

[54] OVERHEAD GARAGE DOOR LATCH

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[58] Field of Search..... 292/225, 254, 263

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[57] ABSTRACT

A heavy angle bracket mounted high on a garage door post has adjustably fixed thereto an approximately horizontal arm bearing a spring biased latch positioned in confronting relation with one of two links connecting a door post mounted plate with the door side edge thereabove.

A spring retracted latch release rocker is affixed to said link and has a string leading to a mid point in the door from which it can be seized manually to release said latch whereby said door may be swung downwardly and closed.

5 Claims, 4 Drawing Figures

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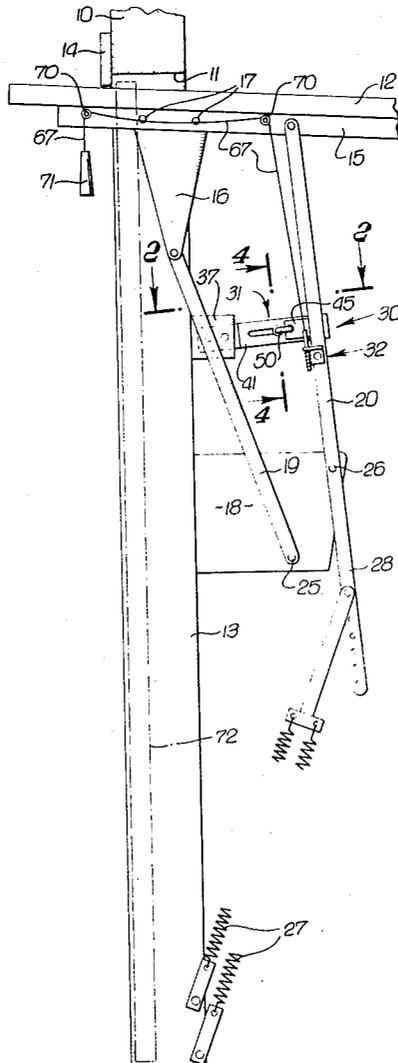


FIG. 1.

