

Sept. 29, 1925.

1,555,692

J. E. MORTON

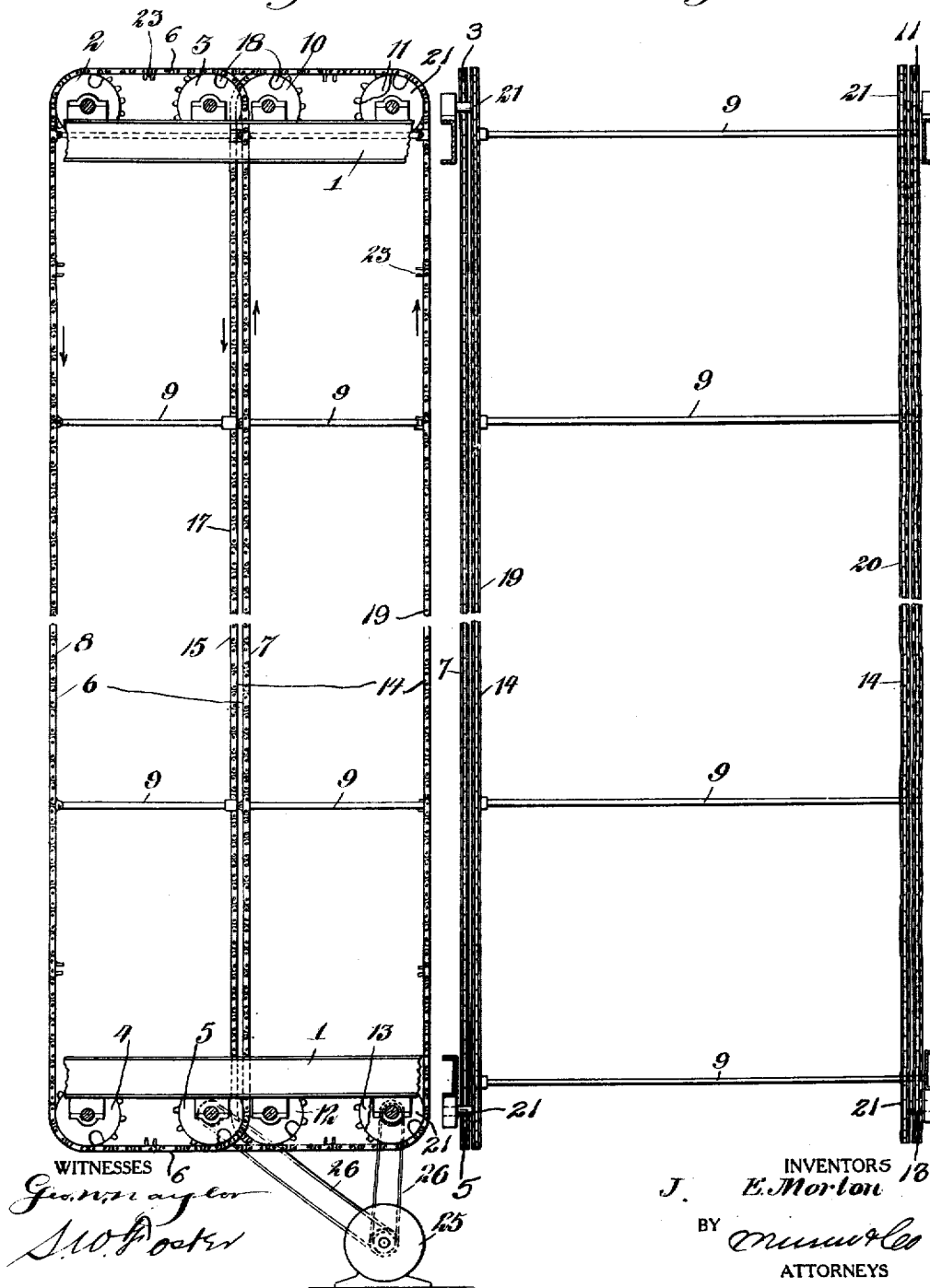
AUTOMOBILE PARKING MACHINE

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Fig. 1.

