O. CROSBY.

CLIP FOR WIRE ROPE MEMBERS.

APPLICATION FILED MAY 5, 1917.

1,245,197. Patented Nov. 6, 1917.

2 SHEETS—SHEET 1.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Olmur Crosby  Inventor

By his Attorney.

Merriam & Evers.
Fig. 5

O. Crosby, Inventor
By his Attorney

1,245,197.

Patented Nov. 6, 1917.

2 SHEETS-SHEET 2.

O. CROSBY,
CLIP FOR WIRE ROPE MEMBERS,
APPLICATION FILED MAY 5, 1917.

Patented Now, 6, 1917.

6, 1917.

2 SHEETS-SHEET 2.
To all whom it may concern:

Be it known that I, OLIVER CROSBY, a citizen of the United States, residing at St. Paul, Ramsey county, Minnesota, have invented and useful Improvements in Clips for Wire-Rope Members, of which the following is a specification.

My invention relates to improvements in wire, and wire rope, structures, its object being to produce an improved form of submarine net especially of the type designed and adapted for the protection of harbors and ship channels against submarine vessels.

The essential feature of my invention is a clamp or clamp for interconnecting the wire or rope members of the net at their intersections. In a structure of this character it is essential that the members shall cross each other at exactly right angles, and be held interconnected with absolute rigidity in order that as the net is suspended in the water it will afford the most stanch and rigid resistance to the impact of a submerged vessel, without distortion of the structure or slipping of the members upon each other.

To this end my invention consists essentially in a clamp having a body, preferably of forged steel, and elliptical in general contour, having formed in its face a transverse semi-cylindrical groove adapted to receive and hold one wire rope member, and having arranged on opposite sides of said groove studs with parallel faces at right angles to said groove, and interspaced the thickness of, and adapted to receive, the other wire rope member superimposed transversely upon the first. At the ends of the clamp body are bolt holes adapted to receive a U-shaped bolt straddling the crossed net members, and adapted to be secured in place by suitable nuts.

In the accompanying drawings, forming part of this specification,

Figure 1 is a plan view of one of my improved clamps applied to wire ropes as distinguished from individual wires, showing the manner in which the rope members of the net are engaged and held thereby;

Figure 2 is a reverse, plan view of the same showing the securing nuts, and the ropes in broken lines;

Figure 3 is a plan view of the body of the clamp, the U-bolt and ropes being removed therefrom;

Figure 4 is an end elevation of the same; and

Figure 5 is a view of my improved net.

In the drawings A represents the body of the clamp, as a block of forged steel, substantially elliptical in form and having near each end bolt holes 2 to receive the threaded ends of the U-bolt 3, provided with securing nuts 4. The clamp body is provided with a semi-cylindrical groove 5, running at an oblique angle transversely of the same, between the bolt holes 2 and serving as a bed or seat for the bottom rope member 6. Disposed on opposite sides of the groove and with their faces at right angles thereto, are studs 7 adapted to receive and hold in place between them the second superposed rope member 8. The members are then secured rigidly in these respective positions by the U-bolt 3 straddling them at their intersection and passing through the clamp body and engaged by the nuts 4.

It will thus be seen that the under member is held by means of the walls 9 and 10 of the groove 5 in its transverse position upon the block, while the member 8 is similarly held by the studs 7 which project above the under member and stand at right angles to its bed or seat. The U-bolt, as secured by its nuts, prevents any disengagement or loosening of the under member from its seat, or of the upper member from its place upon the other. The net structure being thus intersecured at each interconnection of its members, it is impossible of distortion, the members being held rigidly at right angles with each other.

While my invention is adapted primarily for the construction of submarine nets, it is obvious that it may be used for other purposes and in other relations in the forming of nets with rectilinear meshes but not necessarily rectangular meshes.

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

1. In a structure of the class described, a clamp for the members thereof comprising a body having means upon its face for engaging and holding superposed net members at right angles to each other consisting of
a groove for one and studs for the other, and a U-bolt straddling said crossed members and rigidly engaging said clamp body.

2. In a clamp of the class described the bed or body having a transverse semi-cylindrical groove adapted to receive a wire or rope member, and studs arranged on opposite sides of said groove with their faces at right angles thereto, and a U-bolt engaging perforations in said clamp body and straddling the included net members.

3. A clamp for crossed wire ropes, comprising a body having a groove engaging one rope and opposite studs engaging the superposed rope and holding said ropes at the desired angle, and a U-shaped bolt straddling said ropes and extending through said body.

4. A clamp for crossed wire ropes, comprising a block having a groove in its face adapted to engage one rope member, studs on opposite sides of said groove adapted to engage the other superposed rope member and determine the angle between said members and a U-shaped bolt straddling said members and secured to said block.

Signed at St. Paul, in the county of Ramsey and State of Minnesota, this 24th day of April, 1917.

OLIVER CROSBY.

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