March 17, 1936. S. ELIOT 2,034,028

GARAGE

Filed Jan. 6, 1931 2 Sheets-Sheet 1

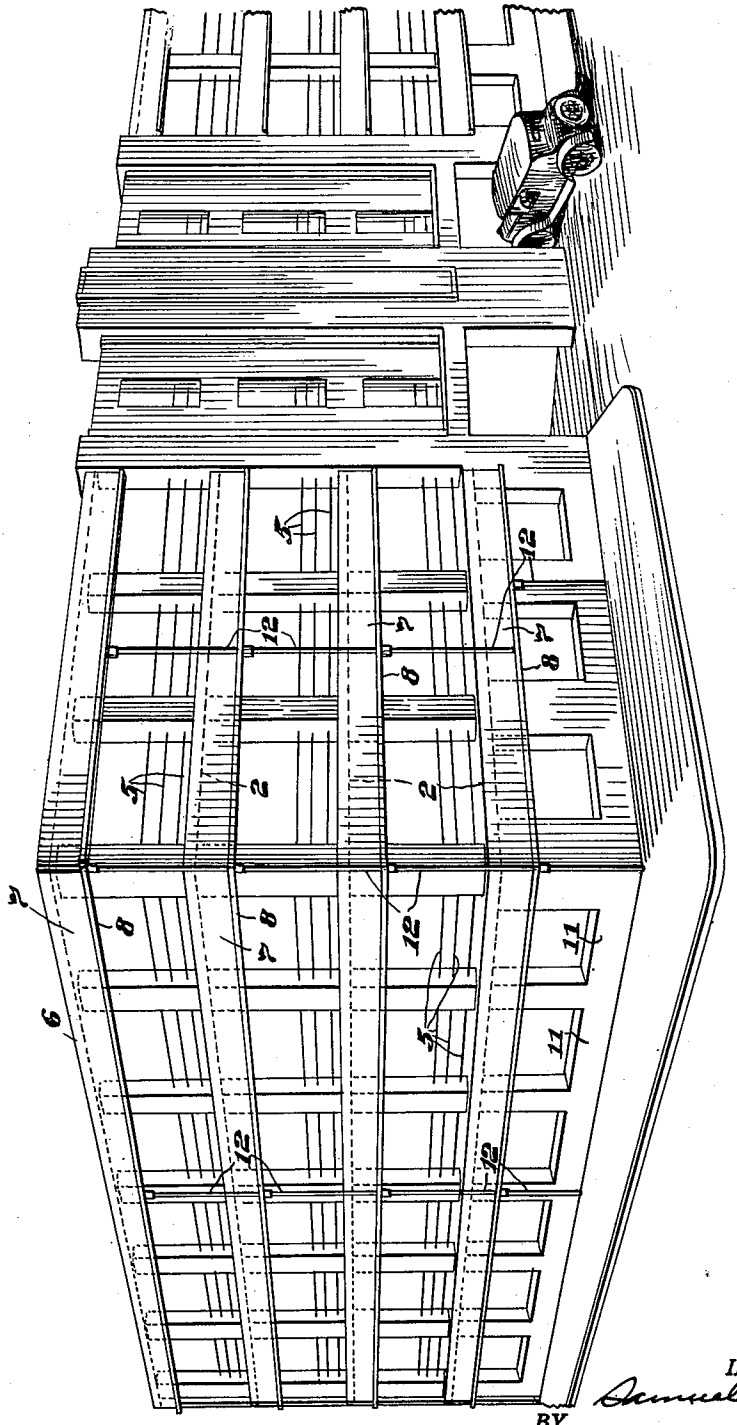


Fig. 1

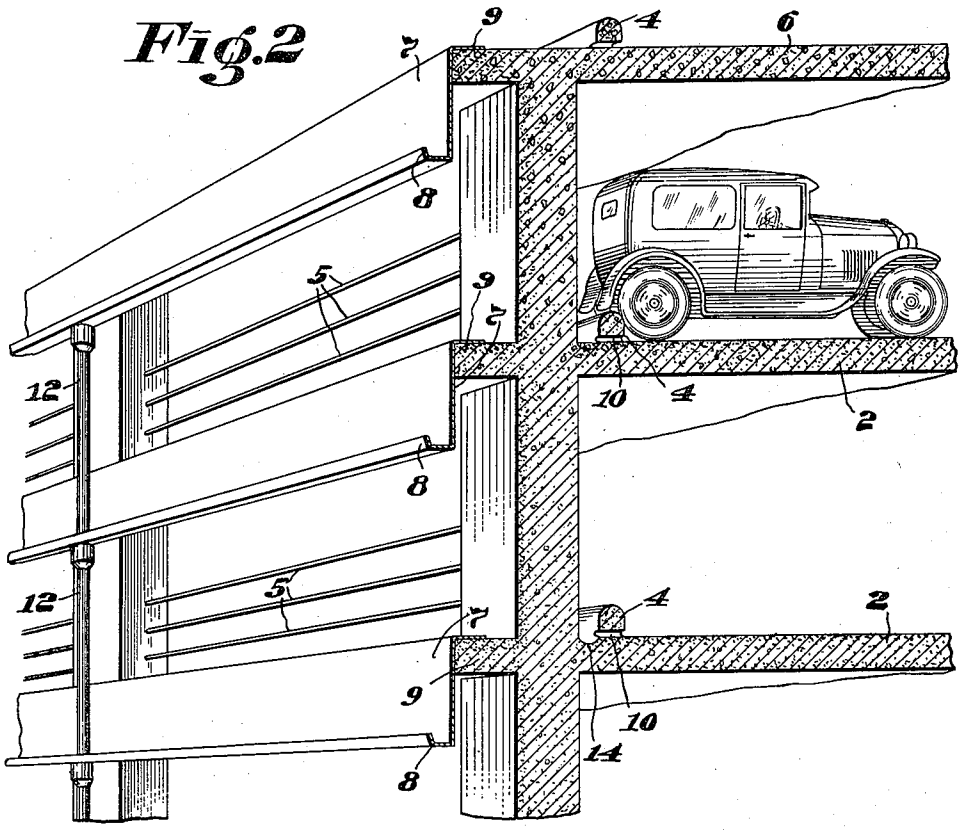
INVENTOR:
Samuel Eliot,
BY
Jas. J. McCready,
his ATTORNEY.

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Fig. 2



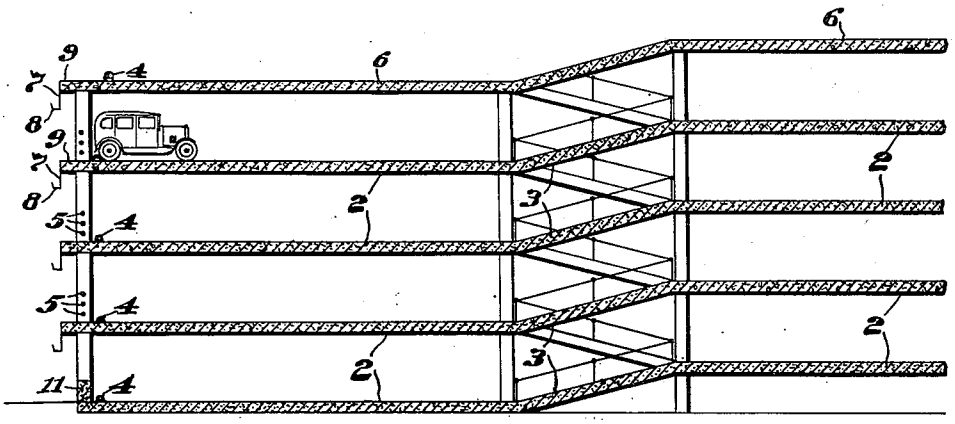


Fig. 3

INVENTOR:
Samuel Eliot,
BY
his ATTORNEY.

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2,034,028

GARAGE

Samuel Eliot, Newton, Mass., assignor to Cage, Inc., a corporation of Massachusetts

Application January 6, 1931, Serial No. 506,946

8 Claims. (Cl. 20—1.13)

This invention relates to garages and is especially concerned with building structures of this type suited to the requirements of the business districts of large cities.

The growing number of cars in use, especially in cities, and the increasing restrictions on parking in city streets has greatly increased the demand for garage or parking space in and near the business districts. At the same time the problem of building and profitably operating garages in such districts has become increasingly difficult. It is necessary to build large units in order to operate them successfully and the locations available for such units have become scarcer. This difficulty is solved to some extent in many neighborhoods by the use of relatively small lots of vacant land for open air parking. Frequently while such lots are not available for purchase at prices suitable for parking or garage use, they can be leased at rates and for periods which makes their use entirely feasible for parking purposes.

