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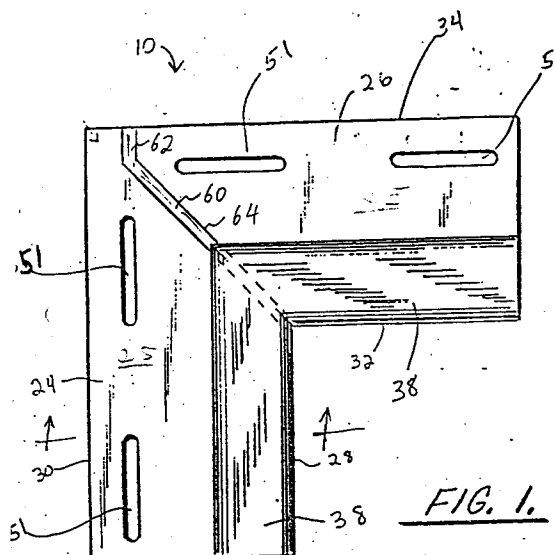
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W-8000 München 22(DE)(54) **Corner piece for vinyl siding retainers.**

(57) The invention relates to a corner piece suitable for covering junctions between adjacent horizontal and vertical retainer strips (12,14) mounted about right-angled openings in the walls. The corner piece (10) is provided with a pair of perpendicularly connected generally J-shaped legs, each leg having a first flange (24,26) provided with openings (51) for attachment to the wall, a bottom plate (36) extending at a perpendicular angle to the end of the first flange opposite said openings and a second flange extending perpendicularly to the bottom plate and in a parallel relationship to the first flange. Extending inwardly along the joint between the first leg and the second leg is a raised ridge (60) which prevents movement of the retaining strips (12,14) past the point of connection between the first and the second legs of the corner piece. Provision of the raised ridge also facilitates drainage of water along the channels formed by the corner piece.

**FIG. 1.****EP 0 479 321 A1**

BACKGROUND OF THE INVENTION

This invention concerns siding for covering the walls of structures. More particularly, it relates a corner piece for covering the junctions between horizontal and vertical retainer strips which retains siding around right-angled openings.

Siding has long been used to protect the exterior walls of structures such as houses. Such siding has often been made of aluminum, but recently vinyl siding has been developed.

The siding is attached to the exterior wall of a structure by affixing a pair of parallel retaining strips to the exterior wall. These retaining strips contain longitudinal slots in which hooks carried by the back face of the siding are placed.

A significant drawback in the prior art concerns the aesthetically objectionable appearance of the junction between horizontal and vertical retaining strips around right-angled openings such as doors and windows. These right-angle openings have horizontal and vertical frame components, and the retaining strips are placed adjacent these frame components. The retainers are channel-shaped, and are comprised of a flat base which is attached to the wall, and an outwardly projecting L-shaped member that provides a channel into which the siding is placed. The junction between the horizontal and vertical strips create a visible separation which detracts from the appearance of the siding. The junction between the strips can become even more noticeable as temperatures change and causes the siding to expand or contract.

It is accordingly an object of this invention to provide a corner piece for covering junctions between adjacent horizontal and vertical retainer strips which retain siding around right-angled openings in exterior walls.

It is a further object of the invention to provide a retainer which permits the strips to expand and contract in response to changing environmental temperatures without affecting the outward appearance of the corner piece.

It is a further object of the present invention to provide a corner piece with reinforced corner integrity and resistance to bending during extreme temperature changes.

It is still a further object of the present invention to provide a corner piece which allows secure positioning of horizontal and vertical retainer strips while limiting their movement towards each other during assembly.

These and other objects of the present invention will be more apparent to those skilled in the art from the following detailed description of the invention.

