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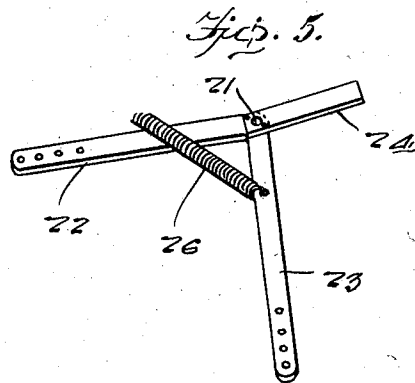
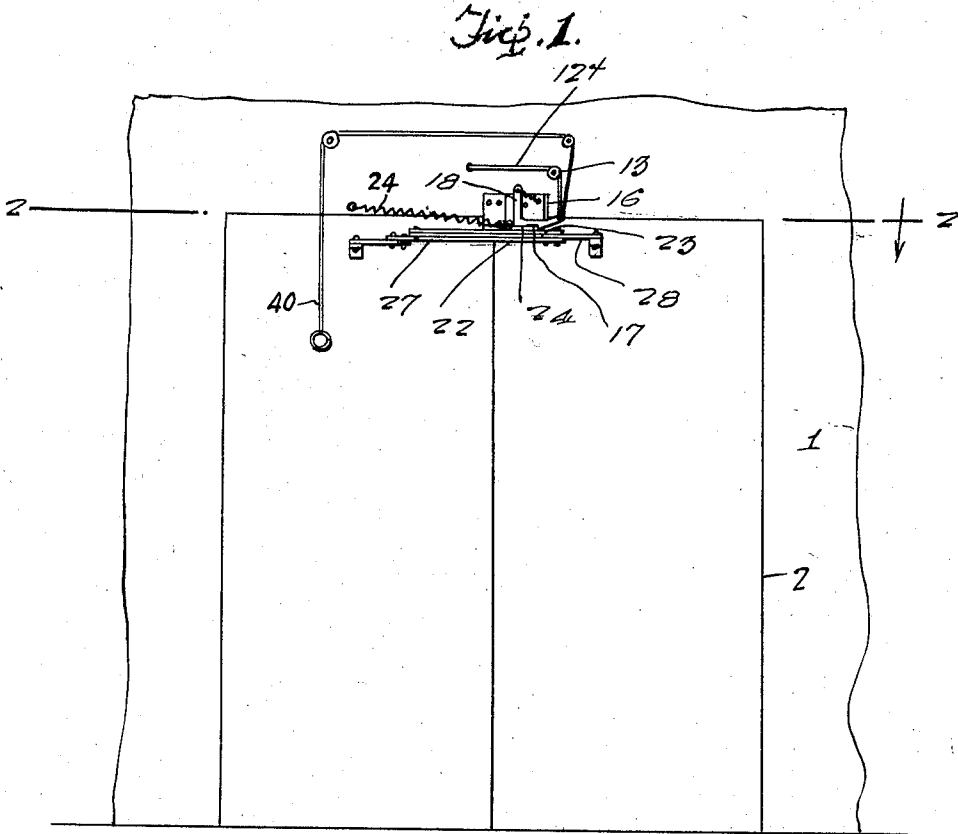
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GARAGE DOOR OPENING MEANS

