

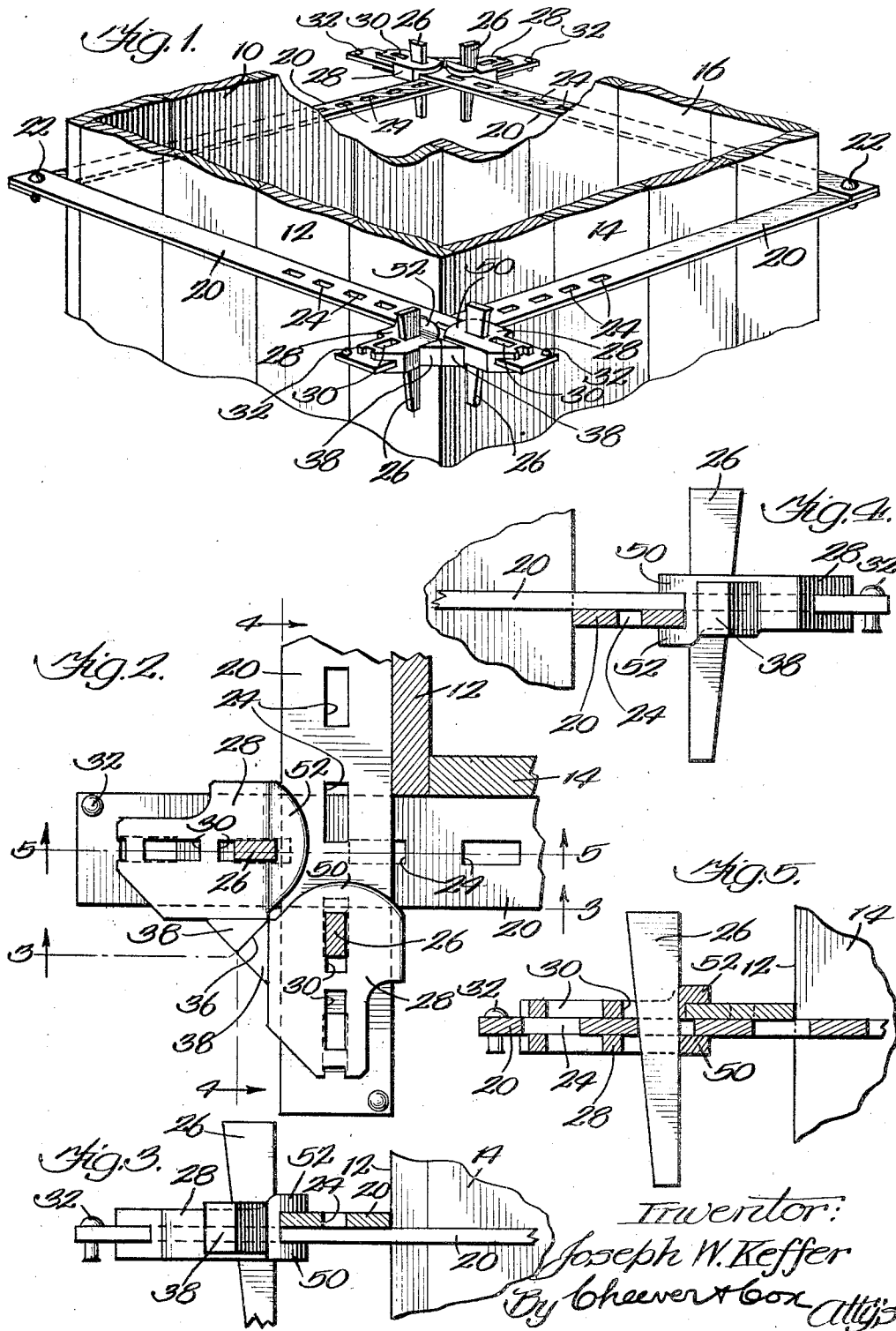
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TIMBER CLAMP FOR CONCRETE CONSTRUCTION

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TIMBER CLAMP FOR CONCRETE CONSTRUCTION.

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This invention relates to clamps for squaring up columns made of separable sides, especially such columns employed in concrete construction.

5 The object of the invention is to provide a clamp which is very rapid in action and which will square such columns as accurately as required for the work in hand without the use of external tools.

10 The invention consists in mechanism capable of attaining the foregoing and other objects; which can be easily and cheaply made; which is highly efficient in operation and is not readily liable to get out of order.

15 More particularly the invention consists in numerous features and details of construction which will be hereafter more fully set forth in the specification and claims.

Referring to the drawings, in which like
20 numerals represent the same parts throughout the several views:

Figure 1 is a perspective view of a column used in concrete work being squared by the mechanism of this invention.

Figure 2 is a plan view at approximately the front center of Figure 1 of the squaring mechanism proper, certain parts being shown in section.

Figure 3 is a side, detail view on the irregular line 3—3 of Figure 2.

Figure 4 is a side detail view on the irregular line 4—4 of Figure 2.

Figure 5 is a central, sectional detail view on the line 5—5 of Figure 2.

In the column which is to be squared, shown in Figure 1, there are four wooden sides 10—12—14 and 16 placed in the form of a conventional rectangle whose corners are to be squared by the mechanism of this invention. The mechanism for accomplishing this purpose consists in four substantially identical metal bars 20, arranged in pairs, the bars of each pair being pivotally connected together by bolts or rivets 22, such pivotal connections being at two opposite diagonal corners of the column to be squared, as clearly shown in Figure 1.

