

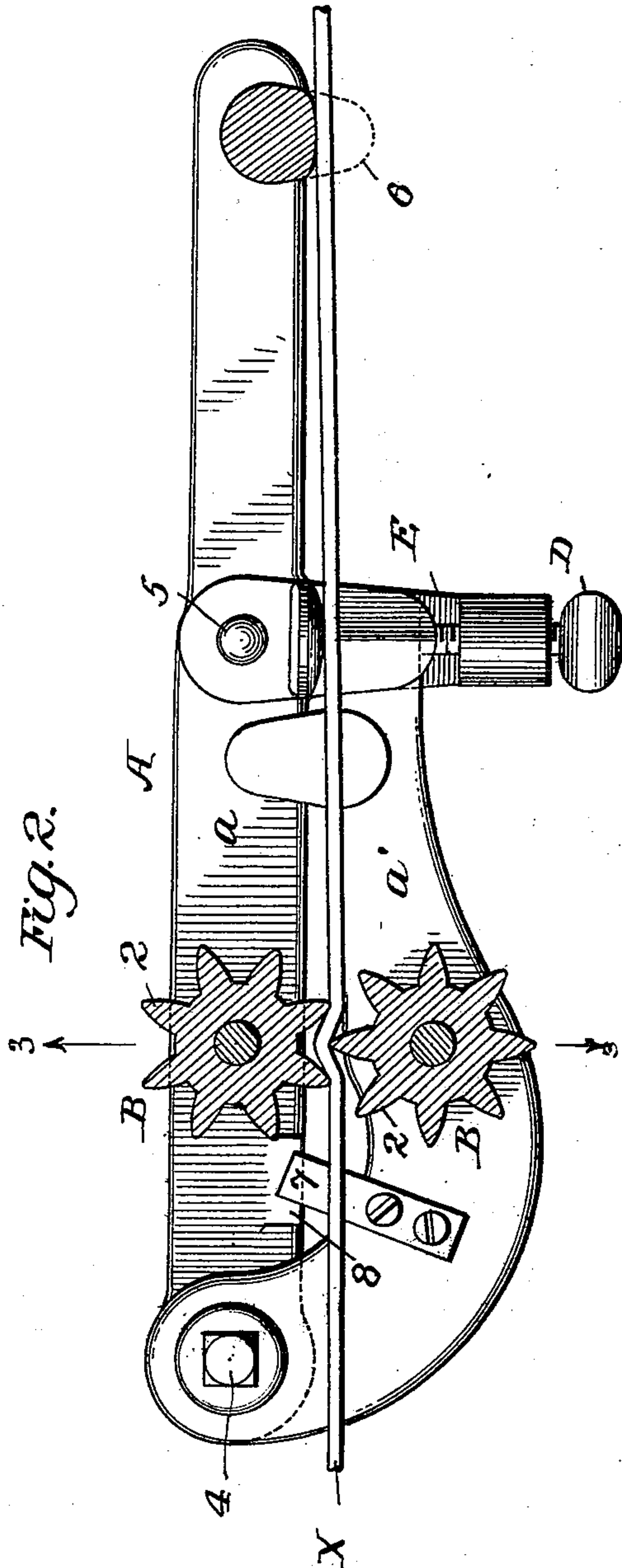
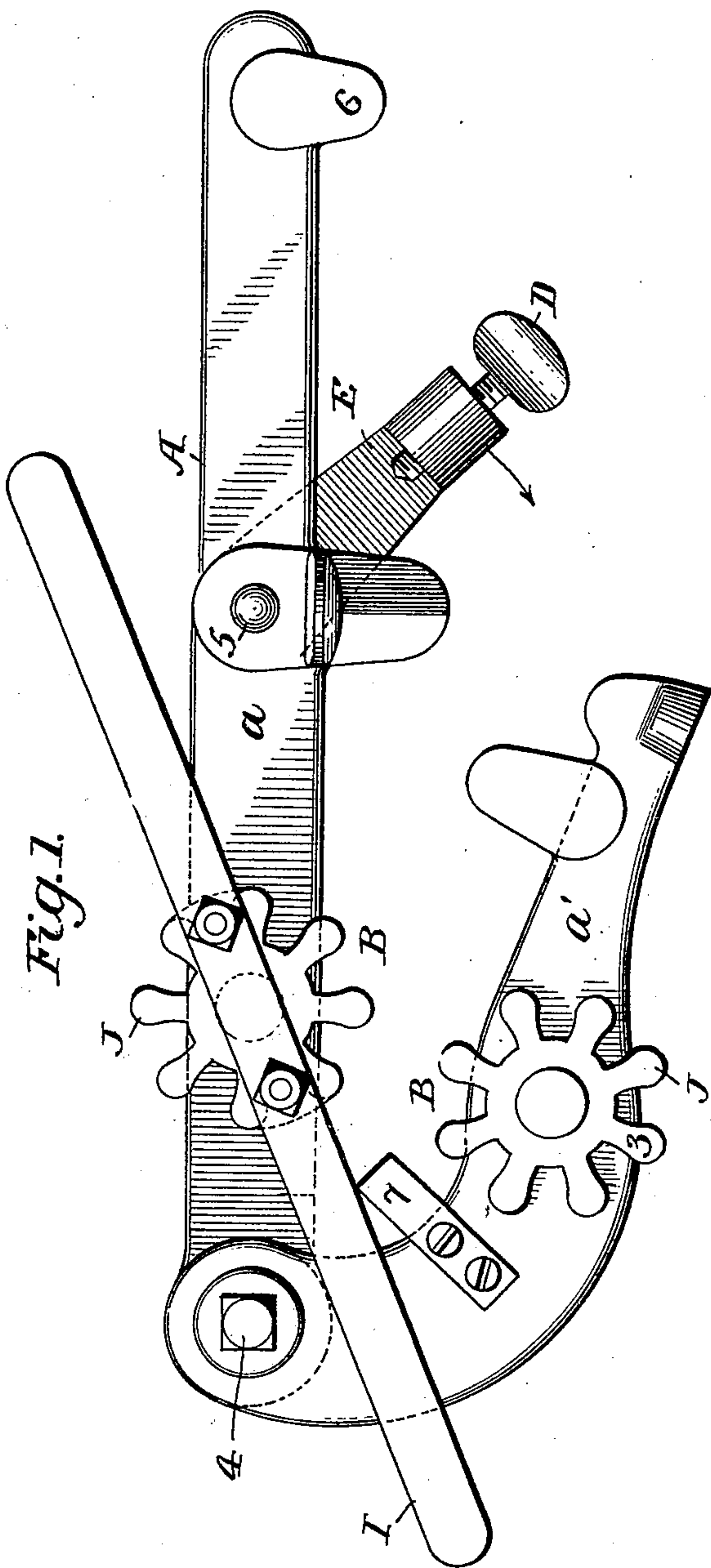
No. 689,449.

