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BRACKET FOR HANGING RAIN GUTTER

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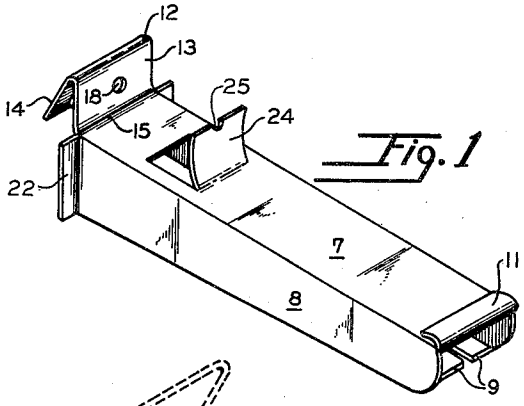


Fig. 1

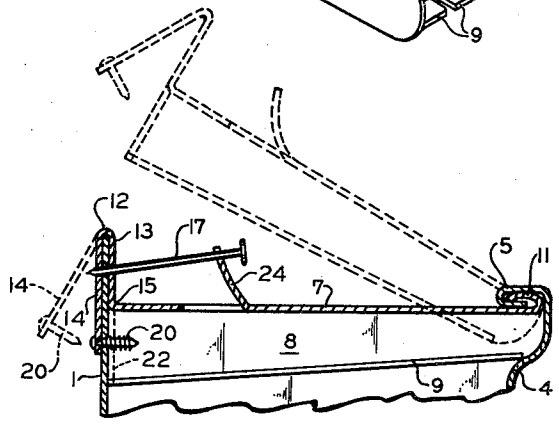


Fig. 2

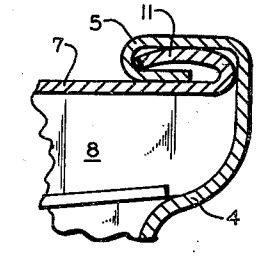


Fig. 3

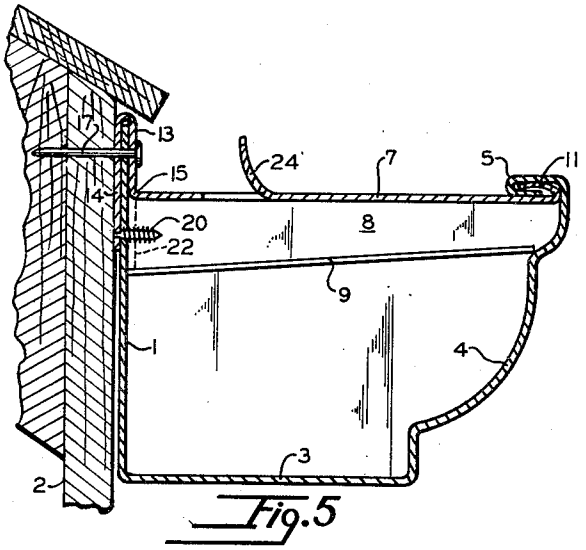


Fig. 5

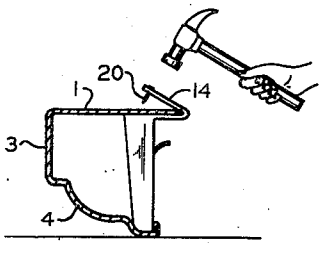


Fig. 4

INVENTOR.
LOUIS L. RAMSER

BY Arthur Robert

ATTORNEY

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BRACKET FOR HANGING RAIN GUTTER

Louis L. Ramser, 829 Bardstown Road, Louisville 5, Ky.

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This invention relates to a hanger or bracket for mounting a rain gutter on a house or other building structure.

