March 9, 1926. 1,576,398

F. YELAVICH

DOOR ACTUATING MECHANISM

Filed Sept. 2, 1924 2 Sheets-Sheet 1

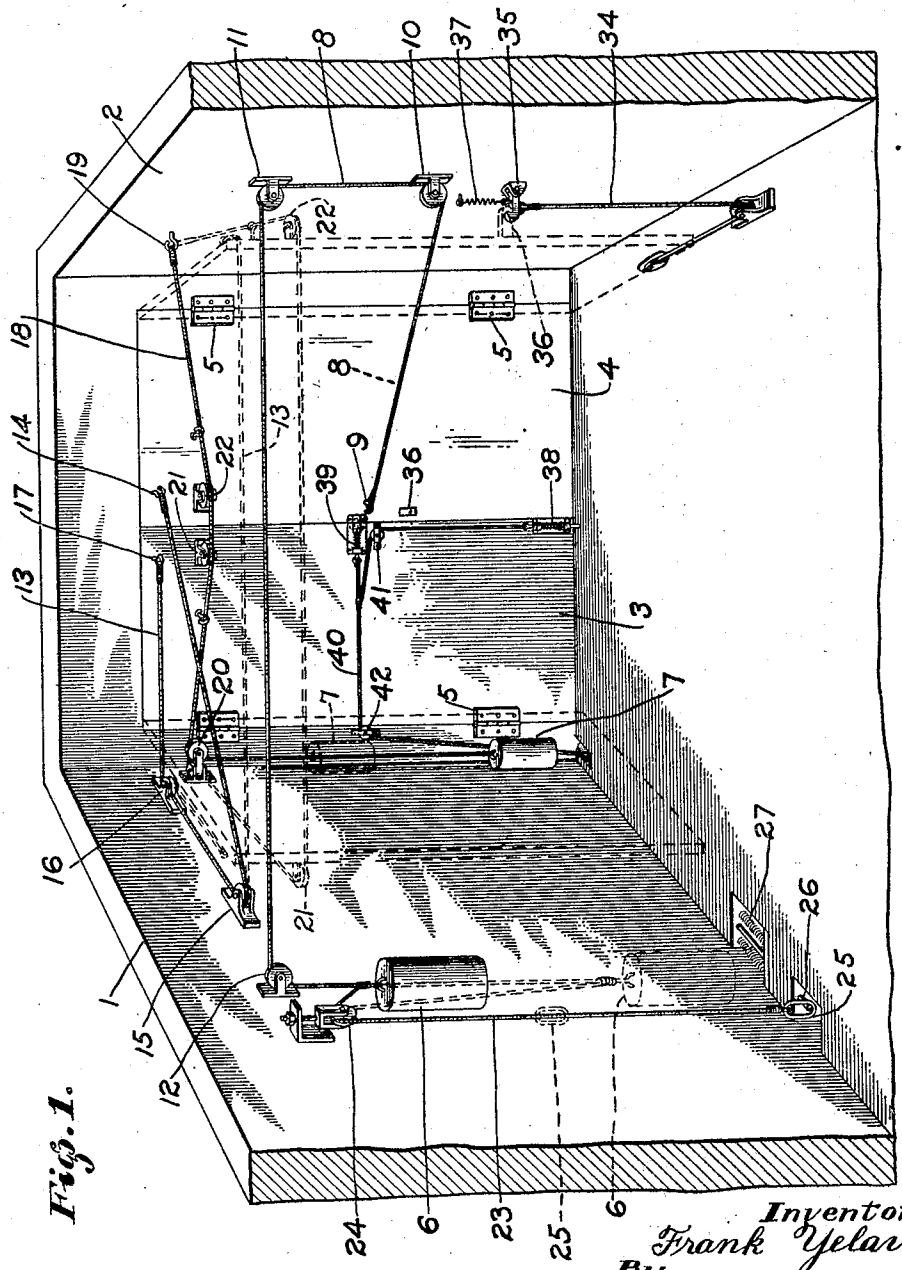


Fig. 1.

