Oct. 13, 1931. K. K. ELLIS 1,827,310

BUILDING

Filed May 16, 1928

Fig. 1.

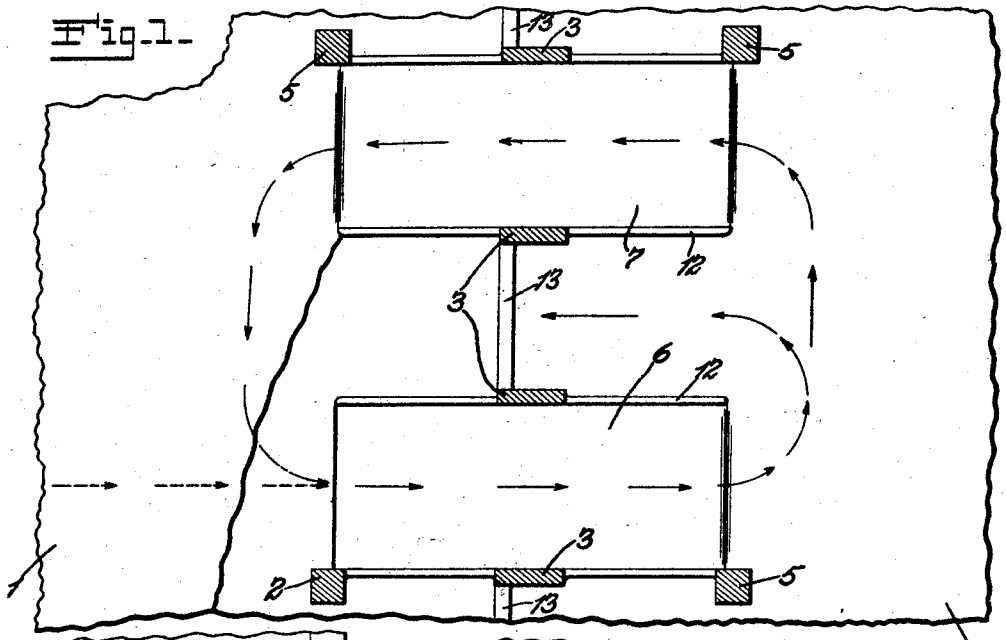
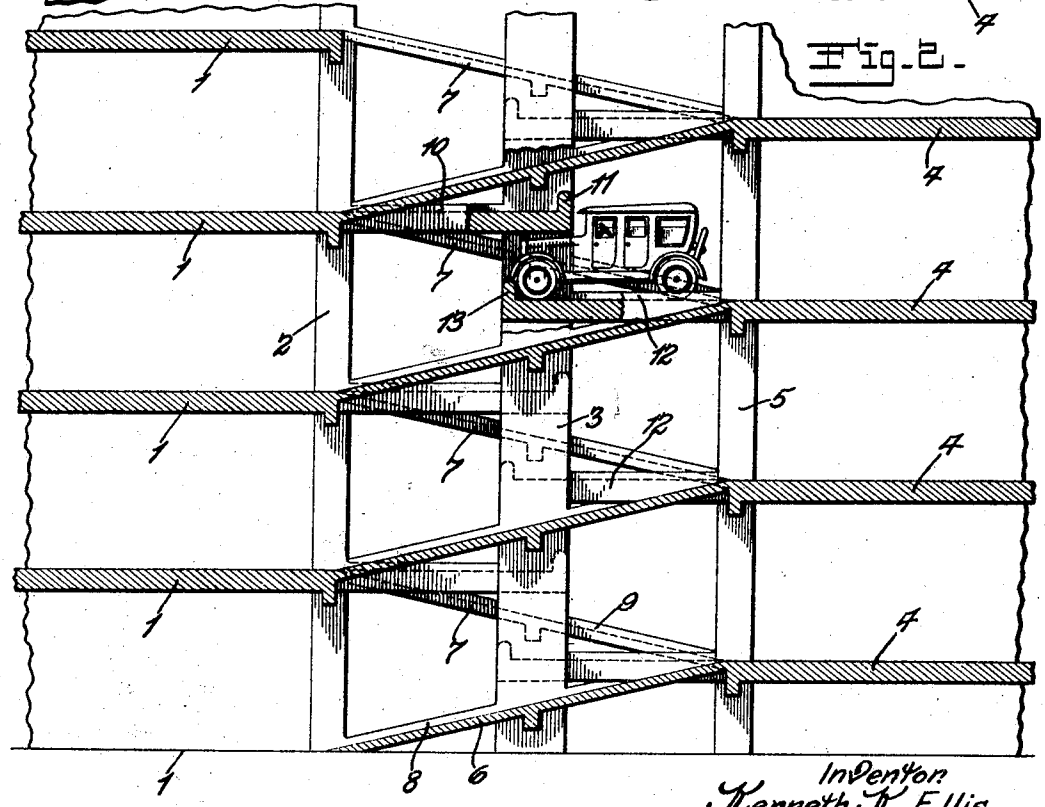


Fig. 2.



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UNITED STATES PATENT OFFICE

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BUILDING

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This invention relates to improvements in buildings, and particularly to buildings designed and adapted for use as garages, and an object of the invention is to provide an improved construction wherein the floors are spaced apart vertically the minimum distance permissible and are connected by ramps in such a manner as to afford maximum storage space.