Fig. 2.



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Fig. 3.

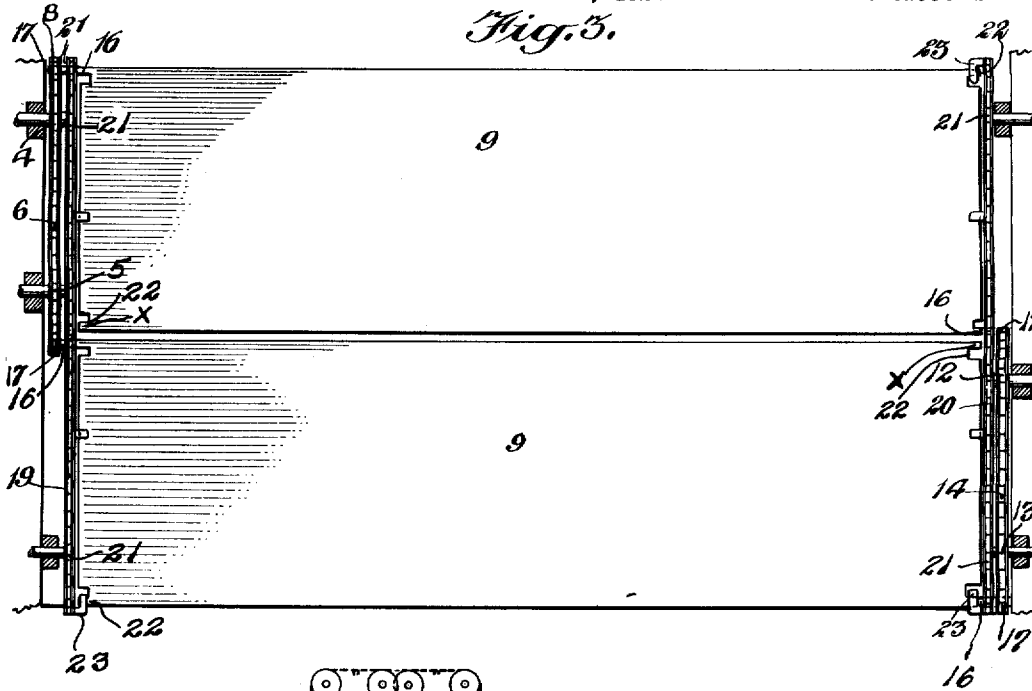
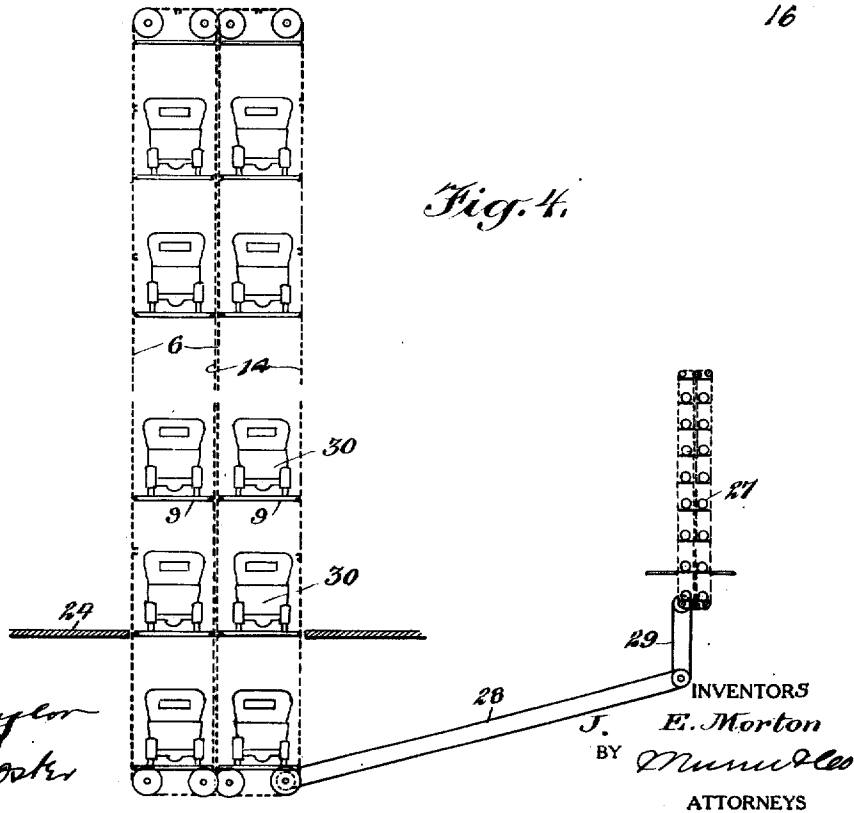