SUMMARY OF THE INVENTION

The foregoing objects are achieved by providing a corner piece for covering the junctions between adjacent horizontal and vertical retainer strips. The corner piece comprises a generally L-shaped member having a first leg integral with the second leg, the first leg being defined by an inner and an outer edge, the second leg also being defined by an inner and an outer edge. Each leg comprises a first flange provided with openings along one longitudinal edge to facilitate attachment of the corner piece to the wall, a bottom plate perpendicularly integrally attached to the first flange along the edge which has no openings and a second flange perpendicularly integrally attached along the free edge of the base plate, the second flange extending in parallel relationship to the first flange. The two flanges and the bottom plate thereby present a continuous, generally J-shaped channel adapted to receive the retaining strip therein.

The junction between two perpendicular portions of the corner piece is provided with a continuous raised lip, or ridge which extends continuously along the "miter" joint of the two perpendicular legs which are integrally connected to each other. The ridge has a first portion extending along a miter joint of the first flanges, a second portion extending along the width of the bottom plate and a third portion extending along a miter joint of the second flange of the first leg and the second leg.

The corner piece is placed at the corner of a door or window around which siding is being placed. A first retainer strip is placed adjacent the horizontal frame component along substantially its entire length with the channel of the first strip being placed within the channel of a first leg of the base plate. A second retaining strip is placed adjacent the vertical frame component along substantially the entire length of the vertical frame component with the channel of the second strip being received within the channel of a second leg of the base plate. The raised lip limits movement of the retaining strip within the J-shaped channels. In this manner, the visible junction between horizontal and vertical retainer strips is obscured.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a plan view of the corner piece for covering junctions between adjacent horizontal and vertical retainer strips.

Figure 2 is a cross-sectional view taken along section lines 2-2 in Figure 1.

Figure 3 is a side view of the corner piece shown in Figure 1, the view being taken into the channel of the corner piece.

Figure 4 is a perspective, fragmentary view of the corner piece covering the junction between adjacent horizontal and vertical retainer strips, the

horizontal retainer strip and corner piece being shown in the foreground unattached to the wall.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Turning now to the drawings, a vinyl corner piece 10 is shown for covering junctions between adjacent horizontal retainer strip 12 and vertical retainer strip 14 (Fig. 4). Retainer strips 12, 14 are of the kind known in the art for retaining siding around right-angled openings such as door 16 having a horizontal frame component 18 and a vertical frame component 20. Corner piece 10 utilized in the present invention is similar, to some degree, to the corner piece disclosed in my U.S. Patent No. 4,608,800 issued on September 2, 1986 for "Corner Piece for Vinyl Siding Retainers", the disclosure of which is incorporated by reference herein. The corner piece 10 comprises a generally L-shaped vinyl member 22 having a first leg 24 integral with a second leg 26. First leg 24 is defined by an inner edge 28 and an outer edge 30. Second leg 26 is also defined by an inner edge 32 and an outer edge 34.

A first and a second vinyl flanges 25 and 38 extend outwardly from base plate 36 continuously along opposite edges 33, 35 of first and second legs 24, 26. Each flange extends in parallel relationship to each other and perpendicular to the base plate 36. The flange 25, bottom plate 36 and the second flange 38 define a continuous, generally J-shaped channel adapted to receive a retaining strip 12 or 14 therein.

Extending along an imaginary "miter" line, or joint connecting the first leg 24 and the second leg 26 is a raised lip member 60 which is integrally formed on the inner surface of the legs 24 and 26 and continues as an integral raised lip along the junction between perpendicularly attached bottom plates 36 of the legs 24 and 26, extending inwardly into the generally J-shaped channels. Once the lip 60 span the corner connection, it integrally continues along a "miter seam" or joint between the second flanges 38 of the legs 24 and 26. The ridge 60 terminates before it reaches a retainer flange 40.

The ridge 60 has a vertical part 62 which is formed at an angle to the part 64 which extends along the miter joint of the legs 24 and 26.

The continuous raised ridge 60 projects inwardly into the J-shaped channel formed by the base plate 36 at the point of connection between the legs 24 and 26. The raised lip, or ridge 60 reinforces the "seam" or connection and affords greater resistance to the corner piece 10 during expansion or contraction caused by changes in temperature, to which the siding is exposed. The

ridge 60 also acts as a means for limiting movement of retainer strips 12 and 14, as will be described hereinafter, preventing the retaining strips from frictionally contacting each other and thereby displacing one or the other retainer strips.