Another object of the invention is to provide an improved construction for use in garages and the like comprising two series of floors having their adjacent ends at the ramps arranged in overlapping relationship less than the full height of a story so that the ramps may be constructed of relatively short length and low degree of grade or inclination. By this construction and arrangement the advantageous result is obtained that the fronts of automobiles on one floor project under the adjacent edges of the next higher floors, respectively, whereon the fronts of other automobiles extend; while the tops of the automobiles on the respective lower floors are approximately at the same height as the floors of the other series, respectively.

Other objects will be apparent from the following description, reference being made to the drawings in which

Fig. 1 is a plan view showing the arrangement of the floors and the ramps.

Fig. 2 is a vertical sectional view.

The series of floors 1 are rigidly supported by columns 2 and 3. The series of floors 4 are rigidly supported by columns 5 and also by the columns 3. The floors of each series are spaced apart vertically equal distances but are arranged in different planes, it being of the essence of the invention that the edges of the floors 1 extend horizontally above the edges of the floors 4 a distance about equal to the length of the hood of any standard automobile. The columns 3 are relatively wide and thin and may also be termed vertical wall sections serving several useful purposes. These wall section columns 3 support the ends of the floors 1 and the ends of the floors 4 and the edges of the ramps running from the floors 1 to the floors 4 and from the floors 4 to the floors 1. Thus, the wall section columns 3 are about as wide as the length of that portion of a standard automobile from the front rearwardly to the windshield. Since the floors 1 extend under the floors 4, and vice versa, for about the full width of the wall section columns 3, it is apparent that the front portions of automobiles parked or stored on the respective floors will be in a relationship in which their front ends are in vertical superposed relationship.

Each alternate pair of floors 1 and 4 between each alternate pair of wall section columns 3 is connected by an inclined ramp 6 inclining upwardly from between the columns 2 to union with the respective floors 4 between the columns 5, crossing the wall section columns 3 intermediate of the length of said ramps. This construction is obtained by omitting that portion of the floor 1 and the corresponding portion of the floor 4 from the planes of the columns 2 and 5, respectively to the ends of said floors and constructing therein the ramps 6.

Similarly, each floor 4 is connected with the next higher floor 1 by an inclined ramp 7 inclining upwardly from between the next column 5 to union with the next higher floor 1, crossing the wall section columns 3 intermediate of the length of said ramps. Also this construction is obtained by omitting that portion of the floor 4 and the corresponding portion of the floor 1 from the planes of the columns 5 and 2, respectively, to the ends of said floors and constructing therein the ramps 7.

The ramps 6 have ledges 8 at their margins and the ramps 7 have similar ledges 9 along their margins, said ledges serving as guards to prevent the vehicles from leaving the ramps.

The extended portions of the floors 1 between the ramps 6 and 7 have guard ledges 10 along their edges and guard ledges 11 at their ends. These guard ledges 10 and 11 prevent the vehicles from running off the extended portions of said floors.

Similarly, the extended portions of the floors 4 between the ramps 6 and 7 have guard ledges 12 along their edges and guard ledges 13 at their ends, and similarly serving to prevent vehicles from leaving these portions of the floors.

In a building embodying this improved construction and arrangement I obtain a very substantial saving of space by greatly reducing the vertical distance between the floors 1 and the vertical distance between the floors 4. For, as clearly shown in Fig. 2, the floors 4 will support automobiles in a relationship in which the front ends of the automobiles extend under the floors 1, the front wheels or bumpers of the automobiles being against the ledges 13. The upper portions of the automobiles are approximately horizontally opposite the ends of the floors 1. And, similarly, automobiles parked on the ends of the floors 1 occupy the same relationship with respect to the floors 4. By this construction more floors can be constructed in a building of a given height than is possible if the vertical distance between the floors 1 and 4 exceeds the height of the automobile. It is impossible for the tops of the automobiles to strike the ends of the floors because the ledges 11 and 13 will stop the cars in proper position and prevent such bumping of the automobiles against the floor ends.

From the foregoing description it is apparent that the ramp construction may be erected at nearly any part of a building having two series of floors and that nearly the entire space of the area of the floors may be utilized as parking space. More of the cubic area of such a building can be utilized than is possible in buildings wherein the floors are higher one above the other and wherein the construction described and clearly shown is not utilized.

I claim:—

In a building, a pair of spaced supporting columns, a series of floors each having one end extending between and supported by said columns, a second series of floors at one-half story intervals relative to the floors of the first series and having their ends extending between and supported by said columns and over and under adjacent floors of the other series and spaced vertically from the floors of the other series a distance in excess of the height of the front of an automobile and less than the height of the top of the automobile, means for stopping an automobile driven on any floor of one series and under the adjacent end of the next upper floor of the upper series in a position in which the top of the automobile is in line and out of contact with the next upper floor of the adjacent series, and inclined ramps connecting the floors of each series with the floors of the other series and having their intermediate portions united with and supported by said columns and having their ends spaced from the ends of the respective floors a distance in excess of the length of any automobile for which said extended portions of said floors are extended.

KENNETH K. ELLIS.