No. 750,206. PATENTED JAN. 19, 1904.

M. E. LAYNE.

WIRE WINDING TOOL.

APPLICATION FILED JAN. 8, 1903.

NO MODEL.

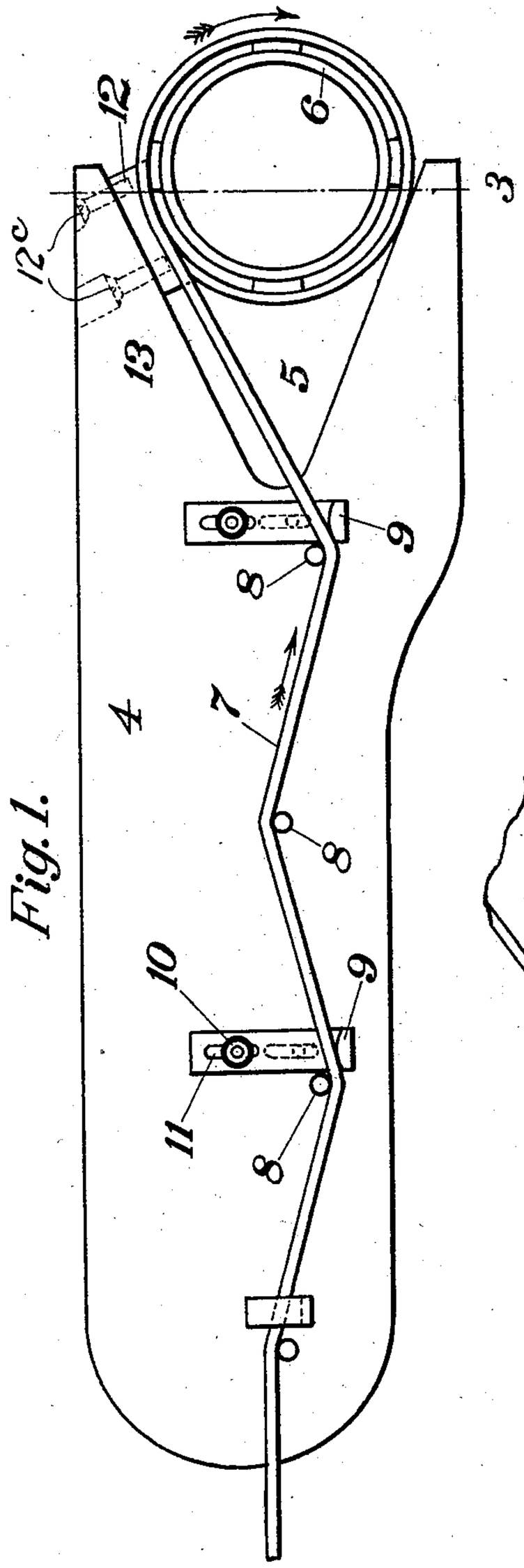

Fig. 1.

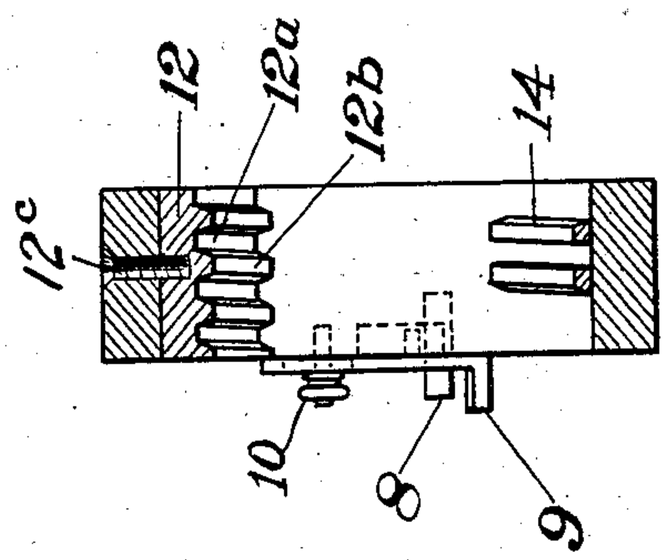

Fig. 3.

