

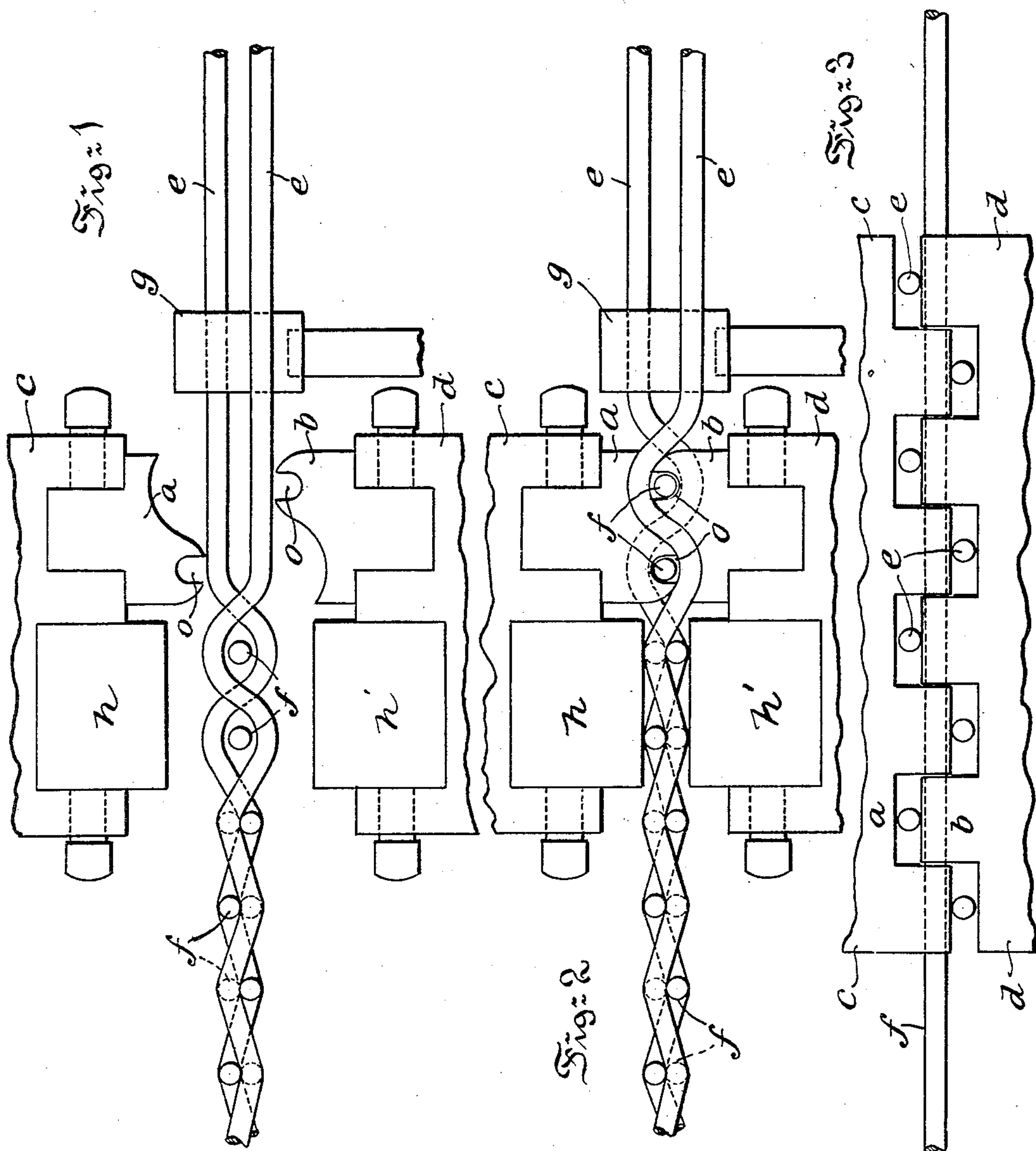
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Patented July 8, 1902.

C. W. JAMES.
METHOD OF WEAVING WIRE.

(Application filed Mar. 26, 1901.)

(No Model.)



WITNESSES:

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METHOD OF WEAVING WIRE.

SPECIFICATION forming part of Letters Patent No. 704,339, dated July 8, 1902.

Application filed March 26, 1901. Serial No. 52,907. (No specimens.)