Filed April 13, 1926

2 Sheets-Sheet 1



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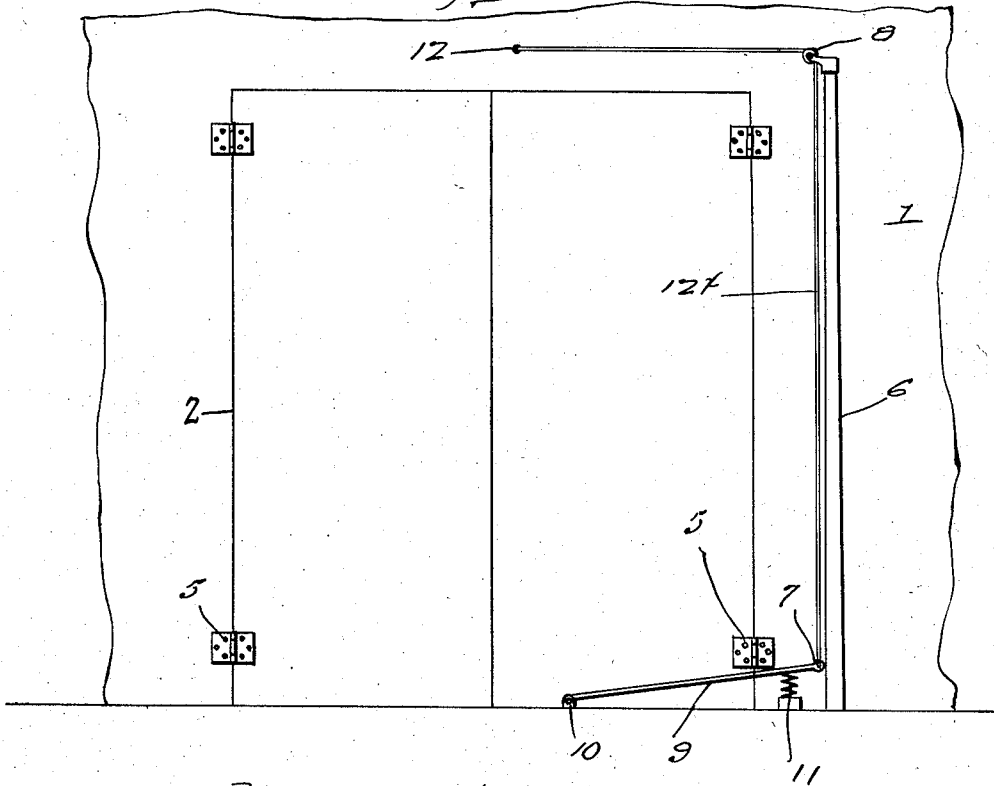
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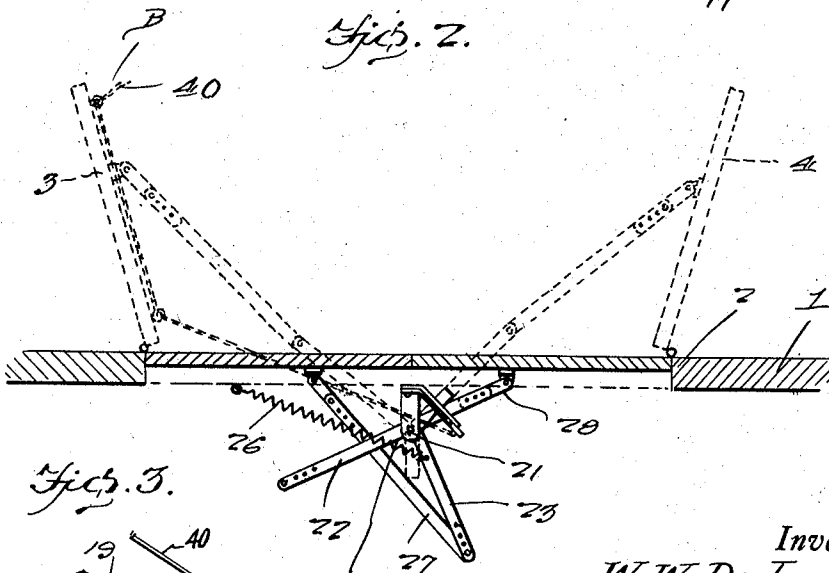
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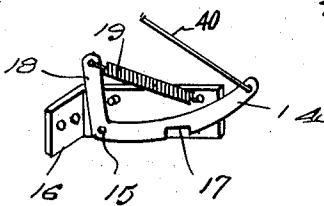
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

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## GARAGE-DOOR-OPENING MEANS.

Application filed April 13, 1926. Serial No. 101,738.

My present invention has to do with the manipulation of the doors of garages and the like; and it contemplates the provision of efficient means operable by an automobile approaching the door opening of the garage, for bringing about the opening of the doors and securing the doors in open position so that an automobile may be driven into the garage.

The invention also contemplates the provision of means whereby when the doors are secured in open position the automobile driver may step out of the automobile within the garage, and may then conveniently release the door control means and then bring about closing of the doors by stress applied directly to one door, and when the doors are in closed position they will be automatically secured in said position in readiness for another operation by an automobile approaching the door opening of the garage from without the garage.

