March 31, 1925. 1,531,635

W. E. WHITE

CONCRETE BAR SPACER

Original Filed April 1. 1920

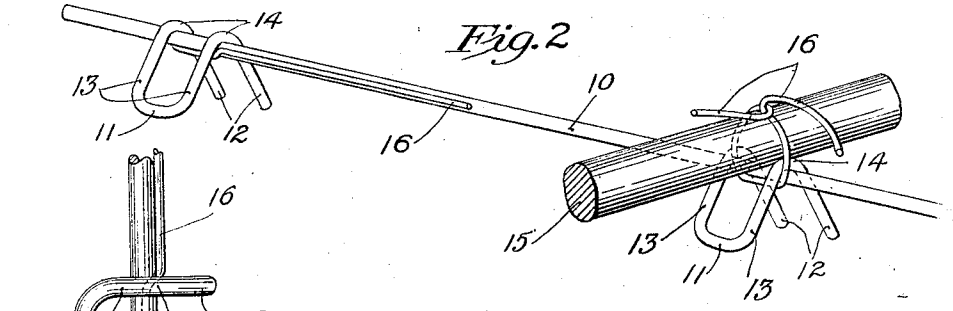


Fig. 2

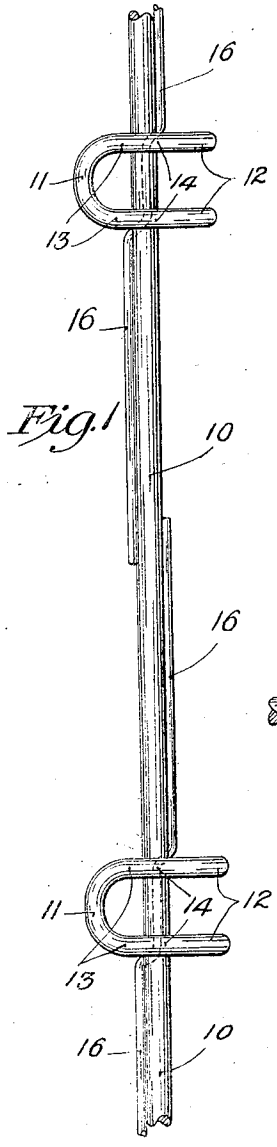


Fig. 1

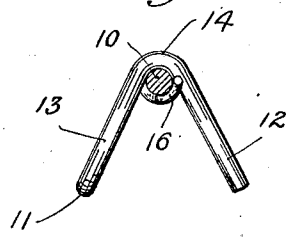


Fig. 4

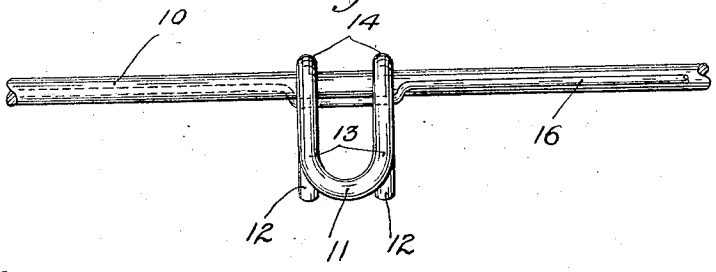


Fig. 3

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UNITED STATES PATENT OFFICE.

WILLIAM E. WHITE, OF CHICAGO, ILLINOIS.

CONCRETE BAR SPACER.

Application filed April 1, 1920, Serial No. 370,453. Renewed September 5, 1924.

To all whom it may concern:

Be it known that I, WILLIAM E. WHITE, a citizen of the United States, and resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Concrete Bar Spacer, of which the following is a specification.

My invention relates to concrete reinforcing means and particularly to a novel spacing device for use in connection therewith.

Inasmuch as the means employed for suitably holding the reinforcing elements in spaced relation, prior to and during the pouring and the tamping of the plastic material, make no contribution to the strength of the mass it is desirable to reduce the cost thereof to a minimum consistent with efficiency in operation and ease of handling and installation. To that end I have devised a spacer which for simplicity and economy in original cost cannot be equalled; it is composed of a minimum number of parts, can be manufactured very cheaply, may be readily bundled for shipment and installed by unskilled labor without the use of special tools.

