

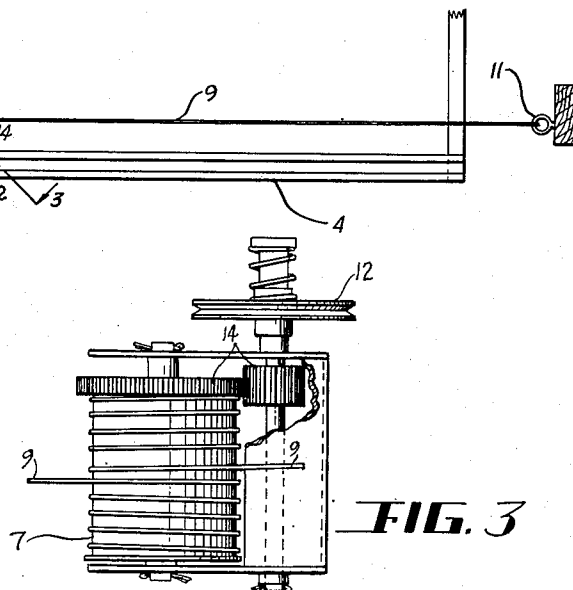
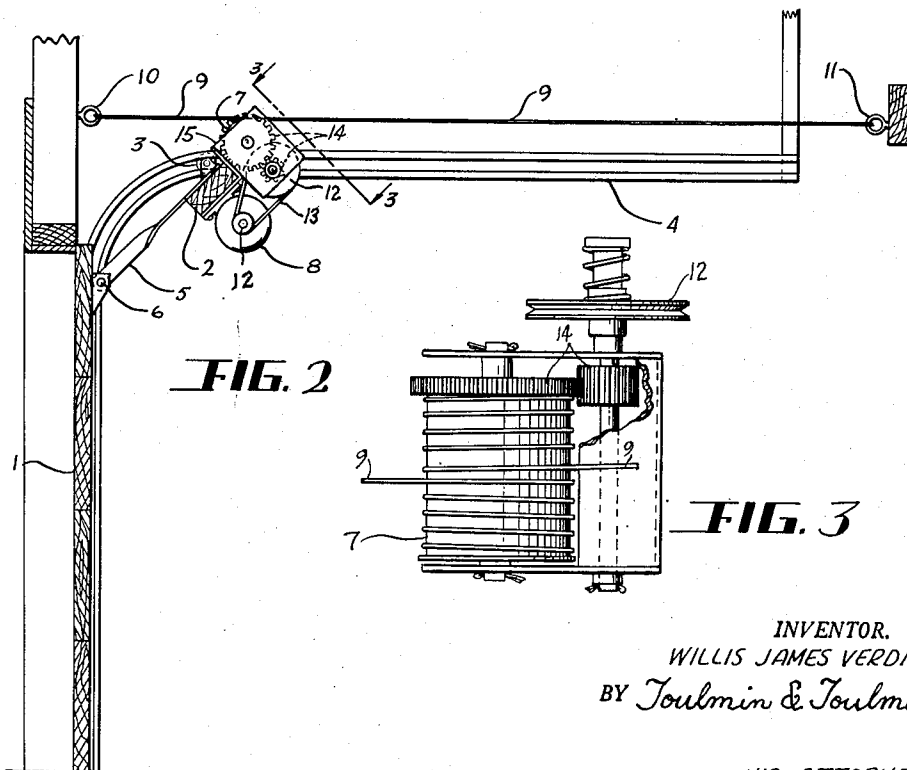
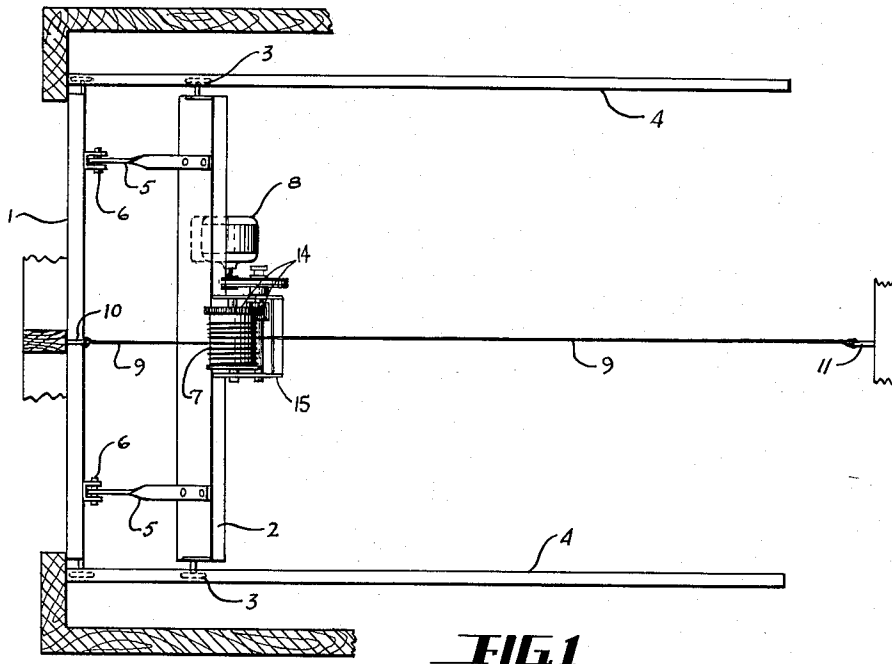
Feb. 10, 1953