Patented Dec. 24, 1901.

H. ZIMMERMAN.
TOOL FOR CRIMPING WIRES.
(Application filed Nov. 23, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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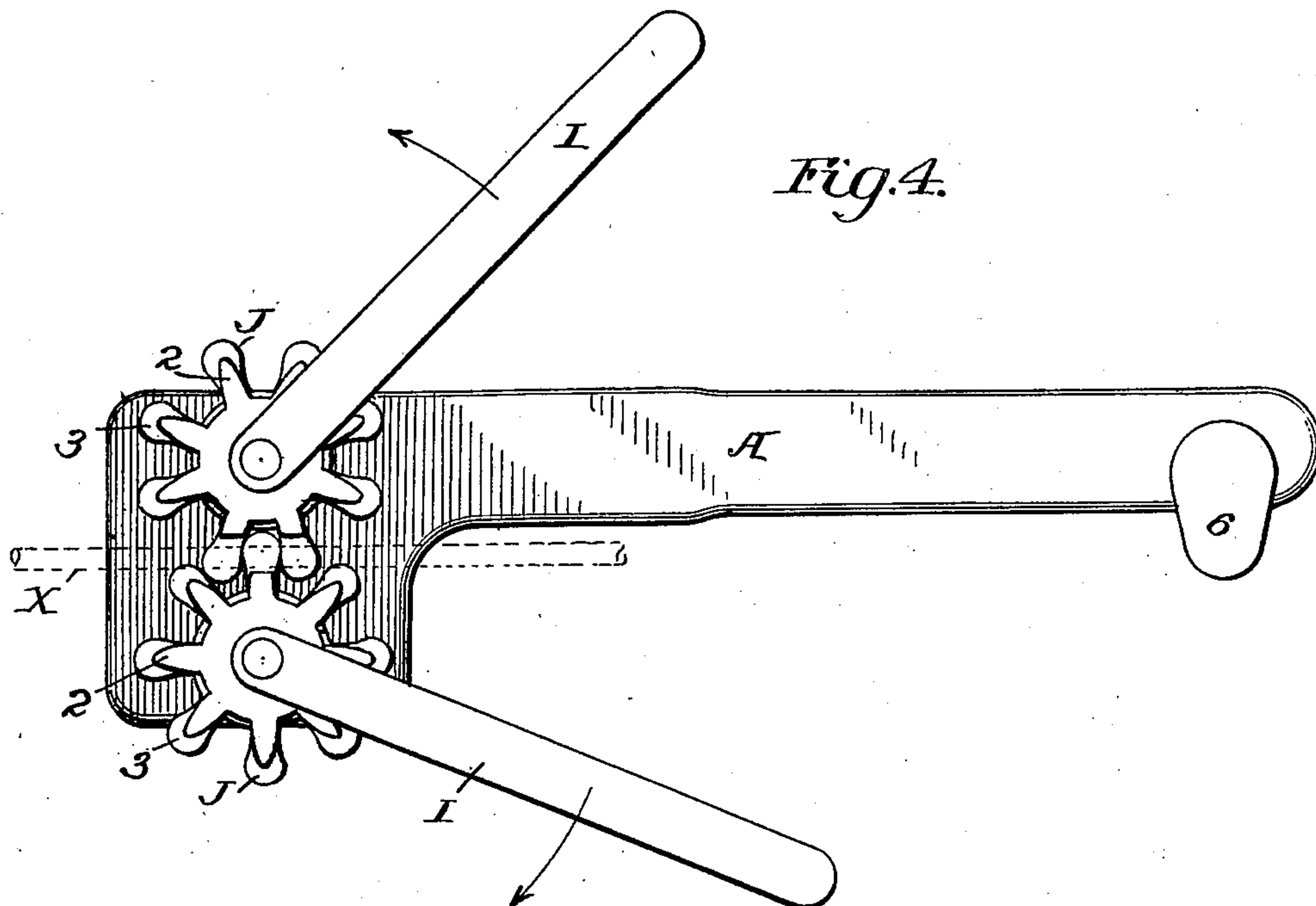
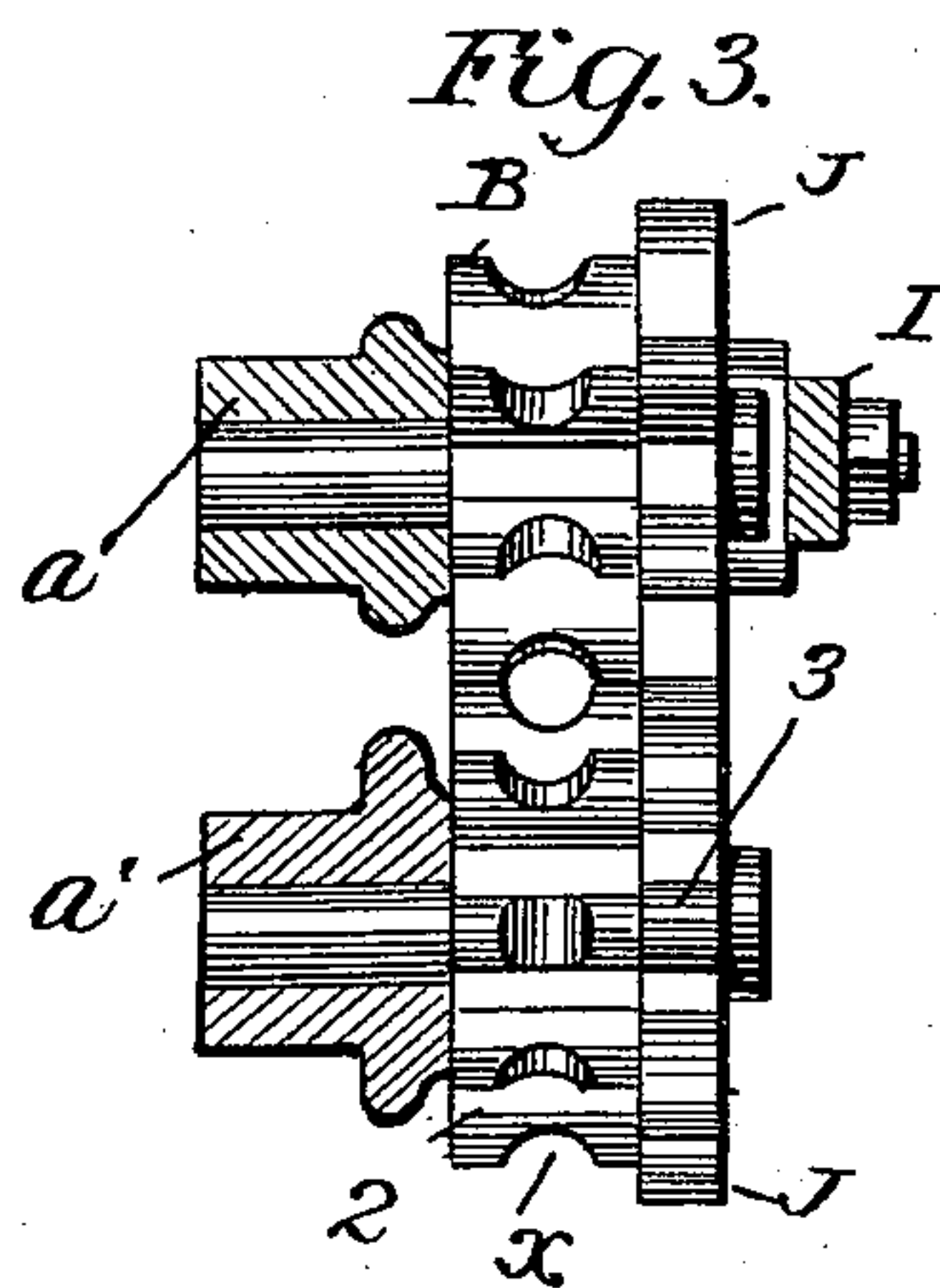
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