The majority of rain gutters installed today on homes are of the type having a flat rear or inner wall, a flat bottom and an ornamental molding-like front or outer wall. The conventional mounting means for this type of rain gutter comprises: an elongate ferrule or sleeve positioned to extend horizontally between the back and front walls of the gutter; and a long horizontal nail driven inwardly through the front wall of the gutter, the ferrule, the rear wall of the gutter and thence into the building's fascia board, which supports the gutter. This type of gutter mounting means is structurally weak and often allows the gutter to sag and become deformed when loaded with snow and ice, or when other relatively heavy loads are applied to the gutter. Further objections to this conventional gutter mounting means include: it is relatively awkward to use, since the ferrule must be held in place in the gutter while the nail is driven through the gutter and ferrule; it requires a high degree of skill to use it properly, in the installation of a gutter; and its use, in the opinion of some people, disfigures the appearance of the gutter since the nail head appears on the front or outer wall of the gutter.

The primary object of this invention is to overcome or substantially minimize the above objections and, more particularly, to provide an improved rain gutter mounting means which is stronger, less awkward to use, can be installed by relatively unskilled labor and, normally, is hidden from view in the installed or mounted gutter.

Other important objects of my invention are: to provide a hanger having sufficient strength to support a rain gutter adequately and prevent it from sagging and deforming under relatively heavy loads such as may be caused by snow and ice; to provide a hanger which affords an adequate support for the front or outer wall of the rain gutter and thereby prevents that front wall from bending downwardly relative to the back wall of the gutter; to provide a hanger which enables a single workman to install a long section of gutter on a building by himself; to provide a hanger having means for holding a nail or like fastener in driving position so as to leave both hands of the installer free and thereby enable the installer to support the gutter with one hand while driving the fastener home by means of a tool held in his other hand; to provide a hanger which will enable a gutter to be mounted easily, simply and quickly; and to provide a gutter hanger which does not disfigure or mar the ornamental appearance of a mounted rain gutter.

These objects are substantially obtained by providing an improved hanger of the cantilever type having an elongate rigid body which extends between the front and back walls of the gutter, attaching the front end of the body to the inside face of the front wall of the gutter by a securing means which is hidden from view, providing the rear end of the hanger with a downwardly opening U-bend which seats snugly over the upper edge portion of the gutter rear wall and with a rearwardly facing abutment means positioned to engage the front face of the rear wall of the gutter and operative to support the body of the hanger against bending downwardly about the rear upper edge of the gutter and mounting the gutter and hanger in place on a building by means of a fastener driven to extend successively through the front wall of the U-bend, the interposed rear wall of the gutter and the rear wall of

the U-bend and substantially into the building. With this construction, the hanger body is supported on the gutter rear wall like a cantilever beam and it therefore supports the front wall of the gutter against sagging or bending downwardly relative to the gutter rear wall.

The invention is described in connection with the accompanying drawing wherein:

FIG. 1 is a perspective view of a gutter hanger made in accordance with my invention and showing it prior to being installed in a gutter;

FIG. 2 is a longitudinal vertical section through the FIG. 1 hanger showing it in solid lines installed in a rain gutter and in readiness to be mounted on a building and further showing it in dotted lines in various stages of being installed in the gutter;

FIG. 3 is an enlarged fragmentary section similar to FIG. 2 showing the joint between the front end of the hanger and the upper front edge of the gutter;

FIG. 4 is a reduced vertical cross-section of the gutter rotated 90° clockwise and showing how the rear end of the hanger may be secured to the gutter; and

FIG. 5 is a longitudinal vertical section similar to FIG. 2 of the hanger installed in a gutter and showing both mounted on a building.

CONVENTIONAL GUTTER

The conventional rain gutter 1 shown in the drawing includes: a flat rear wall, also designated 1, adapted to be mounted on the fascia board 2 of a building; a flat bottom wall 3 extending forwardly from the lower edge of the rear wall 1; a front wall 4 extending upwardly from the front edge of the bottom wall 3 and having an ornamental molding-like section; and an integral J-shaped lip 5 which extends rearwardly from the upper edge of the front wall 4 and is reversely bent downwardly and forwardly.