Other objects and practical advantages of the invention will be fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:—

Figure 1 is a view taken from a viewpoint within a garage and showing my improvement as properly arranged relative to horizontal swingable doors for controlling the door opening of the garage.

Figure 2 is a horizontal section of the same, with parts in plan and also showing by dotted line the positions assumed by the parts of the improvement when the doors are swung outwardly into open positions.

Figure 3 is a fragmentary or detail perspective showing the latch of my improvement and the appurtenances of said latch.

Figure 4 is a front elevation or a view taken from a view point outside of the garage and showing the doors as closed.

Figure 5 is a detail perspective illustrating the horizontally swingable bell crank member of my improvement and also showing a portion of the retractile spring for bringing about opening of the doors.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

The garage wall 1 is provided with a door opening 2, designed to be controlled by doors 3 and 4, hingedly connected at 5 to the wall 1 and therefore adapted to be swung

horizontally to and from the full line position shown in Figure 2.

In accordance with the preferred embodiment of my invention an upright 6 is positioned at a suitable distance in front of the garage wall 1, and said upright 6, in turn, is provided with lower and upper guides 7 and 8. It will also be understood that the upright 6 is located, at one side of the path leading to the door opening 2, but that it is essential to arrange a tread member 9 in said path, said member 9 being pivotally mounted at 10 and being superimposed upon a spring 11, and being connected to a cable 12<sup>x</sup> that is passed through the guides 7 and 8 and is also passed through an aperture 12 in the wall 1 at a point above the door opening 2. After being passed through the aperture 12, the cable 12<sup>x</sup> is carried over an appropriate guide 13 at the inner side of the wall 1 and is connected to a latch 14, fulcrumed at 15 on a fixed bracket 16 and having a notch 17 and also having an upstanding arm 18 to which is connected a retractile spring 19 which tends to throw the major portion of the latch 14 downwardly and to yieldingly hold said major portion of the latch 14 against casual upward movement.

Fixed with respect to the garage wall 1 at a point above the door opening 2 and extending laterally inward from said wall 1 is a horizontal bracket 20 to which is pivoted at 21 a bell crank having arms 22 and 23 fixed with respect to each other and also having a third arm 24 which extends from the point of juncture of the arms 22 and 23 and is fixed with respect to the same. When the doors 3 and 4 are closed the bell crank described is designed to rest in the full line position shown in Figure 2, the arm 24 at that time being seated in the notch 17 of the latch 14, and from this it follows that as a condition precedent to the opening of the doors 4, the latch 14 must be lifted out of engagement with the arm 24. This operation is brought out by the passage of an automobile over the depressible member 9, depression of the member 9 being attended by pull on the cable 12<sup>x</sup>, and the raising of the latch 14 for the purpose indicated. Interposed between and connected to the garage wall 1 and the arm 23 of the horizontally swingable bell crank is a retractile spring 26, this spring 26 being, when the doors 4 are in closed positions in stretched or tensioned state, Figure 2. Notwithstanding the

tensioned state of the spring 26, however, swinging of the bell crank and opening of the doors 4 will be prevented by the engagement of the latch 14 with the arm 24. Immediately following the disengagement of the latch 14 from said arm 24, however, the spring 26 will tend to swing the bell crank horizontally into the dotted line position shown in Figure 2 with the result that the doors 4 will be swung or thrust to the dotted line positions in said figure through the medium of the link bars 27 and 28 interposed between and pivotally connected to the arm of the bell crank and the doors 4.

In the practical operation of my improvement as thus far described, it will be manifest that when an automobile passes over the depressible member 9, the doors 4 will be moved to the dotted line positions shown in Figure 2; and it will also be understood that the said doors will be retained in open positions by virtue of the latch 14 seating over and engaging the arm 22 of the bell crank which arm 22 will be, at that time, in position to enter the notch 17 of the latch 14.

After an automobile has passed through the door opening 2 and into the garage, and it is desired to close the doors 3 and 4, it is simply necessary for a person in authority to pull on the auxiliary cable 40 passed through suitable guides on the garage wall 1 and one of the doors, specifically the door 3, whereupon the latch 14 connected with said auxiliary cable 40 will be lifted out of engagement with the bell crank arm 22, whereupon stress applied directly to either one of the doors, preferably the door 3, will bring about the restoration of the working parts of the door control means to the full line positions shown in Figure 2 and the closure of the two doors 3 and 4, and then when the arm 24 assumes a position in coincidence with the notch 17 in the latch 14, the said latch 14 will spring into engagement said arm 24 and thereby latch the doors in closed position and in readiness for another opening of the doors by an automobile approaching the door opening of the garage from without the garage.

