May 5, 1964 N. J. STOCKTON ETAL 3,131,453

CORNER CONSTRUCTION FOR WALL FORMS

Filed April 20, 1962

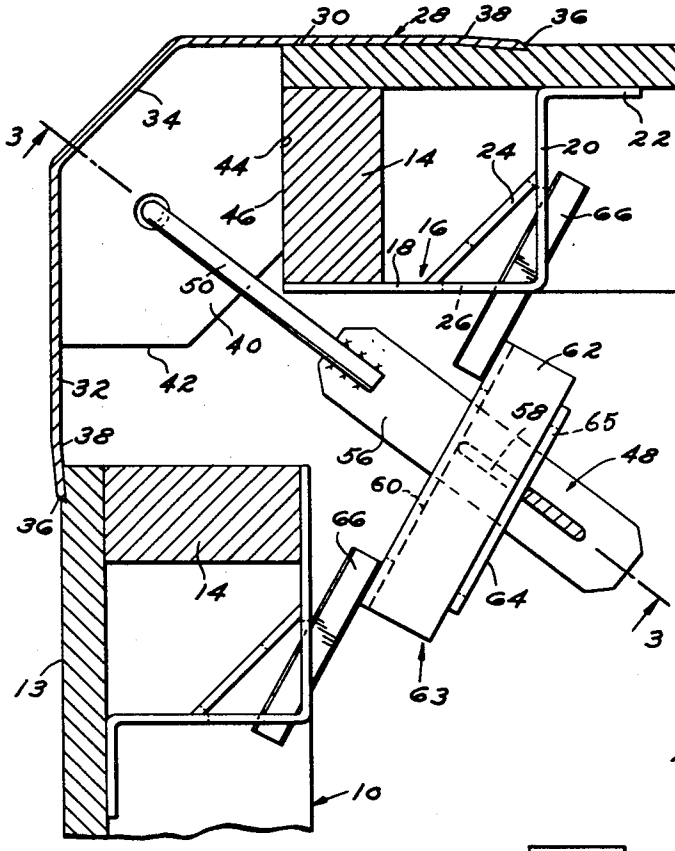


FIG. 1

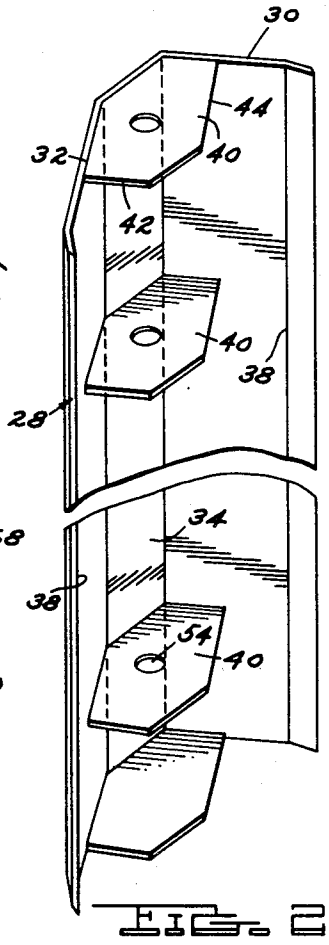


FIG. 2

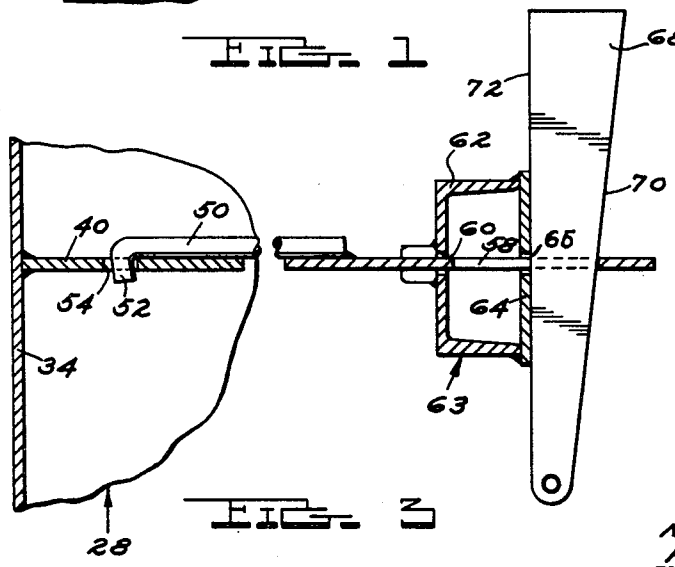


FIG. 3

INVENTORS
NORTH J. STOCKTON
FRANK G. PAULI, JR.
BY
Barnes, Kisselle, Raisch & Choate
ATTORNEYS