The present invention deals with this problem. It aims to devise a garage which can be erected at an expense so reasonable that such a structure can be built and operated successfully even on leased land and on relatively small lots, and in which the cost of operation and maintenance will be comparable, roughly speaking, with that of open air parking.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawings, and the novel features will be particularly pointed out in the appended claims.

In the drawings,

Figure 1 is a perspective view of a garage constructed in accordance with this invention;

Fig. 2 is a perspective view illustrating certain details of construction of the garage shown in Fig. 1; and

Fig. 3 is a vertical sectional view of a portion of the garage shown in Fig. 1.

The building shown is designed to afford open air parking but in a series of superposed floors or stories. Stated somewhat differently, it may be said to provide open air parking stepped up.

This garage comprises a series of floors, some of which are designated by the numeral 2. A skeleton frame supports the floors. Preferably a structural steel frame is used, the frame members being protected by concrete and the floors being made of reinforced concrete, or the entire structure can be made of reinforced concrete. The particular type of construction employed will necessarily depend upon the requirements of individual locations.

Movement of the vehicles from one floor to another is permitted by ramps 3 or by elevators, ramps preferably being used. I have found that by staggering the floors of one part of the building with reference to those in another part, as shown in Fig. 3, a very short steep ramp can be used, thus materially reducing the floor space required for the ramps. For example, in a building of this type the distance between floors need not be over eight feet, so that the vertical drop at each ramp need be only a little more than four feet. With such a drop a length of approximately sixteen feet is ample for each ramp, if the ramps are straight.

Since this garage has no walls, the floors being directly open to the outside atmosphere, it is necessary to use guards of some type to prevent driving the cars off the edges of the floors and through the open spaces normally occupied by walls. Preferably two guards are used on all of the floors, except possibly the ground and top floors, one consisting of a curb 4, best shown in Fig. 2, which may be made integral with the floor and which extends entirely around the margin of the floor where it will effectually prevent the backing of a car off the edge of a floor, providing the car is moving at any reasonable speed. Preferably this curb is made at least one foot high and is located inside the outer frame posts far enough to prevent a driver from backing his car into a post. The second guard consists of rails 5 connecting certain of the upright frame members of the building and surrounds each floor. It prevents the driving of a car off the edge of a floor in case it should be moving at such excessive speed as to override the curb 4. In many cases, however, this rail will not be required. On the top floor, for example, the curb may be made somewhat higher so that there will be no possibility of overriding it. Also, on the first floor it may be preferable from the standpoint of appearance to replace the rail 5 with a solid rail 11, Figs. 1 and 3, located in line with the outside frame members.

The garage may or may not have a roof. Usually it is contemplated that the uppermost floor 6 will be used for parking and that no roof will be placed above this floor. In some locations, however, an inexpensive roof of some suitable character will be employed.

In a garage of this construction cars can be parked or stored under conditions considerably better than those which obtain in the ordinary

open air parking space. In order further to improve the protection afforded the cars without adding substantially to the expense of the building, I prefer to run a gutter around the edge of each of the upper floors and to make this gutter in such a way that it will give some protection for the cars parked close to the edge of the floor below.

Referring more particularly to Figs. 2 and 3, it will be observed that each gutter comprises a long apron 7, the upper edge of which is secured to the floor which supports it, while the lower edge is bent to form a trough 8. The apron 7 preferably is long enough to extend downwardly across a substantial part of the distance between the floor to which it is secured and the next lower floor. Preferably, also, the edge of each floor is extended outwardly beyond the upright frame members for a substantial distance, as indicated at 9, Fig. 2.

With this arrangement very complete protection against ordinary storms is provided for those cars parked closest to the edges of the floors and which, consequently, are most exposed. Rain or snow driven by a high wind may beat on to the margins of the floors for a distance of several feet, but will strike only the lower parts of those vehicles which are closest to the edge. Preferably the margins of the floors for several feet backwardly from the edges are sloped outward slightly so as to cause the water to drain into the gutters, the curbs 4 being apertured at intervals, as indicated at 10, Fig. 2, to permit the water to run through them. Vertical conductors 12 connect the gutters for the different floors and lead the water into the sewer connections. In some cases it may not be necessary or desirable to use an apron gutter at each floor, but instead to provide a gutter 14, Fig. 2, in the margin of the floor just outside the curb 4, the floor sloping inward slightly from its edge to this gutter. Any suitable arrangement may be provided to carry away the water collected in these gutters. The apron or curtain gutters, however, are highly desirable at the upper floors, particularly at those sides of the building which are more exposed. In addition to improving the shelter afforded the cars, especially when used in connection with the projecting floors, they also give better protection to the pedestrians on the sidewark below.

