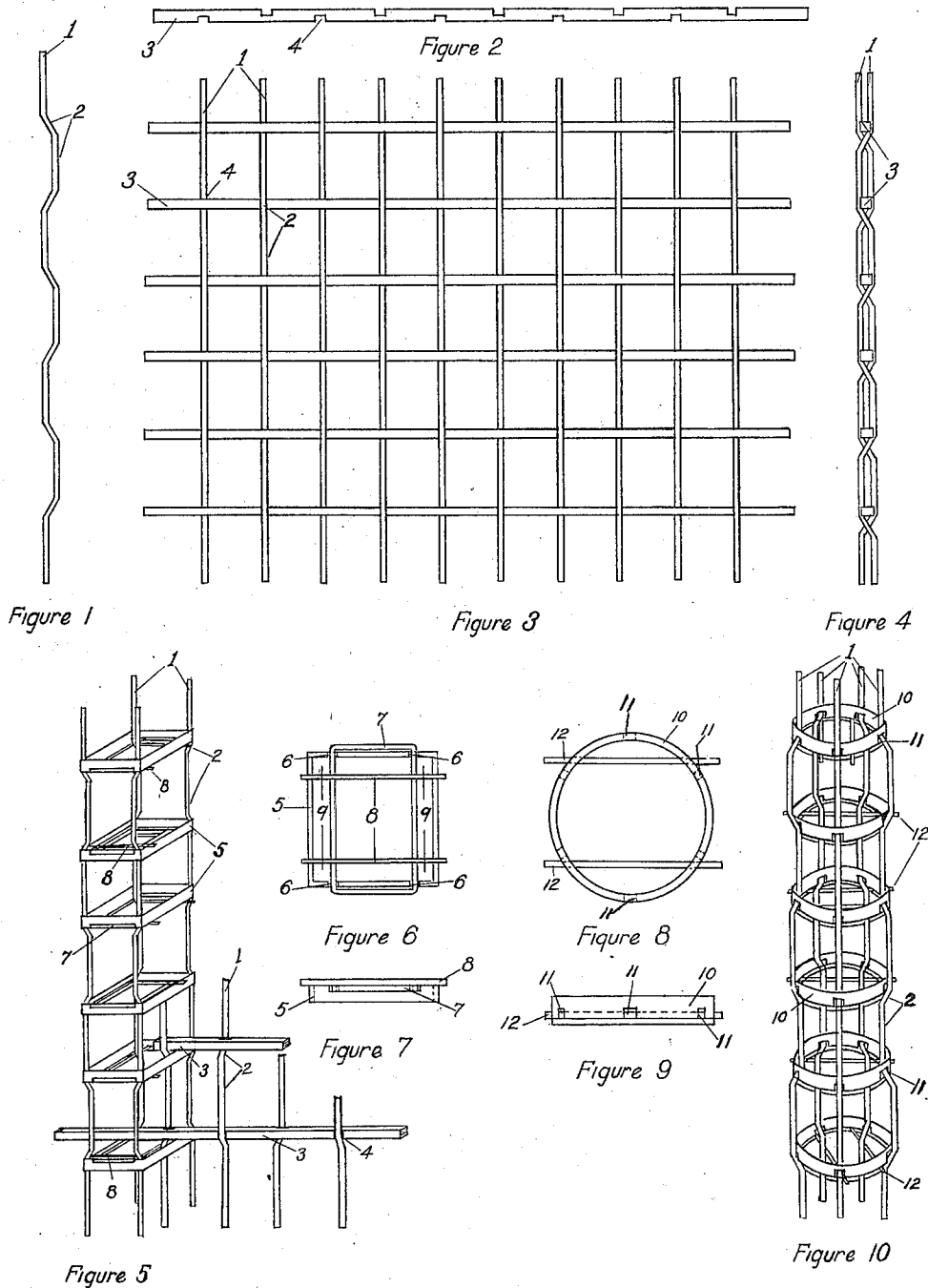


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 INTERLOCKING REINFORCING BAR FOR CONCRETE CONSTRUCTION.
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MORRIS C. HARRIS, OF SAN JOSE, CALIFORNIA.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MORRIS C. HARRIS, a citizen of the United States, residing at San Jose, in the county of Santa Clara and State of California, have invented certain new and useful Improvements in Interlocking Reinforcing Bars for Concrete Construction, of which the following is a specification.