United States Patent Office

3,131,453

Patented May 5, 1964

3,131,453

CORNER CONSTRUCTION FOR WALL FORMS

North J. Stockton, Detroit, and Frank G. Pauli, Jr., Northville, Mich., assignors to Kwik-Lock Forms Company, Melvindale, Mich., a corporation of Michigan

Filed Apr. 20, 1962, Ser. No. 189,069
4 Claims. (Cl. 25—131)

This invention relates to a corner construction for wall forms and more particularly to a sheet metal form adapted to form the inside corner of a poured composition wall and means for securing the corner form to the adjacent wall forming sections.

In wall form arrangements such as utilized for pouring concrete basement walls and the like, the wall form sections that define the inner and outer faces of the concrete wall must be firmly secured together at the ends thereof which form the corners of the wall.

It is an object of the present invention to provide a corner construction for such wall sections which includes a sheet metal corner form and a means for adjustably and securely connecting the sheet metal corner form to the adjacent wall sections of the form.

In the drawing:

FIG. 1 is a horizontal sectional view of a corner form and clamping arrangement according to the present invention.

FIG. 2 is a perspective view of the sheet metal corner form illustrated in FIG. 1.

FIG. 3 is a sectional view taken along the line 3—3 in FIG. 1.

In the wall form arrangement illustrated in the drawing, two wall sections 10 are shown positioned perpendicularly to one another. Each wall section 10 comprises a plywood panel 12 reinforced with framing members 14 such as 2 x 4's. The smooth outer faces 13 of the wall sections 10 in the arrangement illustrated are arranged to provide the inner face of the wall being poured. It will be understood, of course, that similar forms are positioned generally parallel and spaced from the wall sections illustrated and between which the concrete is poured to form the wall. At the adjacent ends of the wall sections 10, there are mounted brackets 16. Each bracket 16 includes a first leg 18 secured to the end of the vertically extending 2 x 4 14 and a second leg 20 extending perpendicular to the plane of panel 12 and provided with a foot portion 22 which is secured to the panel 12 as by screws not illustrated. Each bracket 16 has a diagonally extending leg 24 which reinforces the bracket. The legs 18, 20 are horizontally slotted as at 26.

The corner for the wall to be poured is defined by a sheet metal form generally designated 28. Form 28 is fashioned with a pair of perpendicularly related walls 30, 32. In the arrangement illustrated, these walls are interconnected by a diagonally extending wall 34. Wall 34 simply defines the shape of the corner portion of the wall to be poured. If a curved corner is desired, then wall 34 would be in the shape of an arc tangent at its opposite ends to the walls 30, 32. Adjacent the vertical free edges 36 of walls 30, 32, a slight inward bend 38 is formed for a reason to be presently explained.

The wall form 28 is reinforced by a plurality of webs 40 on its inner side. Each web 40 is secured as by welding to the inner faces of walls 30, 32. Each web 40 has a straight edge 42 extending perpendicularly from the inner face of wall 32 and another straight edge 44 extending perpendicularly from the inner face of wall 30. In the arrangement illustrated, one wall section 10 is arranged with the outer side face 46 of the end 2 x 4 14 abutting against the vertically aligned straight edges 44 of webs 40. The outer face 13 of the panel 12 of this wall section is in generally coplanar engagement with the inner face of wall 30. The other wall section 10 has the outer face 13 of its panel 12 likewise in coplanar engagement with the inner face of wall 32 but the end 2 x 4 14 is spaced from the vertically aligned edges 42 of the webs 40. The two wall sections are shown in this manner to better illustrate the adjustability permissible with the corner form construction of this invention. The spacing between the end 2 x 4's of either or both wall sections from the edges 42, 44 of the webs 40 will depend upon the particular length of the two walls being poured which intersect to form the corner. In other words, the length of the wall being poured may be such that the end wall sections 10 may lack a few inches of extending the desired length of the wall. Thus, rather than utilizing a wall section 10 of very narrow width, the wall form 28 is fashioned with the two walls 30, 32 extending substantially beyond the edges 42, 44 of the webs 40 so that a single wall form may be employed regardless of the lengths of wall sections 10. Wall sections 10 may be provided of increasing standard widths, such as one foot, two feet and four feet.