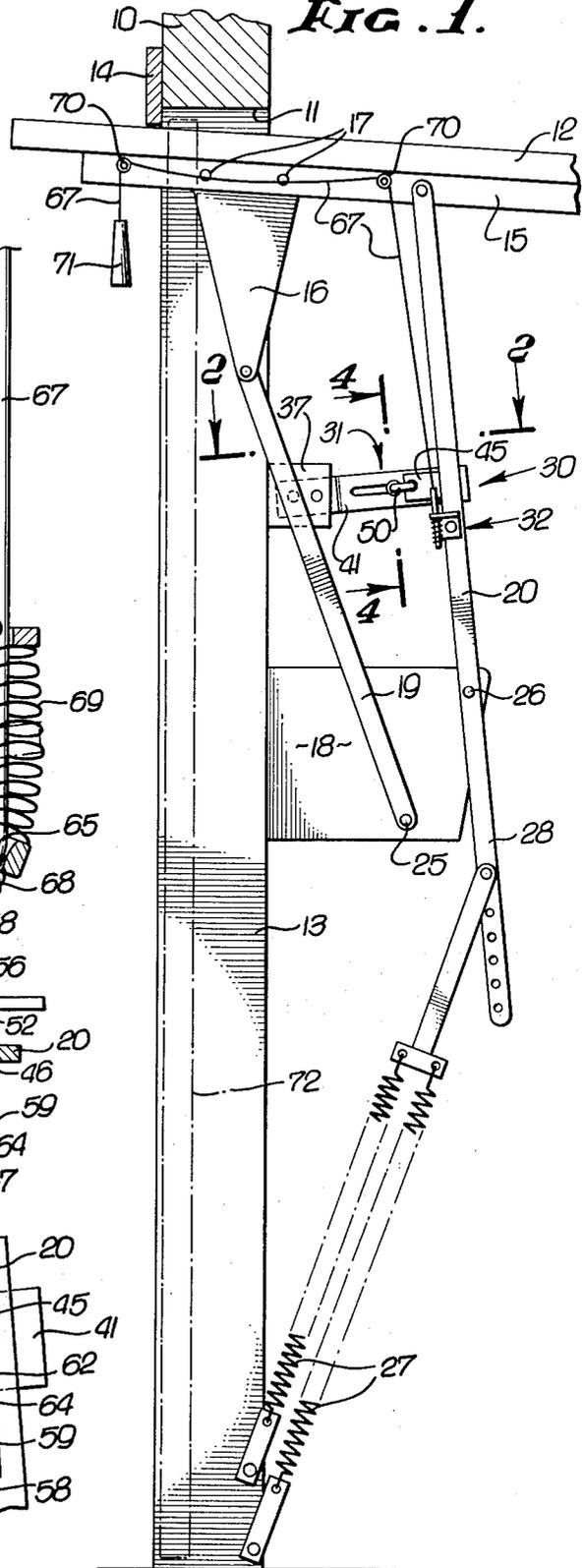


FIG. 4.

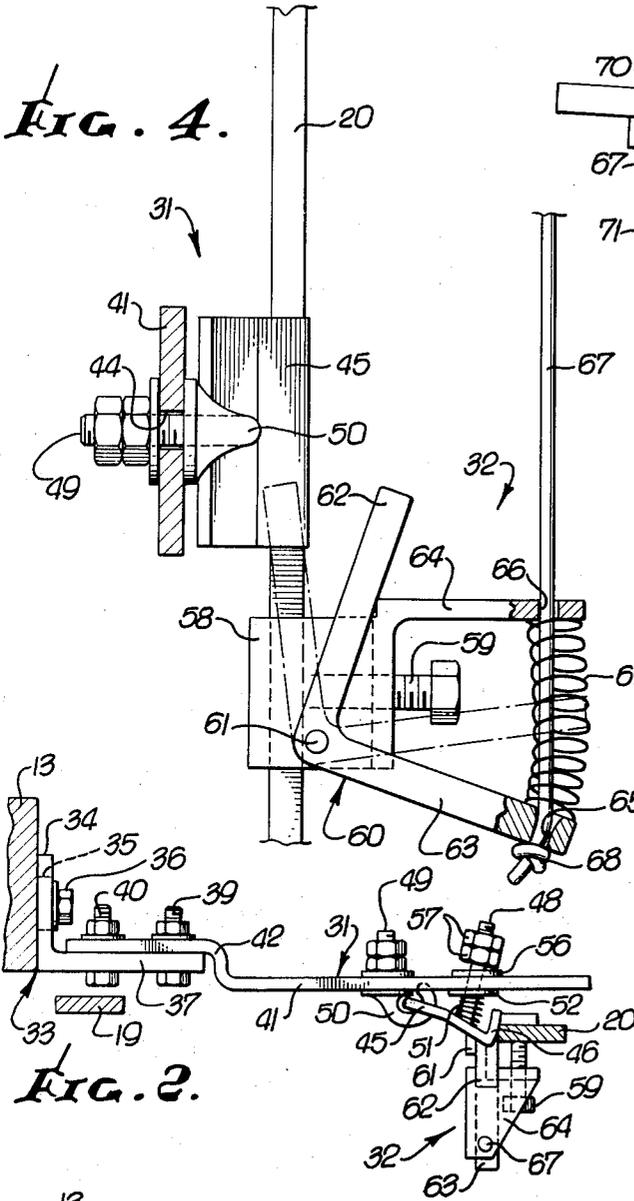


FIG. 2.