HARRY ZIMMERMAN, OF FREDERICK, MARYLAND.

TOOL FOR CRIMPING WIRES.

SPECIFICATION forming part of Letters Patent No. 689,449, dated December 24, 1901.

Application filed November 23, 1900. Serial No. 37,514. (No model.)

To all whom it may concern:

Be it known that I, HARRY ZIMMERMAN, a citizen of the United States, residing at Frederick, in the county of Frederick and State of Maryland, have invented certain new and useful Improvements in Tools for Crimping Wires, of which the following is a specification.

My invention has for its object to readily take up the slack or tighten the wires of wire fences or like structures; and to this end my invention consists of a tool provided with crimper-rolls and means for turning the same and adapted for application to such wires and to travel thereon in progressively crimping the same to take up the slack, as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a side view of my improved crimper device. Fig. 2 is a longitudinal section. Fig. 3 is a transverse section on the line 3 3, Fig. 2. Fig. 4 is a side view illustrating a modification.

The frame A of the tool is suitably constructed to have a bearing upon the wire X to be crimped and has suitable bearings for two crimper-wheels B B, turning one above the other on parallel axes and geared together by gears J J, which, as shown, are secured to and form part of the crimper-wheels. Each tooth 2 of each crimper-wheel is opposite one of the teeth 3 of the gear-wheel, and as a result the teeth of the crimper-wheel are carried between or intermediate each other; but the gear-teeth are so spaced and proportioned that the teeth of the crimper-wheels will not be brought in contact with each other, but each crimper-wheel tooth as it is carried between two adjacent teeth of the opposite wheel will be substantially equidistant therefrom, so that as the two crimper-wheels are rotated in the same direction they will operate upon an intermediate wire to form bends in the same progressively one after the other, the bends alternating in opposite directions, thereby shortening the length of the wire in proportion to the depth of the bends and the length of the portion of the wire thus crimped.

