The present invention relates to clamps, and pertains more particularly to a pilaster form clamp for use in poured concrete wall construction.

In making poured concrete walls, it is customary to provide a form lined with plywood, braced vertically by external stud members which usually are of 2" x 4" lumber, and with longitudinally extending bracing members, referred to in the trade as “walers,” extending horizontally exteriorly of the stud members. Threaded clamp rods customarily are employed to connect the walers on opposite sides of the form, and thus to retain the form in position and to resist the spreading stresses imposed on the form by the pouring of the concrete therein and vibrating it therein to compact it.

In the past, it has been a somewhat difficult and awkward task to provide forms for making pilasters in such walls, since they constitute a break in the longitudinal bracing of the form structures. Also, in making pilasters which are used to join the ends of the slabs of tilt-up wall structures, it has been difficult to provide suitable framing which will insure that these pilaster forms will be properly held in place, and that the ends of adjacent tilt-up slabs will be held properly in alignment during the pouring of the pilasters.

The present invention has for its object the provision of a simple and effective pilaster form clamp which can be quickly and easily adjusted to secure together the parts of a pilaster form used in concrete wall construction, and which will not interfere with the application of the usual walers which are used to brace the forms.

A further object of the invention is to provide an improved and simplified pilaster form clamp for poured concrete wall construction. These, and other objects and advantages of the invention, will be apparent from the following description and the accompanying drawings, consisting of one sheet, wherein:

Fig. 1 is a horizontal sectional view through a portion of a tilt-up wall showing a pilaster form clamp embodying the present invention in form-securing position thereon, portions of the clamp being broken away, and portions of a pair of tilt-up wall slabs being shown.

Fig. 2 is a fragmentary sectional view taken along line 2—2 of Fig. 1.

Fig. 3 is an enlarged, perspective view of the form clamp shown in Figs. 1 and 2, portions being broken away.

Briefly, the invention comprises a form clamp A, consisting of two clamp members 10 and 11 with straight, telescopically interfitting inner channel portions 12 and 13, and angularly disposed outer jaw portions 14 and 15. In use, the jaw portions 14 and 15 are drawn inwardly to embrace the outer side of a pilaster form B.

Aligned rows of holes 17 and 18 are provided in the straight portions 12 and 13 of the clamp members 10 and 11, and are adapted to receive a nail 19 in a selected, aligned pair thereof. The nail 19 anchors the clamp members 10 and 11 against longitudinal displacement, and also attaches the clamp A to the pilaster form B.

Referring to the drawings in greater detail, the two clamp members 10 and 11 are of channel steel, the outer clamp member 10 being of slightly larger channel material than the inner member 11 so that the inner member 11 will fit snugly, but with freedom for longitudinal sliding movement, within the outer channel 10 as shown in Figs. 1, 2 and 3, and with the inner edges 10a and 11a of both members flush with each other. Flange 20 of the outer channel member 10 are approximately 3/4" in height, which is the same thickness as a conventional piece of 1/4" lumber, such as is conventionally used for making battens 21 upon which a pair of usual walers 22 bear to prevent outward displacement of the pilaster form B. Two outer form panel 23 may be of ½" plywood, and the two similar side members 24 and 25 are of 2" lumber.

In the arrangement illustrated in Figs. 1 and 2, these two side members 24 and 25 may be of 2" x 4" lumber. A pair of conventional concrete wall slabs 27 and 28 of the type used in making conventional tilt-up concrete slab wall, are shown in aligned, endwise spaced apart relation, ready to be joined by the poured concrete pilaster, not shown, which is to be poured within the space 29 enclosed between the pilaster form B, and an opposite panel 30, which may be of ½" plywood. The opposite panel 30 is braced by transverse battens 31, of 1" lumber, and a pair of walers 32. A clamp bolt C of a conventional type passes between the two pairs of waters 22 and 32, and through holes provided therefor in the panels 23 and 30 to secure the form B and the panel 30 snugly in place, and to hold the slabs 27 and 28 in alignment. The particular type of clamp bolt employed is not material to the invention, but the one illustrated is of a type well known to those conversant with the art of poured concrete wall construction.

In using the clamp A, the pilaster form side members 24 and 25 are attached to the pilaster form panel 23 by nailing, with, for example, six-penny nails 33 so that the parts may be easily separated when removing the forms. The battens 21 then are tacked in position at desired intervals, and form clamps A are interposed, also at desired intervals, between the battens. The two parts 10 and 11 of the form clamps A are drawn telescopically together to snugly embrace the side edges of the outer pilaster form panel 23, and in this position bear against the outer faces of the pilaster form side members 24 and 25.