My invention relates to improvements in interlacing and interlocking bars or rods for reinforced concrete construction, and the objects of my invention are:

1. To provide bars or rods for reinforced concrete construction that will interlace and lattice with each other forming a trussed net-work of bars that interlock at the points of contact, and in which all the members forming said trussed net-work are mechanically joined and held together without wiring.

2. To provide bars or rods for reinforced concrete construction in which the axis of each transverse bar is alternately shifted from side to side of a wall or floor, for the purpose of trussing and strengthening the reinforce, and to increase the reinforcing area and reinforcing radius of said bars.

3. To provide bars or rods for reinforced concrete construction that will give the maximum amount of reinforcing strength with a minimum amount of weight of metal, and which said bars can be erected into a reinforced fabric in the shortest time with a minimum amount of labor.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention, and the merits thereof, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side view of my interlacing and interlocking offset truss bar.

Fig. 2 is a plan view of my interlacing and interlocking notched locking bar.

Fig. 3 is a front view of an interlaced and

interlocked trussed net work, formed of bars 1 and 2.

Fig. 4 is an end view of Fig. 3.

Fig. 5 is a perspective view of a square column or buttress formed or constructed with bars shown in Fig. 1 and interlocking column supports shown in Fig. 6, with interlocking lattice formation connected to and interlocking therewith.

Fig. 6 is a plan view of interlocking column supports for holding and supporting bars shown in Fig. 1 in place and position in square column or buttress construction.

Fig. 7 is an end view of Fig. 6.

Fig. 8 is a plan view of interlocking column supports for holding and supporting bars shown in Fig. 1 in place and position in round column or pilaster construction.

Fig. 9 is a side view of Fig. 8.

Fig. 10 is a perspective view of a round column or pilaster formed or constructed with bars shown in Fig. 1 and interlocking round column supports shown in Figs. 8 and 9.

Corresponding and like parts are referred to in the following description and indicated in all views of the drawings by the same numerals.

My improved interlacing and interlocking bars for reinforced concrete construction, forming the subject matter of the present invention, comprise a plurality of offset truss bars, 1, the same being of any size and length required, and may be round or square, or any other shape; said bars being formed or offset into a series of oppositely disposed, uniform, relatively parallel parts, or planes, connected by uniform prolongations or projections of said bar from right to left and left to right, by uniform bends and angles, forming inclined connections, as shown at 2 in Fig. 1. A plurality of the bars 1 are positioned in line, a distance apart, the offset planes of adjacent bars oppositely disposed and the inclined connections crossing each other. When thus positioned, the oppositely disposed planes and inclined connections of adjacent bars form a series of crotches and openings for receiving, holding and supporting a plurality of notched locking bars 3

firmly in place and position, as shown in Fig. 4; said locking bars 3 having notches 4, therein at regular and uniform distances apart on opposite sides thereof, the notches on one side being spaced midway between the notches on the opposite side, as shown in Fig. 2; said notches are adapted to engage and interlock with truss bars 1, at their points of contact, as shown at 2 and 4 in Fig. 3, thus forming a trussed interlocking net work of bars, in which all the members forming said net work of bars are mechanically joined together and reinforce and strengthen each other.

It can be readily seen from the foregoing description that the axis of the truss bar is alternately shifted from side to side of a central axis by uniform bends and angles, and when a series of said bars are positioned in line, with the offset planes and inclined connections of adjacent bars, oppositely disposed, and a series of locking bars are threaded through the crotches and openings, the truss bars form a series of oppositely disposed trusses, adapted for reinforcing a wall.