Fig. 4.



WITNESSES

G. W. Taylor
A. H. Foster

INVENTORS

J. E. Morton
BY *Mumford & Co.*
ATTORNEYS

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J. E. MORTON

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Fig. 5.

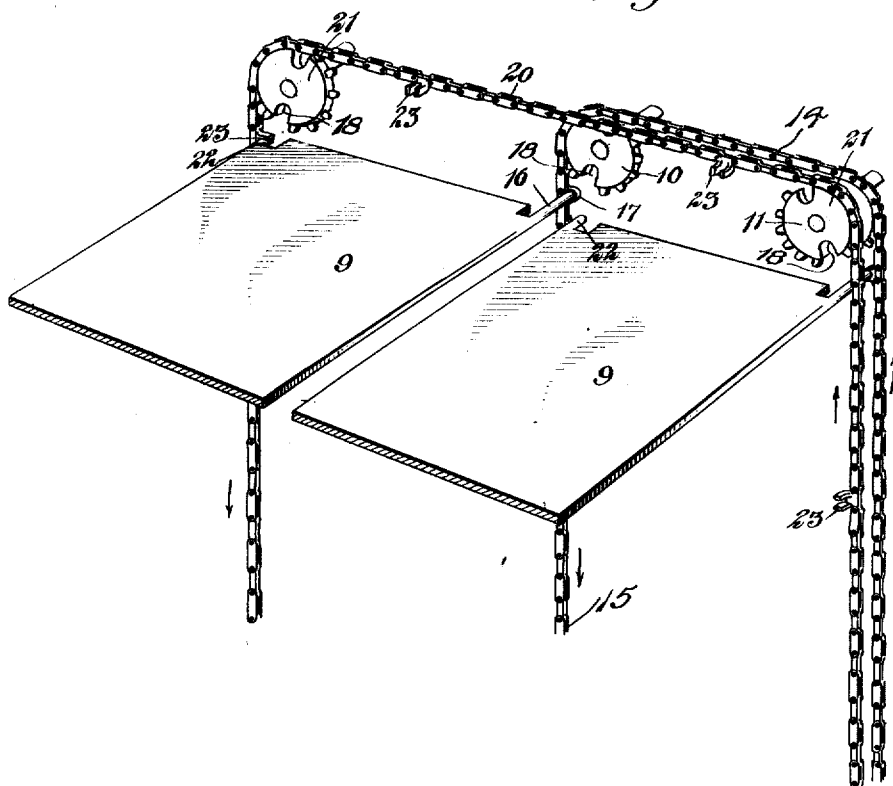
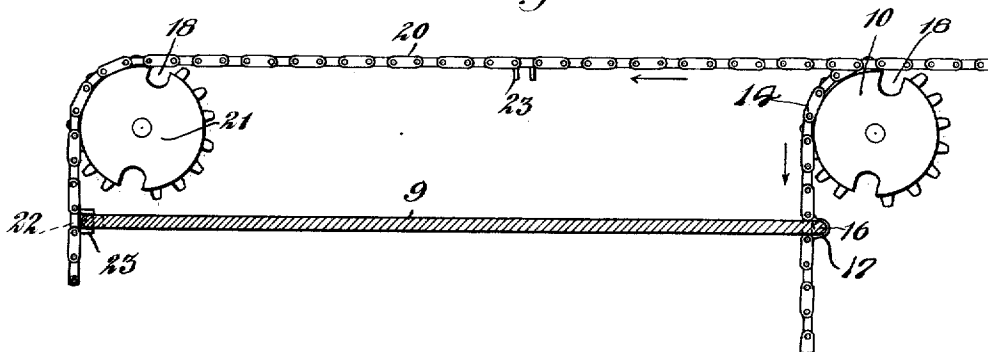


