April 23, 1963 N. W. ROBINSON 3,086,628

DOOR FRAME

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FIG. 1

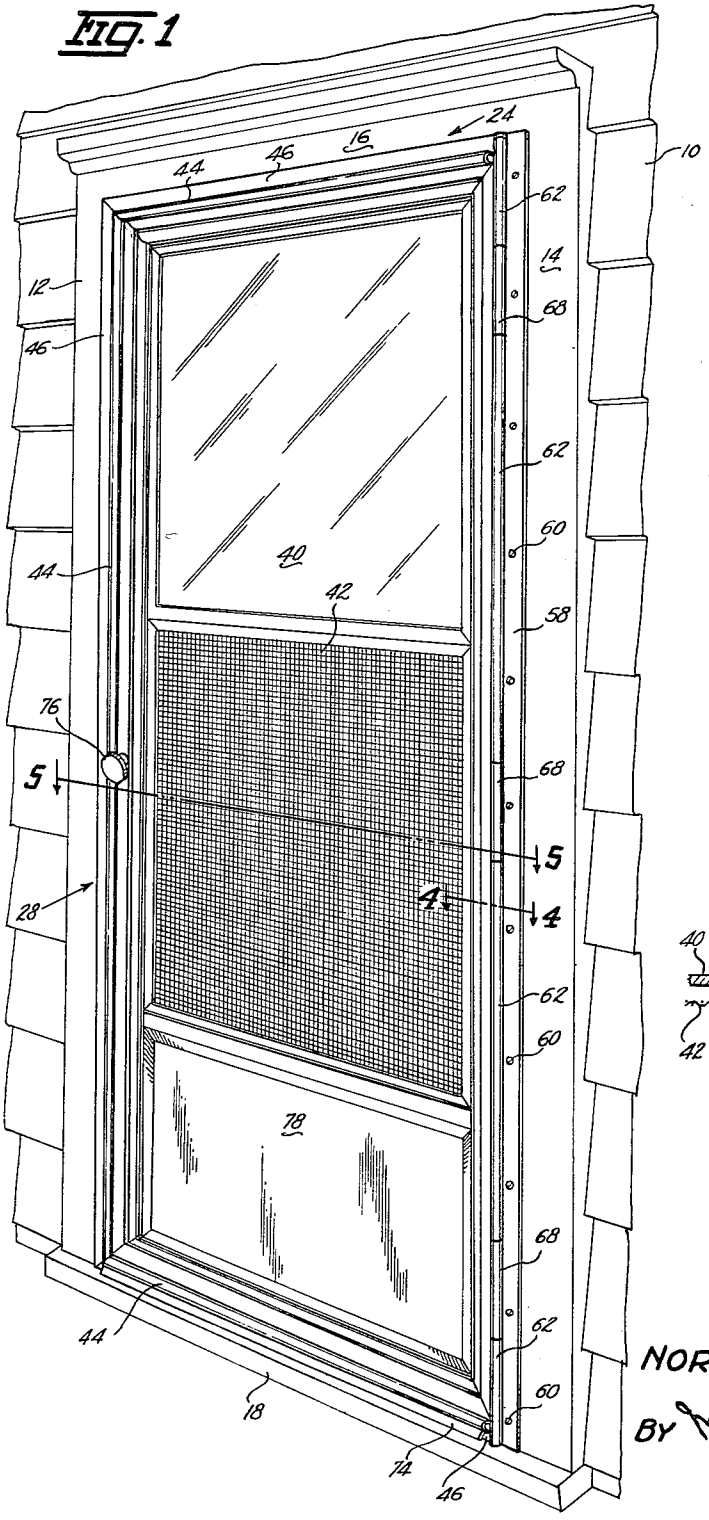


FIG. 3

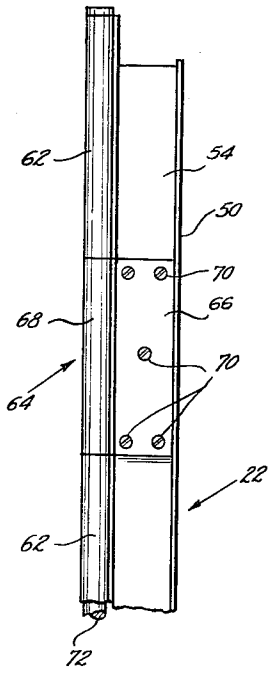
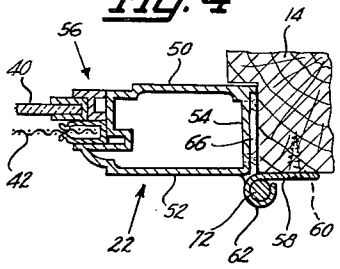


