

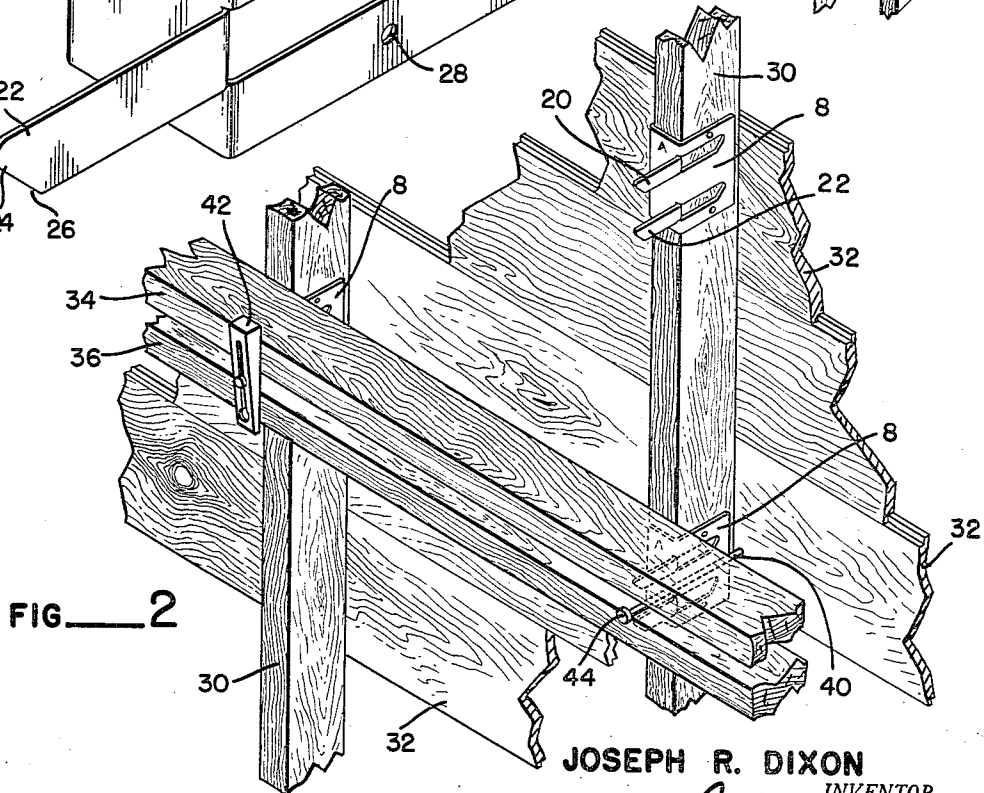
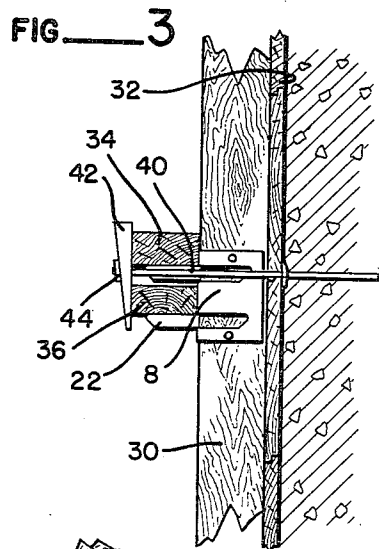
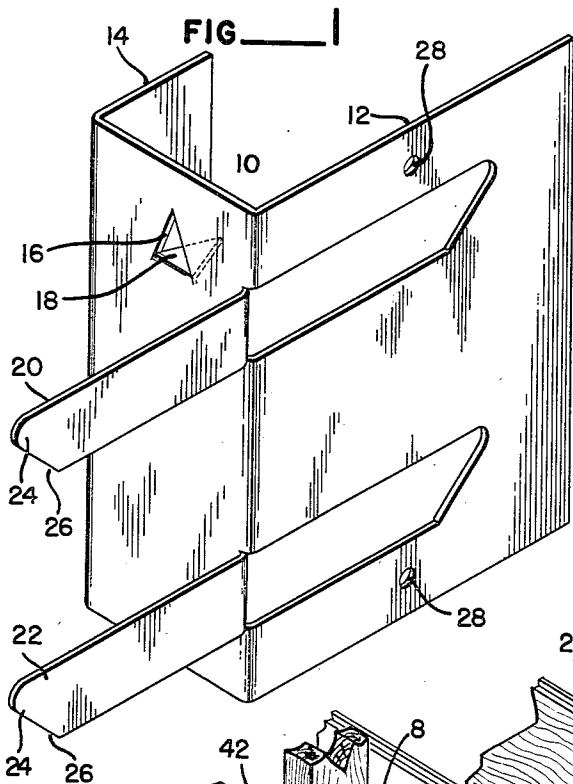
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BRACKET FOR CONCRETE-FORMS