Fig. 6.



WITNESSES

Geornaylor
S. W. Hooker

INVENTORS

J. E. Morton

BY *Wm. H. H. H.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

JAMES E. MORTON, OF WEST LAFAYETTE, INDIANA, ASSIGNOR TO JAMES H. McVEETY, OF MEMPHIS, TENNESSEE.

AUTOMOBILE PARKING MACHINE.

Application filed October 9, 1924. Serial No. 742,731.

To all whom it may concern:

Be it known that I, JAMES E. MORTON, a citizen of the United States, and a resident of West Lafayette, in the county of Tippecanoe and State of Indiana, have invented a new and Improved Automobile Parking Machine, of which the following is a full, clear, and exact description.

This invention relates to automobile parking machines, an object of the invention being to provide a machine of this character which will be in the nature of a double elevator, comprising a plurality of vertically and laterally movable platforms so that a relatively large number of cars may be supported and stored and conveniently entered and discharged while occupying but a relatively small ground space.

While I have referred and shall refer to my improved device as an automobile parking machine, it is obvious that I do not wish to be limited to the particular use of the machine as the same general ideas are applicable to many uses, and I desire to cover the machine broadly for any use to which it can be put.

A further object of the invention is to provide an automobile parking machine which is a complete unit within itself and which may be erected singly or in batteries for the parking of automobiles at public parking stations, garages, apartment houses, department stores, office buildings, factories, theatres, amusement parks, and, in fact, any place where automobiles are to be parked in large numbers.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts which will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings—

Figure 1 is a view in end elevation of my improved machine;

Figure 2 is a view in side elevation taken at right angles to Figure 1;

Figure 3 is a top plan view with certain details in section;

Figure 4 is a diagrammatic elevation;

Figure 5 is a detail fragmentary perspective view;

Figure 6 is a fragmentary view in transverse section through the upper portion of the machine.

In connection with my improved machine I employ any suitable framework, indicated by the reference numeral 1. This framework is necessarily in the form of a tower, and for convenience of description and particularly with reference to Figures 1 and 2 I shall employ the terms "front", "rear" and "right" and "left hand sides".

The frame 1 provides mounting at its top and bottom and at the left-hand side for a series of (preferably four) sprocket wheels 2, 3, 4 and 5. The sprocket wheels 2 and 3 are at the top of the frame and the sprocket wheels 4 and 5 are at the bottom of the frame, and an endless chain or other analogous flexible connecting device 6 is mounted on the sprocket wheels, the right and left-hand runs 7 and 8 of this sprocket chain being relatively long so as to accommodate the number of platforms 9 desired.

At the rear of the frame and at the right-hand side thereof I provide four sprocket wheels 10, 11, 12 and 13, the sprocket wheels 10 and 11 being at the top of the frame and the sprocket wheels 12 and 13 being at the bottom of the frame. Around these sprocket wheels 10, 11, 12 and 13 a sprocket chain 14 is mounted, the left-hand vertical run 15 of the chain 14 being located in a plane to the left of the right-hand vertical run 7 of chain 6, as shown in Figure 1.