It will be apparent from the foregoing that notwithstanding the facility with which, an automobile, by reason of my improvement, may enter a garage, my improvement is simple and inexpensive in construction, is susceptible of ready installation, and in general is well adapted to withstand the usage to which garage door appurtenances are ordinarily subjected.

I have entered into a detailed description of the construction and relative arrangement of the parts embraced in the present and preferred embodiment of my invention in order to impart an exact understanding of the said embodiment in all of its details. I do not desire, however, to be understood as lim-

iting myself to the precise construction and relative arrangement of parts as disclosed, my invention being defined by my appended claims within the scope of which modifications may be made without departure from my invention.

Having described my invention, what I claim and desire to secure by Letters-Patent, is:—

1. In combination, horizontally swingable doors, horizontally swingable means for opening said doors, said swingable means being in the form of a bell crank having arms in connection with the doors and also having a latch arm, spring means connected with said bell crank and arranged to be tensioned when the doors are closed, and a latch arranged upon closing of the doors to engage the said arm of the bell crank and detachably secure the doors in closed positions.

2. In combination, horizontally swingable garage doors, horizontally swingable means connected with and adapted to thrust said doors into open positions, spring means for swinging said horizontally swingable means for said purpose, said means being under tension when the doors are closed, a latch for holding said swingable means against movement under the action of said spring means, and automobile operable means connected with said latch and adapted when actuated to disengage the latch from said swingable means; the said swingable means being in the form of a bell crank having its arms in connection with the doors and also having a latch arm, and said spring means being in the form of a retractile spring arranged to be tensioned when the doors are closed, said spring connected to one of the arms of the bell crank, and the said latch being vertically swingable and spring-pressed and being provided with a notch to receive said latch arm of the bell crank.

3. In combination, horizontally swingable doors, horizontally swingable means for opening said doors, said swingable means being in the form of a bell crank having arms in connection with the doors and also having a latch arm, spring means connected with said bell crank and arranged to be tensioned when the doors are closed, a latch arranged upon closing of the doors to engage the said arm of the bell crank and detachably secure the doors in closed positions, and said latch being also arranged upon opening of the doors to engage one of the other arms of the bell crank and detachably secure the doors in open positions.

4. In combination, horizontally swingable garage doors, a garage wall to which said doors are connected, said wall having an opening disposed above the door opening, a bracket fixed to the garage wall above the door opening, a bell crank pivoted to said bracket and having arms at angles to each

other and also having a latch arm, connections intermediate of said bell crank arms and the doors, a retractile spring interposed between and connected to the garage wall and one of said bell crank arms, a vertically swingable spring actuated latch connected with said bracket and having a notch adapted to seat the latch arm of the bell crank, a depressible member arranged exterior of the garage and spaced from the door opening, and an appropriately guided cable passed through said aperture in the garage wall above the door opening thereof and connected at one end with said depressible member and at its other end to said latch, whereby depression of the depressible member will be attended by disengagement of the latch from the latch arm of the bell crank, and the opening of the doors; said latch being also adapted to engage one of the arms of the bell crank to detachably retain the doors in open positions, and said latch being connected with an auxiliary cable guided on one of the doors and adapted for the disengagement of the latch from the bell crank as a condition precedent to manual closing of the doors.

5. In combination, a garage wall having a door opening and a minute opening spaced from the door opening, outwardly swinging doors hinged to said wall, a bracket fixed to the inner side of the garage wall and disposed above the door opening, movable means mounted on said bracket and connected with the doors, spring means for moving said movable means to open the doors, a latch for cooperating with said movable means to secure the doors in closed position, and automobile operable means for disengaging said latch from said movable means, said automobile operable means including a cable passed through said minute opening and connected to said latch; the said latch being also adapted to engage the movable means for the retention of the doors in open position, and an auxiliary cable guided on one of the doors and being connected with the latch for the opening of the latch by a person positioned within the garage.

In testimony whereof I affix my signature.

WALLACE W. DE LONG.