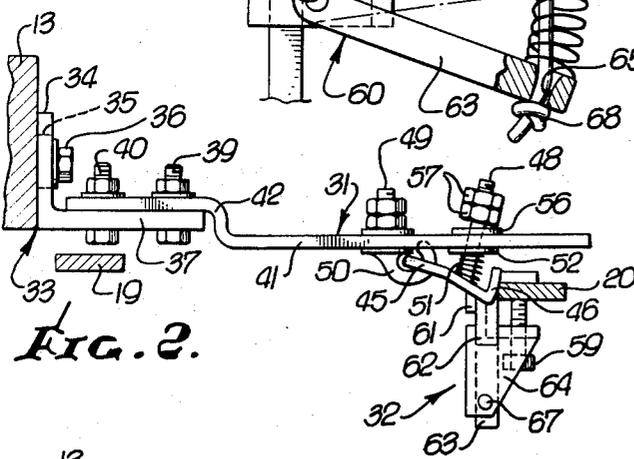
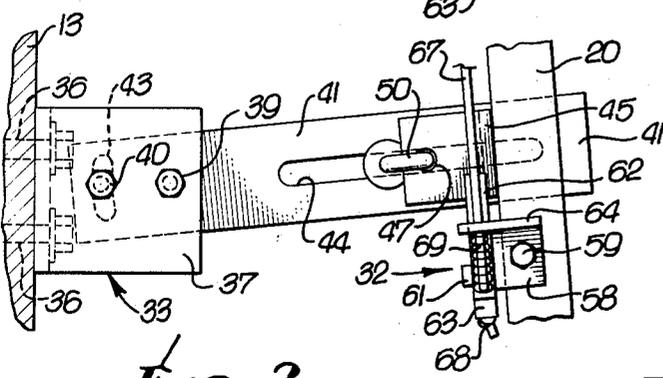


FIG. 3.



OVERHEAD GARAGE DOOR LATCH

SUMMARY OF THE INVENTION

A widely used conventional mechanism for mounting a garage door so as to swing this overhead when opening the same comprises a mounting plate secured to each door post and a pair of spaced links pivoted at their lower ends to each of said plates and at their upper ends to the adjacent side edge of the door. Although counterbalance springs are provided by this mechanism to hold the door open until it is closed manually, these often fail to prevent a high wind rather forcefully and without warning closing the door, endangering both persons and property.

It is an object of the present invention to provide an inexpensive accessory kit which can be installed by any homeowner and which will securely latch an overhead garage door in open position without the necessity of giving thought to this matter and will prevent the door being closed again until the latch means is deliberately manually released.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a diagrammatic fragmentary vertical sectional view of an overhead opening garage door with the door latched open by a preferred embodiment of the present invention.

FIG. 2 is an enlarged sectional view taken on the line 2-2 of FIG. 1.

FIG. 3 is a front elevational view of FIG. 2.

FIG. 4 is a full scale detail sectional view taken on the line 4-4 of FIG. 1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The environment of the present invention, shown in FIG. 1, includes a garage front wall 10 having a door opening 11 in which an overhead door 12 is mounted on two doorposts 13 (only one of which is shown in the drawing). An exterior molding 14 is applied to wall 10 about opening 11.

Secured to the inner face of door 12 along its side edges are angle iron members 15 each of which has a triangular plate 16 secured thereto as by rivets 17. Fixed to each of the posts 13 and extending inwardly therefrom is one of a pair of link mounting plates 18.

At each side of the door opening 11 a pair of spaced links 19 and 20 are pivotally connected at 25 and 26 to the adjacent plate 18 and diverge upwardly to pivotal connections at their upper ends respectively with the lower extremity of the adjacent triangular plate 16 and angle iron member 15. Both sides of door 12 are thus supported by duplicate conventional linkage mechanisms, one of which is illustrated in FIG. 1. The door is counterbalanced to retain the same in its up position by heavy coil springs 27 anchored to posts 13 and connected at their upper ends to downward extensions 28 of links 20.

The illustrated preferred embodiment of the invention comprises an accessory kit 30, which includes a spring biased adjustable link latch mechanism 31 and a remotely controlled spring retracted latch release mechanism 32.

The latch mechanism 31 has a heavy right angled mounting bracket 33 one flange 34 of which has a pair of horizontal slots 35 for receiving lag screws 36 for se-

curing bracket 33 to the door post 13, the slots 35 allowing for horizontal adjustment of the bracket prior to tightening said screws. The other flange 37 of bracket 33 has horizontally aligned bolt holes for receiving bolts 39 and 40 for mounting a flat bar 41 on bracket 33. Bar 41 has goose neck bend 42 therein and a hole for receiving bolt 39 and an arcuate slot 43 for receiving bolt 40, the latter allowing for adjusting the inclination from horizontal of bar 41 before tightening said bolts.

Bar 41 is of a length allowing the inner end thereof to extend behind and overlap link 20 and has an axial slot 44, as shown in FIG. 3, for use in adjustably mounting a spring biased rectangular latch 45 on said bar. Said latch is formed of sheet metal bent at its inner end to form a link engaging lip 46, having a hole 47 near its opposite end and having a bolt 48 welded to its back face just behind said lip. An eye bolt 49 has an offset eye 50 which is looped through latch hole 47 to pivotally mount said latch on said bolt which extends through slot 44 and is adjustably set on bar 41 to properly juxtapose lip 46 close to link 20.