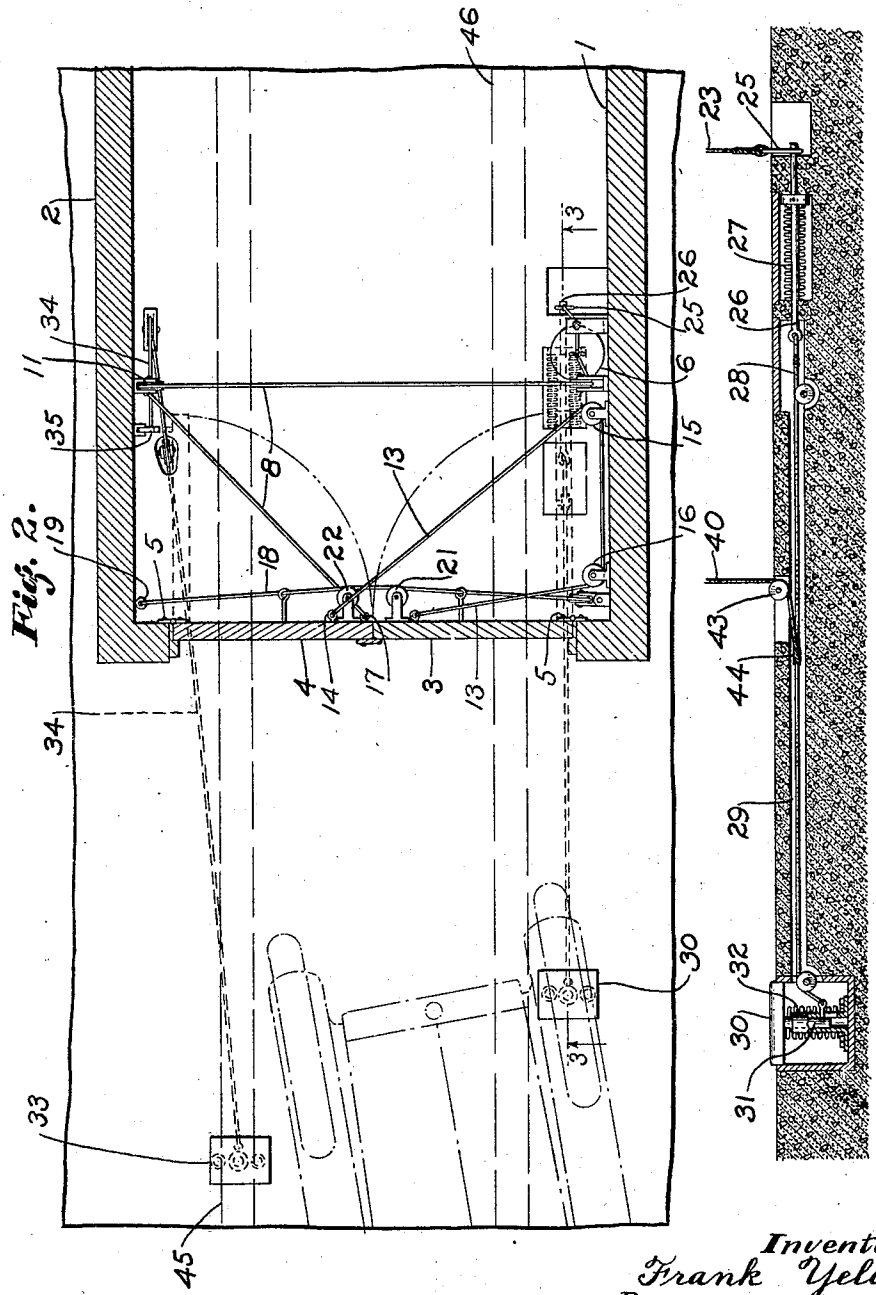
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UNITED STATES PATENT OFFICE.

FRANK YELAVICH, OF SAN FRANCISCO, CALIFORNIA.

DOOR-ACTUATING MECHANISM.

Application filed September 2, 1924. Serial No. 735,235.

To all whom it may concern:

Be it known that I, FRANK YELAVICH, a citizen of Yugoslavia, residing at city and county of San Francisco, and State of California, have invented new and useful Improvements in Door-Actuating Mechanism, of which the following is a specification.

This invention relates to door-actuating devices for garages and other buildings where it may be desired to open and close the doors automatically without requiring the operator to alight from the vehicle. I am aware that various devices have been suggested for performing this function and that most of such devices have been complicated, expensive and inefficient. It is the primary object of my invention to provide a device of this type which will be simple and cheap in construction and very efficient and dependable in operation.

