Nov. 27, 1962 R. LOUGHLIN 3,065,496

HINGE STRUCTURE FOR MOUNTING A STORM DOOR

Filed April 16, 1959

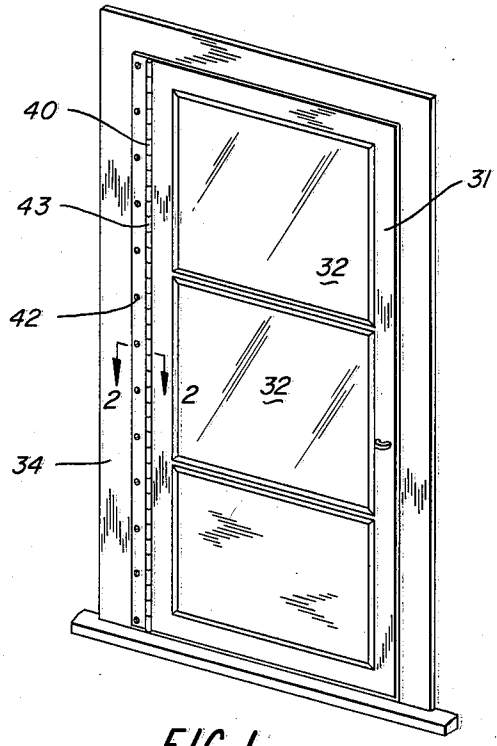


FIG. 1.

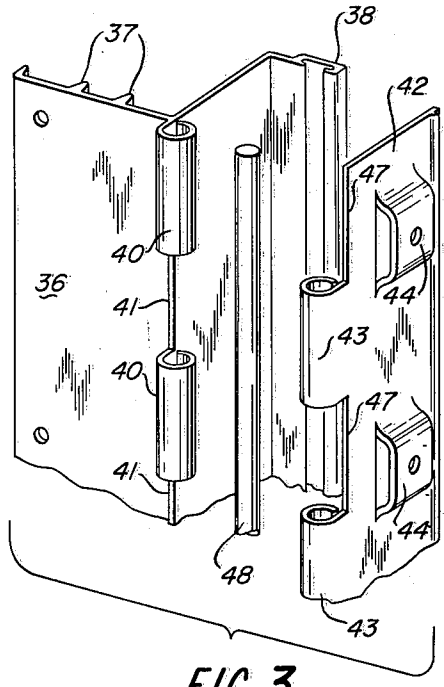


FIG. 3.

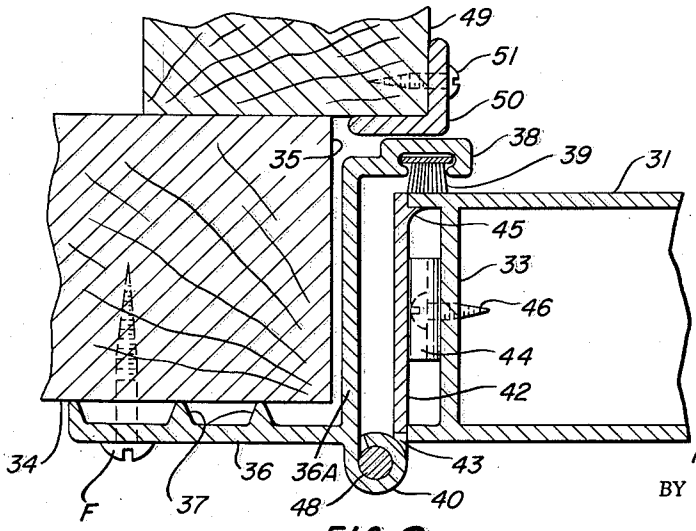


FIG. 2.

INVENTOR.
Raymond Loughlin
BY W. B. Harpman
ATTORNEY

United States Patent Office

3,065,496
Patented Nov. 27, 1962

3,065,496

HINGE STRUCTURE FOR MOUNTING A STORM DOOR

Raymond Loughlin, Youngstown, Ohio, assignor of one-half to James F. Cain

Filed Apr. 16, 1959, Ser. No. 806,303
1 Claim. (Cl. 16—135)

This invention relates to storm doors and more particularly to means for mounting a storm door in a door opening.

The principal object of the invention is the provision of a hinge device for mounting a storm door in a door opening.

A further object of the invention is the provision of a device to which a storm door may be firmly attached so as to be adjustably positioned thereby in a door opening.