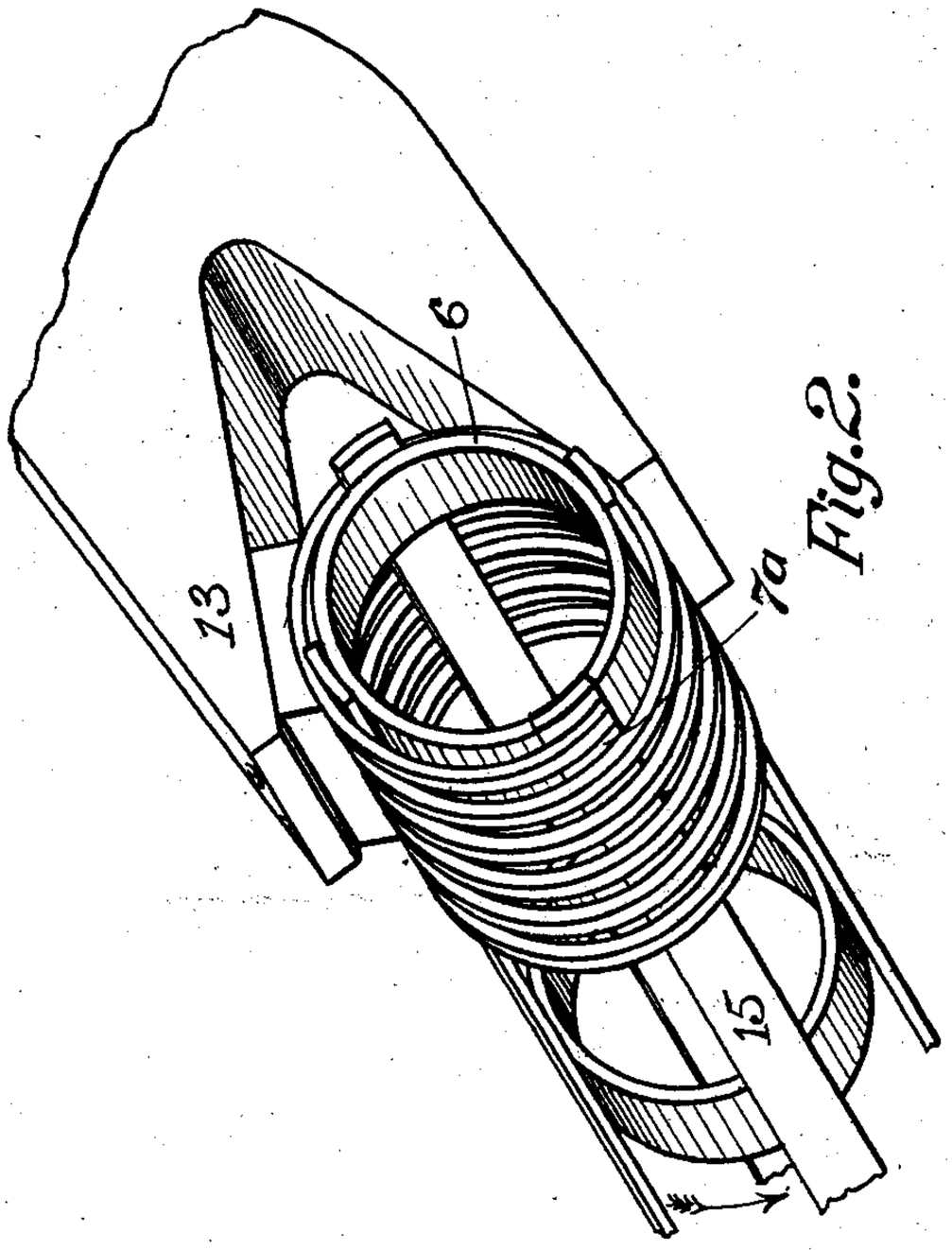

Fig. 2.

Witness:
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No. 750,206. Patented January 19, 1904.

UNITED STATES PATENT OFFICE.

MAHLON E. LAYNE, OF ROCK RAPIDS, IOWA.

WIRE-WINDING TOOL.

SPECIFICATION forming part of Letters Patent No. 750,206, dated January 19, 1904.

Application filed January 8, 1903. Serial No. 138,216. (No model.)

To all whom it may concern:

Be it known that I, MAHLON E. LAYNE, a citizen of the United States of America, residing at Rock Rapids, Lyon county, Iowa, have invented certain new and useful Improvements in Wire-Winding Tools, of which the following, taken in connection with the accompanying drawing, is a specification.

This invention has reference to apparatus of the kind specified, such as is used for example in winding wire around a skeleton frame for the manufacture of well screens or other like devices.