HANGER

The hanger shown in the drawing includes: an elongate body extending between the rear and front walls 1 and 4 of the gutter 1; means at the front end of said body for fastening it to the J-shaped lip 5 at the upper edge of the gutter front wall 4; a downwardly opening U-bend at the rear end of the body for seating downwardly over the upper portion of the gutter rear wall 1; means for securing the U-bend to the gutter rear wall 1; downwardly extending abutment means at the rear end of the body for engaging the gutter rear wall 1 and supporting the body against bending downwardly about its junction with the U-bend; and fastener holding means on the body for supporting a fastener in driving position, during installation of the gutter, without a workman touching or otherwise holding or supporting the fastener.

Hanger Body

The elongate hanger body 7 extends between the rear and front walls 1 and 4 of the gutter 1 and is substantially a downwardly opening C-shaped section, which may also be considered a substantially box-shaped section, formed by an elongate upper horizontal web, also designated 7, a pair of vertical sides 8 depending from the opposite longitudinal edges of the upper web 7 and a pair of bottom flanges 9 extending inwardly toward each other from the lower edges of the sides 8. Forming the body as a C-shaped or box shaped section makes it a relatively rigid member having substantial strength.

Hanger Front End Attachment Means

At the front end of the body 7, the web 7 is integrally extended forward beyond the front edges of the sides 8 and is reversely bent upwardly and rearwardly to form the hook 11. The hook includes a tongue, also designated 11, which cooperates with and interengages in the forwardly opening J-shaped lip 5, integrally formed on

the upper edge of the guter front wall 4, to lock and fasten the front end of the hanger body to the gutter front wall 4. Preferably, the tongue 11 prior to being installed in a gutter, is bowed upwardly so that in being inserted in the J-shaped lip 5, it is slightly flattened and resiliently presses against or engages the inner surfaces of the J-shaped lip 5, as seen in FIG. 3.

FIG. 2 illustrates the manner used for engaging the hanger hook 11 with the J-shaped lip 5. First, the hanger hook 11 is inserted into the J-shaped lip 5 with the hanger body inclined upwardly and rearwardly, as shown in dotted lines in FIG. 2, then the hanger is swung downwardly into its mounted position as shown in full lines in FIG. 2.

U-Bend on Rear End of Hanger

The hanger body 7 is provided at its rear end with a downwardly opening U-bend 12 which seats downwardly over and, when completely installed, snugly receives the upper edge portion of the gutter rear wall 1 to fasten the rear end of the hanger body to the rear wall. This U-bend 12 includes a pair of narrowly spaced vertical legs, including a front leg 13 and a rear leg 14, which are interconnected at their top ends by a horizontal bight, also designated 12, and is integrally formed from the hanger body 7 by extending the web 7 rearwardly beyond the body sides 8 and bending such extension about the bend line 15 upwardly and then, at an intermediate point, reversely bending it downwardly to the U-bend shape.

The hanger and its associated gutter is normally mounted on a building fascia board 2, as seen in FIG. 5, by a fastener, such as the nail 17, which extends through the two vertical legs 13 and 14 of the U-bend 12, the gutter rear wall 1 interposed between the vertical legs and into the fascia board 2. Preferably, the holes 18 in the legs 13 and 14 for receiving the fastener are preformed in the U-bend 12 during manufacture of the hanger and the aligned hole in the gutter rear wall 1 is punched after the hanger is in place on the rear wall 1. This punching operation may be performed in any suitable manner, such as by a hammered nail or a pliers-type hole punch.

U-Bend Securing Means

The rear leg 14 of the U-bend 12 is longer than the front leg 13 so that, when installed on a gutter rear wall, it extends below the front leg 13. A fastener 20 is attached to the lower portion of the rear leg 14 and is adapted to be driven into the gutter rear wall 1 after the U-bend 12 is in place on the wall 1. Prior to installing the hanger in the gutter, the rear leg 14 of the U-bend 12 is opened rearwardly away from the front leg 13 to provide a sufficient spacing for the fastener 20 to clear the gutter wall 1 as the U-bend is fitted downwardly on the wall 1.

