

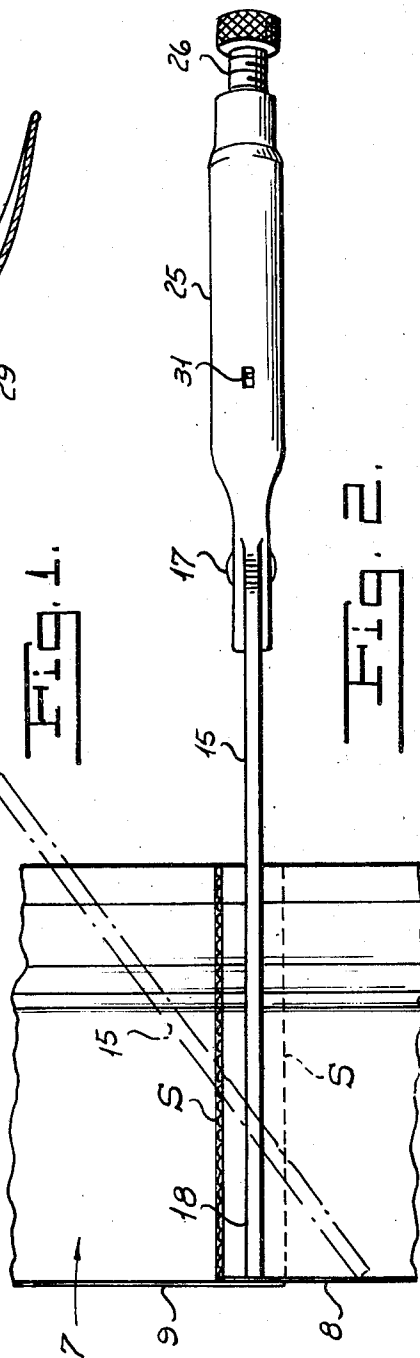
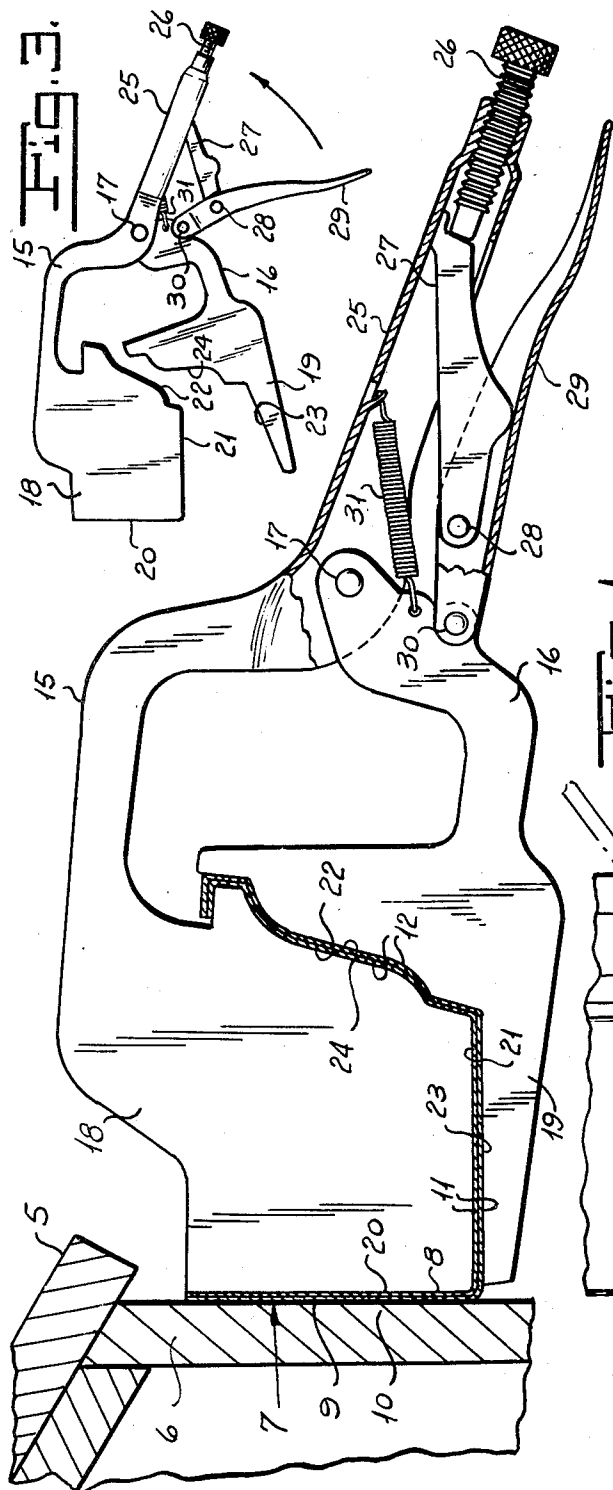
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CLAMPING DEVICE

