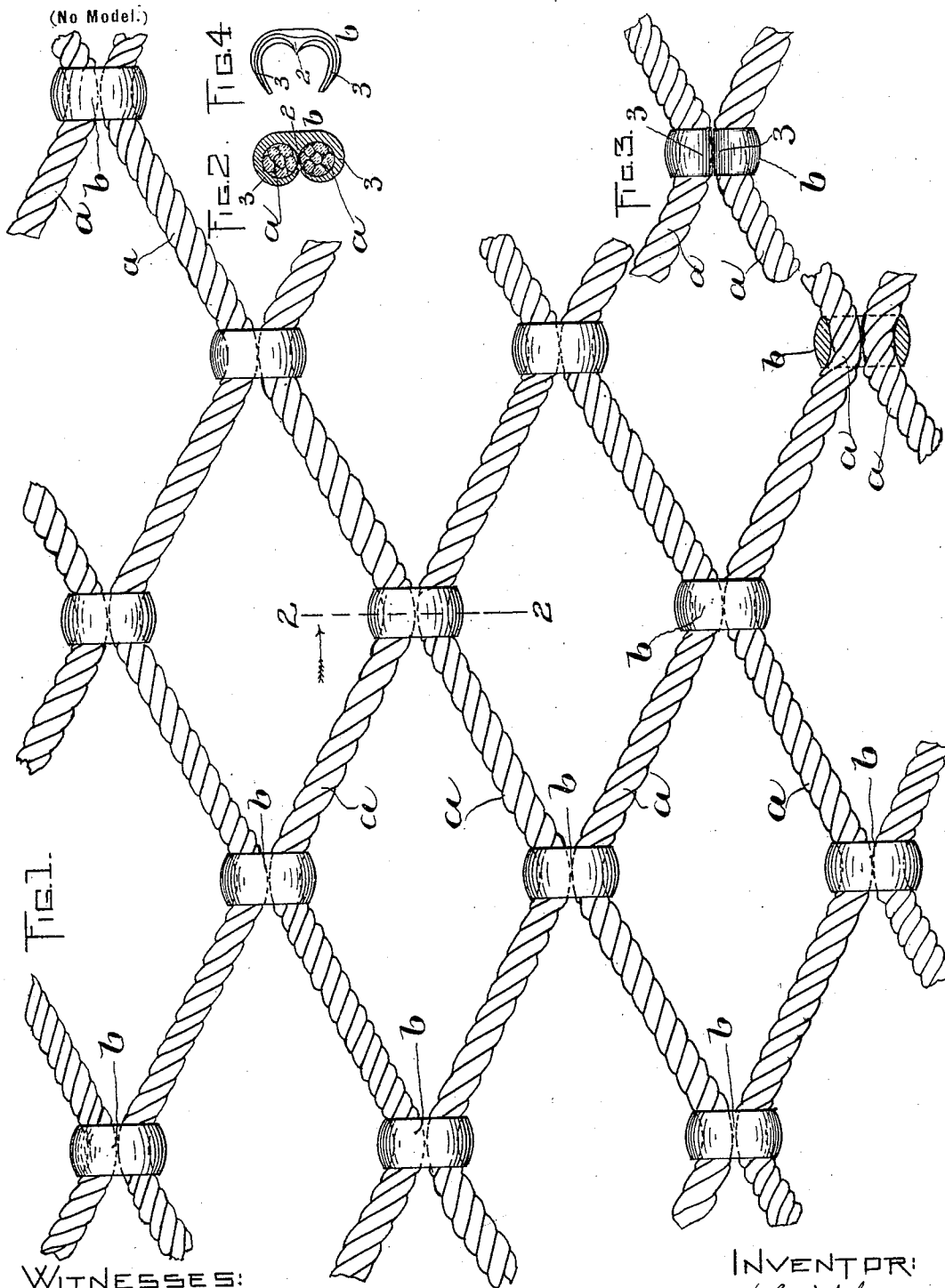


No. 631,910.

Patented Aug. 29, 1899.

W. H. SWIFT.
ROPE NETTING.

(Application filed Dec. 8, 1898.)



