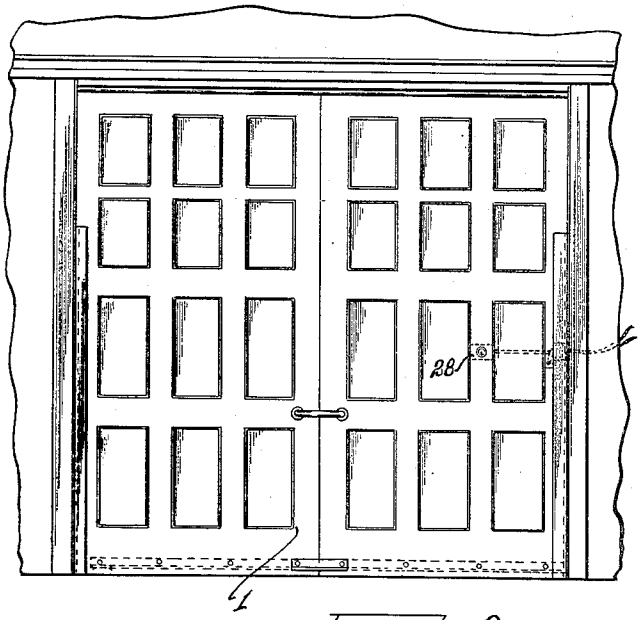
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GARAGE DOORLOCK

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FIG-1



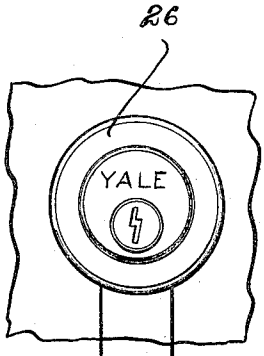
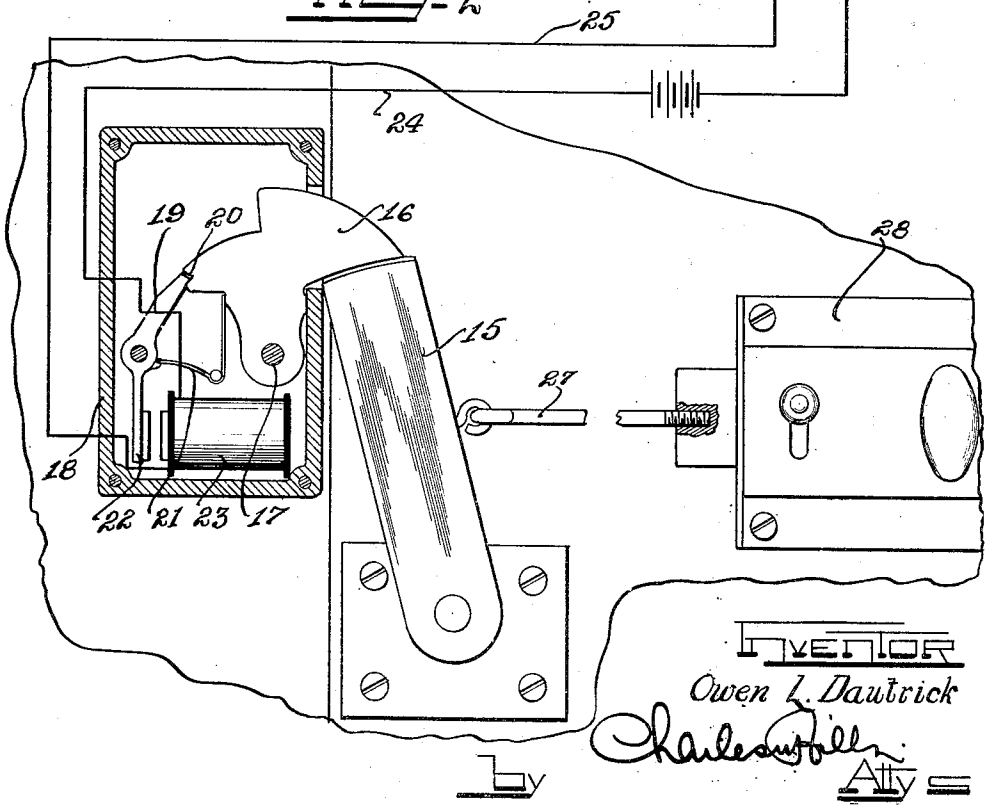


