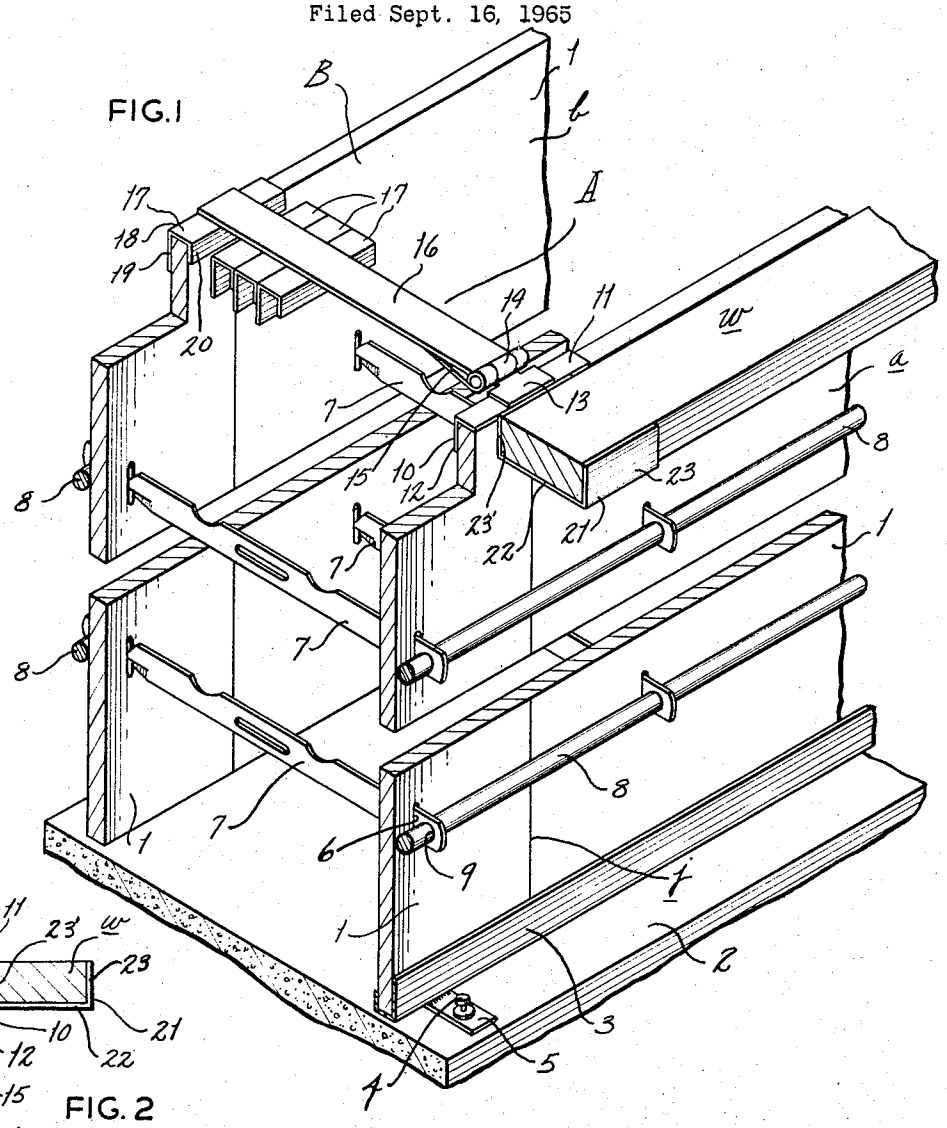
March 26, 1968 W. E. MUELLER 3,374,984

WALL FORM BRACKET

Filed Sept. 16, 1965

FIG. 1



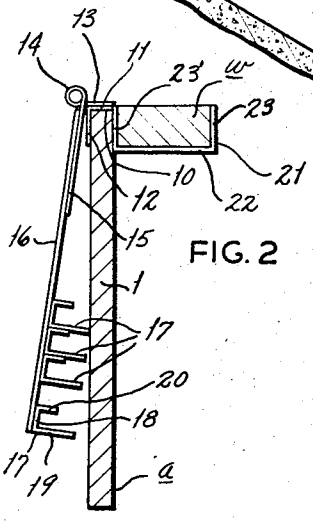


FIG. 2

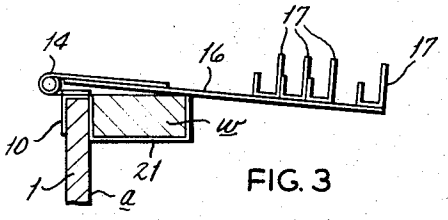
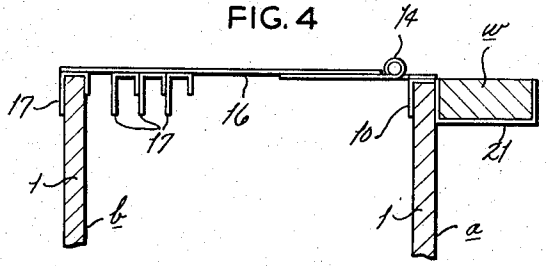


FIG. 3

FIG. 4



INVENTOR

WALTER E. MUELLER

BY Ralph W. Kalish

ATTORNEY

United States Patent Office 3,374,984 Patented Mar. 26, 1968

3,374,984

WALL FORM BRACKET

Walter E. Mueller, 1347 Coburg Lands Drive, St. Louis, Mo. 63137

Filed Sept. 16, 1965, Ser. No. 487,694
1 Claim. (Cl. 249—216)

ABSTRACT OF THE DISCLOSURE

A wall form bracket for use with a pair of spaced-apart wall form panels having a cross bar for spanning the distance between the panels, a first panel engaging member being integrally formed in one end portion of said cross arm and opening downwardly, a waler receiving portion provided adjacent said panel engaging member and opening upwardly for maintaining a waler proximate the outer surface of one of said panels, and a plurality of second panel engaging members engages to the other end portion of said cross arm for selected engagement with said other panel for accommodating the predetermined distance between the panels, and hinge means incorporated in said cross arm to render same swingable within a vertical plane.

This invention relates in general to building construction and more particularly to a bracket for utilization with forms for development of walls, as of concrete and the like.

It is an object of the present invention to provide a wall form bracket which integrally incorporated in combination a cross brace for maintaining the panels of wall form in spaced apart relationship and a waler-receiving bracket, thereby presenting an integrated compact device for supplanting the multiplicity of tools and units heretofore used for accomplishing the purposes of this invention.

It is another object of the present invention to provide a wall form bracket of the type stated which embodies means for reliably maintaining the panels of a wall form in predetermined spaced apart, planar-aligned relationship so that the said device is usable with forms for producing walls of varying thickness and which means do not necessitate positive securement to the wall form panels whereby damage to the wall forms is avoided so that the life thereof is immeasurably increased, as well as to obviate the expenditure of a workman's time and effort to effect such positive interengagement as has been the practice heretofore.

It is another object of the present invention to provide a bracket of the character stated which embodies means for supporting a waler without requiring positive securement thereto so as to allow ready interengagement.

It is a still further object of the present invention to provide a wall form bracket which may be most easily utilized by relatively unskilled personnel, which is exceedingly versatile in usage, and which is entirely safe and reliable.

It is an additional object of the present invention to provide wall form bracket which may be most economically manufactured; which incorporates a simplicity of parts, each of which is quite sturdy so as to conduce to the whole being resistent to breakage or deformation; and the utilization of which brings about substantial economies in life of material, as well as in labor costs.

Other objects and details of the invention are apparent from the following description when read in connection with the accompanying drawing wherein:

FIGURE 1 is a perspective view in partial section of a wall form in assembled relation having mounted thereon a bracket constructed in accordance with and embodying the present invention.