WITNESSES:

A. D. Harrison
P. W. Pezzetta

INVENTOR:

W. H. Swift
by *Wm. Brown Zimby*
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM H. SWIFT, OF BOSTON, MASSACHUSETTS.

ROPE NETTING.

SPECIFICATION forming part of Letters Patent No. 631,910, dated August 29, 1899.

Application filed December 8, 1898. Serial No. 698,605. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. SWIFT, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Rope Netting, of which the following is a specification.

This invention relates to rope nettings such as those used for guard-rails on shipboard; and it has for its object to provide an improved clip or binder to take the place of the usual seizing or binding of thin line which is wound at intervals around contiguous cords or strands to make the netting.

The invention consists in the improvements which I shall now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a portion of a rope netting bound with my improved clip. Fig. 2 represents a section on the line 2 2 of Fig. 1. Fig. 3 represents a detail view showing the reverse side of one of the clips. Fig. 4 represents a detail side elevation of one of the clips, showing its shape before being applied to the cords of a netting.

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

Referring to the drawings, in which I have shown a rope netting having its cords or strands arranged longitudinally in the usual manner, with diagonal offsets or deflections, which extend alternately in opposite directions, and having the binders at the angles or bends of the strands, *a a* designate the said cords or strands and *b b* designate the clips or binders employed to connect contiguous strands. Said clips are preferably composed of a non-corrosive metal, such as brass, and each is formed with a central thickening or protuberance 2 and two relatively thin tapering end portions 3 3, which are sufficiently flexible to be bent around the cords *a a*, as represented in Fig. 2. The clip may be cast or otherwise suitably formed and originally has its ends separated sufficiently to admit the cords or strands *a a*. A suitable tool or appliance is then used to bend or compress the ends 2 2 around the cords, and in so doing these ends are clamped tightly against the cords so as to pinch or compress the latter, and thereby retain the clip in place and

prevent its slipping along the cords. The thickened middle portion or protuberance 2 serves to stiffen and strengthen the clip and also by following the contour of the cords *a a* it presents the maximum holding-surface for contact with said cords, the said protuberance 2 forming, together with the ends 3 3, two hooks or inclosures, which nearly surround and tightly grip the cords *a a*, as shown in Fig. 3.

Rope netting constructed in the above-described manner will be found suitable for employment in guard-rails on shipboard and in other connections. It may be rolled up after the manner of cloth in a continuous length and cut off in lengths as desired for use.

It is obvious that the improved clip may be used to connect wire strands as well as strands of hemp or other fiber and that it may be stamped or formed by dies or in any other suitable way.

It will be observed by reference to the drawings that the clips are rounded externally and also internally where the draft or pull of the cords occurs. The external rounding is of particular utility when the netting is used, as is my intention, for guard-rails on shipboard. Passengers frequently pass along the guard-rail in close proximity thereto, and the clothing of such passengers is liable to become caught upon any rough projections from the rail. Hence it is customary in making the guard-rails for ships and steamers, as heretofore made with a seizing or binding of thin line, to so wrap the cords or ropes of the rail as that there shall be no rough projection from the binding. Attempts have been made to make this seizing or binding of wire, but the ends of the wire are liable to project and to tear the clothing of passers-by. With my invention, owing to the rounded external surfaces of the clips, there is no possibility of any wear or tear of the clothing of passengers or others. It will also be observed that the internal surfaces of the clip which come in contact with the cord or rope are rounded in the direction of the pull of said cord or rope, thus preventing any wear of or cutting into the rope, which is drawn off at an angle to the clip.

I claim—

1. A rope netting comprising a series of cords or strands, and a series of clips or binders connecting said cords at intervals, each clip having a thickened middle portion, and
5 flexible end portions which form, together with said middle portion, two inclosures in which the cords are embraced and compressed, the said clips having rounded external and internal surfaces as set forth.
- 10 2. A clip or binder for rope nettings, having a central thickening or protuberance and flexible ends adapted to be bent or compressed

around two contiguous cords or strands of the netting, said ends forming, in conjunction with said protuberance, two hooks or inclosures nearly surrounding the cords, the external and internal surface of the clip or binder being rounded.

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

WILLIAM H. SWIFT.

Witnesses:

C. F. BROWN,
A. D. HARRISON.