Dec. 23, 1924. 1,520,177

F. B. DICKASON

DOOR

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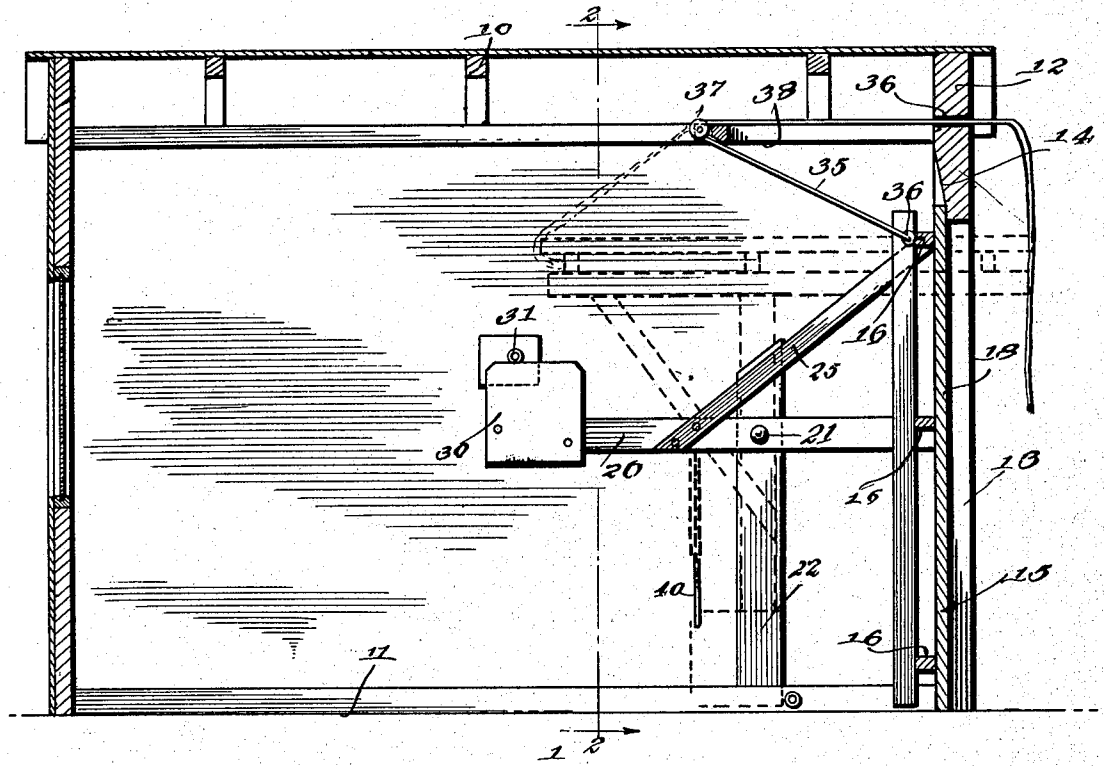


Fig. 1.

