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REINFORCING MEANS FOR CONCRETE STRUCTURES.
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981,516.

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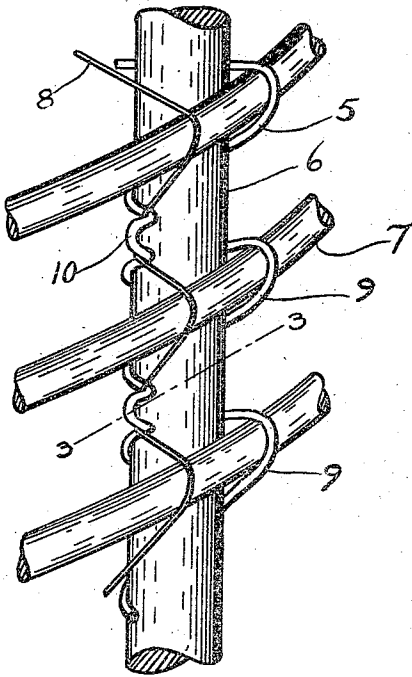


FIG. 1.

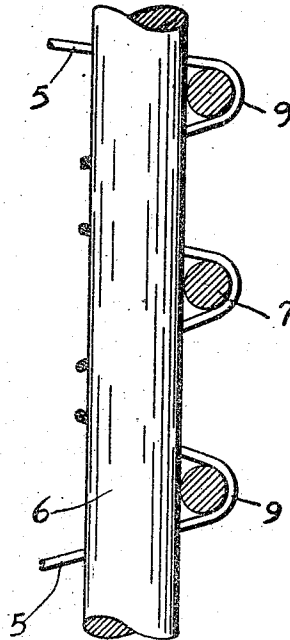


FIG. 2.

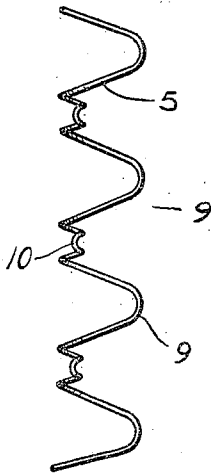


FIG. 4.

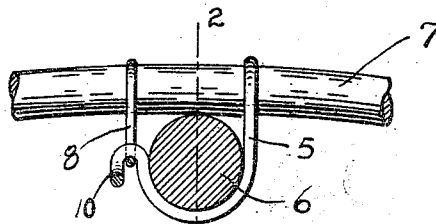


FIG. 3.

Inventor

Witnesses

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REINFORCING MEANS FOR CONCRETE STRUCTURES.

981,516.

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To all whom it may concern:

Be it known that I, ROBERT ANDERSON, a citizen of the United States of America, and resident of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Reinforcing Means for Concrete Structures, of which the following is a specification.

This invention relates to concrete structures, and more particularly to reinforcing means for such structures.

An object of this invention is to produce reinforcing means for concrete structures, which consist of crossing members and a simple mechanical means for positively locking the members together.

A further object is to produce a new and improved mechanical means for locking one system of members to a crossing member, and for spacing and positioning the individual members of the system along the crossing member.

These and other objects I attain in a device embodying the features herein described and illustrated.

In the drawings accompanying this application and forming a part thereof, Figure 1 is a perspective view of a portion of a vertical reinforcing member for a concrete column, in connection with portions of crossing members, spaced along and locked in place on the vertical member by means of a locking device, which forms an embodiment of my invention. Fig. 2 is a sectional view along the line 2—2 of Fig. 3. Fig. 3 is a sectional view along the line 3—3 of Fig. 1. Fig. 4 is a side elevation, showing a wire, which forms a detail of my invention.

The apparatus illustrated as embodying my invention consists of a locking and spacing wire 5, bent to engage a member 6 and a number of crossing members 7, and an interlacing wire 8, which secures the wire 5 in place.

The wire 5 may be of any desired thickness and is formed by bending a suitable wire into a series of flat loops of equal length which are again bent to encircle the member 6, so that alternate loops 9 engage the members 7. The intermediate loops are bent to form hooks 10, which are adapted to engage the lacing wire 8 and to cooperate with it in locking the wire 5 in place. The

distance between the loops 9 may be varied in accordance with the desired spacing of the crossing members 7, along the main member 6. The curvature of the loops may also be varied to fit different sizes and shapes of crossing members 7, and the curvature between the ends of the loops and the hooks may be varied to fit different sizes and shapes of main members 6. After the locking wire 9 is in engagement with the members 7 and the members 6, the wire 8 is laced over the hooks 10 and the crossing members 7 and drawn tight, so as to hold the members 7 firmly in place on the main member. After the wire is drawn tight, the hooks 10 may be bent forward to increase its tension and to thereby hold the members 7 more firmly. It will be apparent that the locking wire 9 can be hooked in place on the crossing members 7 and around the main member 6, after they are in place, and that the lacing wire can then be secured in place. For this reason this construction especially adapts itself to columns, in which the main or vertical members are located inside of the spiral member, which forms the crossing members 7.

My invention may also be employed in connection with the reinforcing members of girders, beams or walls, or in any construction which employs crossing members.

While I have described my invention as relating to reinforcing means for concrete construction, it is apparent that it may be employed wherever it is necessary to positively lock one series of crossing members to a main member. It will also be apparent that an embodiment of my invention may be employed with various shapes, sizes and forms of crossing members.

What I claim is:

1. In combination with a main member and a plurality of crossing members, a continuous and adjustable locking and spacing wire extending along said main member and engaging said main member and said crossing members, and a lacing wire for securing said locking and spacing wire in place.

2. In combination with a main member and a plurality of crossing members, a locking and spacing wire extending along said main member and engaging said main member and said crossing members, and a lac-

ing wire engaging said locking and spacing wire and said crossing members for securing said locking and spacing wire in place.

3. In combination with a main member and crossing members, a locking wire looped to engage said crossing members and to partially encircle said main member, and a means for securing said wire in place.

4. In combination with a main member and crossing members, a locking wire looped to engage said crossing members and to partially encircle said main member, and a lacing wire for engaging said crossing members and securing said locking wire in place.

5. In combination with a main member and a plurality of crossing members, a locking wire looped to engage said crossing members and to partially encircle said main member and provided with a plurality of

hooks, and a lacing wire adapted to engage said crossing members and said hooks to secure said locking wire in place.

6. In combination with a main reinforcing member for concrete structures, a plurality of crossing members, a locking wire looped to partially encircle said crossing members and to engage said main member, and provided with hooks located between the crossing members, and a lacing wire extending longitudinally of said main member and engaging said hooks and said crossing members to secure said locking wire in place.

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