Sept. 15, 1936. K. G. ASQUITH 2,054,735

OVERHEAD DOOR

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Fig. 1.

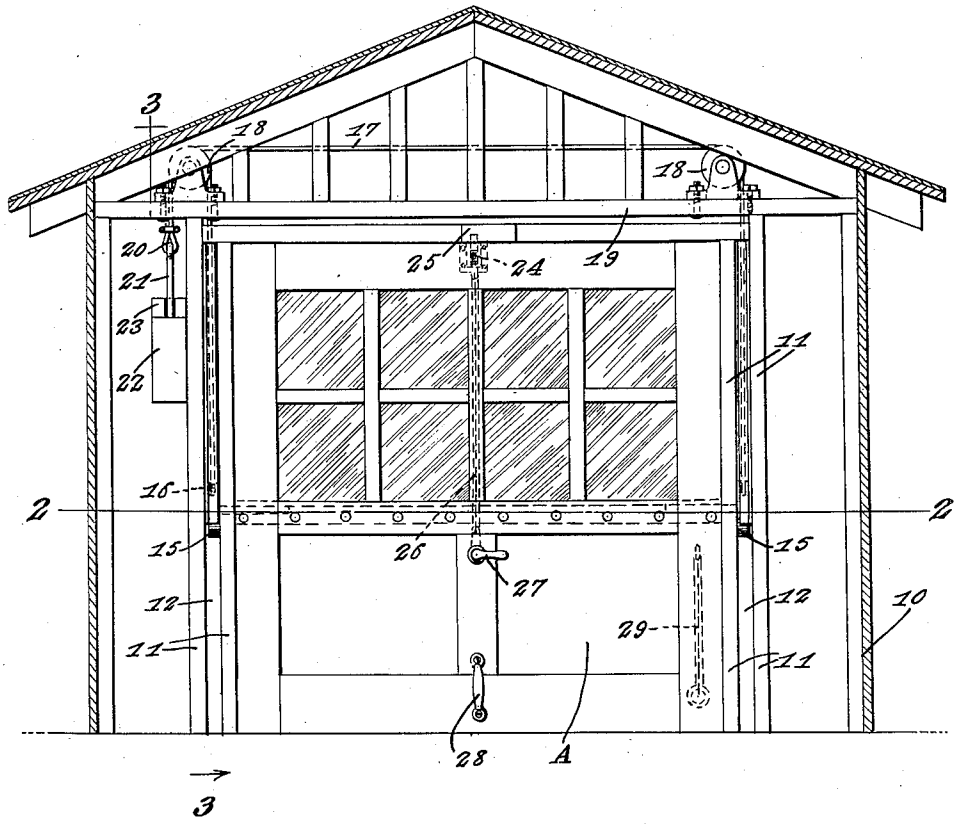


Fig. 2.

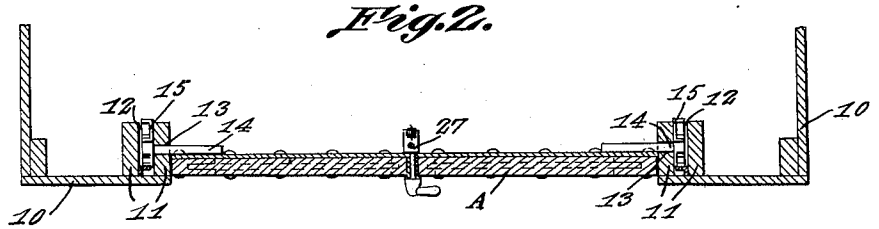
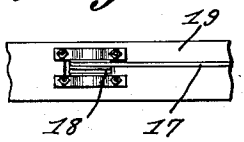


Fig. 4.



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Fig. 3.