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2,805,833

**BRACKET FOR CONCRETE-FORMS**

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1 Claim. (Cl. 248—248)

This invention relates to a bracket for concrete-forms and, more particularly, to a concrete-form wale bracket useful in connection with the attachment of pairs of wales or walers to a concrete form.

Wooden concrete-forms for the purpose of shaping and molding poured concrete into walls are commonly produced by attaching wooden boards on the inside or opposing faces of sets of vertical studs that are spaced at intervals along the horizontal area in which a wall is to be erected. In order to reinforce such concrete-form walls, it is a common practice to attach to the outer faces of the vertical studs or two-by-fours a pair of horizontal wales. As the height of the wall increases, the number of pairs of wales is correspondingly increased in a modular system determined by the stresses involved and the size and height of the wall.

As is well known, it is also a common practice in concrete-form work to reuse the forms as often as practicable and to salvage the material used in the forms in the best condition possible for uses elsewhere in building construction. It has been a common criticism in the past that much form lumber is damaged or destroyed in its dismantling for reuse. This is particularly true with respect to the horizontal wales since they are usually toenailed or spiked on to the concrete-forms and, when they are removed, the lumber is split and seriously damaged to such an extent that its reuse is often impossible.

An important object of this invention is the provision of a bracket for supporting a pair of wales which brackets are easily installed by unskilled labor and will rigidly hold and space a pair of wales and, at the same time, may be quickly and easily removed for reuse, as well as for reuse of the wales, without damage to the bracket, the wales, or the form stud.

Another and important object of the invention resides in providing a simply-formed unitary bracket structure that is rugged and normal even under conditions of hard use and reuse and which may be formed of relatively inexpensive material with relatively simple tools and relatively unskilled mechanical labor.

These and other objects of this invention will be more apparent from the following description taken in view of the accompanying drawings showing the preferred form of the invention and its mode of use.

In the drawings:

Figure 1 is a perspective view of a wale bracket according to my invention;

Figure 2 is a perspective view of a fragmentary portion of a concrete-form and a fragmentary showing of a pair of wales attached to said form and supported in position by means of the wale bracket of Figure 1; and

Figure 3 is a detailed vertical sectional view through a portion of a concrete-form wall and its wales showing a wale bracket in position supporting and holding the members tightly to a concrete-form.

Referring to the views of the drawings, in Figure 1 I have shown a sheet metal plate which has been formed in J-shape and comprises the wale bracket. The parts

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of the plate are indicated as follows: base wall 10 has outstanding the main flange 12 and a retaining flange 14. Flanges 12 and 14 both outstand from opposite edges of the base wall 10 in a common direction. Bearing in mind that such a bracket as is shown in Figure 1 is commonly to be used in connection with a wooden timber that is known as a "two-by-four" it will be apparent that the width of the base wall 10 is approximately one and one-half inches, that being the standard dimension for an edge of a two-by-four. For convenience sake, the length of the wall of the main flange 12 from its juncture with the base wall 10 to its opposite edge is approximately the width of a two-by-four in the range of 3½ inches.