FIG-2

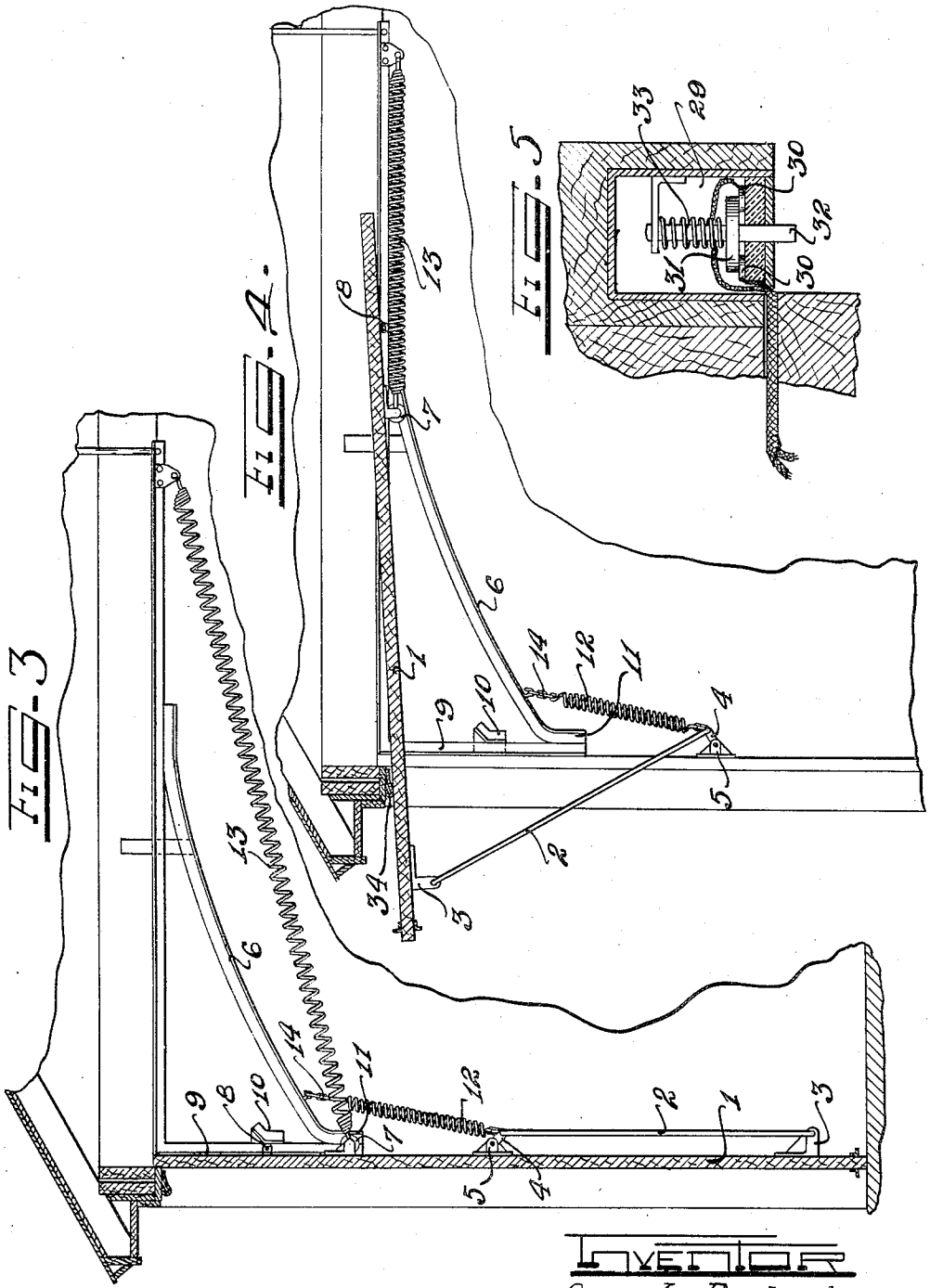


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Fig. 6

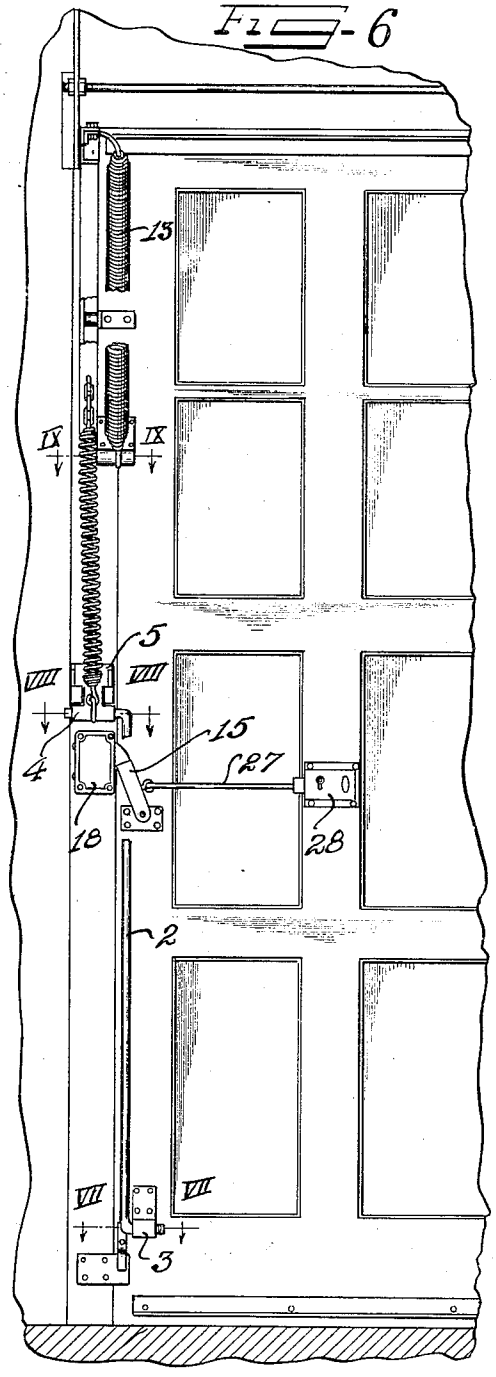


Fig. 7

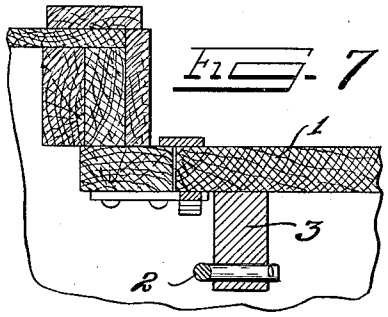


Fig. 8

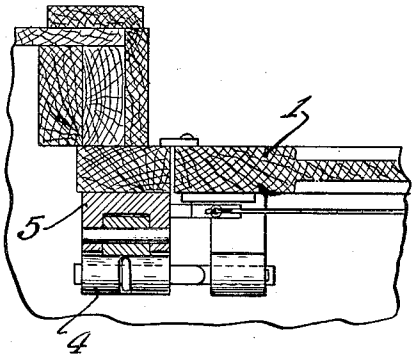
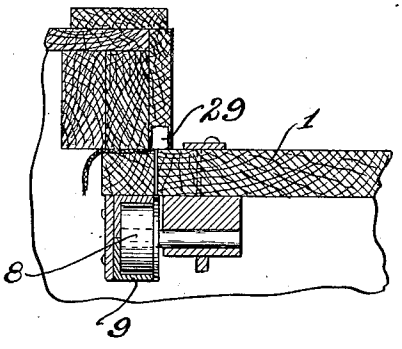


Fig. 9



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UNITED STATES PATENT OFFICE

OWEN L. DAUTRICK, OF DETROIT, MICHIGAN

GARAGE DOORLOCK

Application filed March 21, 1928. Serial No. 263,376.

This invention relates to a garage door of the type disclosed in my copending application, Serial No. 229,966, filed Oct. 31, 1927, and concerns itself with certain improvements whereby the door may be unlocked at a remote point, and whereby the door automatically opens when unlocked and controls a switch for turning on the lights in the garage.

The invention comprises the novel structure and combination of parts hereinafter described and more particularly pointed out and defined in the appended claims.

In the accompanying drawings, which illustrate a preferred embodiment of this invention and in which similar reference numerals refer to similar features in the different views:

Figure 1 is an outside elevational view of a garage door in mounted position and involving this invention.

Figure 2 is an enlarged part sectional, part elevational and part diagrammatic view illustrating a part of the interior of the door and control for the lock.

Figure 3 is an enlarged sectional view through the garage showing the door in transverse section and parts of the garage in elevation.

Figure 4 is a view similar to Figure 3 showing the door in open position.

Figure 5 is an enlarged sectional detail view showing the lighting switch in elevation.

Figure 6 is an enlarged fragmentary interior view of the garage door.

Figure 7 is an enlarged sectional view taken upon the line VII—VII of Figure 6.

Figure 8 is an enlarged sectional view taken upon the line VIII—VIII of Figure 6.

Figure 9 is an enlarged sectional view taken upon the line IX—IX of Figure 6.

The invention is shown as applied to a garage door, but it should be understood that it may be applied to any other door. This garage door is indicated by the reference numeral 1. It is mounted for vertical or upward overhead movement and for tilting movement by means of a pair of links 2, one on each side of the door, which links are pivoted at their lower ends to lugs 3 on the lower portion of the door, and at their upper ends to short links 4 which are in turn pivoted to lugs 5 on the inside walls of the garage adjacent the door opening.

