Dec. 19, 1967 J. A. DAWDY ETAL 3,358,410

GLAZING POST, CORNICE AND RAIL CAP AND ASSEMBLY THEREOF

Filed Dec. 24, 1964 3 Sheets-Sheet 1

Fig. 1.

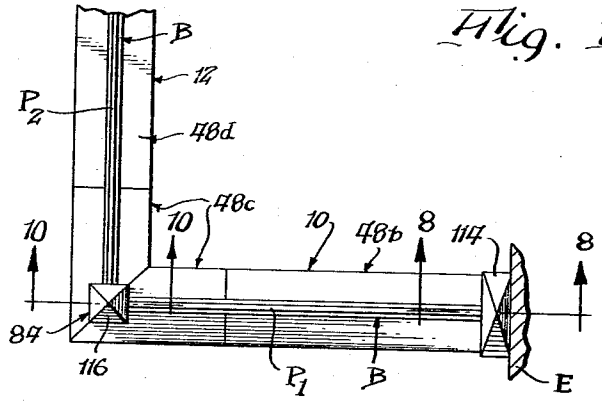
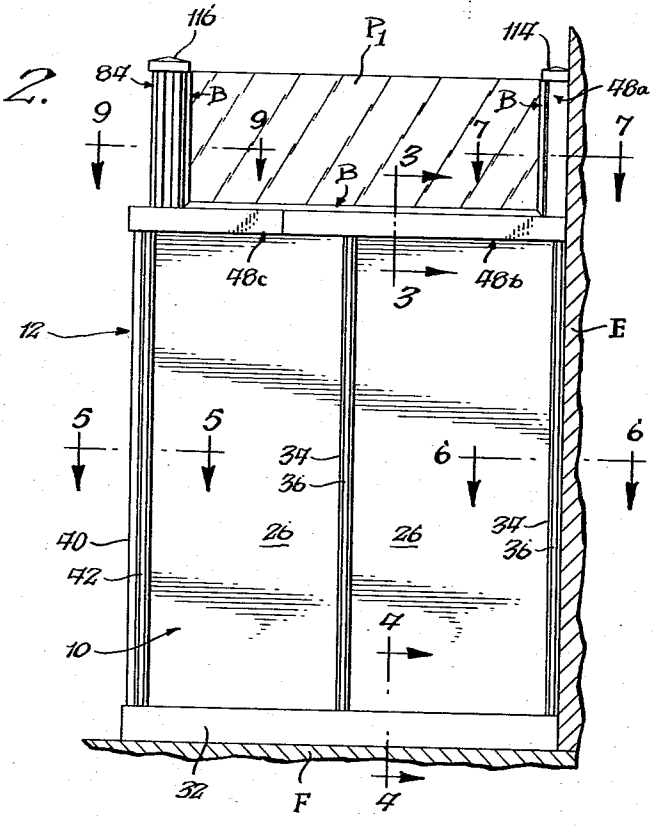


Fig. 2.



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Filed Dec. 24, 1964 3 Sheets-Sheet 2

Fig. 8.

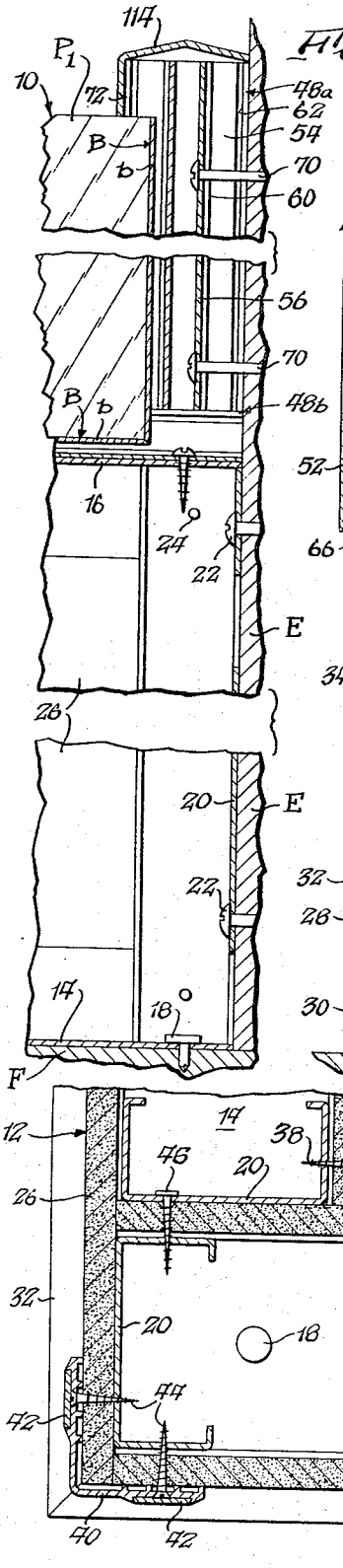


Fig. 7.