FIG. 4



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FIG. 2

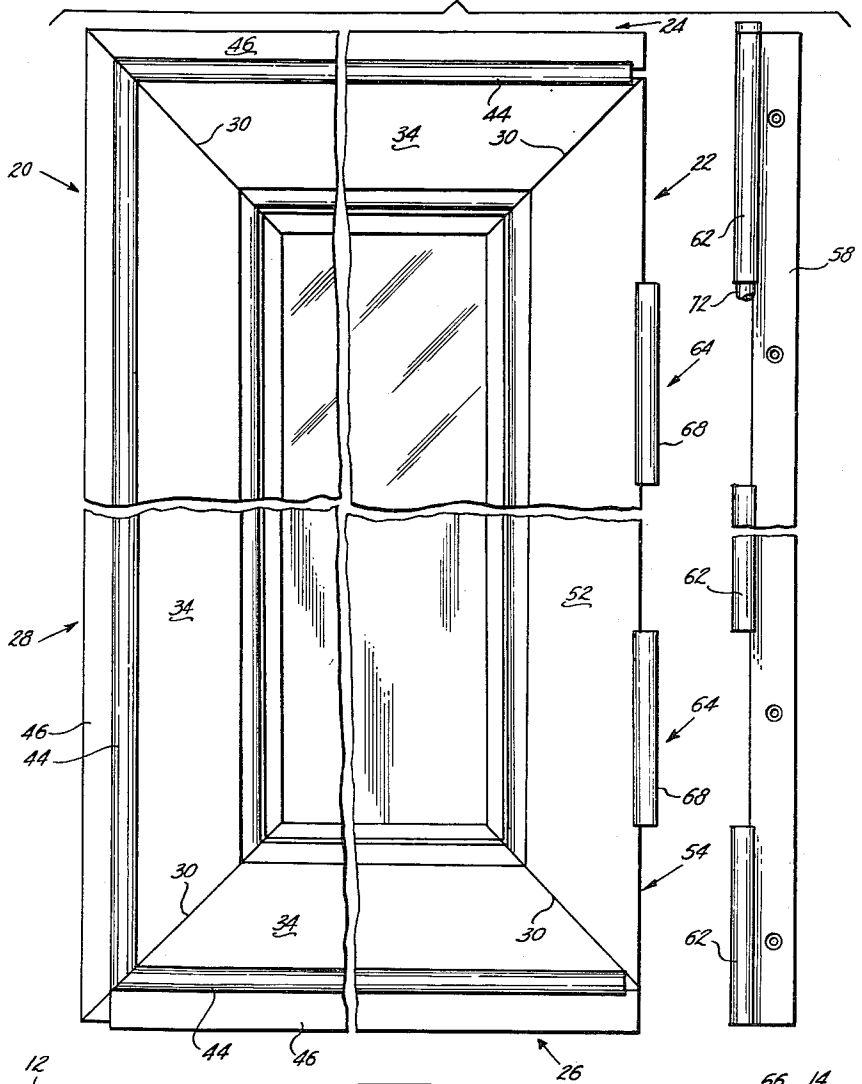
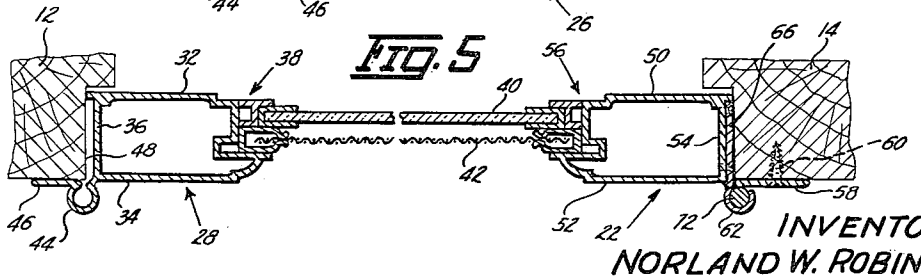


FIG. 5



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DOOR FRAME

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2 Claims. (Cl. 189—46)

This invention relates to improvements in combination storm and screen doors and has been particularly adapted for aluminum doors because of the fact that the novel features hereinafter disclosed are susceptible of economical fabrication by extrusion processes.

