Aug. 30, 1932. E. A. PODD 1,875,136

SPREADER CLAMP

Filed Oct. 4, 1929

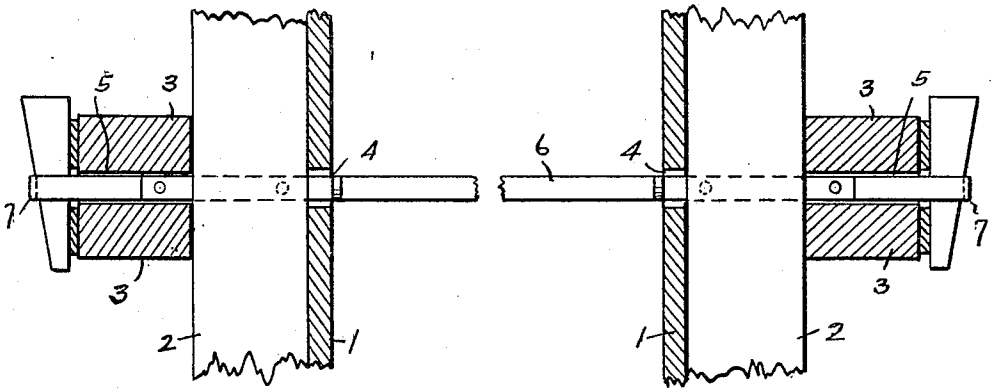

Fig. 1.

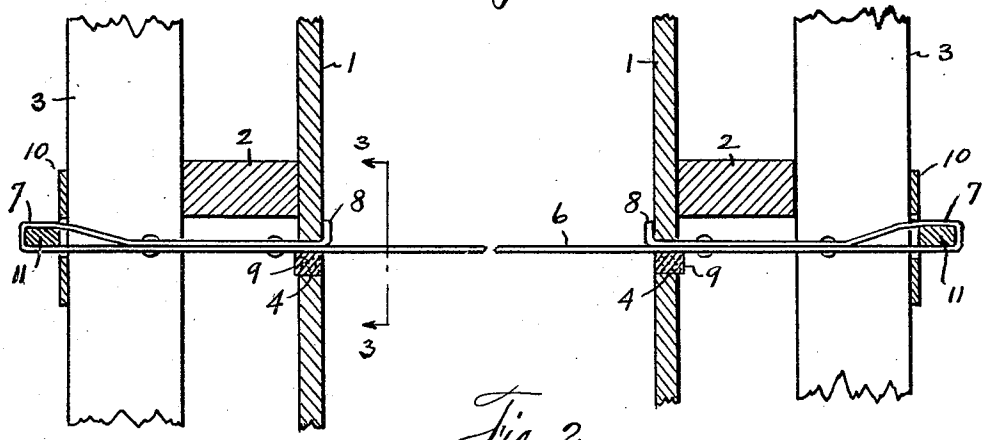

Fig. 2.

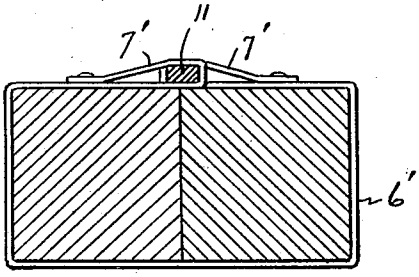

Fig. 4.

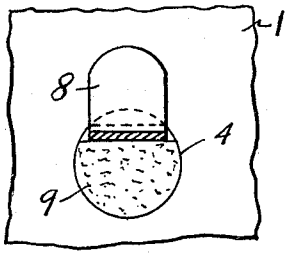

Fig. 3.

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UNITED STATES PATENT OFFICE

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SPREADER CLAMP

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This invention relates to new and useful improvements in a spreader clamp.

One object of the invention is to provide a spreader clamp of the character described specially adapted to be used in construction work for holding parts together and a particular purpose of the invention is to provide a clamp of the character described specially useful in connection with falsework, for holding the sides of concrete forms in proper position to receive the plastic concrete and hold the same until it sets and hardens sufficiently to support itself.

This type of spreader clamp is particularly useful for the purpose of maintaining in position forms for moulding concrete walls, beams, girders and the like, although it is capable of general application and use for holding parts in a desired relation in construction work.

With the above and other objects in view, the invention has particular relation to certain novel features of construction, arrangement of parts and use, an example of which is given in this specification and illustrated in the accompanying drawing wherein:—

Figure 1 shows a fragmentary vertical sectional view of a form maintained in position by the type of spreader clamp described.

Figure 2 shows a fragmentary horizontal sectional view thereof.

Figure 3 shows a cross sectional view taken on the line 3—3 of Figure 2, and

Figure 4 shows the clamp as employed in clamping together adjacent parts in general construction work.