My invention, as illustrated, comprises a pair of weights, in combination with suitable cables, for opening and closing the doors, one weight being adapted to open the doors and the other weight being adapted to close the doors. The construction is such that the opening of the doors automatically raises the door-closing weight to its operative position. The door-opening and the door-closing operations are automatically controlled by the passage of the vehicle in front of the doors, the only manual operation required being the lifting of the door-opening weight. It is another object of my invention to provide a mechanism of this type.

In the accompanying drawing I have illustrated one specific embodiment of my invention, but it will be understood that the drawing is not to be construed as defining or limiting the scope of the invention and that the same can be modified within the scope of the appended claims without departing from the spirit thereof.

Referring to the figures of the drawing:

Fig. 1 is a perspective view of the interior of a garage equipped with my improved door-actuating mechanism.

Fig. 2 is a sectional plan view thereof.

Fig. 3 is a vertical sectional view taken on line 3—3 of Fig. 2.

Referring more specifically to the drawings by reference characters, 1 and 2 indicate the side walls of a garage and 3 and 4 the doors thereof mounted on hinges 5 to open inwardly. Two weights 6 and 7 are provided for actuating the doors, the weight 6 being relatively heavy and adapted to open the doors and the weight 7 being lighter and adapted to close the doors.

A cable 8 attached to the door 4 at 9 passes upwardly through pulleys 10 and 11 on the wall 2 and from thence downwardly through a pulley 12 on the wall 1, the weight 6 being hung on the cable beneath this pulley 12. A cable 13 attached to the doors 4 at 14 passes through pulleys 15 and 16 on the wall 1 and from thence is attached to the door 3 at 17. From this arrangement it will be noted that the weight 6 is normally adapted to open the door 4 and that the opening of the door 4 operates through the cable 13 to open the door 3.

A cable 18 has one end attached to the wall 2 at 19 and from thence extends across the two doors rearwardly thereof through a pulley 20 on the wall 1 and supports the weight 7 beneath the pulley. A pair of pulleys 21 and 22 secured to the rear of the doors engage the cable. The construction is such that the weight and cable normally hold the doors closed. The opening of the doors operates to raise the weight 7.

The weight 6 may be held in its upper position by means of a cable 23 extending over a pulley 24. One end of the cable is attached to the weight and the other end thereof carries a ring 25 to be engaged over a latch rod 26. This rod is normally held outwardly in the position illustrated in Fig. 3 by means of springs 27. A cable 28 having one end connected to the rod extends through a passage 29 to an outside operating platform 30, the other end of the cable being connected to a plunger 31 extending downwardly from the platform. Springs 32 normally hold the platform in its raised position. It will be seen that sufficient weight will depress the platform to withdraw the rod 26 and release the ring 25, the weight 6 thereupon acting to open the doors.

A similar platform 33 has a cable connection 34 with a latch 35 on the wall 2. This latch is adapted to cooperate with a lug 36 on the door 4 to hold the doors open. A spring 37 normally holds the latch upward in its engaging position. Depression of the platform pulls the cable and releases the latch.

If may also be desired to have means for locking the doors in the closed position. For this purpose I have illustrated two

latches 38 and 39 mounted on the door 3, the latch 38 being adapted to engage a lug in the floor and the latch 39 being adapted to engage the door 4. A cable 40 is connected to these latches and extends over suitable pulleys 41, 42 and 43 and connects to the cable 28 at 44.

The operation of the device as illustrated is as follows. The various parts being in the position illustrated and the operator wishing to leave the garage, he first opens the door 4 until it latches at 35. Opening of the door 4 operates through the cable 13 to also open the door 3. The operator then backs a machine straight out of the garage along the lines indicated at 45 and 46. The platform 33 is located in the track 45 and when the automobile runs onto such platform, the latch 35 is released and the weight 7 closes the doors. The latches 38 and 39 automatically snap into the locking position.

When returning to the garage, the operator brings the car in at an angle as illustrated in Fig. 2 to run the front wheel thereof on to the platform 30 which is located to one side of the track 46. The platform is thereupon depressed and through the cables 28 and 40 withdraws the latches 38 and 39, and the rod 26. The ring 25 being released the weight 6 functions to open the doors wide whereupon they are engaged and held open by the latch 35. After driving into the garage, and preferably before closing the doors and letting the weight 7 down, the operator lifts the weight 6 and catches the ring 25 over the rod 26 ready for the next door-opening operation.