One of the important objects contemplated by this invention is the provision of a flange projecting from the sides and top of the door frame which overlaps the respective corresponding frame portions of the door jamb in which the door is mounted. This has the three fold advantage of permitting the flange, which is an integral part of the door, to serve as a stop in positioning the door in closed position and thereby eliminating the need for the customary Z-bar on the door jamb; of providing a more adequate protection against drafts around the outer sides and top of the jamb, and of providing such draft protection even though the door may eventually sag somewhat as is a common development.

Other objects inhering herein are the provision of an improved door of the above class that is economical in manufacture, durable in construction and refined and attractive in appearance.

A still further object is to provide a door as characterized that is simple and easy to install and requires no special skills for doing so.

Further objects and the more obvious advantages of the invention will be mentioned or else appear plainly from the description which follows.

This invention consists of novel parts and combination of parts to be hereinafter described whereby the objects set forth are attained, as pointed out in the claims, and illustrated in the accompanying drawings, in which:

FIG. 1 is a perspective view illustrating this new door,

FIG. 2 is an enlarged exploded front elevational view of this door and the jamb mounted hinge plate used therewith; the door being broken vertically and horizontally to enlarge and better illustrate the construction of the door frame,

FIG. 3 is a fragmentary elevational end view of the hinge side of this door,

FIG. 4 is a cross sectional view taken on the line 4—4 of FIG. 1, and

FIG. 5 is a cross sectional view taken on the line 5—5 of FIG. 1.

Referring to the drawings a building wall is designated by the numeral 10 and includes the door jamb having the sides 12 and 14, top 16 and the sill or threshold 18. The door frame 20 (FIG. 2) comprises the hinge panel 22, top and bottom panels 24 and 26 respectively and the knob or latch panel 28. Panels 24, 26 and 28 are formed from the same extrusion mold, being cut to size as required, mitered as at 30 and arranged with panel 22 as shown in FIG. 2 into a rectangular frame. Any suitable means for securing the panels into frame 20 may be used. It will thus be appreciated that the cross sectional shape of panels 24, 26 and 28 are the same and this is illustrated in detail in FIG. 5 for panel 28. Such panels are hollow, defining an inner side 32 relative to the inner and outer side of the doorway in which the door is to be placed, an outer side 34, an outer edge or end 36 and an inner edge 38 of any desired configuration adapted to receive one or more windows 40 and screens 42. No invention is claimed for the shape of edge 38 or to the means of mounting the windows or screens, 40 and 42.

The outer side 34 of panels 24, 26 and 28 terminate at edge 36 in a raised hollow bead 44 which in turn terminates in a flange 46 projecting beyond edge 36 in substantially the same plane as side 34 and in effect as a longitudinal extension thereof. Thus bead 44 on panels 24, 26 and 28 (FIG. 2) form an attractive border on the door frame 20 at a point which corresponds with the inner edge 48 (FIG. 5) of the door jamb that defines the door opening.

Panel 22 is formed in shape the same as the other panels and includes the inner side 50, outer side 52, outer edge 54, the inner edge 56 which is complementary in shape to edge 38 on panel 28, and the hinge plate 58 which is in effect a flange extension similarly positioned as flanges 46.

To mount door 20, hinge plate 58 (FIG. 2), which is of elongated bar or rigid strap material coextensive in length with panel 22, is attached to the outer side of the jamb side 14 by screws 60. Plate 58 has the integral longitudinally spaced hinge pin sockets 62, one of which is at each end and one or more intermediate the ends. In formation and appearance, sockets 62 are the same as beads 44 on the other panels. Plate 58 may be extruded and separate sockets 62 are formed by cutting away spaced sections of the socket forming continuous extrusion. Complementary hinge sockets 64 include a mounting plate 66 which terminates in a hollow angularly disposed hinge socket or bead 68 of the same configuration as sockets 62 and beads 44. Sockets 64 may also be extruded and cut to lengths so as to fit within the spacing between sockets 62. For this purpose, plates 66 are attached to the edge 54 of panel 22 (FIG. 3) by screws 70 so that they register with sockets 62 whereby door 20 may be hingedly secured to plate 58 by suitable pins 72. While I prefer to form sockets 64 separately as described, it is pointed out that they may be integrally formed on panel 22 the same as bead 44 on the other panels. This, however, would require portions of the bead to be cut away corresponding to the position of sockets 62 and would necessarily result in a waste of much material, although the ultimate appearance and function is the same.

