No. 632,311. Patented Sept. 5, 1899.

B. F. KERNODLE.

HAND TOOL FOR FORMING STAPLES.

(Application filed Feb. 13, 1899.)

(No Model.)

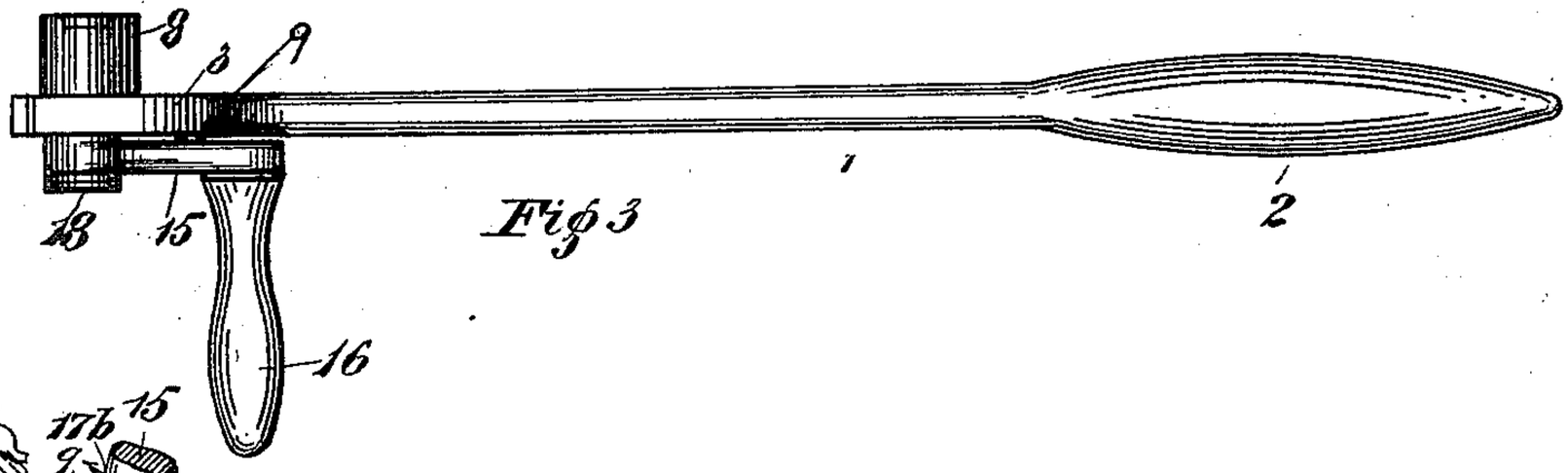

Fig 3

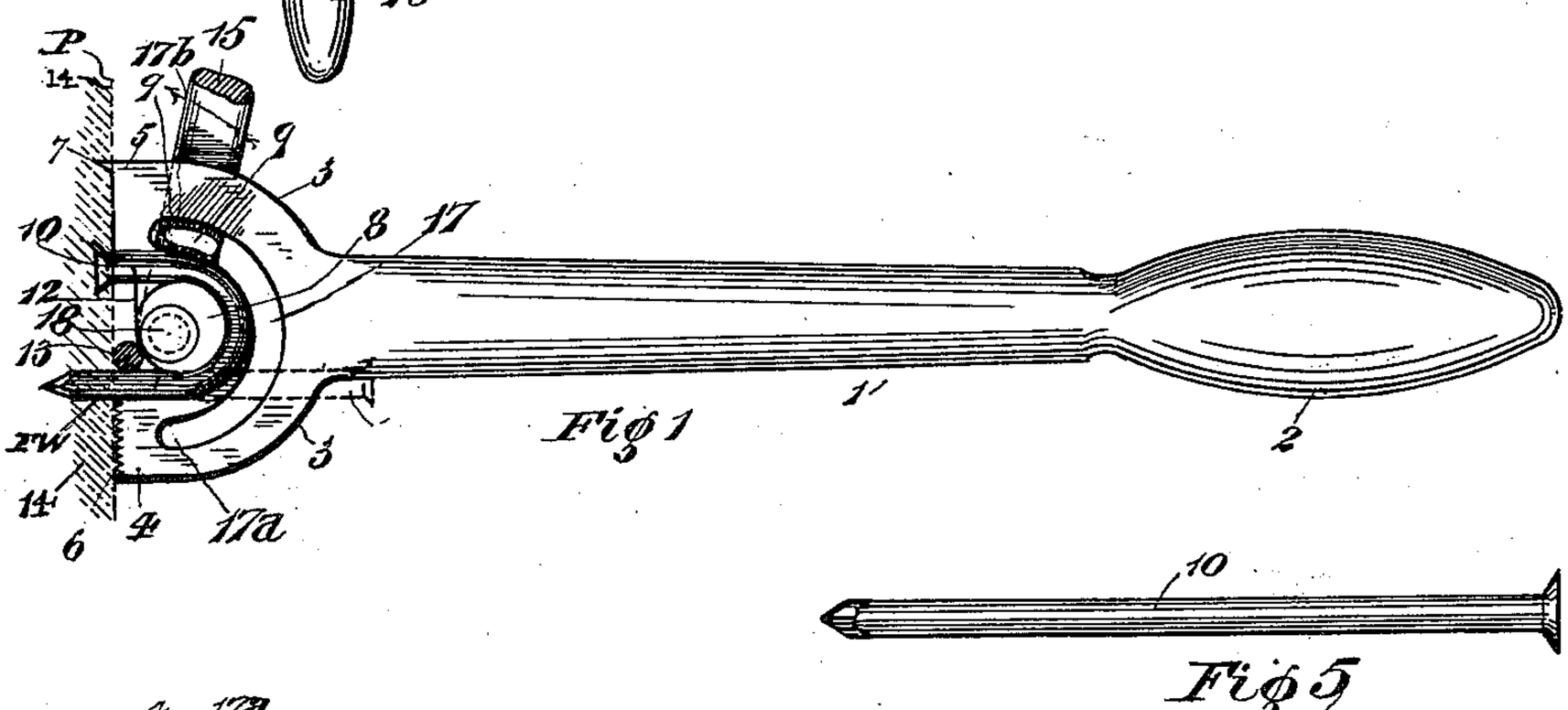

Fig 1

Fig 5

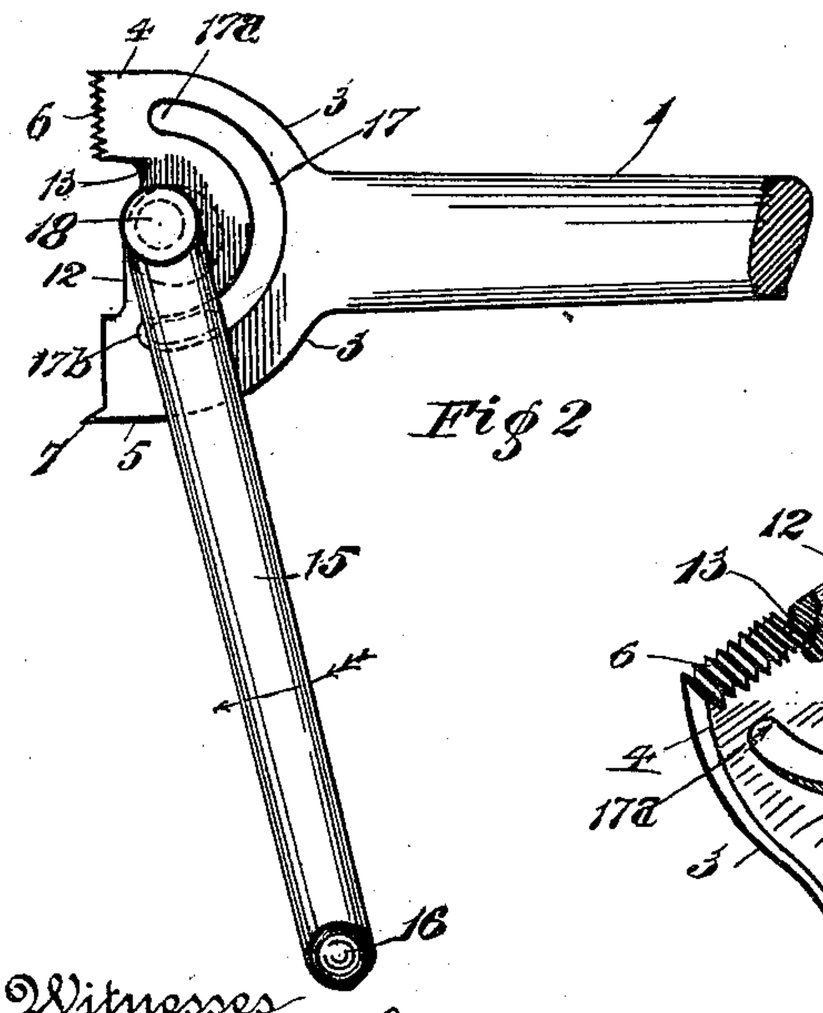

Fig 2

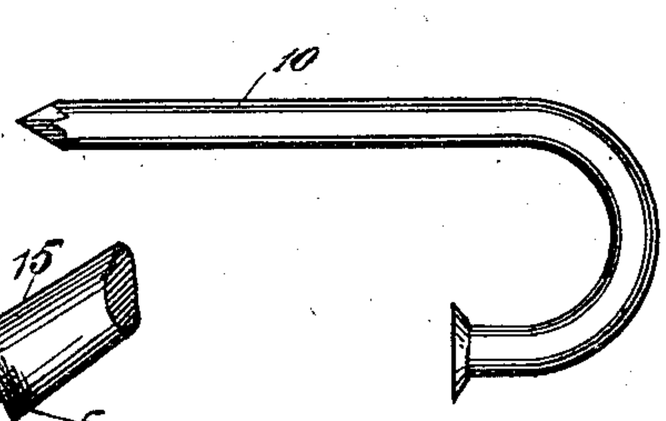

Fig 6

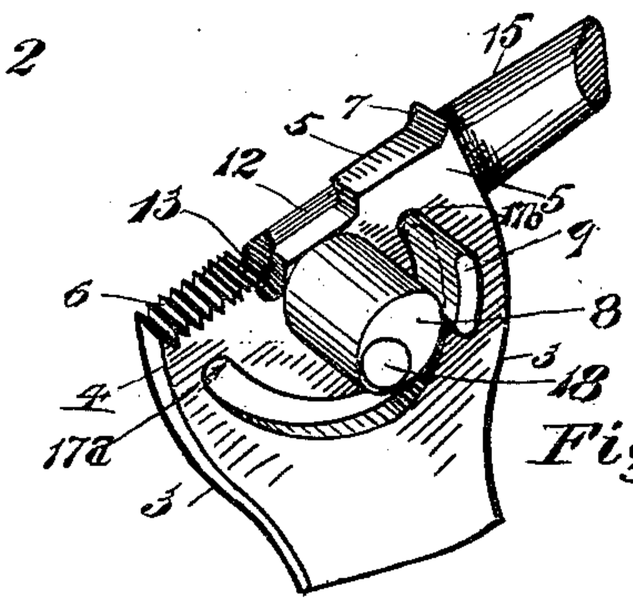

Fig 4

Witnesses
Jno G. Thurston.
Oliver M. Simmons,

Inventor
Benjamin F. Kernodle
By Attorney Thompson & Bell

UNITED STATES PATENT OFFICE.

BENJAMIN F. KERNODLE, OF JAMESTOWN, INDIANA.

HAND-TOOL FOR FORMING STAPLES.

SPECIFICATION forming part of Letters Patent No. 632,311, dated September 5, 1899.

Application filed February 13, 1899. Serial No. 705,417. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. KERNODLE, a citizen of the United States, residing at Jamestown, in the county of Boone and State of Indiana, have invented new and useful Improvements in Hand-Tools for Forming Staples, of which the following is a specification.

My invention relates to new and useful improvements in a hand-tool for forming or bending the projecting or head ends of nails to form a staple having legs of unequal lengths, which bending operation is performed after the nail has been driven in place to permanently secure the wires of a fence or like structure to its supporting-post or other supporting means.

