N. L. HALL.

REINFORCING ROD OR BAR FOR CEMENT CONCRETE OR SIMILAR MATERIAL.

APPLICATION FILED JUNE 15, 1906.

991,439. Patented May 2, 1911.

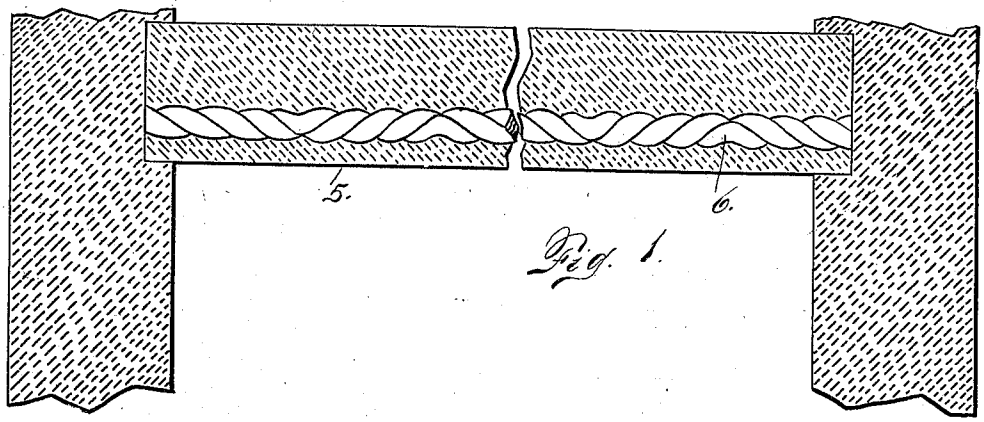

Fig. 1.

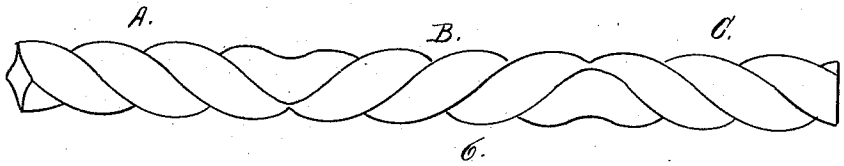

Fig. 2.

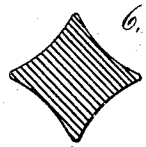

Fig. 3.

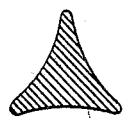

Fig. 4.

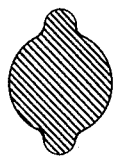

Fig. 5.

Witnesses
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REINFORCING ROD OR BAR FOR CEMENT CONCRETE OR SIMILAR MATERIAL.

991,439. Specification of Letters Patent. Patented May 2, 1911.

Application filed June 15, 1906. Serial No. 321,875.

To all whom it may concern:

Be it known that I, NEWTON L. HALL, a citizen of the United States, residing in Denver, State of Colorado, have invented certain new and useful Improvements in Reinforcing Rods or Bars for Cement Concrete or Similar Material; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in bars or rods for the reinforcement of any desired material more particularly cement concrete or artificial stone of any kind.

More specifically, my invention consists of a rod or bar provided with reversed spirals; or rods or bars having portions provided with right and left hand spirals, whereby the reinforcing device is held within the part to be reinforced more securely than where the spirals run in the same direction throughout the entire length of the device.

My improved rod or bar may be formed by taking a bar angular in cross section and twisting one portion of it in one direction and another portion of it in the opposite direction thus forming the reversed spirals.

Having briefly outlined my improved construction, I will proceed to describe the same in detail reference being made to the accompanying drawing, in which is illustrated an embodiment thereof.

In this drawing, Figure 1 is a section taken through cement or artificial stone beams, one of which is reinforced in accordance with my invention. Fig. 2 is a detail view of the reinforcing rod or bar. Figs. 3, 4 and 5 are cross sections of different forms of bar which may be employed to produce my invention.

The same reference characters indicate the same parts in all the views.

Let the numeral 5 designate a bar composed of cement concrete or other similar or suitable material. Within this concrete beam is embedded my improved device which I will designate in its entirety by the numeral 6. This device as shown in the drawing is composed of what I will term three members A, B and C. The member A is formed by twisting a rod or bar angular in cross section in one direction; while the part B is formed by twisting an adjacent portion of the rod or bar in the opposite direction; while the portion C is formed by twisting still another portion in the same direction as the member A. Of course there may be any desired number of members or portions reversely twisted, the idea being that any two adjacent portions should occupy the relation to each other of the right and left hand threads of a screw.

In the construction shown in Fig. 2 it may be assumed that the reinforcing bar is formed from a bar shaped in cross section as shown in Fig. 3. A similar reinforcing bar, however, may be formed from a plain bar of the shape in cross section shown in either Fig. 4 or Fig. 5 and innumerable cross sectional shapes.

Having thus described my invention, what I claim is:

1. A metal bar spirally twisted throughout its length, having alternating sections reversely twisted, and substantially merging one into another.

2. A metal bar having alternating sections reversely and helically twisted and merging one into another throughout its length.

3. A metal bar having reversely helically twisted sections merging one into another throughout its length.

4. A bar helically twisted throughout its length into reversely twisted sections merging one into another.

5. A bar helically twisted into alternately arranged sections which merge one into another throughout its length.

6. A steel reinforcing bar having successive definite lengths, forming alternate sections helically and reversely twisted, sub-

stantially as described and for the purpose set forth.

7. A metal reinforcing bar for use in concrete constructions, angular in cross section and twisted throughout its length, the direction of the twisting being reversed at intervals whereby successive definite sections reversely twisted and reversed helical corners are formed throughout the length of the bar and the rotation of the bar in the concrete or the removal therefrom is prevented.

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

NEWTON L. HALL.

Witnesses:
F. W. PETERSON,
F. T. THING.