(Model.)

W. W. WORCESTER.

WIRE FABRIC.

No. 302.307. Patented July 22, 1884.

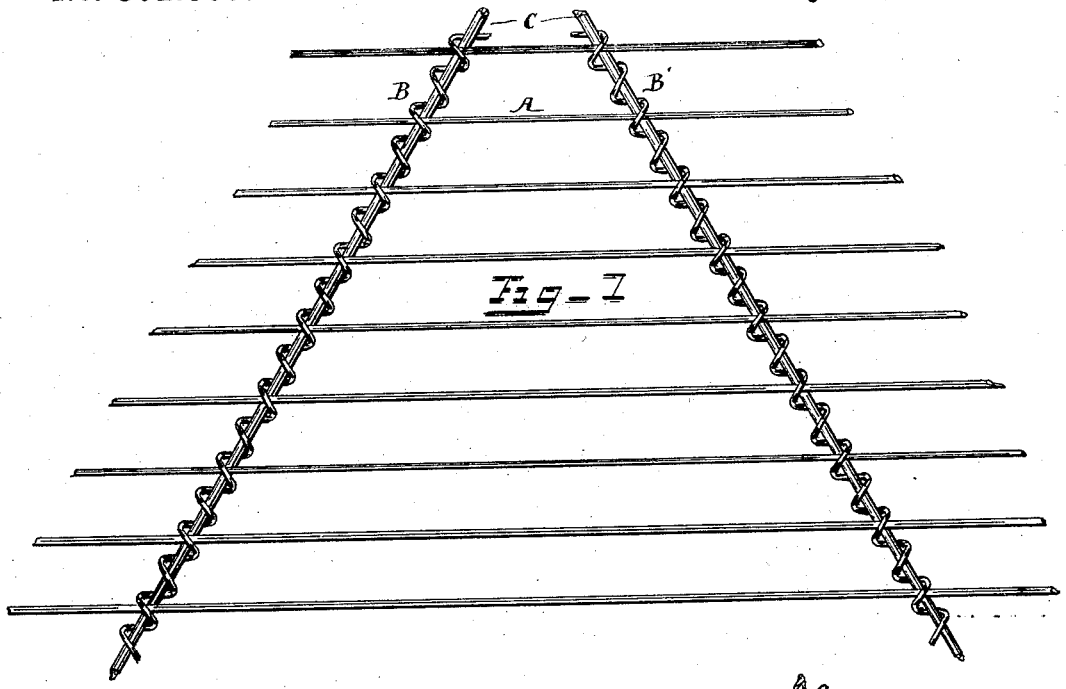

Fig. 1.

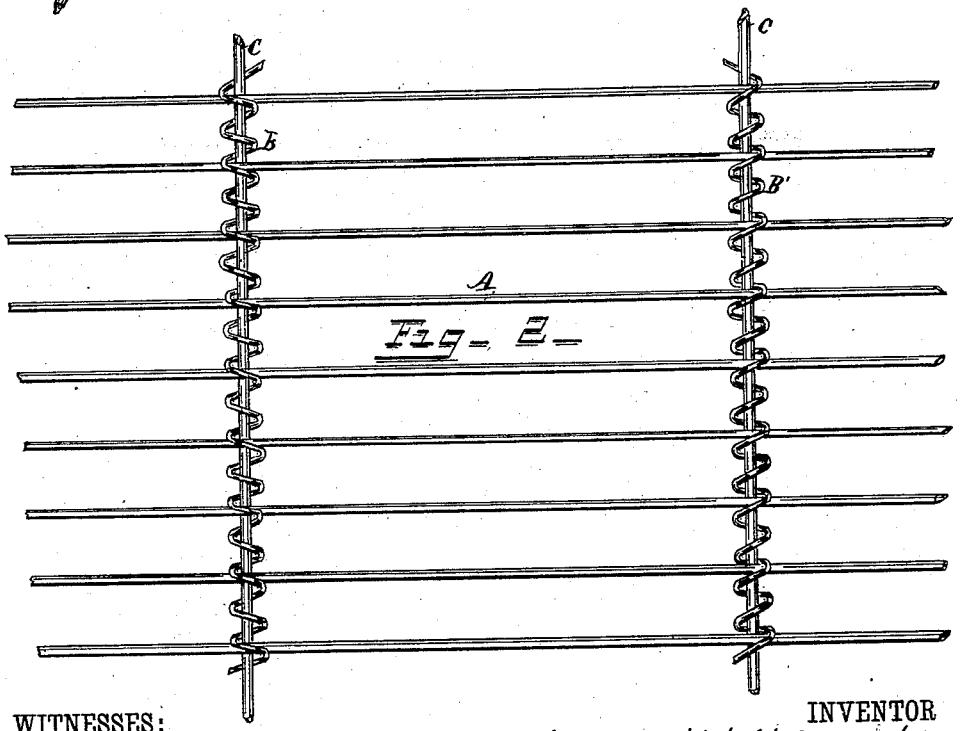

Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM W. WORCESTER, OF CINCINNATI, OHIO.

