April 8, 1930. T. YAMAMOTO 1,753,636

INTERTWISTED NET HAVING SQUARE SHAPED MESHES

Filed Dec. 22, 1928

Fig. 1

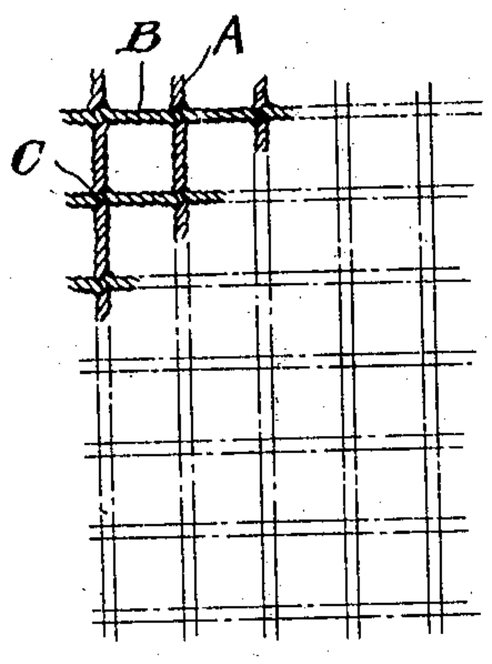


Fig. 3

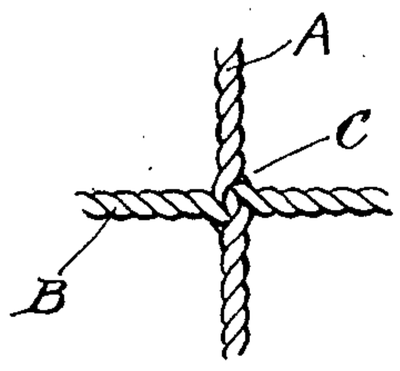
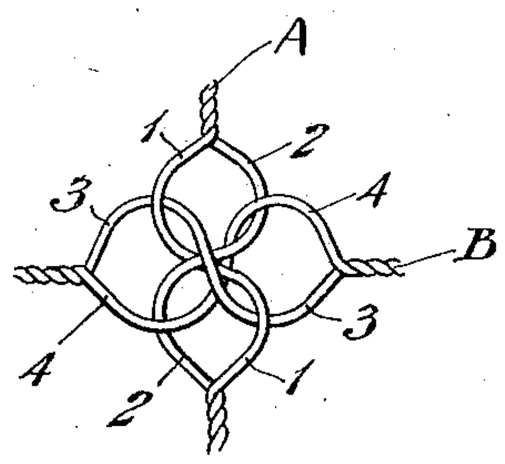


Fig. 2



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Patented Apr. 8, 1930 1,753,636

UNITED STATES PATENT OFFICE

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INTERTWISTED NET HAVING SQUARE-SHAPED MESHES

Application filed December 22, 1928, Serial No. 327,976, and in Japan December 28, 1927.

This invention relates to improvements in intertwisted nets and it consists of warp and weft, each made of two strands, which are intertwisted knotlessly at their intersection, thus forming the square shaped meshes.

The object of this invention is to obtain a strong netting having the square-shaped meshes, by the warp and weft intersecting at right angles, without any knotting, which weakens the net very much.

Fig. 1 shows a net embodying this invention.

Fig. 2 shows a condition of the strands intersecting each other.

Fig. 3 shows the joint twisted tightly.

The net having the square-shaped meshes were made, up to date, by knotting only and the threads, the warp and the weft, are not directed in the straight lines but change their directions at every intersection, that is to say, one thread is the warp at a time, but the weft at the next, thus the bending of the thread at the intersection weakens the net very much. In this invention, the warp is always the warp and the weft is always weft and there is no knotting but the strands are intertwisted mechanically, thus the cost is very cheap and the net is very strong.

All the intertwisted net hitherto used have the diamond shaped meshes, because it was very difficult to intertwist the strands at right angles mechanically.

If the net having the diamond shaped meshes stretched in one direction, the meshes are cramped, hence a quantity of fish net is wanted if the meshes are the diamond shape comparing with that of the square shape.

The present net has been invented to obviate these obstacles, that is to say, the threads, the warp and weft, are always in the straight lines and not bent at their intersection. The joint may be made by intertwisting mechanically the strands of the threads, but no knot at all.

In the drawings, A designates the warp made of two strands and B the weft made of two strands and these threads cross at right angle at the point C at which point the four strands of the warp and weft intertwist in such a manner as is shown in Fig. 2.

Considering the strands of Fig. 2 individually, and tracing their courses at the point of intersection, it is seen that strand 1 of the warp thread or cord passes over strands 3 and 4 of the weft thread or cord, then passes under strands 3 and 2 and lastly over strand 3. Strand 2 of the same warp thread or cord passes under strand 4, over strand 1, under strand 3, over strand 4 and lastly under strand 4. Strand 3 of the weft thread or cord passes under strand 1, then over strand 4, over strands 3 and 1, and lastly under strand 1. Strand 4, of the same weft thread or cord, passes over strand 2, under strand 2, under strand 1, under strand 3 and over strand 2.

The warp and the weft keep their same directions in the straight lines before and after their strands intersect each other.

It will be clear that the words "under" and "over," used for convenience in the above description and in the claim, are merely relative, depending on the position of the observer, and will be changed if the parts of Fig. 2 are viewed from the other side, or if the direction in which the strands run is considered differently.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

An intertwisted net comprising, in combination, a series of warp threads and a series of weft threads, all said threads consisting of two strands only, each warp thread intersecting with the weft threads so that the two strands of the warp thread continue in the same direction beyond the points of intersection, and at the points of intersection pass between the strands of the weft threads so as to interlock therewith without knotting or separate splicing, thereby preventing shifting of the warp and weft threads at said points of intersection; said interlocking being accomplished as follows: passing strand number 1 of a warp thread over strands 3 and 4 of the weft thread, then passing the same warp strand under strands 3 and 2 and lastly over strand 3; passing strand number 2 of the same warp thread under strand 4, over strand 1, under strand 3, over strand 4 and lastly

under strand 4; strand 3 of the weft thread passing under strand 1, as stated, over strand 4, over strands 3 and 1, as stated, and under strand 1, as stated.

In testimony whereof, I have signed my name to this specification at Tokyo, Japan, this 30th day of November, 1928.

TAKEJIRO YAMAMOTO.