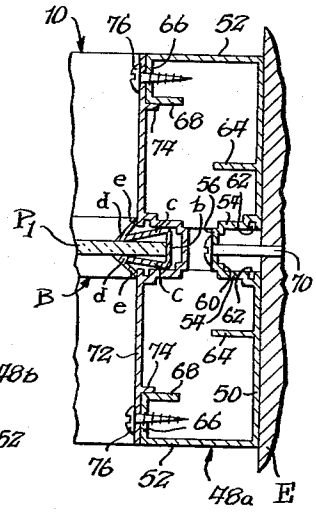


Fig. 3.

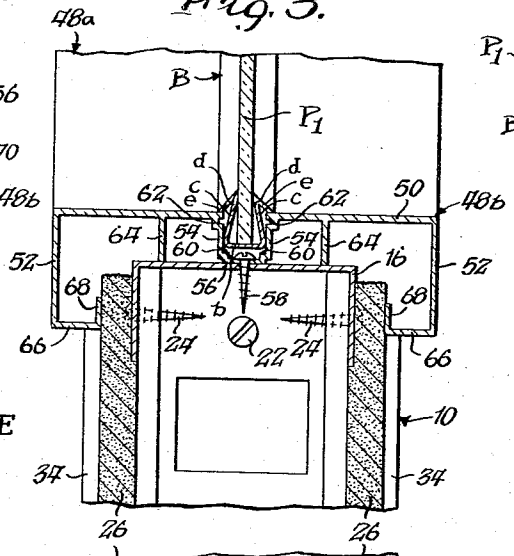


Fig. 4.

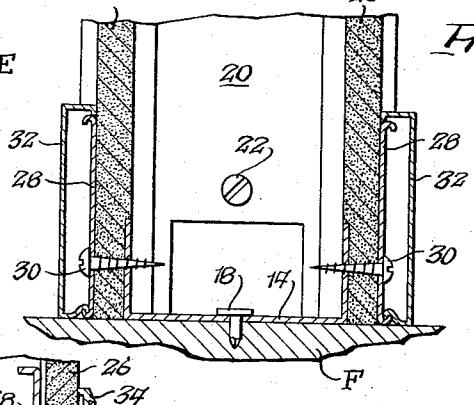


Fig. 6.

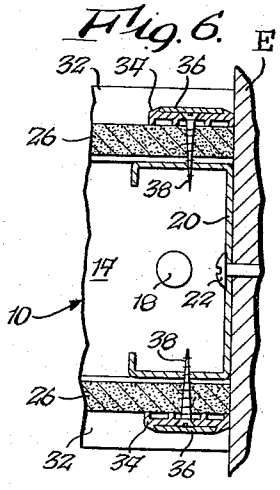


Fig. 5.

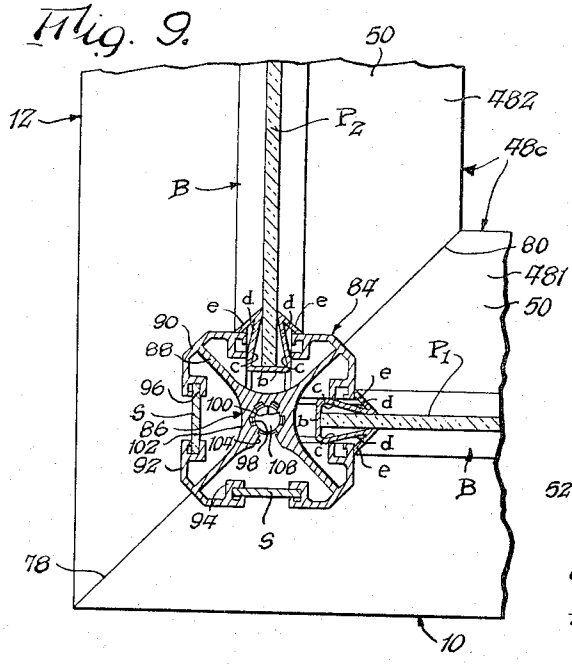
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Filed Dec. 24, 1964 3 Sheets-Sheet 3

Fig. 9.



