the elevator onto a floor with which the elevator is approximately registered, said tiltable section in the latter position projecting beyond the elevator proper.

4. As a new article of manufacture, an automobile elevator of the class described having a door opening, an inclined floor sloping downwardly toward the door opening, and means normally blocking gravitational egress of a car from the elevator, said means comprising a bridge adapted in one position to block movement of the car and in another position to serve as a gang-plank over which the car leaves the elevator.

Signed at New York, in the county of New York and State of New York this 1st day of November A. D. 1927.

ERNST GEIGER.