The fundamental idea sought to be protected herein is that of utilizing a single, continuous length or strand of relatively stiff wire, and securing chairs thereto at intervals by spot welding, the chairs being likewise composed of short lengths of wire bent into V-shape, the weld being made at the junction of the strand with the apex of the V-shaped chairs. Metal in the form of wire is produced very cheaply, is readily available and, when properly disposed, provides the greatest strength for any given unit of material. Thus it will be seen that a spacing device constructed as herein described is efficient in use and economical in cost.

The invention will be more readily understood by reference to the accompanying drawing wherein:

Fig. 1 is a plan view of a section of a spacer constructed in accordance with my invention;

Fig. 2 is a perspective view showing the manner of use;

Fig. 3 is a side view; and,

Fig. 4 is a sectional end view.

In the drawings it will be seen that I utilize a single continuous length of wire 10 which may be of such gauge and stiffness as to enable the handling of required lengths without excessive bending or kinking. Associated with the continuous length of wire are chairs each of which may be composed of a short length of wire doubled on itself to form a U-shaped loop, the legs of which are transversely bent to form a pair of parallel V-shaped members, joined by the bend 11, thereby providing separate legs 12—12 and legs 13, connected by the curved section 11. The terminal points of the legs 12 will be relatively sharp and assure a firm footing when engaged with a wooden form. These chairs may very readily be formed in an automatic machine, and the variations in order to accommodate different specifications will be few. The principal variation is in the spacing of the reinforcing bars and this is controlled by varying the point at which the chairs are secured to the continuous wire.

The longitudinal wire 10 and the chairs will be joined preferably by electric welding at the junction of the wire with the apex 14 of the V-shaped members constituting the chair. The space between the adjacent members will act as a seat for a reinforcing bar of either square or round cross-section, a bar 15, of round section, being shown in Fig. 2. In the construction shown the continuous wire 10 is located beneath the bend 14 in the chair member and firmly held in that position by welding. It will be readily apparent, however, that this may be varied to the extent of locating the wire in a recess above the chair and equally advantageous results secured. In any event a spacing device of relatively great strength and rigidity is formed and at a minimum expense. Furthermore, it is apparent that one of the reasons for the economy in the cost of production is in that there is no waste of metal, each unit of metal being utilized to its fullest capacity in the construction shown.

A tie wire, such as indicated at 16, may be welded to the lower surface of the wire 10, its middle portion being directly beneath the apex of the chair, while its ends are oppositely laterally deflected, as best shown in Fig. 1. When used to attach a bar, the ends are bent around the bar and twisted together as shown in Fig. 2.

Obviously it is unnecessary to follow the exact construction shown and described in order to secure good results and I do not wish to be limited except as indicated in the appended claims.

I claim:

1. In concrete reinforcement, the combi-

nation of a length of wire adapted to extend transversely of reinforcing bars, and chairs welded to said wire at intervals, said chairs being composed of a loop of wire, the loop being bent transversely at its middle portion into V-shape, substantially as described.

2. In concrete reinforcement, the combination of a continuous spacing member, and chairs associated therewith, said chairs being composed of a length of wire bent into a loop, the loop being then bent into V-shape, the spacing member being welded thereto at the apex of the V, substantially as described.

3. In a device of the class described, the combination of a spacing member and chairs associated therewith, said chairs being composed of a length of wire bent into U-shape, the two legs being then bent transversely to form two parallel V-shaped members connected at one end, the chairs being welded to the spacing member, substantially as described.

4. A bar spacing device composed of a continuous length of wire, and a separately formed chair composed of two sections of wire bent into inverted V-shape the sections being spaced apart, the length of wire being located beneath the sections of wire at the bend therein and welded thereto, the space between the chair wires being such as to form a seat for a reinforcing bar, substantially as described.

Signed at Chicago, Illinois, this 29th day of March, 1920.

WILLIAM E. WHITE.

Witness:
T. D. BUTLER.