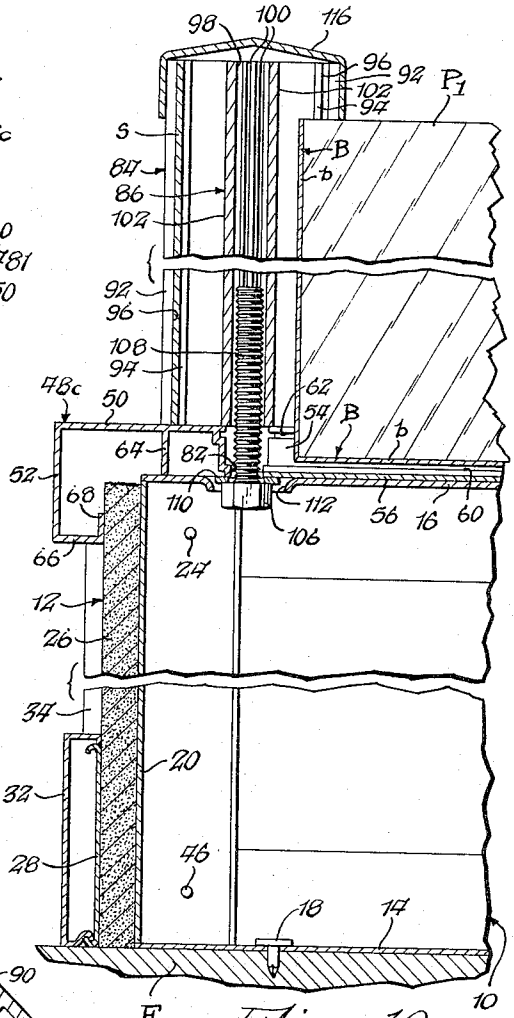
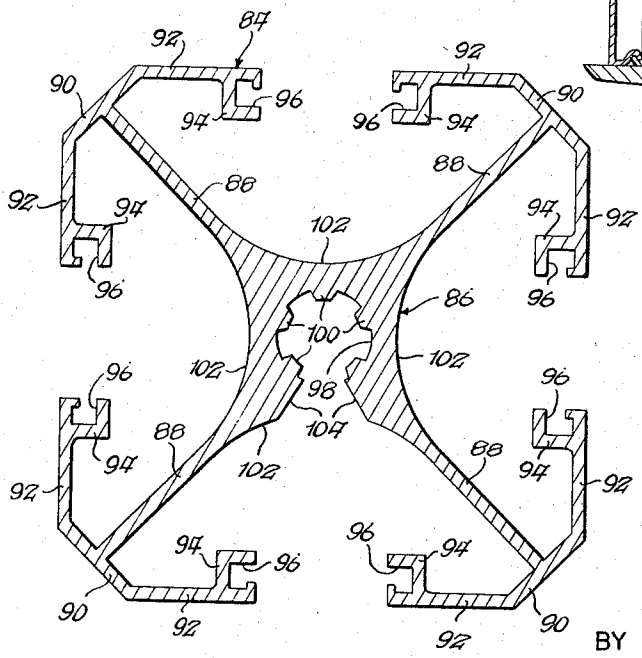


Fig. 10.

Fig. 11.



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United States Patent Office 3,358,410 Patented Dec. 19, 1967

3,358,410

GLAZING POST, CORNICE AND RAIL CAP AND ASSEMBLY THEREOF

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Filed Dec. 24, 1964, Ser. No. 420,995
6 Claims. (Cl. 52—238)

ABSTRACT OF THE DISCLOSURE

A glazing post and cornice and rail cap assembly, with the post being a unitary aluminum extrusion having four glass panel receiving legs and a hollow splined hub anchored to the cap by a machine screw, and with the cap including one or two perpendicular unitary extruded aluminum sections fitting over the upper end of a wall or corner joint and each having a horizontal base connecting depending side flanges and including a recessed panel receiving channel and depending internal flanges engaging the wall end, the side flanges including opposed end flanges terminating in reentrant flanges engaging the wall sides.

This invention relates to improvements in wall construction, and more particularly to a new and improved glazing post, a new and improved cornice and rail cap and a new and improved assembly thereof, for removably supporting wall panels, such as glass panels, preferably on demountable partition walls.