Those skilled in the art will recognize that it is highly desirable to be able to use storm doors of standard width in a number of different sized door openings. It has heretofore been believed necessary that the storm door be made to conform in width to the particular door opening in which it was to be installed with the result that storm doors and particularly metal storm doors, such as those formed of aluminum, have been custom built. Those skilled in the art will recognize that the custom building of storm doors produces a much higher cost product than the same door as produced in a standard size on a production line basis. The present invention permits a standard size storm door to be used in a great many different sized openings and at the same time provides a continuous hinge between the storm door and the door frame in which the storm door is mounted.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being the intention to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

The invention is illustrated in the accompanying drawing, wherein:

FIGURE 1 is a perspective view of a door frame and sill and a storm door mounted therein.

FIGURE 2 is a horizontal section on line 2—2 of FIGURE 1 on an enlarged scale.

FIGURE 3 is a perspective view of the respective parts of the storm door mounting.

By referring to the drawings and FIGURES 1, 2 and 3 in particular it will be seen that a door frame 34 and sill define a jamb 35 and door stop 49 surrounding a doorway opening in which a storm door comprising a main frame and a plurality of glazed sash 32 is positioned. The storm door includes side rails 31 as best illustrated in cross section in FIGURE 2 of the drawings and which side rails have an outer edge portion 33.

The storm door frame illustrated is extruded of aluminum, as customary in the art. The storm door frame comprises an elongated cross sectionally angular support member 36 having a front panel and a lateral panel 36A with a knuckle portion 40 intermediate thereof.

The front panel portion of the support member 36 has a plurality of longitudinally extending ribs 37 on one of its sides, and the edge of the lateral panel 36A has a longitudinally extending offset section 38 mounting a gasket 39 which is arranged to contact the side rail 31 of the storm door as best seen in FIGURE 2 of the drawings. Fasteners F mount the support member 36 on the door frame member 34 in adjustable relation to the jamb 35 thereof. An elongated plate 42 having a longitudinally extending knuckle 43 on one edge thereof and offset sections 44 longitudinally thereof is adapted to be engaged on the edge portion 33 of the side rail 31 of the storm door. A longitudinal flange 45 on the plate 42 registers with the longitudinal edge of the storm door side rail 31 and fasteners 46 extend through the offset sections 44 of the plate 42 and the outer edge 33 of the storm door to secure the same to one another.

Alternate portions 41 and 47 of the knuckles 40 and 43 are cutaway (see FIGURE 3) so that the knuckle portions 40 and 43 may be engaged in axial alignment and an elongated hinge pin 48 positioned therethrough.

In FIGURE 2 of the drawings the door stop 49 is illustrated with a secondary angular member 50 secured thereto by fasteners 51, to complete the closure between the storm door side rail 31 and the door frame 34.

It will be seen that the invention enables one size of storm door to be adjustably positioned in various door openings and thereby meets the several objects of the invention, and having thus described my invention, what I claim is:

A hinge structure for mounting a storm door in a door way comprising an elongated cross sectionally L-shaped support member secured to the frame of said door way, said support member including a front panel, longitudinally extending ribs on one side of said front panel, an elongated arcuate knuckle on the corner of said L-shaped support member and a plurality of cut away sections in said knuckle, an elongated hinge plate, a longitudinal flange on said hinge plate inwardly from one edge thereof, a plurality of offset apertured sections formed in said hinge plate, a secondary elongated arcuate knuckle on the other edge of said hinge plate of substantially the same cross sectional dimension and curvature as said first-mentioned knuckle, a plurality of cutaway sections in said knuckle, said hinge plate knuckle being adapted to be positioned within the cut-out sections of said knuckle on said front panel, an elongated hinge pin positioned axially of said knuckles, said offset apertured sections in said hinge plate being adapted to be secured to an edge of said storm door with said longitudinal flange engaging said door.

References Cited in the file of this patent

UNITED STATES PATENTS

1,423,004	Moody	July 18, 1922
1,640,525	Belliveau	Aug. 30, 1927
2,268,669	Moore	Jan. 6, 1942
2,717,666	Morales	Sept. 13, 1955
2,805,740	Quinn	Sept. 10, 1957
2,818,146	Palmieri	Dec. 13, 1957
2,903,735	Schneider	Sept. 15, 1959

FOREIGN PATENTS

609,667	Germany	Feb. 20, 1935