From the sides of the door opening and at a suitable height, there extends rearwardly a pair of track members 6 (only one of which is shown), upon which the door may be shifted to overhead position. The door is provided with suitable rollers 7 for traveling movements upon said track members.

The door is normally locked from tilting movment by the rollers 7 and rollers 8 which rollers are positioned in guideways upon the walls of the garage adjacent the door opening. These guideways are formed by the angle members 9, short angle members 10 and the terminals 11 of the track as in my said copending case to which reference may be had for a further description. In my said pending application, the springs acting upon the door are counter-balanced. In the present instance, the springs are unbalanced and are so arranged as to automatically elevate the door to overhead position as soon as the door is unlocked. In the present structure, there are springs 12 which are connected at their lower ends to the links 4 and at their upper ends to the tracks 6, and springs 13 which connect the upper portion of the door with the interior wall of the garage at a point rearward of the tracks 6. The springs 12 which are stronger than the springs 13 normally tend to elevate the door, and they are capable of elevating the door when unlocked to a point to disengage the rollers 7 and 8 from the guideways whereby the springs 13 become effective for tilting the door and moving the same to overhead position. The spring 12 is supported upon a short chain 14 which allows the tension of the same to be adjusted.

The locking mechanism for locking the door in closed position against the tension of the springs 12, is best shown in Figures 2 and 6. It will be noted that the door is provided with a pivoted latch 15, the end of which engages under a locking detent 16 which is pivoted at 17 within a casing 18 upon a side frame member of the doorway,

which detent has a substantial portion thereof normally overhung to extend outwardly of the casing. A pawl 19 is pivoted intermediate its ends in the casing. The upper end of the pawl engages a notch 20 in the locking detent 16 for maintaining the same in the path of the latch 15. A leaf spring 21 between the pawl and the detent 16 is used to shift the detent 16 in the path of the latch. The tail 22 of the pawl constitutes an armature adapted to be attracted by a solenoid 23 for disengaging the pawl from the locking detent whereupon the spring 12 comes into action for elevating the door. As the door is thuswise elevated, the latch 15 abuts the detent 16 and swings the same out of its path. The solenoid is connected by a pair of feed wires 24 and 25 with a switch 26 or the like which may be at some remote point, for example, at the dwelling of the owner of the car whereby any attendant in the dwelling may operate the switch for opening the garage when the attendant sees the car approach. The door may however be manually unlocked, and for this purpose the latch 15 is connected by a link 27 with a key controlled locking mechanism, generally indicated by the reference 28 on the door.

Provision has also been made for turning on the lights in the garage when the door is opened. To this end, there is shown a switch 29, (Figures 5 and 9). This switch consists of stationary contact members 30 and a movable contact member 31 on a rod 32. A spring 33 normally forces the movable member against contacts 30. The switch is mounted in the wall of the garage against which the door abuts, as indicated in Figure 9, and the rod 32 is normally urged inwardly for disengaging the switch when the door is closed. However, as soon as the door is opened, the rod 32 will be free to move outwardly under the influence of the spring 33 for closing the switch. The garage door must be manually closed and as it is pulled down into closed position, it will engage the switch stem 32 and open the switch. It will of course be understood that the contacts 30 are connected with the lights in the garage. A snubber 34 is preferably placed between the top of the door and the top wall of the opening over which the door slides in its opening and closing movements.

This invention finds special utility in garages. In the case of private garages located near the owner's dwelling, it is evident that the remote control placed in such dwelling may be easily operated by an attendant for automatically opening the garage door when the owner is seen approaching in his car. At the same time, the lights are lit so that the driver can enter at once. The invention also finds great utility in public garages, in that the door may be unlocked at any remote point within the garage when an approaching car sounds its horn.

I am aware that many changes may be made, and numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted hereon, otherwise than necessitated by the prior art.

I claim as my invention:

1. Locking means comprising in combination, a key controlled lock having a slidable member, a latch arm pivoted at one end, a rod extending connecting said slidable member and said latch arm, a detent member, means normally urging said detent member into the path of said latch arm to prevent movement thereof in one direction, a pawl normally engaging said detent to prevent movement thereof, and electrically operated means cooperable with said pawl to release said detent.

2. A locking device comprising a latch arm pivoted at one end, a detent pivoted normally overhung into the path of movement of said latch arm to engage the free end thereof and thereby prevent movement of said latch arm in one direction, a pawl normally engaging said detent to prevent movement thereof, electrically operated means cooperable with said pawl to release said detent, and a key controlled lock connected to said latch arm for movement of said latch arm.

In testimony whereof I have hereunto subscribed my name.

OWEN L. DAUTRICK.