With door 20 in place as described, flange 46 on panels 24 and 28 overlap the outer side of the door jamb as more particularly illustrated for panel 28 in FIG. 5. This provides a most effective cover and protection against drafts and especially along the top 16 of the jamb, will adequately cover the area of demarcation between the top of the door and the jamb even though the door may eventually develop some sag. Flange 46 on the lower door panel 26 is designed to move over the sill 18 in relatively close spaced parallel relationship and to afford a suitable seal against drafts I attach a depending flexible skirt 74 to such flange as shown in FIG. 1. Hinge plate 58 serves as a flange-like projection from panel 22 and thus complements flanges 46 on panels 24, 26 and 28 as shown in FIG. 1.

A suitable knob and latch assembly 76 is placed on panel 28 and a solid panel 78 may be employed with the door frame, if desired.

It should be noted that beads 44 on the top and lower door panels 24 and 26 (FIG. 2) terminate a short distance inwardly relative to edge 54 on panel 22 and this is to eliminate any binding of the ends of such beads against the adjacent hinge socket 62 when the door is moving on the pins 72 as will be apparent from FIG. 1. The arrangement of hinge sockets 62 and 64 is to form a continuous piano type hinge that not only adds to the stability of the door but combines with like appearing beads 44 on panels 24, 26 and 28 to present an attractive bead border along both sides, and the top and bottom of the door. Flanges 46 on panels 24 and 28 not only serve as draft guards, as indicated, but also serve as stops in positioning door 20 when they engage the door jamb in closed position. This eliminates the need for Z or stop

bars within the door jamb as required by conventional doors and thus not only reduces costs in construction, but costs in installation. The mounting of my hinge plate **58** as described and connecting the hinge sockets **62** and **64** is all that is required to mount this door. It requires no special skill and can be acomplished easily and quickly by any purchaser with a suitable screwdriver.

It will be understood that the phraseology employed herein is for the purpose of description and not for limitation and that modifications and changes in the construction and arrangement of this invention can be made within the scope of what is claimed, without departing from the spirit and purpose thereof. It is thus intended to cover by the claims, any modified forms of structure or mechanical equivalents which may be reasonably included within their scope.

I claim:

1. In a door frame for mounting in a jamb structure, first and second spaced parallel side panels, a top and bottom panel respectively secured between respective opposite ends of said side panels to form a rectangular door frame, an elongated flat hinge plate adapted to be secured to the outer side of a jamb structure, a plurality of longitudinally spaced and aligned hollow elongated hinge pin sockets on one longitudinal side of said hinge plate, a hinge socket mounting plate secured to one edge of said first side panel, complementary hinge pin sockets on one edge of said mounting plate, pin means securing said sockets in an inline relationship to form a continuous bead coextensive in length with said first side panel, the outer side of said second panel and top and bottom panel each terminating in a raised hollow bead which in turn terminates in a projecting flange on the same plane as said respective outer sides, and said beads being of the same configuration as said hinge pin sockets and defining therewith a uniform bead-like rectangular border spaced slightly within the extremities of said flanges and hinge plate respectively on the outer side of said door frame.

2. In a door frame for mounting in a jamb structure having opposed sides, first and second spaced parallel side panels, a top and bottom panel respectively secured between respective opposite ends of said side panels to form a rectangular door frame, an elongated flat hinge plate adapted to be secured to the outer surface of one side of a jamb structure, a plurality of longitudinally spaced and aligned hollow elongated hinge pin sockets on one longitudinal side of said hinge plate, said sockets being disposed at the outer surface of said jamb structure in parallel alignment with the outer edge of said side of said jamb structure, a hinge socket mounting plate secured to one edge of said first side panel, complementary hinge pin sockets on one edge of said mounting plate, pin means, securing said sockets in an inline relationship to form a continuous bead coextensive in length with said first side panel, said hinge plate defining a flange-like projection from said first side panel for attachment to the outer side of the fixed framing in a door opening, the outer side of said second panel and top and bottom panel each terminating in a raised hollow bead which in turn terminates in a projecting flange on the same plane as said respective outer sides, said beads being of the same configuration as said hinge pin sockets and defining therewith a uniform bead-like rectangular border, and said hinge plate being complementary to said flanges to provide uniform projections from said border.

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