Summary of the invention

The inventive assembly includes a glazing post having a hub connecting at least two outwardly diverging legs, with the hub being hollow and provided with internal means and the legs being provided with opposed outer distal flange portions terminating in enlarged U-shaped lug portions for receiving a panel between the lug portions and an insert strip in each lug portion; a cornice and rail cap having a base adapted to extend over a wall end and connecting two side flanges extending outwardly from one side of the base and adapted to extend over the opposite wall sides, with the base including means forming the shorter side walls and bottom wall of a channel recessed below and opening in the other side of the base for receiving a panel, the side walls being provided with opposed recesses for receiving an insert strip, the bottom wall being adapted to engage the wall end, and internal flanges extending outwardly from the one side of the base spaced on opposite sides of and coextensive with the channel side walls and adapted to engage the wall end, and with the side flanges including opposed end flanges terminating in reentrant flanges adapted to engage the opposite wall sides; and fastening means passing through the channel bottom wall and engaging the internal means for anchoring the post endwise on the cap.

A primary object of the invention is to provide such a glazing post which is designed to simultaneously support at least one and as many as four panels; which post is provided with a splined opening through its center to permit use of a standard machine screw for anchoring the post to a cap without the necessity for cutting internal threads in the post, and which post is extruded as a unitary member from strong, light weight metal, such as aluminum, for optimum strength to weight ratio and economy of manufacture.

Another primary object of the invention is to provide such a cap which is designed to support at least one panel,

and when formed in an L-shape, to simultaneously support two panels; which cap is designed for use as either a vertical or a horizontal member in finishing a wall and/or supporting a wall panel; which cap is designed to removably support such post and to facilitate assembly and disassembly thereof, and which cap includes at least one section which is extruded as a unitary member from strong, light weight metal, such as aluminum, for optimum strength to weight ratio and economy of manufacture.

A further primary object is to provide such an assembly wherein the cap and post cooperate to support such panels, to facilitate installation and removal of such panels, and to facilitate installation and removal of such assembly, as well assembling and disassembling of such post and cap.

Additional objects and advantages of the invention will become apparent upon consideration of the following detailed description and accompanying drawings, wherein:

FIG. 1 is a top plan view of two demountable partition walls of rail height forming an L-shaped corner, and illustrating a glazing post, cornice and rail caps and an assembly of a post and a cap, each constituting a preferred embodiment of the invention, and cooperating to removably support two perpendicular glass wall panels;

FIG. 2 is a front side elevational view of the walls of FIG. 1;

FIG. 3 is an enlarged fragmentary section taken on line 3—3 of FIG. 2;

FIG. 4 is an enlarged fragmentary section taken on line 4—4 of FIG. 2;

FIG. 5 is an enlarged fragmentary section taken on line 5—5 of FIG. 2;

FIG. 6 is an enlarged fragmentary section taken on line 6—6 of FIG. 2;

FIG. 7 is an enlarged fragmentary section taken on line 7—7 of FIG. 2;

FIG. 8 is an enlarged fragmentary section taken on line 8—8 of FIG. 1;

FIG. 9 is an enlarged fragmentary top plan view of the L-shaped wall corner of FIG. 1, with the post cover removed;

FIG. 10 is an enlarged fragmentary section taken on line 10—10 of FIG. 1, and

FIG. 11 is a further enlarged horizontal section through the post, with all other parts removed for clarity.

Referring to the drawings, and particularly FIGS. 1 and 2, two demountable, upright and perpendicular partition walls are generally indicated at **10** and **12**. These walls, which are supported on a building floor F, are joined to form an L-shaped corner, and are less than ceiling height, preferably of rail height, i.e. from 4 feet 6 inches maximum without glazing to 6 feet 6 inches maximum with glazing. Wall **10** abuts an end wall E of the building.

As best seen in FIGS. 3–6, each wall **10**, **12** is composed of a horizontal and upwardly open, channel-shaped metal floor track **14** and a horizontal and downwardly open, channel-shaped metal rail track **16**, which forms the upper end of each partition wall. The floor tracks **14** are secured on floor F by suitable fasteners **18** and are spaced by vertical and hollow, generally channel-shaped, metal studs **20**, with the right end stud of wall **10** being secured to wall E by suitable fasteners **22**. Studs **20** fit within the flange portions of tracks **14**, **16** and are held in place in any suitable manner, such as by friction or clinching (not shown) or by fasteners **24**. This skeleton structure is covered by suitable wall panels forming the panelling indicated at **26**, and schematically illustrated as gypsum wall board. The panelling is secured in place in any suitable manner, such as by fasteners (not shown), and as seen in FIGS. 3, 5 and 10, panelling **26** forms the opposite sides of walls **10**, **12** adjacent tracks **16**.

