O. HAGER.

DOOR HANGER.

APPLICATION FILED AUG. 16, 1916.

1,245,709.

Patented Nov. 6, 1917.

2 SHEETS—SHEET 1.

Fig. 2.

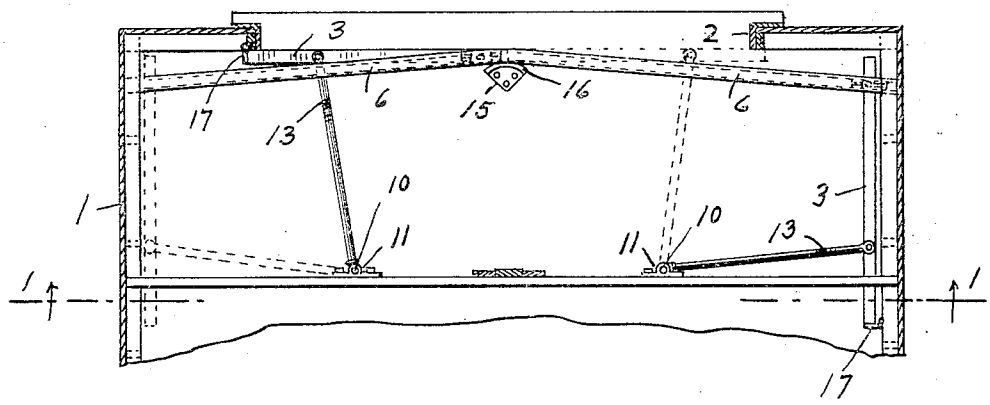
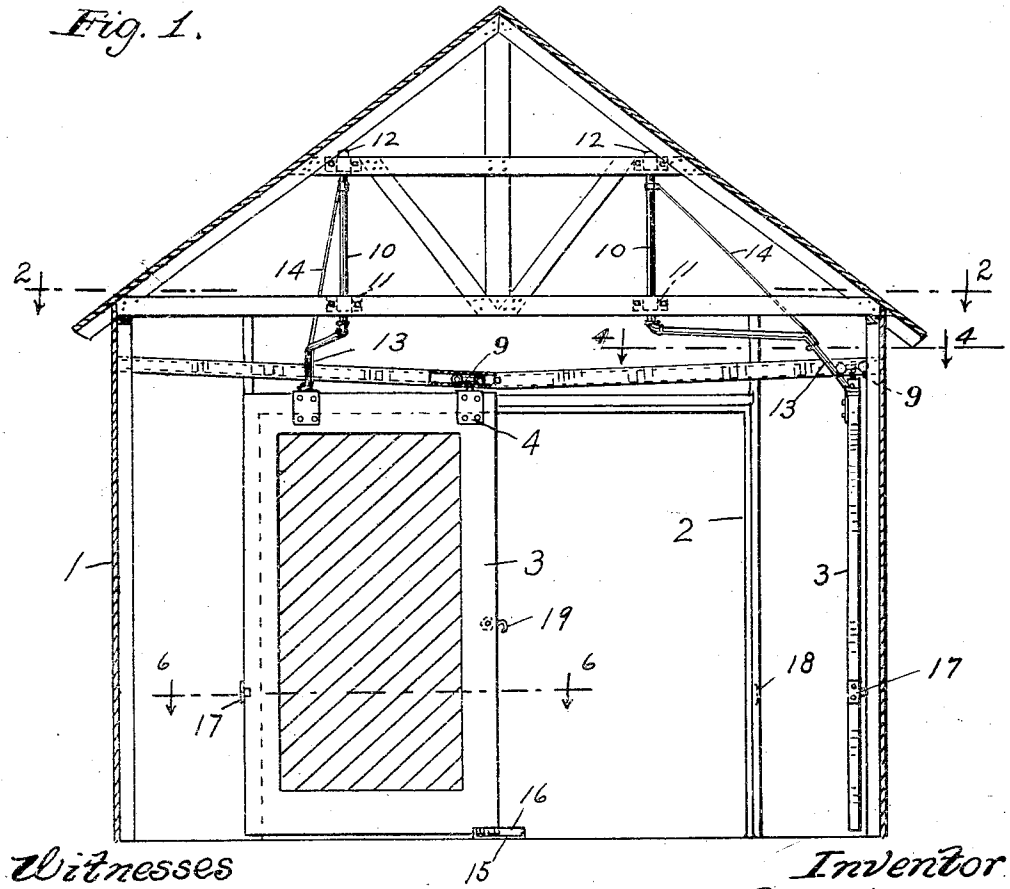


Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

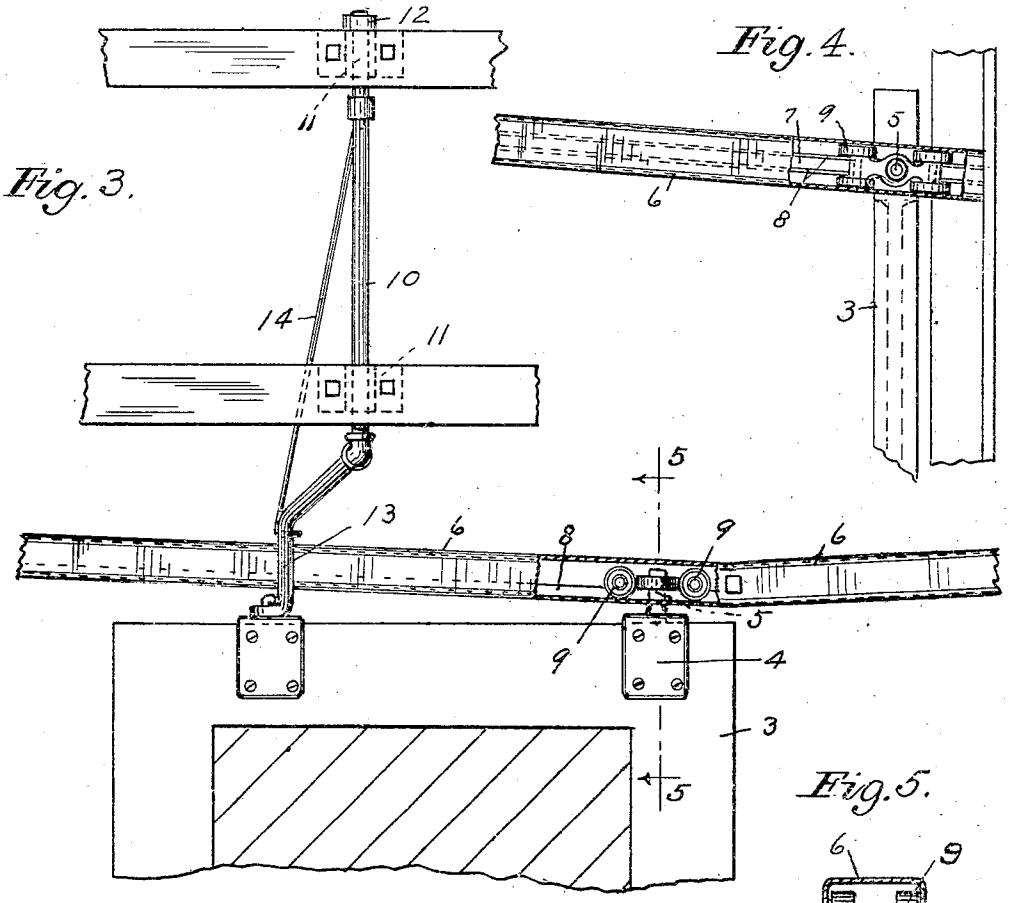


Fig. 4.

Fig. 5.

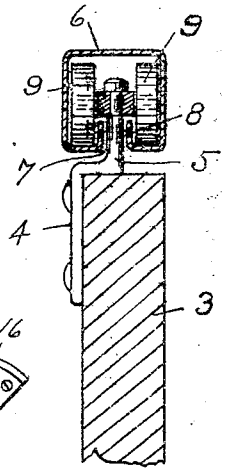
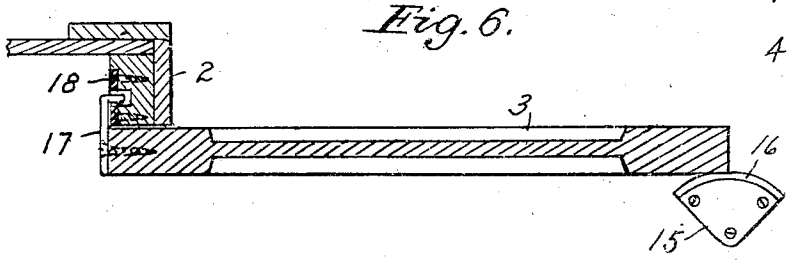


Fig. 6.



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OLE HAGER, OF DOVRAY, MINNESOTA.

DOOR-HANGER.

1,245,709. Specification of Letters Patent. Patented Nov. 6, 1917.

Application filed August 16, 1916. Serial No. 115,353.