In order to secure the two walls 30, 32 tightly against the outer faces of the panels 12 of the associated wall sections, a plurality of tie rod members 48 are provided. Each tie rod member is in the form of a rod 50 having a hooked end 52 adapted to engage with an aperture 54 in the webs 40. Rod 50 is welded or otherwise secured to a plate 56 fashioned with an elongated slot 58. Plate 56 extends through a slot 60 in a short channel section 62 of a cross brace 63. The normally open side of channel section 62 is preferably closed by a plate 64 provided with a slot 65 through which plate 56 extends. A pair of rods 66 are welded or otherwise secured to the channel section 62 so as to form axial extensions thereof. The end portions of rods 66 are arranged to engage against either one end or the other of the slots 26 in brackets 16. It will be noted that slots 60 and 65 are horizontally elongated so that the tie rod members 48 can accommodate for substantial variation in the spacing between the ends of the two wall sections 10; that is, a wide variation in the angle to which the ends 66 of brace 63 rock when they seat against brackets 16.

With the wall sections 10 arranged as illustrated, the whole assembly is securely tightened into a single unit by driving a wedge plate 68 downwardly through the slot 58 in plate 56. Wedge plate 68 has a tapered edge 70 and an opposite straight edge 72. The edge 72 bears against the plate 64 on the channel section 62 and the edge 70 bears against the outer end of slot 58 in plate 56. Thus, as the wedge plate 68 is driven downwardly, the tie rod 48 is drawn through the channel sections 62, that is, in a direction towards the right as illustrated in FIG. 3. This causes the ends 36 of the two walls sections 30, 32 to bear tightly against and seal with the outer faces of the panels 12 of the two wall sections. In this connection, the slight bends 38 extending vertically along the edges of the two walls of the corner form assist in obtaining this tight sealing engagement between the walls 32 of the corner form 28 and the outer faces of the panels 12 of the two wall sections. In the arrangement illustrated, the bends 38 and the extent to which the edges 36 penetrate into the wall panels 12 are shown exaggerated.

In assembly, the two form walls provided by sections 10 may be erected and thereafter, the corner form can be assembled therewith. Since the inner faces of walls 30, 32 slidably engage the outer faces 13 of panels 12, when the tie rods 48 are tightened, the corner form is drawn securely into position.

We claim:

1. An inside corner construction for wall forms com-

prising a pair of upright wall sections arranged in perpendicular relation with their adjacent vertical ends spaced apart, a sheet metal corner form having a pair of perpendicularly related walls which are in coplanar engagement one with the outer face of each wall section and forming a corner closing the space between said adjacent ends of the wall sections, said corner form having a plurality of vertically spaced reinforcing webs extending horizontally between the perpendicularly related walls thereof, the opposite edges of said webs terminating inwardly of the free vertical edges of the perpendicularly related walls so that the corner form can accommodate for wide variation in the spacing between the adjacent ends of the two wall sections without interference from said webs, said end of each wall section having abutment means thereon aligned horizontally with at least some of said webs, a brace extending diagonally across the corner formed by said corner form and locally engaging said abutment means adjacent its opposite ends so that the inclination of the brace in a horizontal plane relative to the perpendicularly related walls of the corner form varies in accordance with the spacing between the adjacent vertical ends of the two wall sections, said brace having a horizontally elongated slot at the central portion thereof, a tie rod member secured to one of said webs for pivotal adjustment in a horizontal plane, said tie rod member extending horizontally through the elongated

lateral dimension substantially less than the length of said slot and means interengaging the brace and tie rod member for exerting a pull on the tie rod member transversely of the brace to thereby securely clamp the adslot in said brace transversely of the brace and having a jacent ends of the two wall sections between the two walls of the corner form and the ends of said brace.

2. The combination called for in claim 1 wherein the end of at least one of said wall forms is spaced from the adjacent edge of the web.

3. The combination called for in claim 1 wherein the outer face of each wall section is slidably engaged with the inner face of the perpendicularly related walls of the wall form.

4. The combination called for in claim 1 wherein said means interengaging said brace and tie rod member comprises a wedge extending through the tie rod member and engaging the brace.

References Cited in the file of this patent

UNITED STATES PATENTS

Re. 14,807	McKay	Feb. 24, 1920
2,206,493	Whatling	July 2, 1940
2,612,243	Campbell	Sept. 30, 1952
2,789,337	Arrighini et al.	Apr. 23, 1957
2,934,180	Hammitt et al.	Apr. 26, 1960