

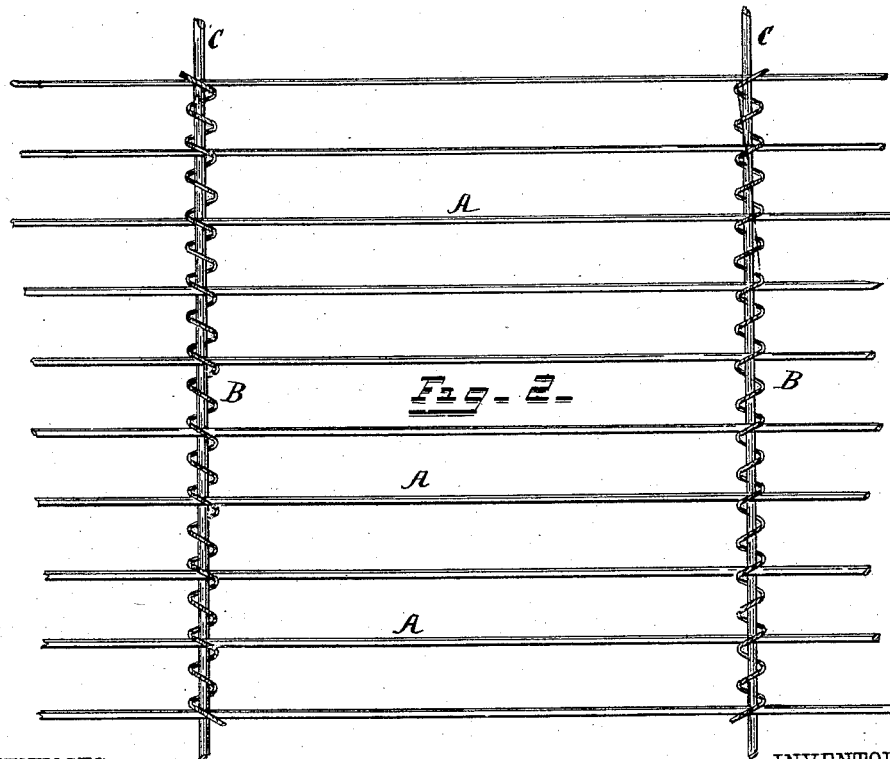
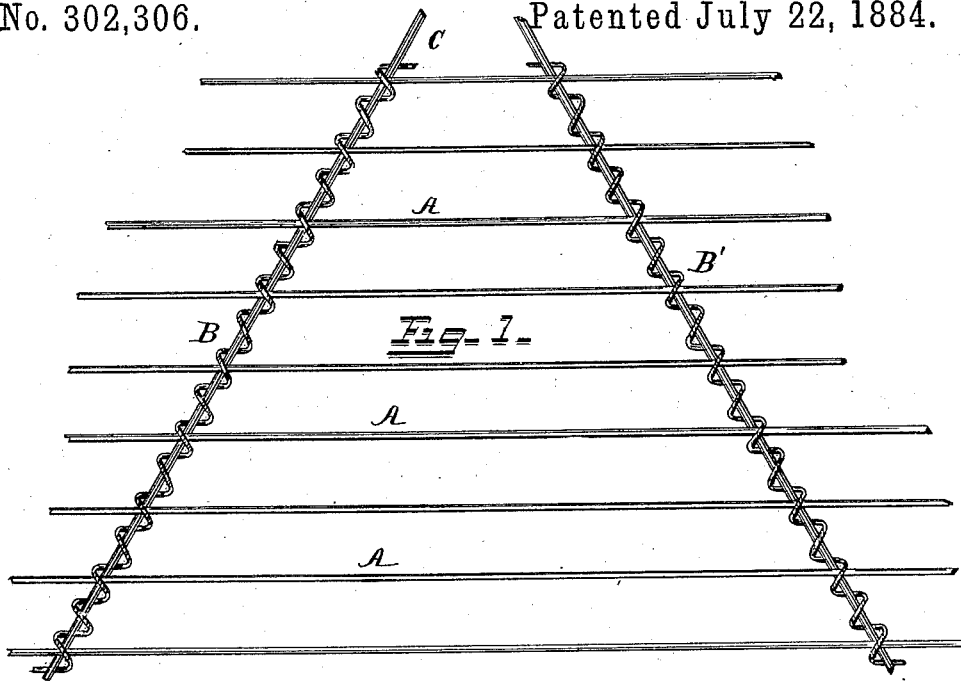
(No Model.)

W. W. WORCESTER.

WIRE WORKING.

No. 302,306.

Patented July 22, 1884.



WITNESSES:

H. P. Robertson.

Wm Turner

INVENTOR

Wm W Worcester

BY

J. W. Robertson

ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM W. WORCESTER, OF CINCINNATI, OHIO.

WIRE-WORKING.

SPECIFICATION forming part of Letters Patent No. 302,306, dated July 22, 1884.

Application filed January 15, 1884. (No 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-Working, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to an improvement in wire-working in that class where one series of wires is crossed by another series at right angles, or substantially so, to the other series, which two series of wires are usually fastened
15 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
20 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.
25 To overcome these difficulties I have devised a plan wherein one set of wires can be readily 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
30 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
35 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
40 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
45 to a line drawn perpendicularly 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
50 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.
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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 method of manufacture will be found particularly useful in the case of rat-traps, as rats confined in the ordinary trap 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.
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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.
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I make no claim in this application to the new article of manufacture herein shown, as it forms the subject-matter of another application filed as a division of this case, February 27, 1884, No. 122,186.
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What I claim as new is—

1. The improvement in the art of wire-working herein described, which consists, first, in arranging wire in substantially parallel lines, then laying a spiral wire diagonally across the
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same, and passing a wire lengthwise through said spiral, to bind the whole together, substantially as and for the purpose set forth.

2. The improvement in the art of wire-working herein described, which consists, first, in arranging a series of wires in substantially parallel lines, then laying a spiral wire diagonally across the same, then passing a wire lengthwise through said spiral, and then forcing the spiral and the wire contained within

it to a line substantially perpendicular to the horizontal wires, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 12th day of January, 1884.

WILLIAM W. WORCESTER.

Witnesses:

H. M. CALDWELL,

JOHN McGRATH.