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2,945,463

CLAMPING DEVICE

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2 Claims. (Cl. 113—101)

Our invention relates to clamping devices of soldering sections of gutters or eave troughs, some examples of prior art devices being disclosed in U.S. Patent Nos. 1,119,419; 2,704,528; and 2,718,863.

One of the objects of our invention is to provide a clamping device equipped with jaws for maintaining sections of ogee gutter clamped together for soldering.

Another object of our invention is to provide a device of the foregoing described character which permits sections of ogee gutter to be soldered together while attached to a building or the like, thus, facilitating installation, replacement or repair of ogee gutters.

An important object of our invention is to provide a device of the foregoing described character which is simple in construction, durable in use, efficient in operation, economical in manufacture and capable of use by other than highly skilled artisans.

With the above and other objects in view, as will hereinafter appear, the invention consists in the combination and arrangement of parts hereinafter set forth and illustrated in the accompanying drawings from which the several features of the invention and the advantages attained thereby will be readily understood by those skilled in the art.

Referring to the drawings wherein like reference characters designate like parts throughout the several views:

Figure 1 is a side elevation of our invention as applied to a pair of nested sections of a gutter attached to a roof plate, the latter, gutter and certain parts of the device being shown in section.

Figure 2 is a top plan view of our invention as applied to the nested sections.

Figure 3 is a side elevation of our invention with the jaws disposed in open position.

A fragmentary portion of a building is depicted in Figure 1 of the drawing and comprises a roof 5 supported by the usual plate 6 having attached thereto the rear wall of an "O.G." or ogee gutter 7, the latter having a pair of lapped sections 8 and 9, respectively, which, in forming said gutter, are soldered together, as at S, along their end faces as is common practice in gutter constructions. Each of the sections comprise substantially straight and right angularity related rear and bottom walls 10 and 11, respectively, and an ogee-shaped front wall 12.

In practicing our invention, as illustrated in the drawing, we provide a pair of upper and lower arms 15 and 16 pivoted together, at coincident ends, by a pivot 17, and having their other ends formed with inner and outer jaws 18 and 19, respectively. The inner jaw 18 is of a one-piece construction and of a contour comprising front and bottom faces 20 and 21, respectively, and an ogee rear face 22 with the faces 20, 21 and 22 defining the transverse shape of the gutter 7. The outer jaw 18 is provided with a straight upper face 23 and an ogee front face 24, coinciding with the outer shape of the bottom and front walls 11 and 12, respectively, of the sections.

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The upper arm 15 is formed with a handle 25 having threaded in its outer end a screw 26 which engages the end of a lever or link 27 pivoted by a pin or pivot 28 to a handle 29 which in turn is pivoted to the arm 16 by a pivot 30 subjacent the handle 25. A coil spring 31 is effectively connected to and between the handles 25 and 29 and serves to urge the jaw 19 away from the jaw 18 and thus dispose the jaws in open position.

As shown in the drawing, the pivot 28 is so located with respect to the pivots 17 and 30 that when the handle 29 is moved towards the handle 25 the lever 27 will engage the screw 26 and thus force the jaw 19 into clamped relation with the jaw 18 to clamp the overlapped sections 8 and 9 of the gutter therebetween. By adjusting the screw inwardly against the lever 27 the handles are maintained against relative movement to counteract the tension of the spring 31, it being noted that the pivot 28 is disposed above a line bisecting the pivot 30 and inner end of the screw 26. By releasing the screw, the handle 29 may be moved outwardly with respect to the handle 25 with the result that the spring 31 functions to move the jaw 19 away from the gutter and into open position to thus permit removal of the jaw 18 from within the gutter.