Additional advantage of the raised lip 60 is seen in the fact that provision of the raised lip 60 allows to form a "draining channel", causing the water which may accumulate in the J-shaped channel 42 to drain on the outer edge of the interlocking retainer strips 12 and 14.

A continuous vinyl retainer lip flange 40 is integral with and carried by each second flange 38 and projects from second member 38 towards base plate 36 in at least partially covering relationship to channel 42 (Fig. 2). In the embodiment shown in the drawings, retainer flange 40 is an arcuate member which is in covering relationship to only a portion of channel 42 and substantially parallel to the base plate 36 that it covers. The purpose of retainer flange 40 is to press siding into close relationship with base plate 22.

Retaining strips 12, 14 are each defined by a first flange 44 and a second flange 50, in cooperation with retainer strip base plate 48. A J-shaped channel 46, similar to the channel 42 extends through the length of each strip 12, 14. The distance between the flanges 44 and 50 is less than the distance between the flanges 26, 38 of corner piece 10 and its base plate 48, thereby being slightly narrower than the base plate 36 of the corner piece 10.

In operation, the generally L-shaped base plate 22 is secured adjacent a corner formed by the intersection of horizontal and vertical components 18, 20 of the frame for door 16. Flanges 22 are secured to the corner by driving a nail, screw or other suitable fastener through the first flange openings 51 and adjoining wall. In the embodiment shown in the drawings, slots 51 are provided in corner piece 10 through which fasteners may be placed. First leg 24 is placed adjacent and parallel to horizontal component 18 of the door frame while second leg 26 is placed adjacent and parallel to the vertical component 20 of the frame. After being so fastened to the wall, base plate 36 is perpendicular to exterior wall 52 of the structure being covered, while first flanges 25 extend parallel to wall 52 flush with the frame component to which it is adjacent. Second flange 38 projects parallel to the first flange 25.

Horizontal retainer strip 12 is fixed adjacent horizontal frame component 18 along substantially the entire length of horizontal frame component 18. First strip 12 is fastened flat against wall 52 with its channel thereby projecting outwardly from wall 52 and creating a channel into which siding panels may be received. Fasteners can be placed through

slots 53. Since the channel of strip 12 is narrower than the channel of first leg 24, the channel of strip 12 is received within the J-shaped channel 42 of the first leg. In preferred embodiments, the channel of strip 12 is only slightly less than the width of the channel in the corner piece, thereby providing a sliding yet tight fit between strip 12 and the channel of first leg 24.

Second strip 14 is affixed to wall 52 adjacent vertical frame component 20 along substantially the entire length of the vertical frame component by fixing fasteners through openings 53. Strip 14 is flush with the vertical frame component in much the same fashion as described above with the horizontal frame component 18. The channel of the second, vertical strip is once again only slightly smaller than the channel of second leg 26 so that the channel of second, vertical strip 14 is received within the channel of second leg 26 of corner piece 10.

When the strips 12 and 14 are moved into engagement with the corner piece 10, the innermost end 44 of the strip 12 and the innermost end of the strip 14, come in proximity to each other. The bottom inner edges 55 and 57 of base plate 48 of the strips 12 and 14 frictionally contact the portion 66 of the ridge 60 which extends through the width of the J-shaped channel 42 along the member 36. Any further movement of the strips 12 and 14 towards each other is thereby prevented and the strips 12 and 14 assume a mutually perpendicular relationship, without contacting each other and displacing the position of the strips in relation to the corner piece 10.

Many changes and modifications can be made within the design of the present invention without departing from the spirit thereof. I therefore, pray that my rights to the present invention be limited only by the scope of the appended claims.