To all whom it may concern:

Be it known that I, CHARLES W. JAMES, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Methods of Weaving Wire, of which the following is a specification.

My invention relates to improvements in processes for weaving wire-cloth, and more particularly to improvements in processes for weaving wires of sectional area and stiffness too great to be woven in the ordinary loom and heretofore woven by hand.

The accompanying drawings, forming part of this specification, and in which similar letters of reference indicate similar parts throughout the several views, show a means for weaving wire according to my process.

In the drawings, Figure 1 is a side elevation of the bending-dies open; Fig. 2, a similar view, the dies being closed; and Fig. 3, a front elevation of the parts shown in Fig. 2 with the guide-block removed.

In carrying out my invention straight warp-wires are arranged parallel with one another and fed in the direction of their length with a step-by-step movement to the dies. After each forward movement of the warp-wires the adjacent portions of the consecutive wires are permanently bent in alternately opposite directions, thereby forming a shed consisting of a series of loops extending transversely of the fabric, and a weft-wire is placed in each shed or series of loops when formed.

Referring to the drawings, which show a pair of dies suitable for making a reverse bend in each warp-wire at each operation of the dies, thereby forming simultaneously two sheds or series of loops, *a* indicates the upper dies and *b* the lower dies, carried in suitable holders *c* and *d*, one or both of said dies being movable toward and from the opposite die.

e indicates the warp-wires; *f*, the cross or weft wires. Before passing to the dies *a b* and preparatory to being bent or crimped the warp-wires pass, preferably, through a perforated guiding-block *g*, which holds their unbent portions firmly during the action of the dies. The dies are so formed and placed that every other strand of the warp-wires will

be bent or crimped exactly alike—for instance, first upward and then downward—while the intermediate strands will be each bent exactly alike, but in opposite directions from the first strands—that is, first downward and then upward—the bends being arranged so that the upward one on one wire will be directly opposite the downward one on the next wire, and so on. In each die *a b* is formed a recess *o*, through which when the dies are closed may be passed the weft or cross wires *f*, these openings being formed in the outermost parts of the dies. The cross-wires when passed in through the openings also pass between the loops formed by the dies in the wires. When the dies are separated, the cross-wires are left in between the warp-wires, which are afterward flattened down, so as to bind tightly against the cross-wires, by blocks *h* and *h'*, which are secured to the holders *c* and *d*, respectively, immediately in the rear of the dies, and, if desired, the cross-wires themselves may be bent so as to lock against the warp-wires; but in the process of flattening down the cross-wires are bent, forming a lock sufficient for all ordinary purposes. My process consists, therefore, in bending the warp-wires in dies, one up and the next adjacent one down, to form loops and while still held by the dies in passing in between said loops the cross-wires, and finally, if necessary, in flattening down said warp-wires upon said cross-wires and in bending said cross-wires so as to lock against said warp-wires.

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

1. The herein-described process of weaving heavy wire, which consists in arranging straight warp-wires parallel with one another, moving said warp-wires forward step by step in the direction of their length, permanently crimping the consecutive wires in suitable dies in alternately opposite directions after each movement, thereby forming a series of loops extending transversely of the fabric and inserting a weft-wire into each shed or series of loops thus formed.

2. The herein-described process of weaving heavy wire, which consists in arranging straight warp-wires parallel with one another,

moving said wires step by step in the direction of their length, forming simultaneously two series of loops extending transversely of the fabric after each movement by making a permanent reverse bend in each wire, the adjacent bends in consecutive wires extending in alternately opposite directions, and inserting a weft-wire into each shed or series of loops thus formed.

3. The herein-described process of weaving heavy wire which consists in arranging straight warp-wires parallel with one another, moving said warp-wires forward step by step in the direction of their length, permanently crimping the consecutive wires in suitable dies in alternately opposite directions after each movement, thereby forming a series of loops extending transversely of the fabric and inserting a weft-wire into each shed or series

of loops thus formed, and then compressing the warp-wires upon the weft-wires.

4. The herein-described process of weaving heavy wire, which consists in arranging straight warp-wires parallel with one another, moving said wires step by step in the direction of their length, forming simultaneously two series of loops extending transversely of the fabric after each movement by making a permanent reverse bend in each wire, the adjacent bends in consecutive wires extending in alternately opposite directions, and inserting a weft-wire into each shed or series of loops thus formed, and then compressing the warp-wires upon the weft-wires.

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