In order to cover the panel fasteners and joints, walls **10, 12** are also provided with various trim components. As shown in FIGS. 3–6 and 10, the lower ends of walls **10, 12** are covered by base trim composed of metal base clips **28** held in place by suitable fasteners **30** and completed by metal snap on bases **32**. Various vertical panel joints are covered by metal battens **34**, each having a dovetailed recess for retaining a flexible plastic insert strip **36** covering suitable recessed fasteners **38** securing the battens in place. The outside corner of walls **10, 12** (FIG. 5) is covered with a special metal batten **40** which is of L-shape in cross-section, and each flange of which is provided with a like dovetailed recess receiving a like flexible plastic insert strip **42** covering a like recessed fastener **44** securing batten **40** in place.

As shown in FIG. 5 particularly, walls **10, 12** form a neat L-shaped corner joint, with the outside panelling **26** of wall **10** overlapping and abutting the panelling and adjacent stud **20** of wall **10**, and with the inside panelling **26** of wall **10** abutting the outside panelling of wall **12** and overlapping and abutting the adjacent stud **20** and inside panelling of wall **12**. The walls **10, 12** are securely fastened together in any suitable manner, including fasteners **46** (FIGS. 5 and 10).

Walls **10, 12** also include glass panels P_1, P_2 respectively, these glass panels being removably supported endwise thereon by the inventive post and caps to be described below. However, prior to such description, it will be noted from FIGS. 3, 7, 9 and 10 in particular, that the lower horizontal and upright end or edge portions of panels P_1, P_2 are covered and protected by glazing beads B, each preferably extruded to shape from suitable plastic material such as rigid polyvinyl chloride, and cut to length. Each bead B is composed of a flat base portion *b* having inner converging leg portions *c* merging with normally more steeply converging outer leg portions *d* terminating in reversely bent and oppositely diverging wing portions *e*. Normally, the distance between outer leg portions *d* is less than the thickness of panel P_1 or P_2, but these leg portions are readily sprung apart to snap or slide bead B in place over the adjacent end or edge portion of panel P_1 or P_2. Of course, the beads B illustrated are not the only ones available for use with the invention, but are suitable for such use.

Referring to FIGS. 1–3 and 7–10, various caps constituting preferred embodiments of the invention will now be described. As shown in FIGS. 1 and 2, there are actually four inventive cornice and rail caps, one vertical cap **48***a*, and three horizontal caps **48***b*, *c* and *d*. Each of the caps is like the other in cross-section, with caps **48***a*, *b* and *d* being straight caps, while cap **48***c* is an L-shaped corner cap. This cap **48***c* is the only one shown as forming an assembly with the intentive glazing post to be described, but each of the other caps could be so used.

Considering horizontal cap **48***b*, its detail structure is best shown in FIG. 3, and as will be evident therefrom, cap **48***b* is extruded in one piece from strong, light weight metal, such as aluminum, and is of generally channel-shaped uniform cross-section throughout its length. Cap **48***b* is composed of a flat and wide horizontal base **50** extending over the upper end of wall **10** formed by rail cap **16** and connecting two verical side flanges **52** extending downwardly over the opposite sides of wall **10** formed by panelling **26**. Base **50** also includes the shorter vertical side walls **54** and horizontal bottom wall **56** of a narrow central channel recessed below and opening in the upper side of the base. The bottom wall **56** abuttingly engages the base of track **16**, is removably secured thereto by suitable fasteners **58** and is provided with raised shoulders **60** along its junctures with side walls **54** for supporting the lower beaded edge or end of panel P_1. While no contact between base *b* of bead B and shoulder **60**, is shown in FIG. 3, should such contact occur, it will be evident that this structure recesses the heads of fasteners **58** below the panel to avoid concentration of stress at these points.

Each of channel side walls **54** is provided adjacent its upper end with a horizontal recess **62** opposing and alined with the other recess **62**. The purpose of this structure is to permit the insertion of a special flexible plastic glazing bead insert strip (not shown) or a flexible plastic insert strip such as S (FIG. 9) instead of a panel, should no glass panel be desired.