The platforms 9 above referred to are designed to support automobiles or other vehicles or articles, and each platform is provided at diagonally opposite corners with relatively long pins 16 which have permanent mounting in bearings 17 constituting brackets forming a fixed part of the chains. For example, the platforms 9 at the left of Figure 1 have their forward long pintles at the left-hand side of the platforms which are connected to the left-hand run 8 of chain 6 while the other long pintles of the platforms 9 are connected with the left-hand run 15 of chain 14. All the platforms are therefore connected to both chains 6 and 14 so that as these chains are moved, for example, in the direction of the arrows indicated in Figure 1, the platforms will move vertically throughout the tower, and at the upper and lower ends of the tower will move transversely from one side to the other, and to permit this movement all the ratchet wheels are formed with recesses 18 to accommodate the pins 16.

In addition to the chains 6 and 14 I provide at the front and rear of the tower or framework other endless chains 19 and 20. These chains are longer than the chains 6 and 14 so that the outside runs are in the same plane as the outside runs of the respective chains 6 and 14. The chains 19 and 20 are mounted on sprocket wheels 21 which are fixed to turn with certain of the sprocket wheels above referred to and are of the same size as the other sprocket wheels so that all the chains move at the same speed and in the same direction.

As above stated, the platforms 9 have relatively long pins at their diagonally opposite corners which are in permanent engagement with the respective chains 6 and 14. At the opposite diagonal corners, the platforms 9 have relatively short pins 22 and the chains 19 and 20 are provided with bifurcated brackets 23 located at proper intervals on the chains so that they engage the shorter pins 22 and provide a support for the third corner of the platform.

The bifurcated brackets 23 permit engagement with an disengagement from the shorter pins 22 so that while the shorter pin at one corner is supported as the platform moves upwardly this pin is released and the shorter pin at the other corner is supported during the downward movement of the platform but by the opposite long chain.

24 represents the ground or floor level, and it will be noted that my improved parking device extends above and below this level but that any platform may be brought into line with the level so as to permit the car to move onto or off of the platform.

While the invention is, of course, not limited to any particular power transmitting means to operate the device, I have illustrated in Figure 1 a motor 25 which is connected by suitable chains or other flexible connecting devices 26 with certain of the sprocket wheel driving means, but I may vary the driving means and the control thereof to suit conditions.

Also in connection with my improved machine I provide an indicator 27 as illustrated diagrammatically in Figure 4. This indicator is a replica on a small scale of the parking device and is operated by any suitable means in synchronism therewith. I have shown belts or chains 28 and 29 operatively connecting the indicator with the parking device. The idea of the indicator is that it may contain symbols or any other indicating means so that each car owner and also the operator of the parking device will know on just what platform any particular car is located and he can, therefore, quickly bring that car to the floor or street level.

The operation of the parking machine is as follows: Assuming the cars, indicated by the reference numeral 30, to be upon the

platforms and it is desired to move the platforms, motion is transmitted to the respective chains from any suitable source of power and in any desired direction, but we will assume for purposes of description that the chains are moved in the direction indicated by the arrows on the respective figures. As the platforms 9 at the right of Figure 1 reach the top of the frame they will move to the left and then downwardly. During this shifting of position from right to left, the bifurcated bracket 23 of the chain 19 will release the short pin 22 at the corner of the platform, and a bifurcated bracket on the rear chain 20 will engage the short pin at the diagonally opposite corner of the platform and ride with it until the downward movement begins when it will support this pin as indicated clearly in Figure 5. In other words, as the platforms move in one direction they are supported at diagonally opposite corners by the chains 6 and 14 and at another corner by one of the long chains 19 or 20, so that at all times the platform is supported at three points, but on one vertical movement the chain 19 functions as a support for the platform and on the opposite movement the chain 20 functions as a support for the platform.