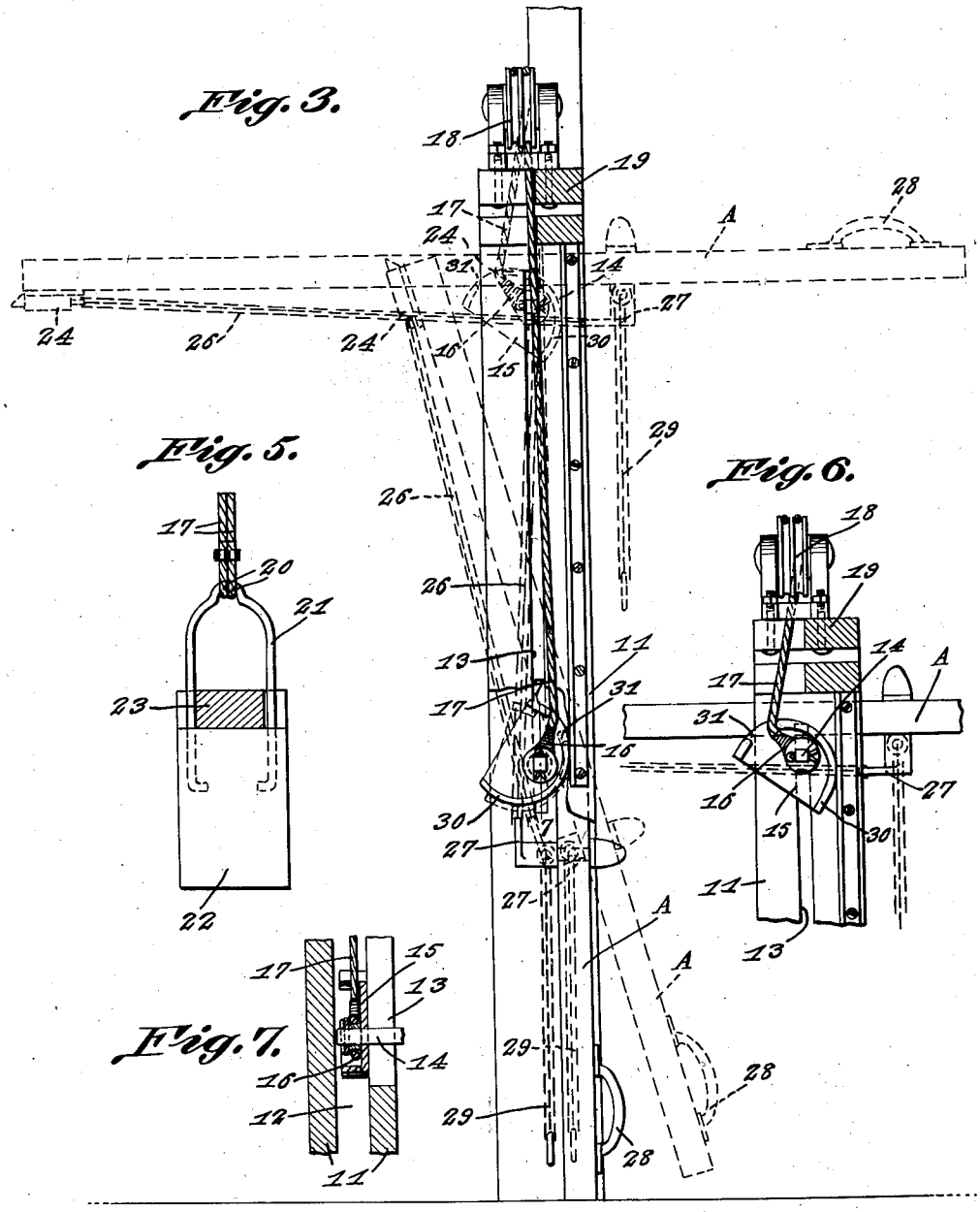


Fig. 5.

Fig. 6.

Fig. 7.

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Patented Sept. 15, 1936 2,054,735

UNITED STATES PATENT OFFICE

2,054,735

OVERHEAD DOOR

Kenneth G. Asquith, Philadelphia, Pa., assignor to John W. Elsworth, Philadelphia, Pa.

Application March 16, 1936, Serial No. 69,207

1 Claim. (Cl. 20—19)

The invention relates to an overhead door and more especially to an overhead door operating mechanism.

The primary object of the invention is the provision of a door of this character, wherein through mechanism the door will swing from vertical closing position to an overhead open position and when in vertical closing position will be latched while on the moving of the door to overhead position it will function as a canopy or awning to the doorway and will be entirely out of the way as to avoid obstruction of the space in and about the doorway.

Another object of the invention is the provision of a door of this character, wherein the same is of one piece and operates in a vertical direction for the travel thereof overhead when moved from closing position, the mechanism for operating the door being of novel construction and assures the easy working of the door to permit it to be closed or opened.

Another object of the invention is the provision of a door of this character, wherein the same when latched closed and its latch is released the door is initially turned on its horizontal axis for the bringing of such door to a horizontal position overhead when traveling upwardly in a vertical direction.