Continuing with FIG. 3, base **50** also includes a pair of internal vertical flanges **64** extending downwardly from the underside of the base, spaced equally on opposite sides of the channel side walls and coextensive therewith. Like bottom wall **56**, flanges **64** abuttingly engage the upper end of wall **10** formed by track **16** and thus provide a firm, steady support for base **50**. Considering side flanges **52**, each is provided with a horizontal end flange **66** opposing and co-planar with the other end flange **66**, and each terminating in a vertical, inwardly and upwardly turned reentrant flange **68** spaced from and parallel to the other reentrant flange. As will be apparent, reentrant flanges **68** abuttingly engage the opposite sides of wall **10** formed by panelling **26** to provide a firm stable support for side flanges **52**.

From FIG. 3 it is evident that the channel formed in base **50** slidingly receives the lower beaded end or edge portion of panel P_1 to removably support the same endwise on wall **10**. Although not illustrated, the horizontal cap **48***d* is arranged in the same manner on wall **12** and performs the same function of removably supporting perpendicular panel P_2.

Turning to FIG. 7, the vertical cap **48***a*, which is supported endwise on cap **48***b*, and is suitably secured to building wall E by fasteners **70**, is of the same construction as cap **48***b*. However, cap **48***a* is arranged with its channel facing wall E and the open side of cap **48***a* is closed by a metal cover plate **72** having an oppositely facing central panel receiving channel, otherwise identical to that described. Plate **72** is also provided with vertical locating lugs **74** abutting flanges **68** and is removably secured in place by suitable fasteners **76**.

Thus, FIG. 7 illustrates but one example of employing an inventive cap as a vertical member in providing a support for cover plate **72**, the channel of which slidably receives the adjacent upright beaded end or edge portion of panel P_1. Other examples of employing an inventive cap in various horizontal and vertical positions for various purposes in wall construction may readily be found in the copending application of John Di Cesare, Jr., and Edward J. Rutkowski, Ser. No. 414,060, filed Nov. 27, 1964, now U.S. Patent 3,323,270, and of John J. Di Cesare, Jr., and Jack A. Dawdy, Ser. No. 417,457, filed Dec. 10, 1964, now U.S. Patent 3,323,262.

Considering now horizontal corner cap **48***c*, which is best shown in FIGS. 1, 2, 9 and 10, this cap is composed of two perpendicular extruded unitary sections **481** and **482** cut to form bevelled ends **78, 80** respectively, and securely joined together with bases **50** co-planar along these alined bevelled ends in any suitable manner, such as by tack welding (not shown) along the underside of their juncture. Once again, each cap section **481** or **482** is identical in cross-section to the previously described caps, and this is evident from a consideration of FIG. 10. However, the channel bottom walls **56** are provided along their juncture with an opening **82** for slidably receiving the fastener for the post now to be described.

As best seen in FIGS. 9–11, and particularly FIG. 11, the inventive post is generally indicated at **84** and is extruded as an elongated unitary member from strong, light weight metal, such as aluminum, into a generally X-shaped uniform cross-section throughout its length. Post **84** is composed of an enlarged central hub **86** connecting four outwardly diverging legs **88** each perpendicular to each adjacent leg, and each terminating in a perpendicular inner distal flange portion **90** extending

laterally on each side of each leg **88**. Each inner distal flange portion **90** merges with two outer distal flange portions **92**, each of which opposes and is co-planar with each adjacent outer distal flange portion **92**. Each portion **92** terminates in an enlarged and inwardly turned, generally U-shaped lug portion **94** having a pair of co-planar surfaces spaced from and parallel with those of each adjacent lug portion **94**, for slidably receiving a panel such as P_1 or P_2. Each lug portion **94** is also provided with a recess **96** opposing and alined with each adjacent recess **96** for slidably receiving an insert strip S (FIG. 9) instead of a panel or the aforesaid glazing bead insert strip.

Hub **86** includes a greater than semi-cylindrical inner periphery **98** forming a central opening and provided with circumferentially spaced internal splines **100**. Hub **86** also includes concave outer peripheral portions **102**, one of which is connected to inner periphery **98** by side walls **104** forming a slot, and which slot obviously permits extrusion of post **84** as a unitary member.

As is now evident, glazing post **84** is capable of removably supporting from one to four panels at any one time, and because of splines **100**, there is no need to provide internal threads in the post, since a suitable conventional fastener, such as a machine screw, having an enlarged head **106** and a threaded stem **108** (FIG. 10), will make its own threads upon engagement with the splines. Screw head **106** is preferably spaced below bottom walls **56** of cap sections **481**, **482** by a washer **110**, and a hole **112** is preferably punched through track **16** in wall **10** to receive head **106** and permit the desired abutting engagement of bottom channel walls **56** and internal flanges **64** of cap sections **481**, **482** on track **16** of wall **10**. The centered hole **82** in such bottom walls **56** along their juncture assists in alining post lug portions **94** with the channel side walls **54** in cap sections **481**, **482**.

