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L. L. ANTHONY
BRACE FOR CONSTRUCTION FORMS

2,518,112

Filed Sept. 25, 1946

2 Sheets-Sheet 1

Fig. 2.

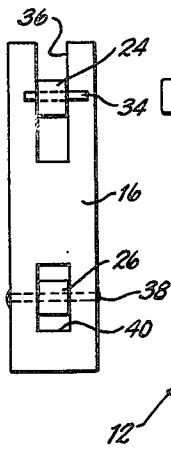


Fig. 1.

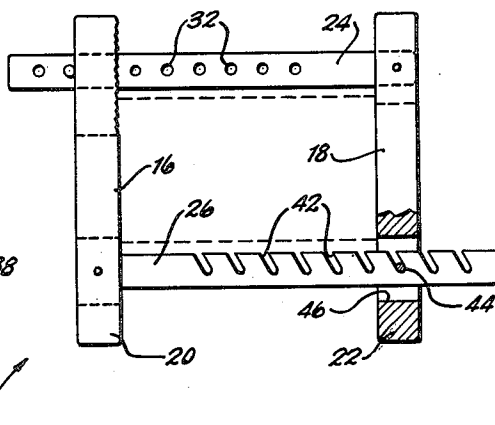


Fig. 3.

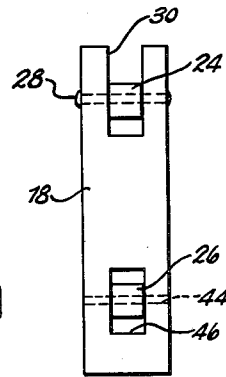


Fig. 4.

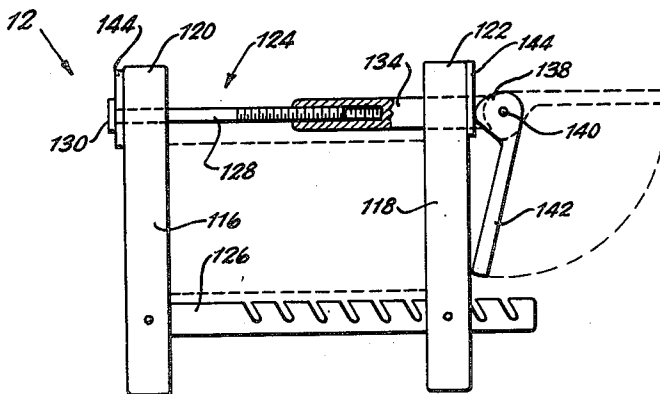


Fig. 5.

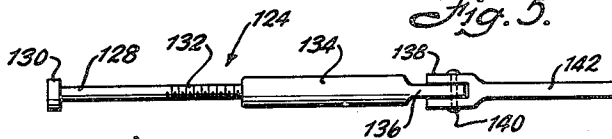


Fig. 6.

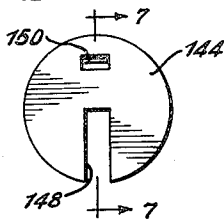
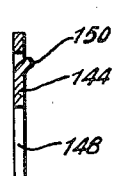


Fig. 7.



Inventor

Lucius Levi Anthony.

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

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Fig. 9.

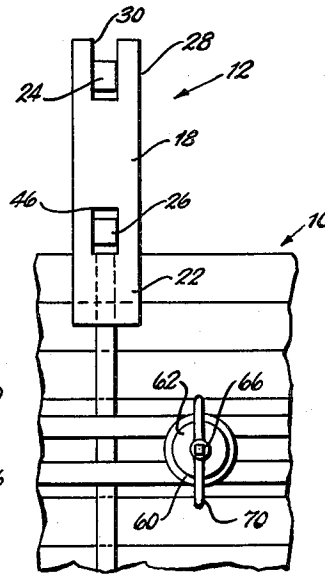


Fig. 10

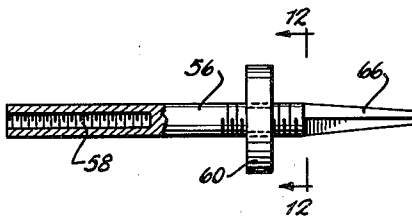


Fig. 11.

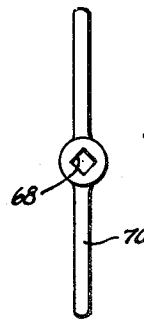
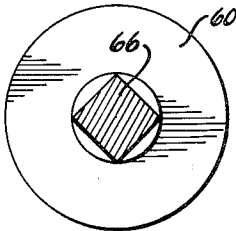


Fig. 12.



Lucius Levi Anthony

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

UNITED STATES PATENT OFFICE

2,518,112

BRACE FOR CONSTRUCTION FORMS

Lucius Levi Anthony, South Haven, Mich.

Application September 25, 1946, Serial No. 699,303

2 Claims. (Cl. 144-291)

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This invention pertains to a form holder and more particularly relates to a clamp and brace for reinforcing construction forms and the like.

An object of the invention consists in the provision of a means for reinforcing the construction form, which is easily attached to and removed from the end portions of the form.

Another object is to provide a reinforcing means for a construction form which may be readily passed through and secured to a concrete form.

These together with numerous other objects of the invention, which will later become apparent as the following description proceeds, are attained by my device, which has been illustrated by way of example only in the accompanying drawings;

Figure 1 is an elevation of a clamp forming an element of the invention;

Figure 2 is an end elevation at the left of Figure 1;

Figure 3 is an end elevation at the right of Figure 1;

Figure 4 is an elevation of a modified clamp forming an element of the invention;

Figure 5 is an elevation of a reinforcing bolt forming an element of the device;

Figure 6 is a front elevation, and

Figure 7 is a side elevation of a washer forming a part of the invention;

Figure 8 is a front elevation showing the elements of my invention applied to a construction form;

Figure 9 is an end view of Figure 8;

Figure 10 is an elevation of a portion of an element employed in Figure 8;

Figure 11 is an elevation of a tool designed for use with the element shown in Figure 10, and

Figure 12 is a vertical sectional view taken substantially upon the line 12-12 of Figure 10.