It is of course necessary in starting operations to introduce the wire between the crimper-rolls. One method of doing this is

to cut away the teeth that would otherwise be brought into engagement at one point in the rotation of the rolls, as shown in Fig. 4, thereby leaving an unobstructed space through which the wire can pass when the tool is brought laterally toward the wire, the gears being at the inner ends of the crimper-rolls—that is, adjacent to the frame—so that the rolls can be thus applied to the wire. On then turning one of the rolls the other is rotated therewith and the crimper-teeth are brought upon the wire to crimp the same, which may be effected to an extent equal to the tooth periphery of the crimper-rolls. Where, however, it is desired to construct the tool so that a wire can be crimped continuously for any desired length, the frame A may be made in two sections $a a'$, pivoted together at 4, each section carrying one of the rolls, so that the sections may be separated to apply the tool to the wire and then brought together to bring the crimper-teeth into action upon the wire to bend the same. As this last operation requires the application of considerable force, I provide means for forcibly carrying the crimper-rolls toward each other after the teeth thereof make contact with the wire. Thus I make use of a clamping-screw D, carried by an arm E, pivoted at 5 to the section a , so as to permit the section a' to be carried toward the section a until the crimper-teeth make contact with the wire, when the arm E is swung in the direction of its arrow to bring the screw D below the end of the section a' , after which by turning the screw D the crimper-rolls may be brought to any desired proximity, the construction and arrangement of the crimper-teeth before described affording room between the same for the wire to be bent and passed between the opposing rolls. By turning the screw D as required the depth of the bend may be varied to any desired extent.

Any suitable means may be employed for applying power to turn the rolls. As shown, one of the rolls is provided with a cross-bar or lever I, bolted thereto, and in order to support the frame properly upon the wire while power is being applied to turn the rolls the frame is provided with a lip 6, which extends over the wire at one end of the frame to afford a rest for the latter on the wire, the other

end being supported by the bearing of the crimper-roll upon the wire.

Frequent occasion arises in operating upon fence-wires to cut off portions of the wires, and I therefore make use of the sectional pivoted frame and the means for bringing the sections forcibly together as parts of a shearing device by providing one section, as the section *a'*, with a cutter-blade 7, the edge of which shears against a shearing edge 8 of the other section.

In the construction shown in Fig. 4 a handle is secured to each of the rolls, so that by drawing on the ends of the handles in the direction of the arrows they may be turned to the extent to which their teeth would operate to crimp the wire.

When the tool is to be used for bending a heavy wire or cable, the teeth of the crimper-rolls may be notched, as at *x*, Fig. 3, to receive the cable.

Without limiting myself to the precise construction and arrangement of parts shown, I claim as my invention—

1. A tool for crimping supported fence-wires consisting of a frame having a bearing for resting on the supported wire, a pair of crimping-rolls supported by the frame, means for bringing the rolls together to grip the wire, and means for turning the rolls to feed the tool bodily on the wire while crimping the latter, substantially as set forth.

2. A wire-crimper tool provided with a frame and bearings for supporting the frame movably on the wire to be crimped, two crimper-rolls carried thereby to engage the wire on opposite sides, and means to rotate the crimper-rolls to crimp the wire and carry the tool bodily along such wire, substantially as set forth.

3. A wire-crimper tool provided with a frame and bearings for supporting the frame bodily but movably on the wire to be crimped, two crimper-rolls carried thereby to engage the wire on opposite sides, gears rigidly connected to said rolls and adapted to mesh with each other, and means for applying power to

rotate the gears and rolls, substantially as set forth.

4. A wire-crimper tool provided with a frame and bearings for supporting the frame bodily but movably on the wire to be crimped, two crimper-rolls carried thereby and adjustable to and from each other to engage the wire on opposite sides, and means to rotate the crimper-rolls to crimp the wire and carry the tool along such wire, substantially as set forth.

5. The combination in a tool for crimping wire, of a frame consisting of two sections pivoted together at one end, one section having bearings for supporting the frame bodily but movably on the wire to be crimped, a crimper-roll carried by each section, a concentric gear of greater diameter rigidly attached to each crimper-roll, and means for clamping the sections in position, substantially as set forth.

6. The combination of a frame having bearings for supporting it bodily and movably on a wire to be crimped, crimper-rolls, having crimper-teeth and gear-teeth, mounted to turn in said frame, the crimper-teeth of one roll being out of engagement with the other roll when the gear-teeth of the two rolls are engaged, and a handle for turning the rolls, substantially as set forth.

7. The combination of the frame composed of two sections pivoted together at one end, one section having bearings to support the frame bodily and movably on a wire to be crimped, crimper-rolls and gears carried thereby, an arm pivoted to one frame-section, and a binding-screw carried by said arm and adapted to engage the other section to hold said gears in mesh with each other and the crimper-rolls in engagement with opposite sides of the wire, substantially as set forth.

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

HARRY ZIMMERMAN.

Witnesses:

CHARLES E. FOSTER,
HENRY J. GROSS.