A further object of the invention is the provision of a door of this character, which embodies simplicity of construction and economy of cost and also capable of being quickly and easily installed and is easy of operation and durable in use.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, which disclose the preferred embodiment of the invention and pointed out in the claim hereunto appended.

In the accompanying drawings:

Figure 1 is a vertical transverse sectional view through a building, exampling a garage showing the door constructed in accordance with the invention applied and closed.

Figure 2 is a sectional view on the line 2—2 of Figure 1.

Figure 3 is a sectional view on the line 3—3 of Figure 1 looking in the direction of the arrows.

Figure 4 it a top plan view of one of the guide pulleys.

Figure 5 is an elevation partly in section of the weight device employed for the door operating mechanism.

Figure 6 is a view similar to Figure 3 showing the door in its raised overhead position, this position being shown by dotted lines in Figure 3.

Figure 7 is a fragmentary sectional view on the line 7—7 of Figure 3.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, A designates generally the door proper and this door may be of any suitable dimensions and employed for closing a door opening or doorway to an edifice 10 which may be a garage, factory, warehouse, barn or other building, only a portion of the edifice being shown. The door opening or doorway is constituted by a framing 11 providing vertical guideways 12. The framing is formed with vertical slots 13 affording clearances for turning pivots 14, these being fixed to the inner face of the door A in a horizontal plane common to each other below the transverse center of said door. The pivots 14 extend laterally from the door A into the guideways 12 in which laterally travel half circular rockers 15 which are fixed to the pivots 14. Engaged about the hub portions of the rockers 15 are the loop terminals 16 of raising and lowering cables 17 which are trained over guide pulleys 18 fixed to the heading 19 of the framing 11 for the door opening or doorway. The other loop ends 20 of the cables 17 are engaged with a bail 21 for a weight 22, the latter being augmented by separable additional weights 23 removably fitting the bail 21.

The purpose of the weight 22 is to overbalance the door A when released from the door opening or doorway in the framing 11 so as to automatically lift the said door A to an overhead position. In this overhead position the door serves as a canopy or awning to the door opening or doorway as such door projects inwardly and outwardly through the door opening or doorway overhead.

Next to the top edge of the door A preferably at the longitudinal center thereof is a spring tensioned latching bolt 24 which engages the keeper 25 on the framing 11 when the door is in vertical closing position so that said door may be latched. This bolt 24 has connected thereto an operating chain 26 which extends to a crank 27 for the manual releasing of the bolt 24. At the lowermost portion of the door preferably on the outside thereof is a loop handle 28. The hand crank 27 is operable from either the outside or inside of the door A.

Adjacent to one side edge of the door is a pull

chain 26 which depends from the door when in overhead position and is properly located so that it may be conveniently reached by an operator and on pulling upon such chain the said door can be shifted from overhead position to a lowered vertical position for the closing of the door opening or doorway.

When the door A is in lower vertical position it fits within the door opening or doorway and the bolt latches the same in closed position. When the latch is released the door is free to move upwardly and overhead. In this overhead position the door functions as a canopy or awning for the door opening or doorway.

The rockers at the circular edges thereof, each is formed with a laterally extending flange 30, it having a mutilation forming a passage or notch 31 for the cable 17. Now when the door is in closing position it will be noted that the flange 30 next to the notch 31 canters the cable 17 so that a tension is had upon the rocker 15 whereby instantly on the unlatching of the door A this tension automatically effects the initial turning of said door to the horizontal as the door moves vertically. Then when the door is in full open position the flange 30 acts upon the cable 17 to slightly distort the same reversely to the canter of such cable 17 when the door is in open position, this being clearly shown in Figure 6 of the drawings.

What is claimed is:

In a door of the character described, a wall having a doorway, framing for said doorway and forming vertical guideways, a door fitting said doorway and having pivots arranged below the transverse center of said door, rockers traveling in said guideway and fixed to the pivots weighted cables connected with said rockers and automatically raising the door when released from the doorway to overhead substantially horizontal position, means latching the door in the doorway and in a vertical position, separable weights carried by the cables, guide pulleys above the doorway and having the weighted cables trained thereover, and means cooperating with the rockers to effect the tensioning of the cables when the door is in closing position for the initial swinging of the door automatically when unlatched.

KENNETH G. ASQUITH.