It is believed that the construction and operation of my improved door-actuating mechanism and the advantages thereof will be clear from the above description. The locating of the door closing and opening platforms 33 and 30 in and out of the usual tracks 45 and 46 is believed to be of particular advantage since the operator can most easily back his machine straight out of the garage to depress the platform 33 and can easily drive the same into the garage at an angle to depress the platform 30. The springs 32 beneath the platform 30 are strong enough to prevent sufficient depression thereof to open the doors by any means of less weight than the car being housed. It will be understood that the latches 38 and 39 can be entirely dispensed with if desired without in any manner effecting the operation of the other mechanism. The various other advantages and the simplicity and efficiency of my invention are believed to be obvious.

What I claim is:

1. A door-actuating device comprising the combination of a cable attached to a door, a weight normally acting on the cable to open the door, a latch for holding the door closed, a latch adapted to support the weight and relieve the door-opening tension on the cable, and means including an element outside the door for releasing both latches, the said releasing being accomplished by the weight of a vehicle driving over the element.

2. An actuating device for a pair of doors comprising the combination of a cable attached to one door, a weight normally acting on the cable to open the said one door, a latch for preventing such operation, means including an element outside the door for releasing the latch, the said releasing being accomplished by the weight of a vehicle driving over the element, and a cable having the ends thereof respectively connected to the doors whereby the opening of the said one door automatically opens the other door.

3. A door opening and closing device comprising the combination of a cable and a weight normally operative to open the door, a latch for preventing such operation, a weight and a cable normally operative to close the door, a latch for preventing such operation, and a pair of elements outside the door adapted by the weight of a vehicle thereon to respectively operate the two latches, one element being adapted to operate the first latch to open the door when the vehicle approaches and the other element being adapted to operate the other latch to close the door when the vehicle is leaving, the opening and closing mechanism being so related that the door closing operation leaves the opening mechanism in the functioning position.

4. An opening and closing device for a pair of doors comprising means normally operative to open the doors, a latch for preventing such operation, a weighted cable extending across the two doors rearwardly thereof in a manner to close the same, a latch for preventing such operation, and a pair of elements outside the door adapted by the weight of a vehicle thereon to respectively operate the two latches, one element being adapted to operate the first latch to open the doors when the vehicle approaches and the other element being adapted to operate the other latch to close the doors when the vehicle is leaving, the opening and closing mechanism being so related that the door closing operation leaves the opening mechanism in the functioning position.

5. An actuating device for a pair of swinging doors comprising the combination of weight-operated means for opening and closing the doors, controlling means for the said operating means including a pair of elements adjacent the driveway outside the doors, the weight of a vehicle on one element being adapted to cause the first said means to open the doors and the weight

of a vehicle on the other element being adapted to cause the first said means to close the doors.

6. An actuating device for a pair of swinging doors comprising the combination of weight-operated means for opening and closing the doors, a latch for rendering the weighted means inoperative to open the doors, means including a latch for holding the doors open, and a pair of elements outside the doors adapted by the weight of a vehicle thereon to respectively operate the two latches, one element being adapted to operate the first latch to open the doors when a vehicle approaches and the other element being adapted to operate the other latch to close the doors when the vehicle is leaving.

7. Door-actuating means in combination with a door having a driveway thereto, means for opening and closing the door, latch means for preventing the said opening and closing, and means including a pair of elements outside the door for tripping the latch means, one element being to one side of the driveway and adapted to cause the opening of the door when a vehicle runs thereonto, and the other element being in the driveway and adapted to cause the closing of the door when the vehicle runs thereonto.

8. A door-actuating device comprising the combination of means for opening a door, a latch controlling such opening, a weight and a cable normally operative to close the door, the arrangement and construction being such that opening of the door raises the weight, a latch operative to hold the weight so raised, and a pair of elements outside the door adapted by the weight of a vehicle thereon to respectively operate the two latches, one element being adapted to operate the first latch to open the door when the vehicle approaches and the other element being adapted to operate the other latch to close the door when the vehicle is leaving it.

FRANK YELAVICH.