The size of the inner jaw 18 is such as to snugly fit within one of the sections of the gutter as illustrated in Figure 1, the jaw being inserted within the section at an angle as disclosed in dotted lines in Figure 2 and then moved into a plane in right-angular relation to the longitudinality of the gutter. When the inner jaw is thus positioned within the gutter, the handles are manipulated to bring the outer jaw 19 into engagement with the bottom and front faces of the gutter thus clamping the overlapped gutter sections between the jaws for soldering.

When the device is disposed in clamped relation with the gutter 7, as illustrated in Figure 1, the front face 20 of the inner jaw 18 serves to maintain the sections 8 and 9 clamped against the plate 6 when the device is forced towards the plate, it being noted that the front face is of a height corresponding to the height of the walls 10. This feature of our invention permits the sections 8 and 9 to be soldered together while attached to the building and without providing any additional means on the outside of the rear walls 10 for coaction with the jaw 18 to effect clamping of the walls.

The term "ogee" or "O.G." as used herein in connection with gutter or gutter sections, comprehends a gutter or the like, having, in transversality, relatively straight and right-angularly related rear and bottom walls and a front wall formed with substantially U-shaped, compound curved and straight upper, intermediate and lower portions, respectively, as disclosed in the drawing. It will be noted that the tool may be utilized for straightening out or reforming portions of the sections which have become distorted or indented and that the jaws may be of any convenient width with respect to their gutter engaging faces.

Without further elaboration, the foregoing will so fully explain the invention that others may, by applying current knowledge, readily adapt the same for use under various conditions of service. Moreover, it is not indispensable that all the features of the invention be used conjointly since they may be employed advantageously in various combinations and subcombinations.

It is obvious that the invention is not confined solely to the use herein disclosed in connection therewith as it may be utilized for any purpose to which it is adaptable. It is therefore to be understood that the invention is not limited to the specific construction as illustrated and described, as the same is only illustrative of the principles

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involved which are capable of extended application in various forms, and the invention comprehends all construction within the scope of the appended claims.

What is claimed is:

1. In a device for clamping nested inner and outer sections of a gutter together for soldering while the rear walls of the sections are secured to the eaves of a building and without detaching or spacing the walls from said eaves to permit said clamping, a pair of pivoted inner and outer jaws operable to clamping and open positions, said inner jaw having gutter-wall engaging front, rear, and bottom surfaces and adapted to be angularly inserted and shifted to a clamping position within the confines of and against the inner section of the gutter and with said front surface adapted to be disposed in adpressed relation with the inner face of the rear wall of the inner section for maintaining said latter wall clamped against the inner face of the rear wall of the outer section when said jaws are in clamping position, said outer jaw being provided with gutter-wall engaging surfaces adapted to transversely embrace and engage the outer faces of the bottom and front walls of said outer section, said outer jaw terminating, at one end, subjacent said inner jaw and in proximity to said front surface thereof, said surfaces of said outer jaw coacting with said rear and bottom surfaces of said inner jaw to maintain said pair of sections in clamped relation therebetween for soldering when said jaws are disposed in said clamping position.

2. In a device for clamping nested inner and outer sections of an ogee gutter together for soldering while the rear walls of the sections are secured to the eaves of a building and without detaching or spacing of the walls from said eaves to permit said clamping, a pair of one-piece pivoted inner and outer jaws operable to clamping and open positions, said inner jaw having gutter-wall engaging front, rear, and bottom surfaces and adapted to be

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angularly inserted and shifted to a clamping position within the confines of and against said inner section, said front surface disposed in adpressed relation with the inner face of the rear wall of said inner section for maintaining said latter wall clamped against the inner face of the rear wall of the outer section when said jaws are in clamping position, said inner jaw being of a pre-established and definite fixed size between its front and rear surfaces and having a contour correlated with said sides and similar to that of said inner section to dispose said surfaces into flush and contactual engagement with the inner faces of the rear, front, and bottom walls, respectively, of said inner section throughout the transversality of the walls of said inner section when said inner jaw is disposed in said clamping position, said outer jaw being solely provided with gutter-wall engaging top and rear surfaces of a shape conforming to the transverse outer shape of the bottom and front walls, respectively, of said outer section and adapted to transversely embrace and engage the outer faces of said latter walls, said outer jaw terminating, at one end, subjacent said inner jaw and in proximity to said front surface thereof, said surfaces of said outer jaw coacting with said rear and bottom surfaces of said inner jaw to maintain said pair of sections in clamped relation therebetween for soldering when said jaws are disposed in said clamping position.

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