The base wall 10 of the bracket is pierced and the V-shaped opening 16 and the sharply pointed prong 18 are formed. Prong 18 extends from the base wall and is bent inward at right angles thereto to act as a temporary anchor in the installation of the bracket upon a form stud.

The main flange 12 is punch-cut to form the outstanding arms 20 and 22 which are then bent from their original position in the flange 12 so that they are outstanding from the base wall 10 at right angles thereto. Arms 20 and 22 are substantially identical and have round noses 24 and are slightly undercut, as at 26, for a purpose later to be described. Nail holes 28, top and bottom, are also provided in the main flange 12.

In Figure 2 I have shown a fragment of a concrete-form in which there appears the upright studs 30 arranged in side-by-side relationship. To the inner common faces of the studs are attached the form boards, the same being attached by means of nails (not shown). Disposed at right angles to the studs 30 is a pair of wales 34, 36 that serve to make rigid and support the concrete-forms against their being dislodged or warped or wracked during the concrete pouring operation. The wale brackets 8 are attached to the studs 30 by being slipped over the exposed edges thereof. They are temporarily located by the installer who strikes the bracket at its base wall 10 in the neighborhood of the prong 18, which is thus caused to pierce the stud and to hold the bracket temporarily in place. The prong being flat and disposed across the grain of the stud, when it is driven into the wood it will cut grain but will not split the lumber as would be the case were the prong aligned with the wood grain. When a row of brackets 8 is thus mounted in proper alignment along the studs, a carpenter or installer will proceed to drive a pair of nails through the nail holes 28 into the side of the studs to effect the final anchor. Such a series of brackets 8 will of course provide a series of outstanding arms 20 and 22 in proper alignment. The lower wale will probably be first installed by being disposed between the arms 20 and 22 so that it rests upon the lower arm 22 in the manner disclosed in Figure 3. Its entry is facilitated by the undercut 26. Thereafter an upper wale 34 is installed or located by being placed upon the upper series of arms 20, also as shown in Figure 3. The supporting effect of the arms 20 and 22 is such that it is seldom if ever necessary to more than lightly nail the wales in place until they are finally anchored by the use of the well-known tie rods 40. Wedges 42 are driven between the outer edges of the wales and the head 44 of the tie rod to effect tightening. With but a slight degree of care an installer need not tack the wales in place since he may merely deposit them upon the supporting arms of the bracket 8 and then proceed to install his concrete-form tie rods and tightening wedges.

It should be very apparent that there are quite a few important advantages both in the design of this wale bracket from the standpoint of manufacture and from the standpoint of its use in the field. An important

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advantage in the manufacturing operation is that all of the parts of the wale bracket are formed from a single sheet of steel or other suitable material without the necessity of addition of parts as by welding, riveting, or otherwise. Also it is to be noted that all of the metal blank, from which the wale bracket is formed, is used either in forming the attaching and retaining flanges or in providing the outstanding supporting arms. It should also be quite apparent that there is a further advantage residing in the great simplicity of installation that is possible by the use of my wale bracket.

While I have shown and disclosed in this specification and the drawings a preferred form of the invention, it will be apparent to those skilled in the art that modifications and variations may be effected. All such that are within the spirit and scope of this invention as set forth in the following claim are included in this invention.

Having thus described my invention, what I claim is:

A bracket for supporting a vertically separated pair of wale timbers adjacent the faces of upright studs of a concrete-form, comprising: a J-shaped sheet metal body, including a base wall having a main flange and a retaining flange commonly directed on and extending fully along opposite edges of said base wall, the width of said base

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wall being closely proximate to the width of the normal exposed face of a common concrete-form stud and extending a substantial distance therealong, said base wall having a sharp horn struck therefrom and disposed between said main and retaining flanges, said main flange being disposed at right angles to said base wall and having in spaced relation to the upper and lower edges horizontally struck and bent therefrom a pair of arms extending on edge from the point of joinder between said base wall and said main flange at an angle approximately 90° to said base wall, said arms being vertically spaced apart to horizontally receive a wale timber member therebetween.

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