In the attached drawings, 10 denotes generally a construction form, of conventional design such as customarily is employed in concrete work, to which my invention is adapted. As indicated generally at 12, I provide an adjustable clamp to reinforce the edges of the form, while a plurality of adjustable reinforcing means, one of which is shown at 14, extends through the opposed walls of the form.

As shown best in Figures 1-4, the clamp 12 is composed of a pair of spaced, parallel arms 16, 18, of any desired material such as wood or steel, and have depending extremities 20 and 22 for engaging or embracing the edges of a form 10. Adjustably connecting arms 16, 18, are a pair of

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parallel, transverse, spacing bars 24 and 26. By reference to Figures 2 and 3, it will be understood that bar 24 is pivoted as at 28 in a notched or bifurcation 30 at an extremity of arm 18 while the opposite termination of bar 24 has a series of apertures 32 selectively engageable upon a pin 34 which is adapted to abut the arm 16 as the bar 24 rests in a yoke or notch 36 therein. The bar 26, fulcrumed at 38 in an aperture or slot 40 at one end of arm 16, has at its other extremity a series of spaced inclined notches 42, adjustably engageable with a pin 44 in aperture 46 at an end of arm 18.

The operation of this element of my invention will now be apparent, when taken with Figures 8 and 9. The pin 34, disposed in a selected aperture 32 is caused to straddle the yoke or notch 36 which receives bar 24. Then the extremities 20, 22 are placed in position to embrace the form 10 and the bar 26 pivoted at 38 is drawn through the aperture 46 until an appropriate notch 42 engages the pin 44, thereby locking the clamp in the desired tightness upon the form. The pivotal connection and slotted passages give sufficient flexibility to permit easy adjustment of the clamp or its complete disassembly for storage or transportation.

The above set forth construction represents a very simple and inexpensive type of clamp. Alternatively, I may employ a slightly more refined construction, shown in Figure 4. Here, arms 116 and 118 and cross bar 126 are identical with members 16, 18 and 26 of Figure 1, both as to construction and function. However, in place of bar 24, I employ an adjusting means indicated generally at 124. As shown in Figure 5, this member consists of a rod 128, headed as at 130 and threaded at 132 to adjustably receive a telescopic threaded sleeve 134 having a neck 136 to which is fulcrumed a cam 138 at 140, said cam having an operating handle 142. The member 124 is intended to be received through bifurcations or apertures in the ends of arms 116, 118, these being similar to the notches 30 or slots 46 of Figure 3. To retain the bar 124 in position, a pair of fastening plates 144, shown in Figures 6 and 7, are employed. Each consists of a plate of metal preferably circular, having a radial slot 148 adapted to receive and straddle the rod 128 or neck 136, while one side of the disk 144 has a depending lug 150 struck therefrom. The disk is adapted to be placed against the outer surface of arms 116 and 118 with the lug 150 anchoring the disk to the arms, while the slots 148 encircle the appropriate parts of members 128 and

136. The head 130 and cam 138 seats upon the walls surrounding slots 148, whereby the disks serve as pressure plates. In this form, the slotted extremities 120, 122 serve to embrace the form 10 and cam 138 constitutes the clamp locking means. This arrangement has the advantage of quicker and easier clamping and releasing action as well as more durable wearing surfaces.

By means of either of the elements described hereinbefore, the edges of the form 10 may be clamped against spreading. However, the element shown in Figures 10-12 is desired to reinforce the form at desirable points throughout its extent. This member consists of a bar 50 having at one end a flange 52 conveniently secured thereto as by a nut or shoulder 54, while the other end engages a tubular sleeve 56 internally threaded at 58 and provided with a collar or washer 60 adjustably secured as by a nut or shoulder 62. Spacing sleeves 64 are interposed between the flanges 52, 62 and the corresponding, adjacent outer walls of form 10 through which member 50 is passed. As shown at 66, member 56 has a tapered extremity which is of square cross section and is engageable by the socket 68 of a two handled wrench 70 for purposes of adjusting the compression force applied to the form by the bar.

As will be readily understood, this latter element will be inserted at all locations in a form requiring reinforcement, one such installation being indicated in Figure 8.

When used in conjunction with the clamp in Figure 1 or Figure 4, the reinforcing bar produces an adequate brace means for forms or the like.

It is to be understood that the drawings are illustrative only and that I may avail myself of any modifications falling within the scope of the appended claims.

I claim as my invention:

1. A brace for construction forms comprising a pair of parallel spaced arms having extremities

adapted to embrace the walls of a construction form, a pair of parallel bars consisting of a spacing bar and a fastening bar, said spacing bar having one end loosely secured in an aperture in one of said pairs of arms and having its other extremity adjustably secured in an aperture in the other of said pair of arms, said fastening bar having one extremity pivoted to the other extremity of said one of said pair of arms and having its other extremity adjustably secured in an aperture in the other extremity of said other of said pair of arms, said spacing bar comprising a telescopic threaded sleeve adjustably receiving a threaded rod therein, a cam and lever pivoted to one end of said sleeve, and retaining plates between an enlarged end of said threaded rod and said one arm and between said cam and the other of said arms.

2. The combination of claim 1 wherein said retaining plates include radial slots therein and depending lugs struck therefrom.

LUCIUS LEVI ANTHONY.

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