Prior to installing the inventive post and cornice and rail caps, the lower portions of walls **10**, **12** are erected to form the L-shaped corner. The post **84** is assembled and fastened endwise on corner cap **48***c* by threadedly engaging the stem **108** of the fastener with splines **100** until head **106** is tightened against spacer washer **112** abutting bottom walls **56**, as shown in FIG. 10. At the same time, it is necessary to make sure that the right and upper pair of lug portions **94** on post **84** are alined with the channels in corner cap sections **481**, **482** respectively, as shown in FIG. 9. After properly locating and punching hole **112**, the various horizontal caps **48***b*, *c* and *d* are installed and secured in place on rail tracks **16** with channels alined, such as shown in FIGS. 1, 3 and 10, followed by installation of vertical cap **48***a* and cover plate **72** endwise on cap **48***b*, cap **48***a* being secured against wall E by fasteners **70**, and the channel of plate **72** being alined with the channel of cap **48***b*. With the various cornice and rail caps and post in place, the beaded panels P_1 and P_2 may be readily slid down into place. The walls **10**, **12** are then completed by slipping the insert strips S into place in the left and bottom pairs of recesses **96** in post **84**, and by fitting the appropriately shaped hollow plastic cover caps **114** and **116** down over the upper ends of vertical cap **48***a* and post **84**, respectively. The opposite procedure is followed to remove all or any part of walls **10**, **12**.

It will now be seen how each embodiment of the invention accomplishes its various objects, and the numerous advantages inherent in such embodiment will likewise be evident. While the invention has been described and shown herein by reference to certain specific embodiments, the same are to be construed as illustrating rather than as limiting the invention, the scope of which is to be determined by the appended claims.

What is claimed is:

1. An assembly of a cornice and rail cap and a glazing post, for removably supporting a wall panel, such as a glass panel, endwise on an end connecting opposite sides

of a wall, said cap comprising in generally channel-shaped cross-section, a base adapted to extend over said wall end and connecting two side flanges extending outwardly from one side of said base and adapted to extend over said opposite wall sides, said base including means forming the shorter side walls and bottom wall of a channel recessed below and opening in the other side of said base, for receiving one end of said panel, each of said side walls having a recess opposing the other recess, for receiving an insert strip, and said bottom wall being adapted to engage said wall end, said post being supported endwise on said other side of said base and comprising in cross-section, a hub connecting at least two outwardly diverging legs, each of said legs having an outer distal flange portion opposing the outer distal flange portion of the adjacent leg and terminating in an enlarged, generally U-shaped lug portion having a pair of substantially co-planar surfaces spaced from and substantially parallel to those of the adjacent lug portion and alined with said side walls, for receiving another end of said panel, and an intermediate recess opposing that in the adjacent lug portion, for receiving an insert strip.

2. The assembly of claim **1** including means removably fastening said post on said cap, each of said side flanges including an end flange opposing the other end flange and terminating in an inwardly turned reentrant flange spaced from the other reentrant flange and adapted to engage the adjacent wall side, said base also including internal flanges spaced on opposite sides of and substantially coextensive with said side walls and adapted to engage said wall end, said lug portions being inwardly turned, said hub being hollow and including an inner periphery forming an opening and provided with internal means, said hub also including a concave outer peripheral portion merging with said legs, and said fastening means passing through said channel bottom wall and engaging said internal means.

3. An assembly of a substantially horizontal and L-shaped, corner cornice and rail cap and an upright, elongated and unitary, extruded metal glazing post, for removably supporting two perpendicular upright wall panels, such as glass panels, endwise on the upper ends connecting opposite sides of two perpendicular walls forming a substantially L-shaped corner joint, said cap including two, substantially perpendicular and unitary, extruded metal sections having alined bevelled ends joined together and adapted to extend over said corner joint, each section comprising in generally channel-shaped, uniform cross-section throughout its length a substantially horizontal base substantially co-planar with the other base adapted to extend over the upper end of the corresponding wall and connecting two substantially vertical side flanges extending downwardly from the lower side of said base and adapted to extend over the opposite sides of the corresponding wall, said base including means forming the shorter and substantially vertical side walls and substantially horizontal bottom wall of a central channel recessed below and opening in the upper side of said base, for receiving the lower end of the corresponding panel, each of said side walls having a recess opposing the other recess, for receiving an insert strip, and said bottom wall being adapted to engage the corresponding upper wall end, and said post being removably supported endwise on said cap over said bevelled ends and comprising in generally X-shaped, uniform cross-section throughout its length, a central hub connecting four outwardly diverging legs, each of said legs being substantially perpendicular to each adjacent leg and having a substantially perpendicular inner distal flange portion merging with two outer distal flange portions each opposing and substantially co-planar with the adjacent outer distal flange portion of each adjacent leg, each of said outer distal flange portions terminating in an enlarged, generally U-shaped lug portion having a pair of substantially co-planar surfaces spaced from and substantially parallel to those of the adjacent lug portion