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2,628,090

ELECTRIC GARAGE DOOR OPERATOR

Filed June 17, 1949



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2,628,090

ELECTRIC GARAGE DOOR OPERATOR

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Application June 17, 1949, Serial No. 99,720

3 Claims. (Cl. 268—59)

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The invention relates to improvements in electric door operators, where a motor driven mechanism opens and closes the garage door to which it is attached; and the objects of the improvement are: first, to provide novel mounting means, which make installation simple and easy, since there are no mounting pieces to be secured to the ceiling of the garage for support, as with the present door operators; and second, it can be packaged into smaller space for shipment from factory.

One form of the invention is illustrated in the accompanying drawing, in which Fig. 1 is a vertical view of door with operator attached, Fig. 2 is a side view of same, and Fig. 3 is an enlarged view along line 3—3 of Fig. 2.

Construction

A crossmember 2 has rollers 3 on each end which travel in door tracks 4. Crossmember 2 is connected to door by arms 5, through hinge pins 6. The door operating mechanism consisting of cable drum 7, which is driven by motor 8 through pulleys 12, belt 13, gears 14 and frame 15, is mounted on crossmember 2. One end of cable 9 is secured to front of garage with screw eye 10, and other end of cable is secured to screw eye 11 at rear wall of garage.

Operation

With door 1 in closed position, motor 8 is started in direction which will rotate cable drum 7 counter-clockwise (Fig. 2). As drum 7 continues to turn, the cable between drum 7 and eye 11 will be wound on drum 7, opening door 1. When motor 8 is reversed, cable drum 7 will turn in opposite direction and close door.

I am aware that motor driven mechanism operating doors are old, which part I do not claim.

I claim:

1. In combination, a pair of tracks having vertical portions, horizontal portions, and curved portions connecting said vertical and horizontal portions, an articulated door, rollers supporting said door in said tracks, a pair of straps pivotally connected to said articulated door, a cross member rigidly attached to said straps adjacent either end of the cross member, said cross member having rollers adjacent the opposite ends thereof engaging said tracks, a power drive means mounted on said cross member substantially centrally thereof, said power drive means comprising a motor depending below said cross member, a drum for receiving a cable, and means for driving said drum from said motor including reduction gear means, said power drive means, in-

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cluding said motor, said reduction gear means and said cross member being rigidly mounted with relation to each other for pivotal movement about the axis of said cross member rollers, a cable the ends of which are connected to the front and back wall of a building supporting said tracks and door, said cable being mounted in parallel relation with the horizontal tracks and located substantially midway between said horizontal tracks, a portion of the cable between the ends thereof being wound about said drum.

2. In a door operating mechanism, the combination of an articulated door, a grooved track on either side of said door having vertical portions, horizontal portions, and curved portions connecting said vertical and horizontal portions, rollers for guiding said door on said track, a transverse member having end rollers mounted in said track and moving solely in the horizontal portions of said track, means pivotally connecting the transverse member with the door, a motor, a drum and reduction gear means, said motor, drum and reduction gear means being rigidly mounted on said transverse member midway thereof whereby said motor, drum, and reduction gear means together with said cross member are pivotally mounted about the axis of said transverse member rollers, said motor, drum, and reduction gear means being supported and guided in their movements solely by said transverse member, cable means mounted above the horizontal portions of said track in parallel relation thereof, winding about said drum and extending on opposite sides of said drum, means attaching the ends of said cable means to fixed supports located above and centrally of said door and transverse member and at each end of the horizontal portion of the track.

3. In a door operating mechanism, the combination of an articulated door, a grooved track on either side of said door having vertical portions, horizontal portions, and curved portions connecting said vertical and horizontal portions, rollers for guiding said door on said track, a transverse member having end rollers mounted in said track and moving solely in the horizontal portions of said track, means pivotally connecting the transverse member with the door, a motor, a drum and reduction gear means, said motor, drum and reduction gear means being rigidly mounted on said transverse member midway thereof whereby said motor, drum, and reduction gear means together with said cross member are pivotally mounted about the axis of said transverse member rollers, said motor,

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drum, and reduction gear means being supported and guided in their movements solely by said transverse member, cable means mounted above the horizontal portions of said track in parallel relation thereto, and extending on opposite sides of said drum, means attaching the ends of said cable means to fixed supports located above and centrally of said door and transverse member and at each end of the horizontal portion of the track, said motor being mounted below said transverse member and said drum being mounted above said transverse member.

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REFERENCES CITED

The following references are of record in the file of this patent:

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