Referring now more particularly to the drawing wherein like numerals of reference designate similar parts in each of the figures, the numerals 1, 1 designate the opposite sides of the concrete form into which the plastic concrete is to be poured and moulded. This form will have the usual bottom (not shown) to receive the poured concrete and to support the same. Abutting the outer sides of the said sides 1, 1 of the form are the vertical studding 2, 2 and against the outer sides of the studding are the horizontally disposed timbers, or waling, 3, 3 preferably arranged in pairs, the timbers of each pair being spaced apart as clearly shown in Figure 1. Adjacent the upright studding 2, 2 the side walls 1 are provided with openings as 4 which are transversely aligned and which also align with the spaces 5, 5 between the upper and lower timbers as 3, 3 as illustrated in Figures 1 and 2.

A construction in connection with which the spreader clamp may be used has been above described; a preferred form of the construction and a method of use of the spreader clamp itself will now be described and explained. The body of the clamp consists of a long strip 6 of sheet metal or band iron whose ends are doubled back and riveted or otherwise secured to the main body thereof forming the end loops 7, 7, said loops being of the required length depending upon the character of work being constructed. The main body of the clamp has two laterally turned spreader lugs 8, 8 either formed integrally therewith or welded or riveted thereto. These spreader lugs are placed a distance apart over all, equal to the thickness of the concrete beam or wall to be formed and they are located equal distances from the longitudinal central line of such beam, or wall. When the false work and the side forms 1, 1 are erected in place, the clamp 6 may be inserted through the openings 4 and spaces 5 with the loops 7, 7 extending out beyond the timbers 3 and the clamp is then forced over to one side of the openings 4 so that the lugs 8 will engage the inner sides of the side walls 1 of the form being constructed. The openings 4 are then plugged up by means of plugs 9 formed of cork or other suitable material so that the plastic material will not escape from the form. Suitable washers 10 are then fitted over the loops 7, 7 against the timbers 3 and wedges 11, 11 are then driven through the outer ends of the loops and bear against said washers 10 and serve to hold the clamp securely in place. It is to be understood that a number of clamps will be used in the construction and they will be spaced apart the required distance so as to securely sustain the load to which the form is subjected.

When the wedges 11 are driven securely in

place the lugs 8 will be drawn tightly against the inner sides of the walls 1, 1 thus spreading, and holding, the form walls the required distance apart and there holding them until the clamps are released and removed after the concrete has set.

In order to dismantle the form, the wedges 11 may be easily driven out and the false work and the form removed and the looped ends of the strip 6 broken or cut off flush with the face of the moulded beam, or wall.

In the form shown in Figure 4 the clamp 6′ is shown for securing together adjacent parts. In this form the lugs 8 will be dispensed with and the clamp may be drawn around the parts to be secured together with end loops 7′, 7′ overlapping and a wedge 11 driven through said over lapped loops to draw the clamp securely around the parts to be connected.

The drawing and description disclose what is now considered to be preferred forms of the invention by way of illustration but it is obvious that various mechanical changes and adaptations may be made in the mechanical structure without departing from the principle of the invention as broadly defined by the appended claims.

What I claim is:

1. The combination with a form and false work supporting the form, said form having side openings, of a tie member fitted through said openings, end loops on the tie, a lug on the tie spaced inwardly from each loop and of a length less than the diameter of the openings, wedges through said loops in engagement with the false work, plugs in said openings adjacent the tie and substantially closing said openings.

2. The combination with a form and false work supporting the form, said form having side openings, of a tie member fitted through said openings, end loops on the tie, wedges through said loops in engagement with the false work, plugs in said openings adjacent the tie and substantially closing said openings, and abutments on the tie engaging the inner sides of the adjacent walls of the form and being of a length less than the diameter of the openings.

3. The combination with a form having side walls provided with openings and false work having studding spaced from said side walls, of a clamp for connecting said waling and comprising a single strip of material forming a tie member, the ends of the strip being doubled back forming end loops, the doubled back portions lying against the main body of the strip and being secured thereto, the free ends of said doubled back portions being outwardly turned forming lugs of dimensions to pass through said openings, each lug being spaced inwardly an appreciable distance from the corresponding loop to engage the inner side of the corresponding side wall and keys through said loops to engage the outer sides of the waling.

4. The combination with a form having side walls provided with openings and false work for supporting side walls and having waling spaced from said side walls, of a spreader clamp for connecting said waling and comprising a single strip of material forming a tie member the ends of said strip having keyways, keys fitted through said key ways on the outer sides of the waling and forming retainers for the waling, lugs of dimensions to pass through said openings, each lug being spaced inwardly from the corresponding keyway a sufficient distance to engage the inner side of the corresponding side wall.

In testimony whereof I have signed my name to this specification.

ERNEST A. PODD.