

J. McMURRAY.

Improvement in Tools for Twisting Wire for Wire Guards.

No. 122,903.

Patented Jan. 23, 1872.

Figure 1.

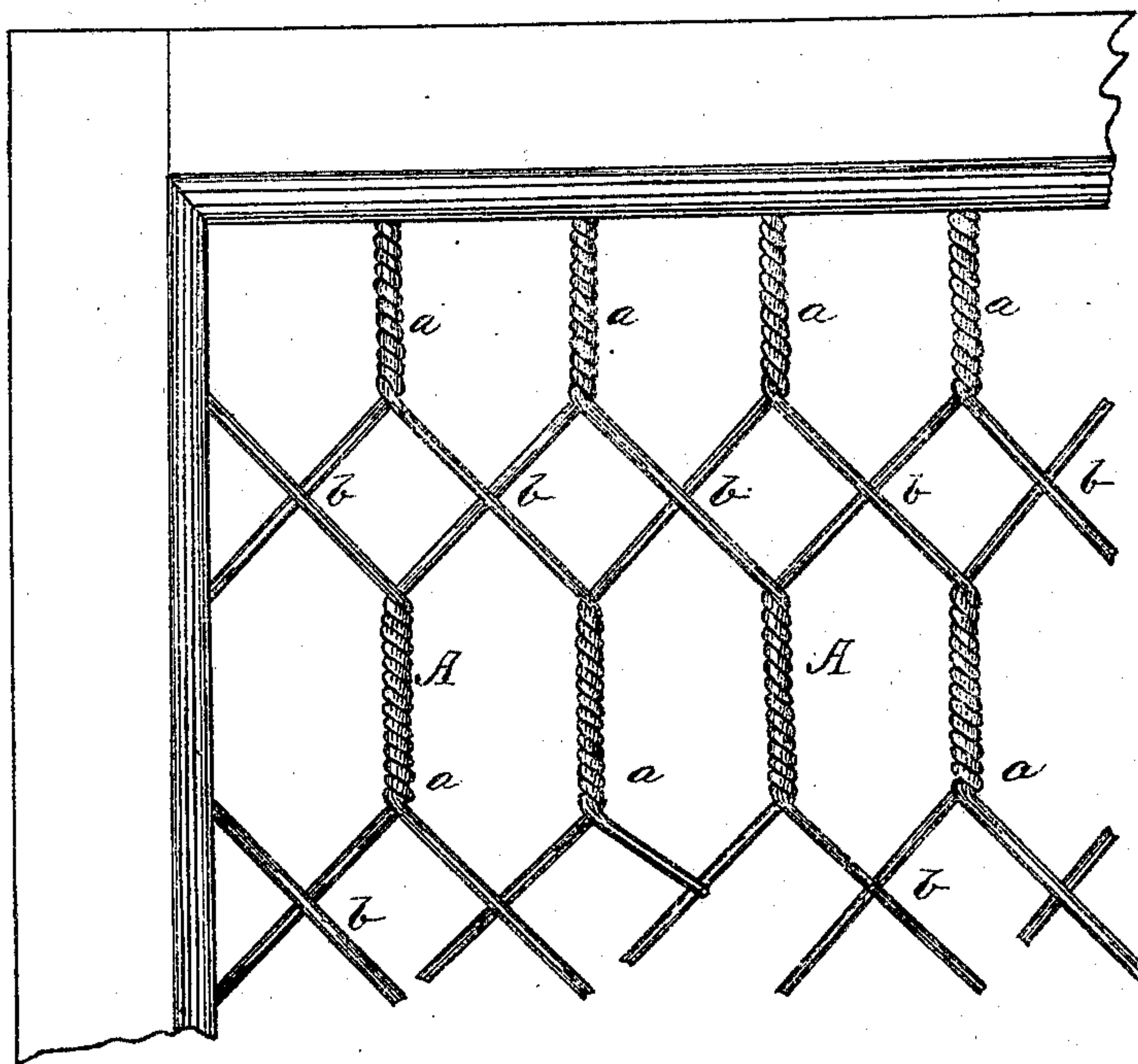


Figure 2.