and alined with the side walls of the corresponding channel, for receiving the upright end of the corresponding panel, and an intermediate recess opposing that in the adjacent lug portion, for receiving an insert strip.

4. The assembly of claim 3 including means removably fastening said post on said cap, in each of said cap sections, each of said side flange including an end flange opposing and substantially co-planar with the other end flange and terminating in an inwardly turned reentrant flange spaced from and substantially parallel to the other reentrant flange and adapted to engage the adjacent side of the corresponding wall, said bottom wall being provided with raised shoulders along its junctures with said side walls, for supporting the lower edge of the corresponding panel, said base also including internal flanges spaced on opposite sides of and substantially parallel to and co-extensive with said side walls and adapted to engage the upper end of the corresponding wall, and said bottom walls of said cap sections being provided at their juncture with a hole adapted to be alined with an opening provided in the upper end of at least one of said walls, in said post, each of said lug portions being inwardly turned, said hub being hollow and including a greater than semi-circular inner periphery forming a central opening and provided with circumferentially spaced internal splines, said hub also including concave outer peripheral portions merging with said legs and means forming a slot connecting one of said outer peripheral portions with said inner periphery, and said fastening means including an enlarged head arranged below said channel bottom walls and adapted to be arranged in said wall opening, and an elongated threaded stem passing upwardly through said hole and threadedly engaging said splines.

5. A cornice and rail cap for finishing a wall and for removably supporting a wall panel, such as a glass panel, endwise on an end connecting opposite sides of a wall, said cap comprising in generally channel-shaped uniform cross-section throughout its length, a substantially flat, wide base adapted to extend over said wall end and connecting two side flanges substantially pependicular to and extending outwardly from one side of said base and adapted to extend over said opposite wall sides, said base including means forming the shorter side walls and bottom wall of a narrow central channel recessed below and opening in the other side of said base, for receiving one end of said panel, each of said side walls being substantially perpendicular to said base and having a recess opposing the other recess, for receiving an insert strip, and said bottom wall being substantially parallel to said base and adapted to engage said wall end, each of said side flanges including an end flange opposing and substantially co-planar with the other end flange and terminating in an inwardly turned reentrant flange spaced from and substantially parallel to the other reentrant flange and adapted to engage the adjacent wall side, and said base also including internal flanges extending outwardly from said one side of said base, spaced on opposite sides of, substantially parallel to and coextensive with said side walls and adapted to engage said wall end.

6. A substantially L-shaped corner cornice and rail cap for finishing walls and for removably supporting a glazing post, and two perpendicular upright wall panels, such as glass panels, endwise on the upper ends connecting opposite sides of two perpendicular upright walls forming a substantially L-shaped corner joint, said cap including two substantially perpendicular and unitary, extruded metal sections having alined bevelled ends joined together and adapted to extend over said corner joint, each section comprising in generally channel-shaped, uniform cross-section throughout its length, a substantially horizontal and flat, wide base substantially co-planar with the other base, adapted to extend over the upper end of the correspondoing wall and connecting two substantially vertical side flanges extending downwardly from the lower side of the base and adapted to extend over the opposite sides of the corresponding wall, said base including means forming the shorter and substantially vertical side walls and substantially horiozntal bottom wall of a narrow central channel recessed below and opening in the upper side of said base, for receiving the lower end of the corresponding panel, each of said side walls having a recess opposing the other recess, for receiving an insert strip, and said bottom wall being adapted to engage the corresponding upper wall end, each of said side flanges including an end flange opposing and substanitally co-planar with the other end flange and terminating in an inwardly turned reentrant flange spaced from and substantially parallel to the other reentrant flange and adapted to engage the adjacent side of the corresponding wall, and said base also including internal flanges extending downwardly from said lower side of said base, spaced on opposite sides of, substantially parallel to and coextensive with said side walls and adapted to engage the upper end of the corresponding wall.

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