It will thus be seen that with my improved parking device cars may be run upon platforms which are level with the ground or floor, as indicated at 24, and then may be moved either up or down so as to bring other platforms into register with the floor, and hence a large number of automobiles may be supported one above the other and in parallel so that the weight of the cars will to a large degree balance each other.

By reference particularly to Figure 3 it will be noted that the pins 22, indicated at the point *x*, are not supported during the transverse movement of the platforms 9. The other three pins are supported by the respective chains. These unsupported pins, as their respective platforms begin their downward movement, move into the supporting devices of the chain, as clearly indicated in Figure 5.

Various slight changes and alterations might be made in the general form of the parts described without departing from my invention, and hence I do not limit myself to the precise details set forth but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of the appended claims.

I claim:

1. A machine of the character described, comprising two endless flexible supports, and platforms connected at diagonally opposite corners to runs of the respective flexible supporting devices.

2. A machine of the character described, comprising a pair of endless sprockets chains

spaced apart, platforms connected at diagonally opposite corners with runs of the respective chains, and other chains removably connected to the opposite diagonal corners of the platform.

3. A machine of the character described, comprising a frame, a pair of endless chains located at opposite sides of the frame and at somewhat diagonal positions relative to each other, longer chains adjacent the first-mentioned chains, sprocket wheels supporting all of said chains, the runs of said chains being mainly vertical, two vertical series of platforms connected at diagonally opposite corners to runs of the first-mentioned chains, and means on the longer chains adapted to removably engage the other corners of the platform, and said sprocket wheels having recesses therein whereby the coupling means between the platform and chains may pass over the sprocket wheels and permit the passage of

the platforms from one vertical plane to another.

4. A machine of the character described, comprising two vertical series of platforms, means supporting the platforms and permitting them to move from one vertical series into another and vice versa, an indicator comprising a miniature reproduction of the machine and operatively connected thereto, and means for moving the platforms.

5. A machine of the character described, comprising two endless sprocket chains and means for supporting and moving them, platforms connected at diagonally opposite corners to runs of the respective chains and movable vertically by the chains and also transversely by the chains from one vertical plane to another, and means operatively engaging a third corner of each platform during the movement thereof vertically in either direction.

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3. A machine of the character described, comprising a frame, a pair of endless chains located at opposite sides of the frame and at somewhat diagonal positions relative to
10 each other, longer chains adjacent the first-mentioned chains, sprocket wheels supporting all of said chains, the runs of said chains being mainly vertical, two vertical series of platforms connected at diagonally
15 opposite corners to runs of the first-mentioned chains, and means on the longer chains adapted to removably engage the other corners of the platform, and said sprocket wheels having recesses therein
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the platforms from one vertical plane to another.

4. A machine of the character described, comprising two vertical series of platforms, means supporting the platforms and permitting them to move from one vertical series into another and vice versa, an indicator comprising a miniature reproduction of the
30 machine and operatively connected thereto, and means for moving the platforms.

5. A machine of the character described, comprising two endless sprocket chains and means for supporting and moving them,
35 platforms connected at diagonally opposite corners to runs of the respective chains and movable vertically by the chains and also transversely by the chains from one vertical plane to another, and means operatively en-
40 gaging a third corner of each platform during the movement thereof vertically in either direction.

JAMES E. MORTON.

Certificate of Correction.

It is hereby certified that Letters Patent No. 1,555,692, granted September 29, 1925, upon the application of James E. Morton, of West Lafayette, Indiana, for an improvement in "Automobile Parking Machines," were erroneously issued to "James H. McVeety," as assignee of the entire interest in said invention, whereas said Letters Patent should have been issued to the inventor, said *Morton and James H. McVeety, of Memphis, Tennessee*, said McVeety being assignee of *one-half* interest only in said invention, as shown by the records of assignments in this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 1st day of June, A. D. 1926.

[SEAL.]

M. J. MOORE,
Acting Commissioner of Patents.

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Signed and sealed this 1st day of June, A. D. 1926.

[SEAL.]

M. J. MOORE,
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