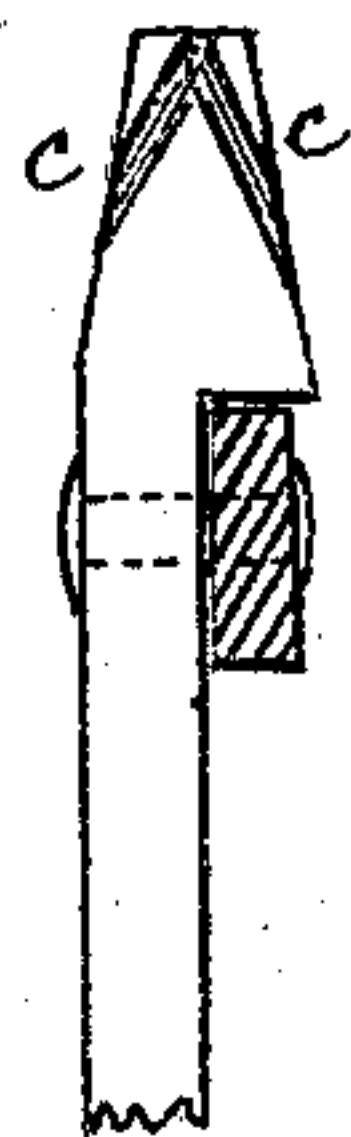
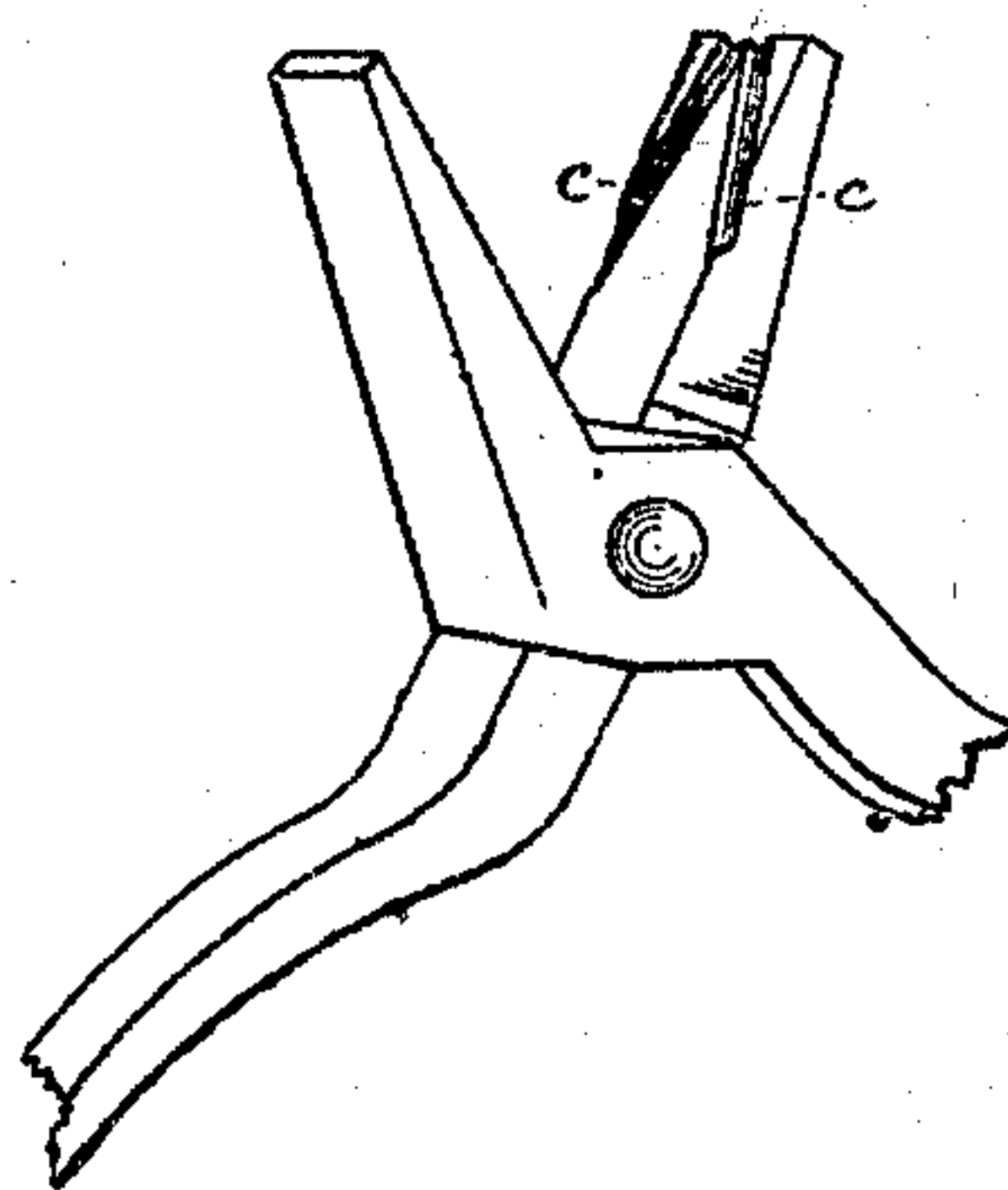