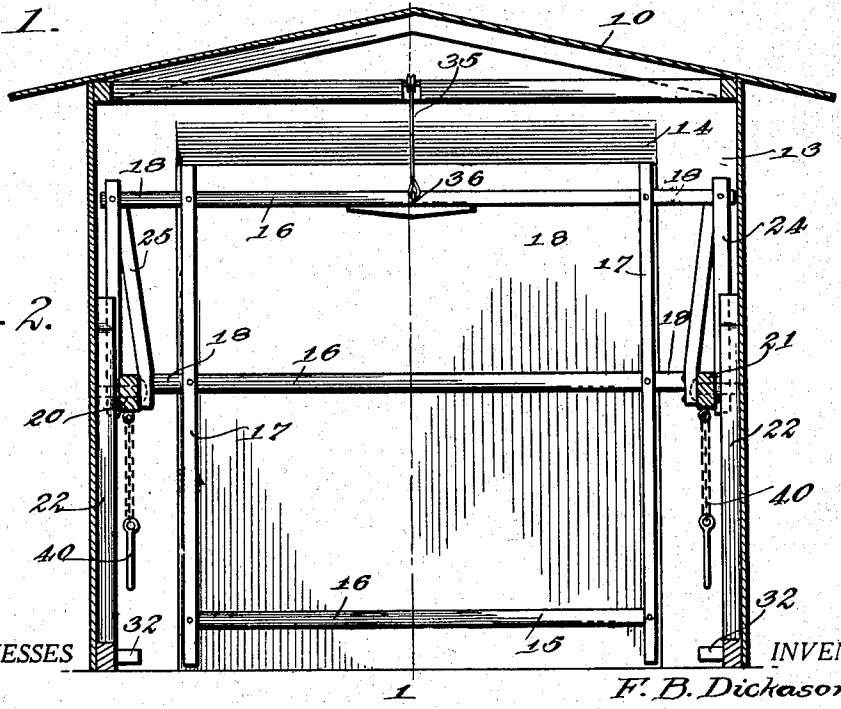


Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

FRANK B. DICKASON, OF SHREVEPORT, LOUISIANA, ASSIGNOR OF TWO-FIFTHS TO RAY C. HARVEY, OF SHREVEPORT, LOUISIANA.

DOOR.

Application filed May 23, 1924. Serial No. 715,488.

To all whom it may concern:

Be it known that I, FRANK B. DICKASON, a citizen of the United States, residing at Shreveport, in the parish of Caddo, State of Louisiana, have invented certain new and useful Improvements in Doors, of which the following is a specification.

This invention relates in general to doors, and more particularly to an automatically operable counterbalanced door especially adapted for use in garages.

An object of the invention is to provide a door of this character which may be conveniently and easily operated to effect either opening or closing thereof and which is so constructed, mounted and counterbalanced as to automatically open or close under the control of the person entering or leaving the garage.

A further object of the invention is to provide a door of this character having these advantages and capacities and which is also of simple and durable construction, reliable in operation and easy and comparatively inexpensive to manufacture.

Other objects and advantages reside in certain novel features of the construction, arrangement and combination of parts which will be hereinafter more fully described and particularly pointed out in the appended claims, reference being had to the accompanying drawings forming a part of this specification, and in which:

Figure 1 is a view in longitudinal vertical section taken approximately on the line 1—1 of Figure 2 and showing a garage and door constructed in accordance with the present invention, and

Figure 2 is a view in transverse vertical section taken approximately on the line 2—2 of Figure 1.

Referring to the drawings, the numeral 10 designates a garage having a base or floor 11 and a front wall 12. The front wall 12 is provided with a door opening 13 and the portion of the front wall which lies above the door opening is recessed, as at 14.

A door designated generally at 15 is provided and includes a framing made up of horizontal cross pieces 16 and uprights 17 secured to the cross pieces 16. The panel or body of the door is secured to the cross pieces 16. As shown to advantage in Figure 2, the two upper cross pieces 16 are formed with extensions 18 at each side of the door. The door is mounted on a pair of levers 20, one lever being arranged at each side of the door. The levers are fulcrumed or pivotally mounted, as at 21, to standards 22. It is proposed to rigidly connect one end of each lever to the door and for this purpose the forward end of each lever is notched and the extensions 18 of the centrally disposed cross piece 16 are fitted in the notches at the forward ends of the levers and also secured to the levers. A vertical brace member 24 extends between and is secured to the extensions 18 at each side of the door and this brace member 24 together with an inclined brace member at each side of the door provides a trussed mounting frame at each side of the door. It is to be understood, of course, that the inclined brace members 25 extend between and are secured to the levers 20 and the vertical brace members 24 so that the truss is constituted by the brace members 24 and 25 and the comprehended portion of the lever 20.

Counter-weights 30 are fixed to the free ends of the levers 20 and are provided for the purpose of counterbalancing the door 15.