Each bar 20 at its free end away from its pivotal connection 22 is provided with a multiplicity of wedge receiving perforations 24, adapted to be entered by some one of a number of substantially identical wedges 26, provided for use in the mechanism.

Slidably freely along the end of each bar 20 which is away from pivot 22, viz: the free end of the bar and over the perforations

24, is a block, specifically a metal casting 28, provided with a multiplicity of wedge receiving perforations 30 adapted to receive one of the wedges 26 heretofore referred to. Each block 28 is retained upon its particular bar 20 by an end stop rivet 32 which prevents the block from sliding off from the free end of the bar.

The wedge receiving perforations 24 in a given bar 20 are spaced apart, one from another, distances which are different from the spaces between the wedge receiving perforations 30 in the block belonging to that particular bar, see, for instance, Figures 2 and 5, with the result that in that position of the block 28 along its bar 20, there is always one combination of two holes 24 and 30 through which the operator can insert a wedge 26 and on driving the wedge down, secure immediately movement of the block with reference to the bar. The holes just referred to are also so arranged that on inserting a wedge in one pair of holes and driving it down a short distance, the next adjacent pair of holes 24—30 can be brought into sufficient register so that another wedge 26 can be inserted and put into action after which the first inserted wedge can be removed.

In the operation of the device, two pairs of bars 20 are arranged around the column to be squared, as shown in Figure 1, with their respective blocks 28 engaging each other along the preferably 45° mitered surfaces 36 formed on lugs 38 extending from adjacent blocks for the purpose of carrying these inner engaging mitered surfaces. The result of the construction just described is that when the parts are assembled as shown in Figure 1, the wedges are applied and manipulated as indicated in connection with the blocks 20 at a given corner where there are two overlapping free ends of bars 20, until such time as the mitered surfaces 36 of the two adjacent blocks 28 contact along the entire mitered surfaces and the blocks are in the position shown in Figure 2, when that particular corner of the column will be squared, i. e., assuming that the work is being done at the front of the column as shown in Figure 1, faces 12 and 14 of the column will be at right angles to each other.

Until the mitered surfaces 36 are brought into contact as described, the operator manipulates the wedge on one bar 20 or the other bar 20 as he sees is necessary in order

to accomplish the desired result of bringing the two abutting mitered surfaces 26 into engagement with each other for the purposes described.

By virtue of the fact that at least one wedge can always be inserted in some combination of holes 24—30 in every position of a given block 28 on its bar 20 and that if a comparatively long movement of the block 28 on its bar 20 is required before squaring is effected, a second wedge can be inserted in the adjacent combination of perforations 24—30 in that block and bar, the operator can on assembling the bars 20 around a column bring the column to squared condition much more rapidly than has been possible with prior devices and the contacting of the mitered surfaces 36 throughout their length instantly advises the operator when the result is desired, thus increasing the rapidity of completing the work of squaring the column.

Each block 28 is provided with means, specifically ears 50 and 52 overlapping the respective bars 20 with which it contacts so that the bars 20 intersecting adjacent to it are prevented from moving vertically away from each other.

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

1. In mechanism of the class described, a pair of elongated members intersecting each other, engageable with sides of a column to be adjusted, a block slidable on each of said intersecting members, engageable with the other block on a surface angular to the lengths of the intersecting members and means independently forcing each block along its intersecting member until said blocks engage along their surface of contact with resulting positioning of the column sides.

2. In mechanism of the class described, a pair of elongated members intersecting each other, engageable with sides of a column to be adjusted, a block slidable on each of said intersecting members, engageable with the other block on a surface angular to the lengths of the intersecting members, and a wedge independently forcing each block along its intersecting member until said blocks engage along their surface of contact with resulting positioning of the column sides.

3. In mechanism of the class described, a pair of elongated members intersecting each other, engageable with sides of a column to be adjusted, a block slidable on each of

said intersecting members, engageable with the other block on a surface angular to the lengths of the intersecting members, and a wedge passing through selected combinations of perforations provided for it in the adjacent block and intersecting member, independently forcing each block along its intersecting member until said blocks engage along their surface of contact with resulting positioning of the column sides.

4. In mechanism of the class described, a pair of elongated members intersecting each other, engageable with sides of a column to be adjusted, a block slidable on each of said intersecting members, engageable with the other block on a surface angular to the lengths of the intersecting members, and a wedge passing through selected combinations of perforations provided for it in the adjacent block and intersecting member, independently forcing each block along its intersecting member until said blocks engage along their surface of contact with resulting positioning of the column sides, the perforations in each block and intersecting member being so spaced that a wedge can always be instantly inserted through the block and intersecting member.

5. In mechanism of the class described, a pair of elongated members intersecting each other, engageable with sides of a column to be adjusted, a block slidable on each of said intersecting members, engageable with the other block on a surface angular to the lengths of the intersecting members, means independently forcing each block along its intersecting member until said blocks engage along their surface of contact with resulting positioning of the column sides, and means on one of the blocks overlapping both intersecting members, preventing their separation.

6. In mechanism of the class described, a pair of elongated members intersecting each other, engageable with sides of a column to be adjusted, a block slidable on each of said intersecting members, engageable with the other block on a surface angular to the lengths of the intersecting members, means independently forcing each block along its intersecting member until said blocks engage along their surface of contact with resulting positioning of the column sides, and ears on one of the blocks overlapping both intersecting members, preventing their separation.

In witness whereof, I have hereunto subscribed my name.

JOSEPH W. KEFFER.