Figure 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN McMURRAY, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN TOOLS FOR TWISTING WIRE FOR WIRE GUARDS.

Specification forming part of Letters Patent No. 122,903, dated January 23, 1872; antedated December 30, 1871.

To all whom it may concern:

Be it known that I, JOHN McMURRAY, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in the Manner of Producing Wire Guards from Unannealed Wire; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a front or face view of a portion of a wire guard constructed according to my invention. Figs. 2 and 3 are views of a tool used in making the same.

Similar letters of reference indicate like parts.

This invention relates to a new and useful improvement in the method of making wire guards; and it consists in constructing the same by the means hereinafter fully shown and described, whereby hard or unannealed wire may be worked into figures and meshes of different combinations, forming a much more durable guard than those heretofore made of annealed or soft wire.

These wire guards are used for summer doors, wire doors, railings for counting-house desks, bank-counters, &c., &c., and the soft or annealed wire guards are very liable to become bent and disfigured, an objection which is fully obviated by my improvement.

Owing to the rigidity of unannealed wire, this twisting cannot be effected by hand. The two strands to be twisted must be held in an inflexible position while the operation is performed. For this purpose I prefer to use an instrument formed on the principle of a pair of pliers, as shown in Fig. 2. Each jaw is provided with a groove, *c*, made in its face to receive a strand of wire, the groove in one face being inclined to that in the opposite jaw, so that the two when closed together form an inverted **V**. These grooves retain the two strands in a position to cross each other obliquely.

The jaw being closed upon the two wires

lying in the grooves *c c*, and firmly held, it is only necessary to revolve the instrument once to produce a complete twist, and by repeating this operation the number of times required to produce the figure or pattern which the guard is designed to have, and in succession grasping and turning the next pair of strands, and so on until completed, the work proceeds in the most regular manner and with uniform results by simply counting the number of turns given to the instrument.

Fig. 1 represents a simple pattern formed by this process, which admits of almost infinite variations.

It will be seen that the strength of the guards depends not only upon the rigidity of the hard wire from which it is made, but more from the twisting of the strands together; and the greater the proportion of the twists to the plain wire the greater the strength of the guard, the size of wire being the same. Wire or iron rods of any size may be worked in this manner, the only limitation being the strength of the instrument used and power employed.

Heretofore unannealed-wire guards have been formed by corrugating or indenting the wire at the intersections or by bending each of two strands into an angle or semicircle and interlocking them; but when so made the connection is very imperfect and insecure, the meshes do not retain their shape, and, if cut or broken, the parts separate.

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

1. The method of forming wire guards of unannealed wire by the twisting together at intervals of the strands in pairs to form the figures or meshes by means of the clamp herein described, as an improvement in the art, substantially as set forth.

2. The clamp or pliers with their faces provided with the **V**-grooves *c c* for twisting the pairs of wires at their intersections, as set forth.

Witnesses: JOHN McMURRAY.

ALEX. F. ROBERTS,
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