A garage of this type can be built at a fraction of the cost of a city garage of the regular construction. It requires no heat, relatively little lighting, and a minimum of expense for labor. It is, therefore, entirely practical to build and operate such a garage in small units and even on leased land where it would be utterly impractical to use a garage of the ordinary construction in the better locations.

While I have herein shown and described a typical embodiment of my invention, it will be understood that many of the details of design and construction of a building of this character necessarily will depend upon the nature of the lot on which it is to be built, and on local conditions. The invention, therefore, may be embodied in other forms without departing from the spirit or scope thereof.

This application is a continuation, in part, of my pending application Serial No. 465,124, filed July 1, 1930.

Having thus described my invention, what I desire to claim as new is:

1. An open air garage comprising a frame supporting a plurality of floors open to the outside atmosphere and arranged one above another, and a gutter extending along the edge of one of the upper floors, said gutter comprising an apron extending downwardly from the floor with which it is associated for a substantial distance across the space between said floor and the edge of the next lower floor.

2. An open air garage comprising a plurality of floors open to the outside atmosphere and arranged one above another, a frame supporting said floors, the edges of the upper floors projecting outwardly a substantial distance beyond said frame, and gutters at said respective edges to catch the water flowing over the edges of the floors.

3. An open air garage comprising a plurality of floors open to the outside atmosphere and arranged one above another, a frame supporting said floors, the edges of the upper floors projecting outwardly beyond said frame, gutters at said respective edges to catch the water flowing over the edges of the floors, each of said gutters comprising an apron extending for a substantial distance across the space between adjacent floors.

4. An open air garage comprising a plurality of floors open to the outside atmosphere and arranged one above another, a frame supporting said floors, said floors extending a substantial distance outwardly beyond said frame, a curb on each floor inside said frame for preventing vehicles from backing off the edges of the floors, ramps connecting said floors, and gutters extending along the margins of the respective floors, said curbs having openings therethrough to permit the water to flow from the floors past the curbs and toward said gutters.

5. An open air garage comprising a frame supporting a plurality of floors open to the outside atmosphere and arranged one above another, and a gutter extending along the edge of one of the upper floors, said gutter comprising an apron extending downwardly from the floor with which it is associated and partly across the space between the edge of the latter floor and the next lower floor, said gutter having a trough at the lower edge of said apron.

6. An open air garage comprising a skeleton building, including a frame and a plurality of floors supported thereby and arranged one above another, the greater part of the spaces between floors normally occupied by outside walls being open, whereby the floors open directly to the outside atmosphere, an apron extending from the edge of one of the upper floors downwardly for a substantial distance across the space between it and the next lower floor, and a guard for each of the upper floors extending along the open sides thereof to prevent the movement of cars through said spaces.

7. An open air garage comprising a skeleton building including a frame and a plurality of floors supported thereby and arranged one above another, the greater part of the spaces between floors normally occupied by outside walls being open, whereby the floors open directly to the outside atmosphere, said frame including upright posts for supporting the floors and located adjacent to the edges of the floors, guard rails cooperating with said posts to prevent the backing of cars through the open spaces between posts, the edges of the upper floors extending outwardly beyond said posts, and curbs on the upper floors inside the rails for said floors and extending approximately parallel to the rails but spaced inwardly therefrom, respectively by a sufficient dis-

tance and of such a height as to prevent the cars from running into said rails, unless travelling at excessive speeds.

8. An open air garage comprising a skeleton building including a frame and a plurality of floors supported thereby and arranged one above another, the greater part of the spaces between floors normally occupied by outside walls being open, whereby the floors open directly to the outside atmosphere, an apron extending from the edge of one of the upper floors downwardly for a substantial distance across the space between it and the next lower floor, said frame including upright posts for supporting the floors and located adjacent to the edges of the floors, guard rails cooperating with said posts to prevent the backing of cars through the open spaces between posts, and curbs on the upper floors inside the rails for said floors and extending approximately parallel to the rails but spaced inwardly therefrom, respectively, by a sufficient distance and of such a height as to prevent the cars from running into said rails unless travelling at excessive speeds.

SAMUEL ELIOT.