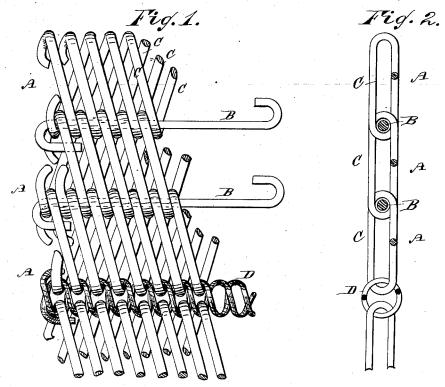
(Model.)

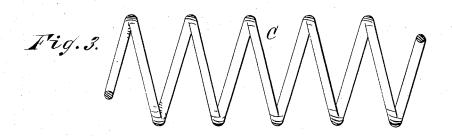
## G. PICKHARDT.

WIRE NETTING.

No. 259,989.

Patented June 20, 1882.





INVENTOR: G.O.c.Khardt

ATTORNEYS.

## UNITED STATES PATENT OFFICE.

GUSTAV PICKHARDT, OF HAGEN, ASSIGNOR TO CARL KÜLP, OF DARM-STADT, GERMANY.

## WIRE-NETTING.

SPECIFICATION forming part of Letters Patent No. 259,989, dated June 20, 1882.

Application filed April 21, 1882. (Model.)

To all whom it may concern:

Be it known that I, GUSTAV PICKHARDT, of Hagen, in the Empire of Germany, have invented a new and useful Improvement in Wire-Netting, of which the following is a specification.

The object of my invention is to provide a new and improved wire-netting, which is strong and durable and of simple construction, and in which the edges are finished and made strong and in such a manner that they cannot catch on objects.

The invention consists in wire-netting formed of a series of united link-sections each formed of one or more spirals screwed into each other, the spirals of one link-section being screwed into the spirals of the next sections and wires being passed through the loops formed by the overlapping parts of the spirals.

The invention further consists in bending the ends of the spiral wires and the connecting-wires over on the ends of the sections for the purpose of finishing the edges of the netting

The invention also consists in spirals screwed into the adjoining edges of two link-sections, made of spirals, for the purpose of uniting these two edges.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

dicate corresponding parts in all the figures.
Figure 1 is a front elevation of a piece of myimproved netting. Fig. 2 is a longitudinal sectional elevation of the same. Fig. 3 is a longitudinal elevation of one of the spirals.

The netting is formed of a series of longitudinal link-sections, A, formed of one or more circular or flat spirals, made of wire and screwed into each other. The spirals of the several link-sections are screwed into each other—that is to say, the upper ends of the spirals of one section pass through the lower ends of the spirals of the next higher link-section, and wires B are passed through the spirals longitudinally in such a manner that these wires alternately pass through the upper end of a spiral or spirals of one link-section and then through the lower end of the spiral or spirals of the next link-section, whereby the spirals will be more firmly united. As is shown in

Fig. 2, the spirals pass through each other and the wires B pass through the eyes formed by the overlapping parts of the spirals. The ends of the spirals C are bent over against the 55 ends of the sections, and the ends of the coupling-wires B are also bent over on the ends of the sections, so that the edge of the netting will be finished and will have no projecting parts on which objects might eatch. In the specifonen represented each link-section is formed of three spirals screwed into each other. Instead of three, any number of spirals may be provided in each link-section, and the pitch of the spirals can be varied according to the desired fineness or coarseness of the netting.

If desired, two wires, B, may be used at each joint, which construction is of special advantage if very strong netting is to be made. If ends of such netting or several pieces of net- 70 ting are to be united, one or more circular spirals, D, are screwed into the two longitudinal edges of the link sections A that are to be united, as shown in Fig. 1. All the spirals may be made circular, but this makes the net- 75 ting very thick and cumbersome, and for that reason I prefer to use flattened spirals, as shown. The cross-section of the wires may be circular, square, oblong, polygonal, and in fact may have any desired cross-section with- 80 out altering or affecting the construction of the netting. The width and length of the link-sections may be varied as circumstances may require.

The herein-described wire-netting is to be 85 used for making elevator-belts, driving-belts, metal cloths, &c., for making safes and chests, shot-proof fabric for military use, armor, rolling shutters, fire-proof theater-curtains, which may be provided with a covering on one or 90 both sides.

This netting can also be used as an armor for vessels, or as a torpedo-protector.

Having thus fully described my invention, I claim as new, and desire to secure by Letters 95 Patent—

1. Wire-netting made, substantially as herein shown and described, of a series of spirals screwed into each other and having connecting-wires passed through the loops formed by 100 the overlapping parts of the spirals, as set forth. 2. Wire netting made of spirals screwed into each other and united by wires passed through the loops formed by the overlapping parts of the spirals, the ends of the wires of the spirals and the ends of the connecting wires being bent over against the ends of the link-sections formed of the spiral wires, substantially as herein shown and described, and for the purpose set forth.

2

3. The combination, with a wire netting formed of sections made of spirals screwed into each other, of one or more spirals screwed

2. Wire-netting made of spirals screwed into the meeting ends of two sections for the ch other and united by wires passed through the loops formed by the overlapping parts of the spirals, the ends of the wires of the spirals set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUSTAV PICKHARDT.

Witnesses:
CARL FERIÉ,
EDUARD KNEIREL.