To all whom it may concern:

Be it known that I, OLE HAGER, citizen of the United States, residing at Dovray, in the county of Murray and State of Minnesota, have invented certain new and useful Improvements in Door-Hangers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in door hangers intended for general use, but especially adapted for garage doors and the like, wherein there is not sufficient room to swing the door inward on ordinary hinges. To the above end, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claim.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings,

Figure 1 is a view in transverse section taken on the line 1—1— of Fig. 2 and illustrating a garage or other building having in one end a relatively large door opening and double doors for closing the same, said doors being supported by a pair of the improved hangers;

Fig. 2 is a horizontal section taken on the line 2—2— of Fig. 1;

Fig. 3 is a fragmentary detail view of the left hand door hanger, as shown in Fig. 1, on an enlarged scale;

Fig. 4 is a fragmentary plan view of the right hand door hanger, as shown in Fig. 1, on an enlarged scale;

Fig. 5 is a detail view principally in vertical section taken on the line 5—5— of Fig. 3; and

Fig. 6 is a fragmentary detail view, partly in plan and partly in horizontal section taken on the line 6—6— of Fig. 1.

The numeral 1 indicates a garage or other building, having in one end a relatively large door opening 2, and the numeral 3 indicates double doors for closing said door opening and supported by a pair of the improved door hangers.

A pair of hanger brackets 4 is bolted or otherwise rigidly secured to the inner face of each door 3 at the top thereof. The upper end of these hanger brackets 4 are bent laterally over the tops of the doors and terminates in an upright trunnion 5 located between the inner and outer faces of the doors. Rigidly secured to the frame of the building 1, over the door opening 2, is a tubular track 6, having in its under side a longitudinal central opening 7 and upturned flanges 8 at the edges of said opening. As shown, the track 6 is bolted at its longitudinal center to the front of the building 1 and its ends are rigidly secured, one to each side wall of said building. It is important to note that the end portions of the track 6 diverge and incline in the direction of the opening movements of the respective doors 3.

The front edge portions of the doors 3 are supported from the track 6 by four-wheeled trucks 9 mounted in said track and arranged to run on the bottom thereof. The trunnions 5 on the hanger brackets 4, at the front edges of the doors 3, are extended through the opening 7 in the track 6 and swiveled in said trucks. A pair of vertically extended shafts 10 are journaled in pairs of vertically spaced bearings 11, rigidly bolted to the rafters of the building 1 and have on their upper ends heads 12, which engage the upper bearings 11 and suspend said shafts therefrom. On the lower ends of the shafts 10, are crank arms 13, the outer ends of which are swiveled on the trunnions 5 of the outermost pair of hanger brackets 4.

Obviously, the trucks 9 and crank arms 13 support the doors 3 for compound edgewise and lateral movements from closed positions to open positions, at approximately right angles to said closed positions. The rafters, on which the bearings 11 are secured, are rigidly braced, one from the other and from the roof structure to give the same the required strength to support the doors. The outer ends of the crank arms 13 are supported from the upper end portions of the shafts 10 by rods 14. By reference to Figs. 1 and 2, it will be noted that when the doors 3 are closed, the ends of the arms 13 extend under the track 6. By diverging the end portions of the track 6 in the direction of the opening movement of the doors 3, sufficient edgewise movement is imparted to the doors, during their opening and closing movements, to permit their vertical edge portions to clear the front wall of the build-

ing. While in the drawings, the track 6 is shown slightly inclined, the same may be secured to the building in a level position.

The doors 3 are held against inward swinging movement at the lower ends of their meeting edges by a stop block 15 secured to the floor of the building and having oppositely curved edges 16, which guide the doors at the limit of their closing movements. The outer edges of the doors 3 are held against inward swinging movement by latch hooks 17 secured to the inner vertical edges of the doors and arranged to automatically enter apertures in lock plates 18 secured to the door frame. A latch 19 is provided for locking the two doors together, when the same are closed. This latch 19 may be of any desired structure.

From the above description, it is evident that the doors 3 require very little room in their movement to and from open positions and when open, are entirely out of the way. The above described door hanger, while extremely simple and of comparatively small cost to manufacture, has, in actual usage, proven highly efficient for the purpose had in view.

What I claim is:—

The combination with a building having a door opening and a door therefor, of an overhead track extending across and substantially parallel to the door opening, a traveler on the track supporting the door at one of its upper corners, and a crank arm secured to the building and supporting the door at its other upper corner, said traveler and crank arm supporting the door for compound edgewise and lateral movement and said crank arm being of sufficient length to permit the door to move from a closed position to an open position at approximately right angles to said closed position.

In testimony whereof I affix my signature in presence of two witnesses.

OLE HAGER.

Witnesses:
RAY WALKER,
A. C. EHRE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."