Preferably, the fastener 20 is a type which may be hammered into the gutter rear wall 1, as shown in FIG. 5. The fastener 20 also preferably has means such as annular ribs or threads for retaining it in the gutter rear wall 1, once it has been driven into that wall. The head of the fastener 20 may be attached to the rear leg 14 by an upsetting operation which flattens and expands the head, like the fasteners 20 shown in FIGS. 2 and 5, or they may be welded or soldered to the rear leg 14.

Abutment Means at Rear End of Hanger

The hanger body 7 is provided at its rear end with an abutment means which cooperates with the U-bend 12 to support the body 7 on the rear wall 1 in the manner of a cantilever beam so that the body 7 cannot readily be bent downwardly about the bend line 15 at its rear end. This means includes a pair of opposite and outwardly extending vertical wings 22 integrally formed on and bent outwardly from the rear edges of the body sides 8. These wings 22 seat against the inside of the gutter rear wall 1 and support the hanger body and web 7 against sagging or bending downwardly about the bend line 15, relative to the U-bend 12.

Fastener Holding Means

The fastener holding means is a tab 24 which is struck upwardly and rearwardly from the body web 7 intermediate its front and rear ends. As seen in FIG. 1, the upper edge of the tab 24 is provided with an upwardly opening notch 25. Looking at FIG. 2 this notch 25 is adapted to support a fastener, such as the nail 17, with its penetrating end resting in the aligned holes 18 in the vertical legs 13 and 14 of the U-bend 12 and in the aligned punched hole in the interposed gutter rear wall 1. With the nail 17 resting in this position, a workman can raise the gutter into position on the fascia board 2 of the building and while holding the gutter with one hand can use the other hand to wield a hammer and drive the nail 17 home into the fascia board.

Having described my invention, I claim:

1. A hanger of the cantilever type for a rain gutter having a vertical flat rear wall adapted to be seated on a vertical surface of a building, a flat bottom wall extending forwardly from the lower edge of the rear wall, and a front wall extending upwardly from the front edge of the bottom wall and terminating at its upper edge in a J-shaped lip which extends rearwardly and is reentrantly bent downwardly and forwardly, comprising: a substantially rigid elongate body having a horizontal web and oppositely disposed vertically depending sides and being adapted to extend between the front and rear walls of the gutter with the front ends of its vertical sides abutting the inner front wall face of the gutter; front means for fastening the front end of said body to the front wall of said gutter, said front means having a hook integral with the front end of the web, said hook being bent to extend upwardly and rearwardly into said J-shaped lip for interengagement therewith; rear means for fastening the rear end of said body to the rear wall of said gutter, said rear means having a U-bend which is adapted to be inverted over the rear wall of the gutter with its bight closely adjacent the upper edge thereof, with its front leg integral with the rear end of the web and in close face-to face relationship with the inside face of the rear wall, and with its rear leg in close face-to-face relationship with the outside of the rear face of the rear wall, said legs having a pair of aligned openings for receiving an elongate fastener extending through the legs and intervening rear wall and into a building when the hanger and gutter are assembled and mounted on the building; and a pair of wings integral with and extending outwardly from the rear ends of said vertical sides, said wings being adapted to seat against the inside face of the rear wall of the gutter to support said body against downward bending movement relative to said U-bend when said U-bend and rear wall are fastened to a building by said elongate fastener.

2. The hanger of claim 1 wherein: the rearwardly bent portion of said front end hook is bowed for resilient engagement with the interior surfaces of said J-shaped lip.

3. The hanger of claim 1 including: a tab struck to extend upwardly from and between the ends of said web, said tab having its upper end notched to support the front end of said elongate fastener during the process of mounting said gutter on a building so that said fastener does not require manual support while being driven into the building.

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