Interlocking column supports for holding, supporting and sustaining bars shown in Fig. 1 in place and position in square column or buttress construction are shown in Figs. 5, 6 and 7, the same being made of metal, of the size required, and the strength requisite, and consist of a band section 5, and a framework section 7 and 8. The framework section 7 and 8 fits into slots 6 in the band section 5, and interlocks therewith, forming corner squares or openings 9, adapted to hold bars 1 firmly and rigidly in place and position. The prolongations or projections on bars 1 are adapted to prevent the band and framework forming the column support from shifting upward or downward. The band section 5 is adapted to hold bars 1 securely in position and prevent said bars from moving or shifting outward; the framework section 7 and 8 is adapted to hold bars 1 firmly and rigidly in position and prevent said bars from moving or shifting inward.

Interlocking column supports for holding, supporting and sustaining bars 1, shown in Fig. 1, firmly and rigidly in place in round column or pilaster construction are shown in Figs. 8, 9 and 10, the same being made of metal, of the size required, and the strength requisite, and consisting of a circular band section 10, having a plurality of slots therein as 11, and a framework as 12, adapted for receiving and holding bars 1, shown in Fig. 1, firmly and rigidly in place and position in round column or pilaster construction.

In practice a plurality of truss bars 1 are positioned in line a distance apart corresponding to the distance between notches in the locking bars. The offset planes and in-

clined connections of adjacent bars are oppositely disposed, to form crotches and openings. Now, beginning at the bottom or lowest row of crotches and openings, thread the locking bar 2 through the openings between adjacent truss bars; and when in place the truss bars are shifted until the notches in the locking bars interlock with the truss bars. The locking bar will seat or rest on the inclined connections of the truss bars. Repeat this operation at each row of crotches or openings.

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

1. In interlacing and interlocking bars for reinforced concrete construction a plurality of metal bars, each of said plurality of bars having a plurality of uniform prolongations or projections from the perpendicular from right to left and left to right by uniform bends or angles, adapted to form openings or pockets for holding and sustaining a plurality of transverse bars in place and position; in combination with a plurality of transverse bars, said transverse bars having notches or openings therein alternately positioned on opposite sides thereof and equidistant and midway between each other; adapted for receiving and interlocking with said first mentioned bars; both sets of said plurality of bars adapted to interlace, lattice and interlock, one with the other, at their points of contact, substantially as shown and described.

2. In interlacing and interlocking bars for reinforced concrete construction, a plurality of metal bars, each of said bars being formed or offset into a series of oppositely disposed relatively parallel parts or planes, with inclined connections, whereby, when a plurality of said bars are positioned in line, a distance apart, with the offset planes of adjacent bars oppositely disposed and the inclined connections crossing each other, said bars form or create a series of crotches or openings adapted to engage and support a plurality of transverse tie or locking bars in place and position; in combination with a plurality of metal locking bars, each of said locking bars having a plurality of notches therein, spaced at regular and uniform distances apart on opposite sides thereof, the notches on one side being spaced midway between the notches on the opposite side; adapted to receive and interlock with said first mentioned bars; both sets of said bars adapted to truss, weave and interlock one with the other, substantially as shown and described.

3. In interlacing and interlocking bars for reinforced concrete construction; a plurality of metal offset bars, each of said bars being formed or offset into a series of oppositely disposed relatively parallel parts or planes

with inclined connections, whereby the axis
of each of said bars is shifted from side to
side of a wall or floor, adapted to form op-
positely disposed trusses in said wall or
5 floor; a plurality of metal locking bars, each
of said locking bars having a plurality of
notches therein, spaced at regular and uni-
form distances apart, on opposite sides
thereof, the notches on one side being spaced
10 midway between the notches on the opposite

side, adapted to engage and interlock with
the first mentioned bars at their points of
contact, as and for the purpose set forth.

In testimony whereof I affix my signature
in the presence of two subscribing witnesses. 15

MORRIS C. HARRIS.

Witnesses:

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JOHN W. SULLIVAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."