WIRE FABRIC.

SPECIFICATION forming part of Letters Patent No. 302,307, dated July 22, 1884.

Application filed February 27, 1884. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM W. WORCESTER, a citizen of the United States of America, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Wire Fabrics, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an improvement in that class of wire fabrics where one series of wires are crossed by another series at right angles, or substantially so, to the other series, which two series of wires are usually fastened together by winding a fine wire longitudinally around one of the wires and transversely around the wires crossing it. This system of binding two series of wires together has been found objectionable because, first, it is a comparatively slow business to secure the wires together in this way, and, secondly, the binding-wire, being necessarily very fine, soon becomes rusted through when exposed to dampness, and the wires are thus easily separated. To overcome these difficulties I have devised a fabric wherein one set of wires is strongly and cheaply secured to the other set by a heavy wire of the same size, or substantially so, as the wires to be secured to each other, whereby the whole is firmly bound together, and the binding will last as long as the other wires.

In the accompanying drawings, Figure 1 shows an elevation on an enlarged scale of a portion of wire-work partly constructed according to my improvement. Fig. 2 shows a similar view of the same completed.

In my method of uniting the wires I arrange a series of wires, A A A, in parallel order, as shown, and then lay over them a series of spiral wires, (represented by B B′,) preferably in pairs, the spirals of each pair being turned in the opposite direction—that is to say, one spiral is wound to the right and the other to the left. These spirals I prefer to lay over the horizontal wires diagonally, or at an angle to a line drawn perpendicular to the horizontal wires, as shown in Fig. 1. I then pass the perpendicular wires C C through the coils of the spiral wire beneath the horizontal wires, as shown, and afterward knock or force the spiral and straight wire into the position shown in Fig. 2. This last movement secures the wires tight together and firmly binds the whole as one solid piece. The spirals are set diagonally at first, because it allows their coils to sink deeper into the interstices between the horizontal wires than if the spirals were set perpendicular to the horizontal wires, and thus there is more space in those portions of the coils that pass between the other wires to allow the perpendicular wires to pass through. The spirals are wound in opposite directions to counteract the tendency they would otherwise have to cause the perpendicular wires to change their position from a perpendicular to an inclined one, which would produce a twist in the work and would make a square piece of wire-work assume a diamond or rhomboidal form. This tendency is entirely counteracted by arranging the coils in the opposite direction. By this method of wire-working it will be seen I can produce a fabric that is much stronger than that made by the ordinary process in a quicker and therefore cheaper manner, and at the same time produce handsomer work, for the spiral coils give the whole a more ornamental appearance.

This fabric will be found particularly useful in the case of animal-traps, as animals confined in a trap made in the usual way frequently force the horizontal wires apart, owing to the breaking (through its rusting) of the fine wire necessarily employed in tying the wires together in the old mode of wire-working.

I do not wish to limit myself to the use of strictly parallel wires, as I am aware that the horizontal wires may be waved or corrugated to some extent without departing from the spirit of my invention, and I should therefore consider said corrugated or waved wires as the equivalent of my parallel wires; nor do I wish to limit myself to the making of traps, as it is evident that many other kinds of wire-work may be made in this way—such as bird-cages, sand-screens, window-guards, desk-railings, office-railings, garden-fences, barrel-covers, &c.

I make no claim to the method of securing the wires together here shown, as it forms the subject-matter of another application, No. 117,584, filed January 15, 1884.

What I claim as new is—

1. A wire fabric consisting of a series of substantially parallel wires, A, held and supported by two series of wires crossing said wires A, one of said series, C, consisting of straight wires, and the other series, B, consisting of spiral wires having their coils made larger in their internal diameter than the diameter of the wires C, and loosely inclosing the same, substantially as described.

2. As a new article of manufacture, wire-work consisting of a series of substantially parallel wires, and another series of wires crossing them substantially at right angles, and a series of right and left hand spirals embracing both of said series of wires, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 25th day of February, 1884.

WILLIAM W. WORCESTER.

Witnesses:
B. R. DICKINSON,
W. H. JONES.