In order to limit the movements of the door to open and closed position, stops 31 and 32 are provided. The stops 31 and 32 may consist of pins fixed to the stationary structure of the garage and covered with sleeves of cushioning material.

A flexible operating element 35 such as a cord, cable, chain or the like, is provided and has one end connected, as at 36, to the upper cross piece 16 of the door framing. The operating element 35 extends rearwardly and upwardly from the door and passes through a guide 37 which may consist of an ordinary sheave or pulley mounted on a transversely extending bar 38. Beyond the guide 37 the operating element 35 extends forwardly of the garage and out through an opening 39 in the front wall thereof to any point where it is desired to exercise control of the door.

In order to provide for proper counterbalancing of the door in wet weather, auxiliary counter-weights 40 may be employed.

In operation, with the door in closed position, as shown in Figure 1, the panel or body portion of the door is disposed in a plane parallel to the front face of the wall of the garage since the upper end of the door is accommodated in the recess 14. The

lower end of the door rests on the floor 11 of the garage while the stops 31 co-act with the floor in holding the door 15 against the further swinging in a clockwise direction from the position shown in Fig. 1. If it is desired to open the door only a slight pull need be exerted on the flexible operating element 35 in order to start the door to swing upwardly in a counter-clockwise direction to the position shown in dotted lines in Fig. 1. The stops 32 limit the swinging movement of the door in a counter-clockwise direction to the position shown in dotted lines in Fig. 1. It is to be noted that the door may also be closed by exerting a slight pull on the operating cord 35 as will be understood from an inspection of the dotted line position of the cord shown in Figure 1. The door partakes of all its movement in a smooth and easy fashion so that no shocks or strains are set up in any of the elements of the structure. The cable 35 may be extended to any suitable point and provides for a distant control of the door.

I claim:—

1. In a garage door, a pair of vertical standards, the members of said pair of standards being located at the opposite sides of the door, a lever fulcrumed on each standard, a rigid door structure fixedly secured to the forward ends of the levers, the levers and the door structure being arranged at right angles, the levers being horizontally disposed in the closed position of the door and being vertically disposed in the open position of the door, and counter-weights secured to the rear ends of the levers.

2. In a garage door, a pair of vertical standards, the members of said pair of standards being located at the opposite sides of the door, a lever fulcrumed on each standard, a rigid door structure fixedly secured to the forward ends of the levers, the levers and the door structure being arranged at right angles, the levers being horizontally disposed in the closed position of the door and being vertically disposed in the open position of the door, counterweights secured to the rear ends of the levers, and stops co-operable with the counterweights for limiting the movement of the door to open and closed position.

3. In combination with a building structure having a wall provided with a door opening, the portion of the wall immediately above the opening being recessed, a rigid door structure co-operable with the door opening, a pair of vertical standards, members of said pair of standards being located at the opposite sides of the door, a lever fulcrumed on each standard, the forward ends of the levers being fixedly secured to the door structure, the levers being horizontally disposed in the closed position of the door, the door in its closed position having its lower end resting on the floor of the building structure and having its upper end received in the recess of the front wall, the levers being vertically disposed in the open position of the door, and a counterweight mounted on each lever at the end thereof opposite the door.

4. In combination with a building structure having a wall provided with a door opening, the portion of the wall immediately above the opening being recessed, a rigid door structure co-operable with the door opening, a pair of vertical standards, members of said pair of standards being located at the opposite sides of the door, a lever fulcrumed on each standard, the forward ends of the levers being fixedly secured to the door structure, the levers being horizontally disposed in the closed position of the door, the door in its closed position having its lower end resting on the floor of the building structure and having its upper end received in the recess of the front wall, the levers being vertically disposed in the open position of the door, a counterweight mounted on each lever at the end thereof opposite the door, a guide pulley mounted on the building structure rearwardly of the door, and an operating cord having one end connected to the inner side of the door, said operating cord being trained around the pulley and extended forwardly of the door to a point of convenient control exteriorly of the building.

FRANK B. DICKASON.