The object of this my invention is to provide a cheap, light, and an effective hand-tool that can be used in the field to bend the projecting ends or head ends of the wire nails which are employed to secure the fence to its posts instead of the usual form of staple, to encircle the wire of the fence and secure the fence to its post, to bend the ends of the said securing-nails that the heads thereof will abut against the post into which they are driven and encircle the wire of the fence in the same manner as the ordinary staple, and to provide a cheaper and more effective means for securing wire fences to their posts than the staples, specially-formed hooks, or cleats heretofore employed for this purpose. I attain these objects by means of the device illustrated in the accompanying drawings, in which similar numerals of reference designate like parts throughout the several views.

Figure 1 is a front view of the device, showing the former and bender thereof. Fig. 2 is a rear broken-off view of the device, showing the pivotal bending-arm to which the bender is either secured or is formed integral thereon. Fig. 3 is an edge view of the device. Fig. 4 is a broken-off perspective view of the device. Fig. 5 is a view showing the form of the usual and well-known form of commercial wire nail; and Fig. 6 is a view of the said nail, showing the form of bend obtained by the application of my device and which is accomplished after said nail is driven into the fence-post.

In this my improved method of erecting and securing wire fences, particularly woven-wire fences, to their supporting-posts the wires or woven wires of the fence to be erected are drawn tightly in the usual or any suitable manner to and in contact with the supporting-posts, and in each of the supporting-posts is driven wire nails in such position and in contact with the fence-wires, or in case of woven-wire fences at the interstice or angle where the wires cross, to secure the fence to the supporting-posts. These securing-nails are not driven their entire lengths into the posts, but are purposely permitted to project to a certain predetermined extent or an amount to form the required bend, as illustrated in Fig. 6, and which bend encircles the wire of the fence to secure it to the post, and the means by which this object is accomplished constitute my invention, which I will now proceed to describe.