The clamp members 10 and 11 of each clamp are secured against relative endwise displacement, and are attached to the pilaster form B by an anchor nail 19, inserted through a pair of registering holes 17 and 18 in each of the clamp members 10 and 11, and then driven into the outer form panel 23. The form panel 30 on the opposite side of the wall slabs 27 and 28 is placed in position, and is cross-braced by usual battens 31. The walers 22 and 32 are placed in position, and are subjected to suitable upward pressure toward each other by the clamp bolts C.

The form is now ready for use, and after the concrete has been poured to fill the form and compacted in the usual manner by vibration, the concrete is allowed to set and harden. After the concrete has hardened, the forms may be removed in the usual manner, the clamp portions 10 and 11 separating readily upon removal of the walers 22 and anchor nails 19.

The invention provides a simple, inexpensive and easily employed form clamp, and one which may be extended to suit various widths of pilaster forms. By providing, for example, ten aligned holes in the overlapping portions of each
of the clamp members 10 and 11, and with the holes in one clamp member, for example the member 10, spaced apart by a distance one-tenth of an inch greater than the distance separating the holes in the other clamp member 11, it is obvious that at least one pair of holes in both clamp members will be lined up for each tenth of an inch of difference in the extended length of the clamp members 10 and 11 when assembled as shown. This is, of course, based on the well known Vernier principle.

The clamps require no loose attaching or other incidentals other than the anchor nails 19, which of course are customarily carried in the pockets of the workers erecting such forms. The clamps A will withstand the abuse to which such forms are bound to receive in use, are easy and compact to store, and securely hold the pilaster form side members against distortion or spreading.

While I have illustrated and described a preferred embodiment of the present invention, it will be understood, however, that various changes and modifications may be made in the details thereof without departing from the scope of the invention as set forth in the appended claims.

Having thus described the invention, what I claim as new and desire to protect by Letters Patent is defined in the following claims.

1. A clamp for a pilaster form for a poured concrete wall, said clamp comprising a pair of co-operating clamp members, each clamp member being of steel channel material and comprising a straight central channel portion adapted to overlie the outer side of such pilaster form and an integral jaw portion at the outer end thereof at right angles thereto and adapted to engage, and to be substantially co-extensive with a side of such form, the channel portion of one clamp member being of sufficiently smaller channel material than that of the other clamp member to fit for longitudinal sliding movement therein, the exposed edges of the flanges of both channel portions being directed inwardly toward a form on which the clamp is mounted and substantially flush with each other, the base web of the interfitted portions of both channel members having a plurality of holes therein and aligned lengthwise thereof, the holes in one channel member being spaced apart by predetermined intervals, the holes in the other channel member being spaced apart by intervals slightly different than the intervals separating the holes in said one clamp member, whereby a different pair of holes in the clamp members is axially aligned to receive an anchor nail for each slight increment of relative longitudinal movement of said central, interfitted portions, and whereby, with the central portions of the clamp members overlying the outer side of a pilaster form, and the channel members drawn into maximum overlapping relation to draw the jaw portions into close, engaging relation with the sides of such form to bring a pair of the holes in said clamp members into axial alignment a single nail driven through such aligned pair of the holes anchors the clamp to the form and simultaneously anchors the jaw members against separation, thereby firmly securing such pilaster form against spreading under the stress of concrete poured therein.

2. A clamp for a pilaster form for a poured concrete wall, said clamp comprising a pair of co-operating clamp members, one of said clamp members comprising a straight central portion adapted to overlie the outer side of such pilaster form, and an integral jaw portion at the outer end of said central portion and at right angles thereto, and a pair of cooperating channel members being relatively superposed and interfitted for relatively guided, longitudinal slidable adjustment of these portions and the clamps of which they are parts, the superposed portions of both clamp members having a plurality of holes therein and aligned lengthwise thereof, the holes in one of said clamp members being spaced apart by predetermined intervals, the holes in the other of said clamp members being spaced apart by intervals slightly different than the intervals separating the holes in said one clamp member, whereby a different pair of holes in the clamp members is axially aligned to receive an anchor nail for each slight increment of relative longitudinal movement of said central, interfitted portions, and whereby, with the central portions of the clamp members in superposed, interfitted guided relation and overlying the outer side of a pilaster form, and the clamp members drawn into maximum overlapping relation to draw the jaw portions into close, engaging relation with the sides of such form to bring a pair of the holes in said clamp members into axial alignment, a single nail driven through such aligned pair of holes and into the underlying form anchors the clamp to the form and simultaneously anchors the jaw members against separation, thereby firmly securing such pilaster form against spreading under the stress of concrete poured therein.

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