Claims

1. A corner piece for covering junctions between adjacent horizontal and vertical retainer strips, which retaining siding to a wall around right-angled openings in said wall, said openings having a horizontal and vertical frame components, the corner piece, comprising:
 - a generally L-shaped member having a first leg integral with a second leg, the first leg being perpendicularly attached to the second leg, each leg being defined by a first flange which is provided with openings along an outer edge to facilitate attachment of the corner piece to the wall, a bottom plate extending outwardly at a right angle to the first flange and integrally connected to an inner edge of the first flange, and a second flange integrally con-

nected to a free edge of the bottom plate and extending in parallel relationship to the first flange;

the first and second flanges and the bottom plate forming a generally J-shaped continuous channel adapted to receive the horizontal and vertical retainer strips therein; and

means for limiting movement of the retainer strips within said J-shaped channels of the first leg and the second leg, said movement limiting strips being formed at along a line of connection between said first leg and said second leg.

2. The corner piece of Claim 1, wherein said means for limiting movement comprise a continuous raised ridge which extends inwardly within said J-shaped channels of said first leg and said second leg.
3. The corner piece of Claim 2, wherein said raised ridge comprises a first portion which extends substantially along a miter joint connecting the first flanges of the first leg and the second leg, a second portion which extends along the width of the bottom plate and a third portion which extends substantially along a miter joint connecting the second flanges of the first leg and the second leg.
4. The corner piece of Claim 3, wherein the second portion of the continuous raised ridge is frictionally contacted by adjacent innermost edges of said retainer strips, when the retainer strips are slidably engaged within said J-shaped channels of the first leg and the second leg.
5. A vinyl corner piece for covering junctions between adjacent horizontal and vertical retainer strips for siding around right angled openings in a wall, said openings having horizontal and vertical frame components, the corner piece comprising:
 - a generally L-shaped member having a first leg integral with a second leg, the first leg being perpendicularly attached to the second leg, each leg being defined by a first flange which is provided with openings along an outer edge to facilitate attachment of the corner piece to the wall, a bottom plate extending outwardly at a right angle to the first flange and integrally connected to an inner edge of the first flange, and a second flange integrally connected to a free edge of the bottom plate and extending in substantially parallel relationship to the first flange;
 - the first and second flanges and the bot-

tom plate forming a generally J-shaped continuous channel adapted to receive the horizontal and vertical retainer strips therein; and

means for limiting movement of the retainer strips within said J-shaped channels of the first leg and the second leg, said means for limiting movement comprising a continuous raised ridge which extends inwardly within said J-shaped channels of the first leg and the second leg, said continuous ridge comprising a first portion extending substantially along a miter joint connecting the first flanges of the first leg and the second leg, a second portion which extends along the width of the bottom plates of the first leg and the second leg and a third portion which extends substantially along a miter joint connecting the second flanges of the first leg and the second leg.

6. The corner piece of Claim 5, wherein said second portion of the raised ridge is frictionally contacted by innermost edges of the horizontal and vertical retainer strips when the retainer strips are slidably engaged within said J-shaped channels of the first leg and the second leg.