FIGURE 2 is an end elevational view of a wall form panel with the bracket disposed thereon for supporting a waler.

FIGURE 3 is a fragmentary vertical sectional view showing the bracket in outward position.

FIGURE 4 is a vertical sectional view showing the bracket in fully engaged relationship upon wall form panels and in supporting relationship to a waler.

Referring now by reference characters to the drawing which illustrates the preferred embodiment of the present invention, A generally designates a bracket adapted for use in the assembling and maintenance of the cooperating sections as indicated at *a*, *b* of a wall form broadly designated B for the constructional development as of walls and the like. Each section *a*, *b* is comprised of a plurality of panels **1** which are arranged in side-by-side, edge-abutting relationship with the panels of one section *a*, *b* being in opposed relationship to the panels of the other section and with the spacing therebetween being determined by the thickness of the wall to be formed.

Panels **1** are mounted upon a footing **2** upon which is disposed for reception of the lower edges of panels **1** of section *a* an upwardly opening, longitudinally extending channel **3** being fixed upon said footing **2**, as by means of fastener elements **4** such as nails, spikes or the like, projecting through mounting tabs **5** provided spacedly along said channels **3**.

Upwardly of footing **2**, each panel **1** is provided with a plurality of vertically spaced apart slots **6**; with the slots **6** in the panels of one section *a* being in registering relationship with those in the panels of the opposite section *b* for extension therethrough of conventional snap ties **7**; the ends of which project outwardly of the related panels for slidably receiving an elongated rod **8** which passes freely through apertures **9** provided in such projecting ends of said snap ties **7** as in conventional practice.

Bracket A is provided for fitted disposition upon the upper end edges of the opposed panels **1** of section *a*, *b*, for maintaining same in desired spatial relationship, preventing inadvertent relative displacement. Each bracket A incorporates an angle-shaped base portion **10** having a horizontal flange **11** for disposition upon the upper edge of one of said panels **1** and a depending or vertical flange **12** for disposition against the inner face of such related panel **1**. Fixed upon the upper surface of flange **11** of base **10**, as by welding is one leaf **13** of a hinge **14**, the cooperating leaf **15** of which is rigid with the under surface of realtively narrow, sturdy cross arm **16**. Said cross arm is adapted for swingable movement with respect to said flange **11** of base **10** when the latter is mounted upon the upper edge of panel **1** between downward position as shown in FIGURE 2, and upward and outward position as may best be seen in FIGURE 3, in which latter position it projects over the top of the supporting panel **1**.

Carried fixedly upon the under surface of cross arm **16** in its region remote from hinge **14** is a plurality of downwardly opening channel-spaced, panel-receiving members **17**. Each of said members **17** incorporates web **18** and a pair of flanges **19**, **20** of different length with the longer flange being located toward the proximate end of said cross arm **16** for facilitating panel engagement. Each of said members **17** is of such cross sectional extent as to receive the upper edge of a panel **1** of the opposite section, in this case section *b*. It is obvious that the cross section of said member **17** is predetermined based upon the thickness of the panels **1** to be accommodated. It is evident that any number of such members **17** may be utilized. However, in the present instance, four such members are shown which are related to base portion **10** so as to effect the development of walls of thicknesses of 8, 9, 10 and 12 inches. For instance, a wall panel received within the outer-most member **17** or the one most remote

from base portion **10** (as in FIGURE 1) will cause the section *a*, *b* to be 12 inches apart. By receiving the panels of section B within the next inward member **17**, the thickness of the wall to be developed would be 10 inches. The said thicknesses are the ones most commonly utilized in concrete wall constructions, but it will, of course, be appreciated that any number of such members **17** may be used with cross arm **16** being of any pre-selected length; the critical aspect being that the utilization of such member **17** assure of maintaining the opposed sections *a*, *b* in predetermined spatial relationship.