I first construct the lever 1, which may be of steel, malleable iron, or other suitable metal, and on one end of said lever is formed the handhold or handle 2 and on the opposite end is formed the segmental portion 3. The contacting or bearing ends 4 and 5 of the segmental portion 3 are provided with teeth, which form a resisting means to retain the tool in position on the fence-post while in use. The bearing end 4 is provided with the teeth 6 and the end 5 with the tooth 7 only and which is located at the extreme outer edge of the bearing end or foot for the purpose of the more readily being embedded into the surface of the post while manipulating the device to retain said device in its determined position over the fence-wire while bending the securing-nail 10.

The former 8, around which the projecting or head ends of the nails for securing the fence are bent, as shown in Figs. 1 and 6, is cylindrical and is preferably formed integral on the side of the segmental portion 3 of the device and projects a suitable distance therefrom and at right angles therewith, said former located intermediate between the ends or feet 4 and 5 and having its periphery touching the edge of the recessed portion 12 of the segment 3. A deeper semicircular recess or notch 13 is formed on that side of the segment 3 contiguous to the bearing end or foot 4 and is provided for the purpose of permitting the former 8 of the device to be placed in closer

proximity to the fence-wire, so that the securing-nail 10 will contact with the wire of the fence to be secured to the post 14. (Shown in dotted lines in Fig. 1.) The bender 9 is either firmly secured on the side of the lever 15 or is formed integral thereon and is of a segmental form, which form secures the greater body of metal to be distributed in the direction of the force and at the same time provides a concave portion directed toward the nail or object to be bent to retain the latter in form while being bent. The said bender is arranged to project through the segmental slot 17, with its concave surface parallel with the peripheral surface of the former 8 and to an amount equal to the height of the projection of the former 8. The bending-lever 15 is pivoted on the pin 18, which is secured in the segmental portion 3 of the device in such a manner that its axis is not only parallel with the axis of the cylindrical former, but is eccentric with the latter axis. This eccentricity of the bender 9 is provided for the purpose of causing the concave surface of the bender 9 to approach the peripheral surface of the former 8 at the close of the operation or when the head of the nail 10 is being turned down to contact with the surface of the fence-post—that is to say, when turning the lever 15 by its hande 16, commencing at the beginning 17^a of the segmental slot 17, to traverse the bender in the direction of the arrow and toward the end 17^b of the said slot the said bender gradually approaches toward the former 8 to firmly compress the object between them to permanently set the object to its bend. (See Fig. 1.)

I will now proceed to describe the manner of applying and using the device. Referring to Fig. 1, where it will be observed that the fence-wire F W is first drawn taut against the post 14, a wire nail of suitable strength or size is driven into the post in position to retain said wire taut and the said nail is driven only partially into the post, an amount of projection being provided to permit the formation of the required bend. The device is now applied to the post in position over the wire F W to be secured, so that the said wire enters the notch 13 and the vertically-projecting end of the securing-nail is between the former 8 and the bender 9 when the latter is at the beginning of its stroke or swing—that is, at the end 17^a of the slot 17. The operator grasps the handle 2 of the device and holds it firmly against the surface of the post 14 and with his disengaged hand grasps the handle 16 and swings the lever 15 in the direction of the arrow to cause the bender 9 to bend the projecting end of the nail 10 down in the form shown in Fig. 1, by which means the wire fence is securely held to its post.

Having thus fully described this my invention, what I claim as new and useful, and desire to cover by Letters Patent of the United States therefor, is—

1. In a tool for forming staples, the combination of a lever having a segmental end, a segmental slot in said end, and a cylindrical former situated centrally and contiguous with the bearing edge of said segment, the segment having a centrally-recessed portion and a wire-receiving notch, the cylindrical former projecting at a right angle, from one side of the aforesaid segmental end, with a lever pivotally connected with the opposite side of the segment, the said lever having its axis coincident with that of the segmental slot but eccentric with that of the former, and being provided with a bender adapted to project through the segmental slot and to operate therein, with its concaved surface toward the former and approximately parallel therewith, substantially as set forth.

2. In a tool for converting partially-driven fence-nails into staples, a lever having a segmental end, and teeth or projections on the bearing edge thereof, a segmental slot within the said end and a cylindrical former situated centrally and contiguous with the bearing edge of the segment, as described, in combination with a second lever pivotally connected with the back of the segment and having its axis coincident with the segmental slot, but eccentric with the former, and being provided with a bender adapted to operate in the segmental slot of the first lever, substantially as and for the purpose set forth.

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

BENJAMIN F. KERNODLE.

Witnesses:
JAMES T. CARNBY,
E. M. DALE.