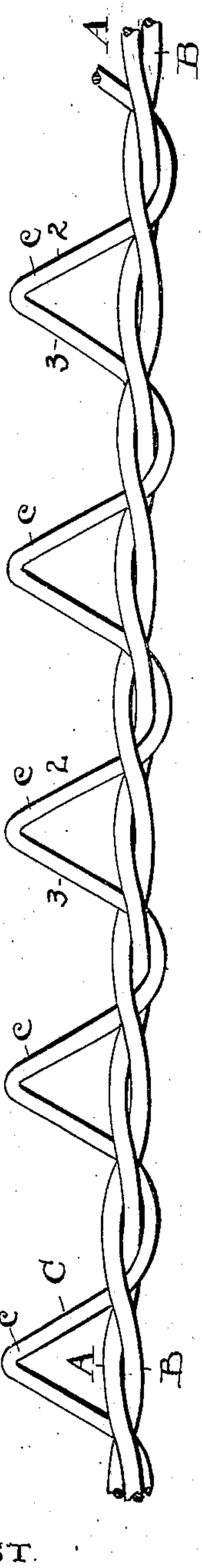
No. 847,577. PATENTED MAR. 19, 1907.

C. HORIX.

# METALLIC REINFORCEMENT FOR CONCRETE STRUCTURAL WORK.

APPLICATION FILED JAN. 15, 1906.




Attest.

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# UNITED STATES PATENT OFFICE.

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## METALLIC REINFORCEMENT FOR CONCRETE STRUCTURAL WORK.

No. 847,577. Specification of Letters Patent. Patented March 19, 1907.

Application filed January 15, 1906. Serial No. 296,070.

*To all whom it may concern:*

Be it known that I, CARL HORIX, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Metallic Reinforcements for Concrete Structural Work; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention has reference to an improvement in metallic reinforcements for concrete structural work; and the invention consists in a reinforcement formed of wire or its equivalent, according to the strength demanded, and comprising a single tensile strand or portion formed with or from a plurality of wires or light rods twisted or otherwise advantageously wound one about the other, so as to constitute a single tie or chord, and which has a series of shear members or projections looped or otherwise engaged or interlocked with the tensile or cable portion and formed out of a continuous piece of wire, in this instance all substantially as shown and described, and particularly pointed out in the claim.

In the accompanying drawings I show an elevation of a section of one form or style of the invention and in which there is a tensile or body portion consisting of a plurality of wires A and B, twisted or twined together and constituting, essentially, one cable, tie, or chord, according to the use to be made of the article. The so-called "shear" member or portion C is formed in this example of the invention in a single continuous wire or its equivalent and which is interwoven or looped in with or between the strands or wires A and B relatively, as shown. If more than two wires or strands A and B or their equivalent were employed to form these strands or tensile members, the manner of engaging the shear members therewith would be the same, and all the said shear members or projections in the respective figures are engaged through the said strand and locked therewith.

In detail the drawing shows a continuous wire C, which is provided with a series or succession of substantially **V**-shaped shear members or projections *c*, extending in the same direction from the supporting strand or body and outward from the said body a suitable distance to perform the function for which they are intended, and intermediate of these members or projections the wire C is looped or otherwise suitably engaged through or with the said body. Functionally said members intersect the lines of stress or strain at approximately right angles thereto as said lines usually run, and being embedded in the cement serve also as a chord for the said body or cable. However, the traversing or crossing of the lines of stress by the stress members and the support afforded on these lines by said members or portions is their more especial purpose and function, and all extending in the same general direction from the body they enable the cable or strand to come down well to the lower surface of a ceiling, while the shear members all alike extend upward into supporting and strengthening position. Wherever the word "wire" is used herein, it is understood as including and covering metallic rods, which can be twisted and used together as wires may be.

The invention as thus shown may be variously used as for floorwork, girders, columns, window-sills, fence-posts, railroad-ties, bridge and other arches, sewer-pipes, and the like and where concrete as such is employed.

What I claim is—

As a new article of manufacture, a reinforcement for concrete structural work comprising a tensile member consisting of a plurality of wires twisted into a single strand, and a continuous shear-wire interwoven with said strand by means of loops reaching beneath said wires and pressing against the same and bent between said loops to form a series of shear projections of substantially **Λ** shape between the loop engagements with said tensile member, said shear projections all extending in the same direction from said strand, whereby in use said shear projections will come above the strand.

In testimony whereof I sign this specification in the presence of two witnesses.

CARL HORIX.

Witnesses:
R. B. MOSER,
H. T. FISHER.