Secured as by welding to the outer edge of horizontal flange **11** of base **10**, that is the edge remote from vertical flange **12**, is an upwardly opening channel-shaped member **21** having a base flange **22** and parallel, upstanding side flanges **23**, **23'**. Said channel-shaped member **21** is adapted to receive a waler *w* for supporting same in relationship to the adjacent panels **1** for retaining same in wall-forming relationship.

In usage with the panels **1** of wall sections *a*, *b* suitably positioned upon footing **2** and with snap ties **7** properly engaged, base portion **10** of bracket A is disposed upon the upper edge of a pair of adjacent panels **1** of one wall section *a*, extending across the line of jointure *j* therebetween so as to present channel member **21** in outward relationship with respect to such panels and with vertical flange **12** abutting against the inner faces thereof. In this position cross arm **16** may be in outwardly swung condition as shown in FIGURE 3 and may then be upwardly and downwardly swung in the direction of wall section *b* so as to dispose the preselected member **17** upon the upper edges of adjacent panels **1** of such section so as to thereby conduce to the integration of the wall form B and to assure that the panels of each section *a*, *b* are in fixed predetermined spatial relationship.

It will be seen that the bracket of the present invention uniquely incorporates within a single unit a waler-receiving member, a sturdy cross arm, and means for engaging the panels of the opposite wall sections with means for selectedly adapting the wall form for use with any desired wall thickness. Bracket A may be most economically manufactured; may be made from most sturdy material so that the same is highly durable and reliable in usage; may be used by workmen with relatively undeveloped skill, but with the certainty that the resultant wall will be of appropriate thickness; and the use of which conduces to substantial economies by allowing for quick assembly and disassembly since there is completely obviated the need for physical interconnection with the wall panels such as by nailing and the like, as is currently common. The use of the present invention immeasurably adds to the life of the wall form components.

It should be understood that changes and modifications in the formation, construction, arrangement, and combination of the several parts of the wall form bracket may be made and substituted for these herein shown and described without departing from the nature and principle of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. For use with a pair of spaced-apart wall form panels as used in the construction of concrete walls and the like, a wall form bracket comprising a cross arm adapted for spanning the distance between said wall form panels, a first panel engaging member secured to said cross arm in one end portion thereof and being downwardlp opening having a flat horizontal flange for abutment upon the upper surface of the engaged panel and a depending vertical flange for abutment against the inner surface of the engaged panel, a waler receiving member disposed in immediate adjacency to said penal engaging member and having inner and outer vertical flanges connected by a horizontal web to present an upwardly opening channel of predetermined width for accommodating the received waler, said inner vertical flange of said waler receiving member being fixed to the horizontal flange of said first panel engaging member for cooperating with the vertical flange of said first panel engaged member to form a downwardly opening channel whereby said inner vertical flange of said waler receiving member on its inner surface will abut against the outer surface of the panel engaged by said first panel engaging member, a plurality of second panel engaging members mounted on said cross arm in its end portion remote from said first panel engaging member, each of said second panel engaging members having a horizontal flange fixed to said cross arm and parallel long and short vertical flanges for selectively engaging the second panel whereby said short vertical flange will be presented in abutment against the inner surface of said second panel, and hinge means provided on said cross arm proximate said first panel engaging member so that when said first panel engaging member is in engaged relationship upon a wall form panel, said cross arm may be swingable within a vertical plane for facile disposition of the selected second panel engaging member upon a wall form panel.

References Cited

UNITED STATES PATENTS

645,325	3/1900	McNamee	249—213 X
1,077,702	11/1913	Grant	249—44 X
1,224,810	5/1917	Tenholder	249—216 X
1,712,631	5/1929	Nelson	249—33
2,298,837	10/1942	Oswald	249—34
2,635,320	4/1953	Ornitz	249—34 X
3,185,433	5/1965	Mueller	249—34 X

FOREIGN PATENTS

364,613	11/1962	Switzerland.

WILLIAM J. STEPHENSON, *Primary Examiner.*