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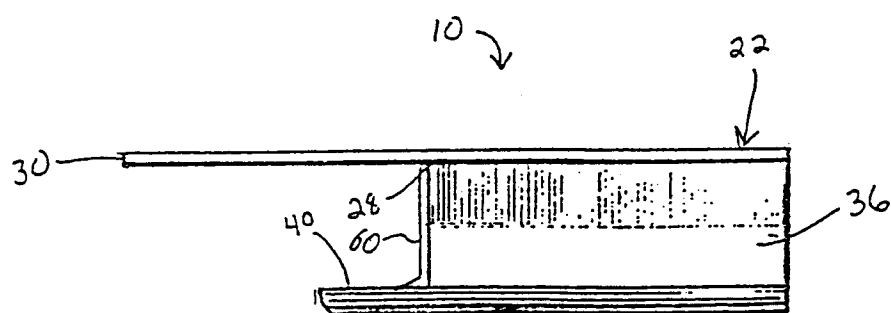
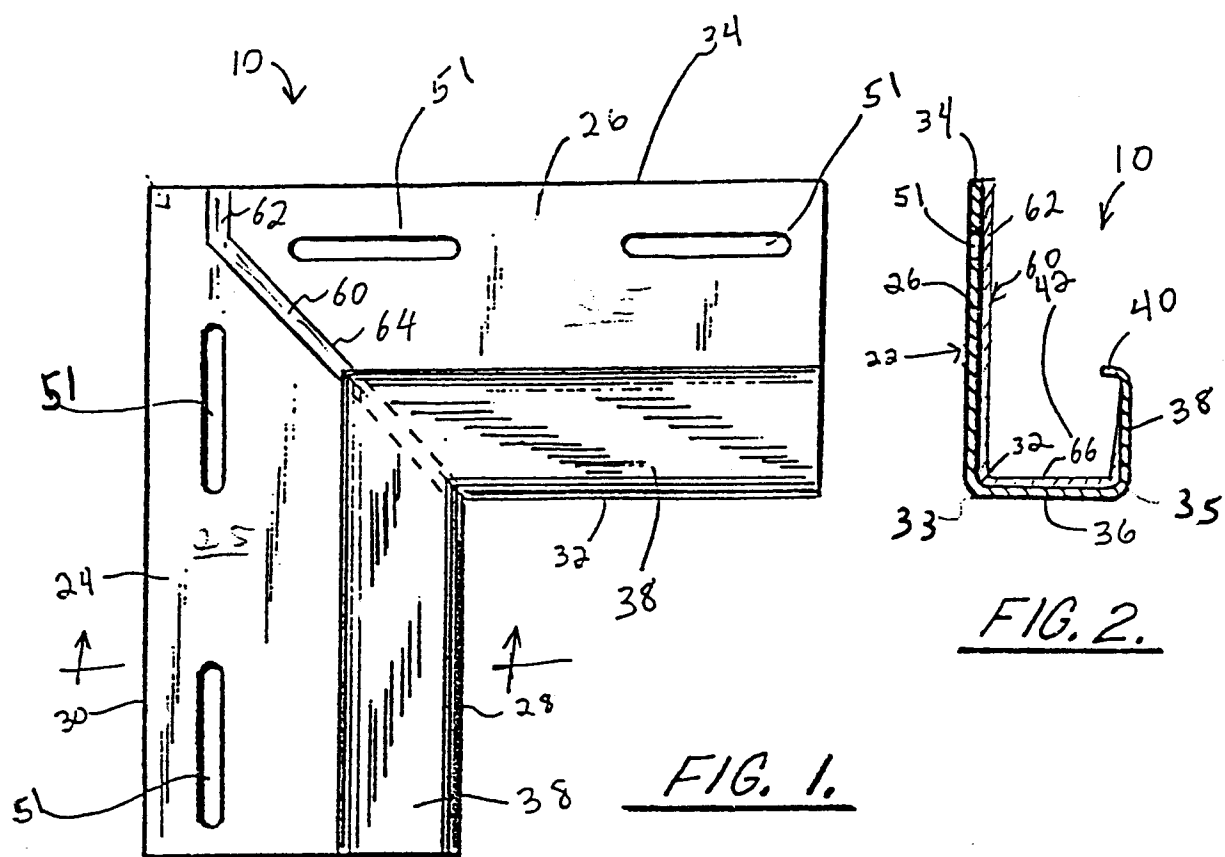
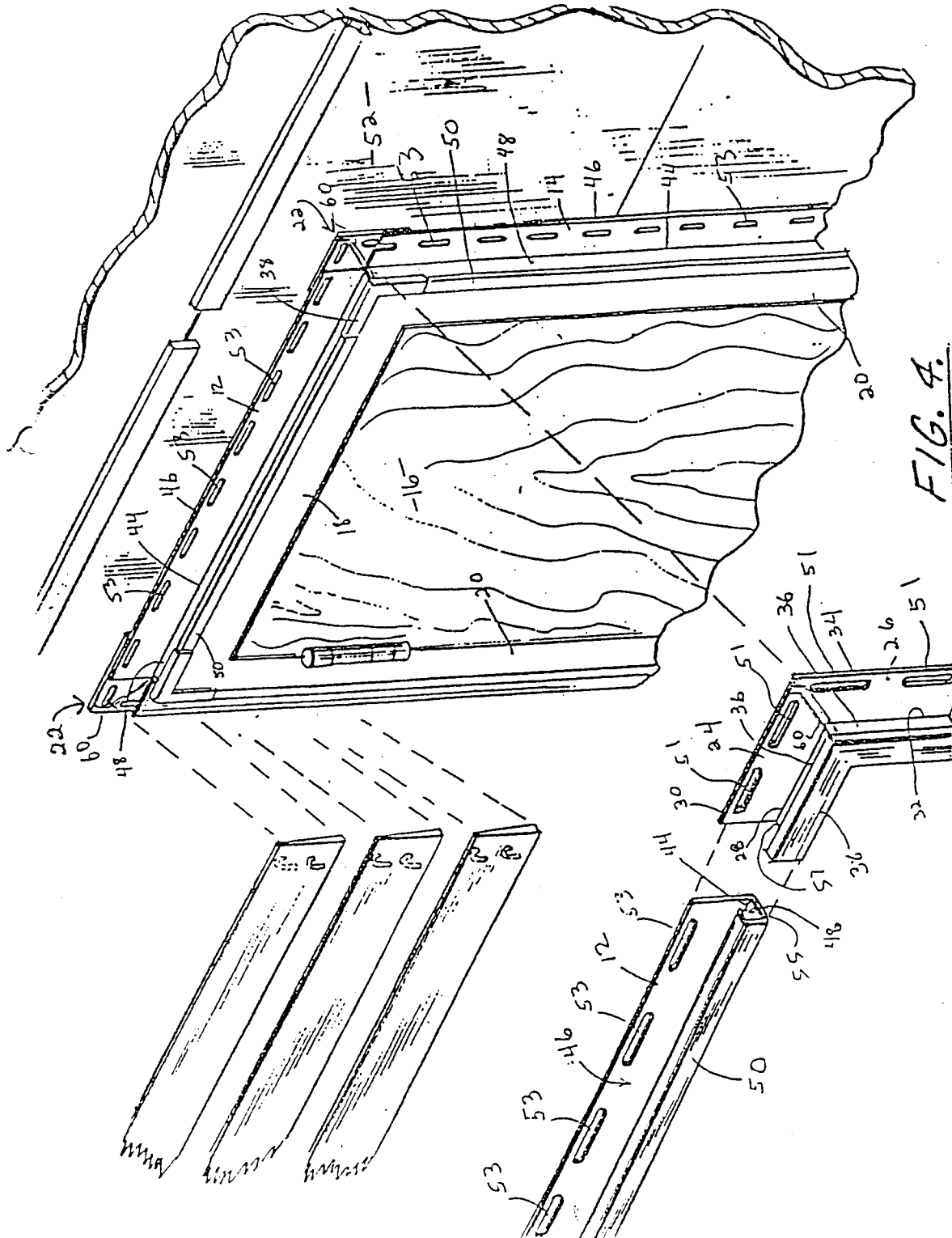


FIG. 3





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EUROPEAN SEARCH REPORT

Application Number

EP 91 11 6995

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
D,Y	US-A-4 608 800 (FREDETTE) * the whole document * * -- --	1-6	E 06 B 3/96 E 04 F 19/02
Y	GB-A-993 555 (ASS. BUILDERS MERCHANTS LTD.) * page 2, line 61 - page 2, line 95; claims 1,8,9,13,16,18; figures 1,2,5 * * -- --	1-6	
A	DE-A-3 812 104 (REICHSTADT) -- --		
A	GB-A-1 443 953 (BLACKNELL BUILDINGS LTD.) -- -- -- --		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			E 06 B E 04 F E 04 D
Place of search		Date of completion of search	Examiner
The Hague		15 January 92	BLOMMAERT S.
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