Latch 45 is spring biased away from bar 41 by an expansion spring 51 coiled about bolt 48 between said latch and a washer 52 placed over said bolt just inside of bar 41. A washer 56 overlies bolt 48 outside of bar 41 and lock nuts 57 are adjustably set on said bolt to permit the desired yieldable movement of latch 45.

The latch release mechanism 32 includes a U-shaped clamp bracket 58 with a set screw 59 for adjustably applying said bracket to link 20. A lever 60 in the form of a right angle is pivotally mounted at its apex by a pin 61 on the bracket 58 with one arm 62 in position to depress latch 45 and with the other arm 63 of lever 60 in vertical spaced relation with a triangular plate 64 welded horizontally to bracket 58.

Holes 65 and 66 are formed in the responsive extremities of lever arm 63 and plate 64 to receive a remote control cord 67 extended downwardly therethrough and knotted on its lower end at 68. Trapped between arm 63 and plate 64 by running said cord therethrough is a coiled expansion spring 69. Thus, spring 69 operates to bias lever 60 into retracted position shown in full lines in FIG. 4 but yields when cord 67 is pulled downwardly to permit lever 60 to be swing into its latch releasing position shown in dot-dash broken lines in this view.

Screw eyes 70 are applied to the rear face of door 12 to guide the remote control cord 67 to a point near the middle of the door where said cord is attached to a handle 71 suitable for gripping in the hand and pulling downwardly in order to release latch 45 and permit door 12 to be swung downwardly to its closed position shown in broken lines 72 in FIG. 1.

I claim:

1. An accessory device for controlling the closing of an overhead garage door supported, when open, at each side edge by a conventional pair of spaced links pivotally mounted below on a door post and extending upwardly to pivotal connections with the door, said device comprising:

spring biased latch means mounted on one of said posts, in confronting relation with one of said links whereby said latch means snaps in front of said link to hold said door open;

a latch release means mounted on said link adjacent said latch means; and

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remote control means for actuating said latch release means from a position convenient for manually closing said door, to release said latch means from in front of said link.

2. A device as recited in claim 1 wherein said spring biased latch means comprises:

- a flat bar mounted on said post and extending approximately horizontally towards said link;
- a latch pivotally mounted on said bar and adjustable lengthwise of said bar into close confrontation with said link; and

means for spring biasing said latch permitting it to yield, under pressure, toward said bar and out of confrontation with said link.

3. A device as recited in claim 1 wherein said latch release means comprises:

- a U-shaped bracket having a set screw for adjustably applying said bracket to said link so as to be juxtaposed close to said latch means when said door is open;
- a lever in the form of a right angle pivoted at its apex on said bracket with one arm disposed to engage and shift said latch means out of confrontation with said link;
- a plate, one end of which is welded to said bracket, said plate extending away from said bracket in spaced relation with the other arm of said lever, the outer extremities of said plate and other lever arm having holes;
- a coiled expansion spring;
- a remote control cord extending through the hole in

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said plate, through said spring and through the hole in said other arm, and then being knotted whereby pulling upwardly on said cord rocks said lever to apply said one arm to said latch means and shift said latch means out of confrontation with said link.

4. A device as recited in claim 2 wherein a heavy angle bracket is provided with means for securing said bracket to said post and means for adjustably securing said bar to said angle bracket to vary the inclination of said bar from horizontal to bring said bar into right angled relation with said link.

5. A device as recited in claim 4 wherein said bar is provided with an axial slot for a substantial portion of its length;

an eye-bolt, with the eye offset from the axis of the bolt, extending through said slot and tightened on said bar;

a rectangular sheet metal latch having a hole near one end receiving said bolt eye to pivot said latch on said eye, the opposite end of said latch being bent towards said bar to form a link engaging lip thereon;

a bolt welded to the inner face of said latch and extending through said slot to receive lock nuts on the bolt end; and

a coil spring penetrated by said bolt between said latch and said bar to spring bias said latch away from said bar.

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