The first of the objects of this present invention is the provision of a device of the character mentioned which will be of simple and cheap construction, and yet which will serve to wind any size or kind of wire, about any size or kind of screen or frame, or pipe, and which, by the change of a small piece of the device, can be made to place the wire strands just such a distance apart as may be desired.

A further object of the invention is the provision of an apparatus of the kind specified which will not only guide and hold the wire in proper position as it is paid out to the device upon which it is being wound, but which will at the same time act as a straightener for the wire to take out any kinks there may be therein, and which will exert a tension or pull upon the wire, that will hold the wire tight around the article about which it is being wound, and will at the same time hold the device tightly in position against the article so that it may properly act as a guide for the wire.

The above, as well as such other objects as may hereinafter appear, I attain by means of a construction which I have illustrated in preferred form in the accompanying drawing, in which

Figure 1 is a side elevation of an apparatus embodying my improvement,

Figure 2 is a detail view showing a well screen being constructed by the use of my apparatus, and

Figure 3 is an end view and section on line 3 of the device showing the jaw and the guide grooves therefor.

In carrying out my invention I first provide a main piece or handle 4, formed with a jaw at 5, designed to extend upon opposite sides of the frame or reel indicated at 6 which is to be wound with the wire 7, that, as shown, runs around pins 8, and between certain of the pins 8 and tension devices 9, which are held by means of fastening screws 10 passing through slots 11, so as to permit of change in the adjustment of the tension devices 9 to vary the amount of pull upon the wire within the limits desired. Upon the inner face of one of the jaws of the forked end of the device 4 is secured detachably as by screws 12^c a guide plate 12, which is cut as a portion of a threaded die, as indicated in Figure 3, the said guide plate being secured to the inner face of the upper jaw 13, as shown, by any desired means, and arranged so that it can be replaced by another if a different size of wire is to be wound, or the spacing between the adjacent strands is to be altered. In some cases I may use an additional guide 14, as shown in Figure 3.

The guide may be of any desired construction and attached to the jaws in any manner convenient for its being replaced by another of different pitch.

The operation of my invention is as follows:

The wire having been started around the pins 8 and the tension devices 9, as indicated in Figure 1, the frame about which the wire is to be wound is caused to rotate in the direction shown by the arrow in Figure 1, when the wire will begin to wind about the frame, the first couple of strands being spaced sufficiently far apart to engage with the first couple of teeth on the guide plate 12, as shown in Figure 2, after which the said guide plate will continue to draw the device laterally, that is, lengthwise of the article upon which the wire is being wound, and cause the remaining part of the wire to be wound with the spacing between each adjacent strand just the same as was made in the case of the first couple of strands, and as is determined by the space 12^a between the teeth. The first two strands as indicated in Figure 2, by 7^a, and the teeth with which they then engage as indicated by 12^b, serves to properly guide the rest.

The tension devices 9 being so adjusted by means of the slotted openings 11 and screws 10 as to produce the proper amount of frictional pressure upon the wire 7, the wire 7 is caused to pull upon the device 4 and hold it tightly in contact with the frame 6, 15, upon which the wire is being wound, and to hold the guide plate 12 in position upon the strands which have already been wound.

This apparatus is intended primarily to make the form of well screen set forth in my copending application No. 138,217 but of course is as adaptable to use in any wire winding operation. It is important in the screen referred to, to place the turns of wire at a perfectly uniform distance apart and keep a constant tension on the wire.

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

1. An apparatus for winding wire comprising a body part or handle having a forked end, tension devices for the wire, and a guide plate therefor upon one of the forks of the handle having a plurality of slots, substantially as described.

2. A tool comprising a body with a divergent forked jaw to embrace a supporting frame, tension devices for a wire on the body and slotted guides in the forked jaws for engaging the wound wire on the frame to steady the same and space the wire.

3. A device for winding wire comprising in combination a body portion, divergent forked extremities upon said body portion, adapted to e nbrace the article to be wound, a guide attached to one of said forked extremities, designed to engage the strands of the wire after they are wound upon the article, and thereby feed the winding device along.

4. A wire winding tool comprising a handle having regulable tension devices for the wire, a rigid forked end, and one of the jaws of the fork having an interchangeable slotted guide to space and feed the wire along the support upon which it is being wound.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

MAHLON E. LAYNE.

In presence of—
PAUL CARPENTER,
PHILIP J. FINNEGAN.