

(No Model.)

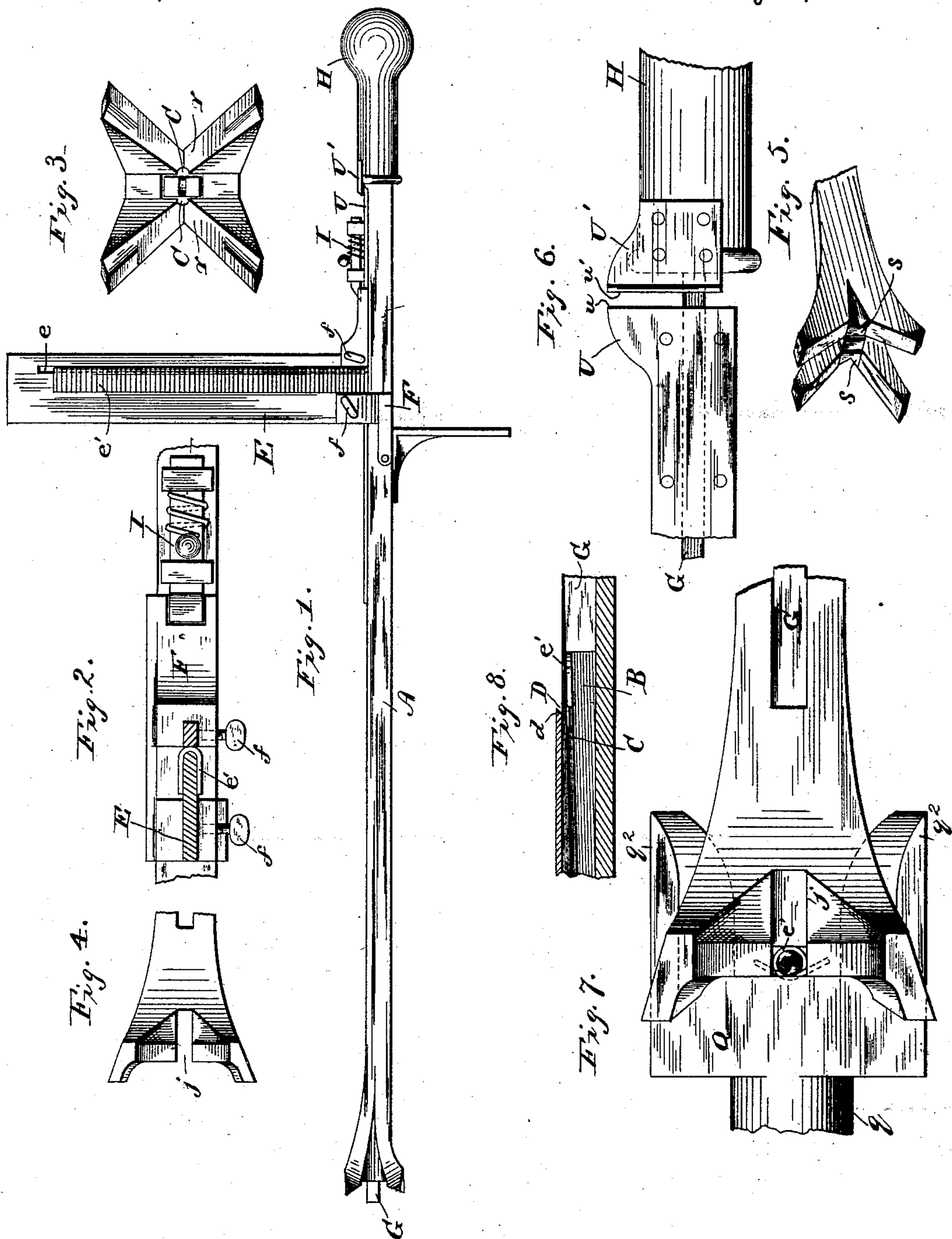
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IMPLEMENT FOR DRIVING AND CLINCHING STAPLES.

No. 317,480.

Patented May 5, 1885.



WITNESSES

Chas. R. Burr

A. J. Stewart.

INVENTOR

Wesley Young
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His Attorneys

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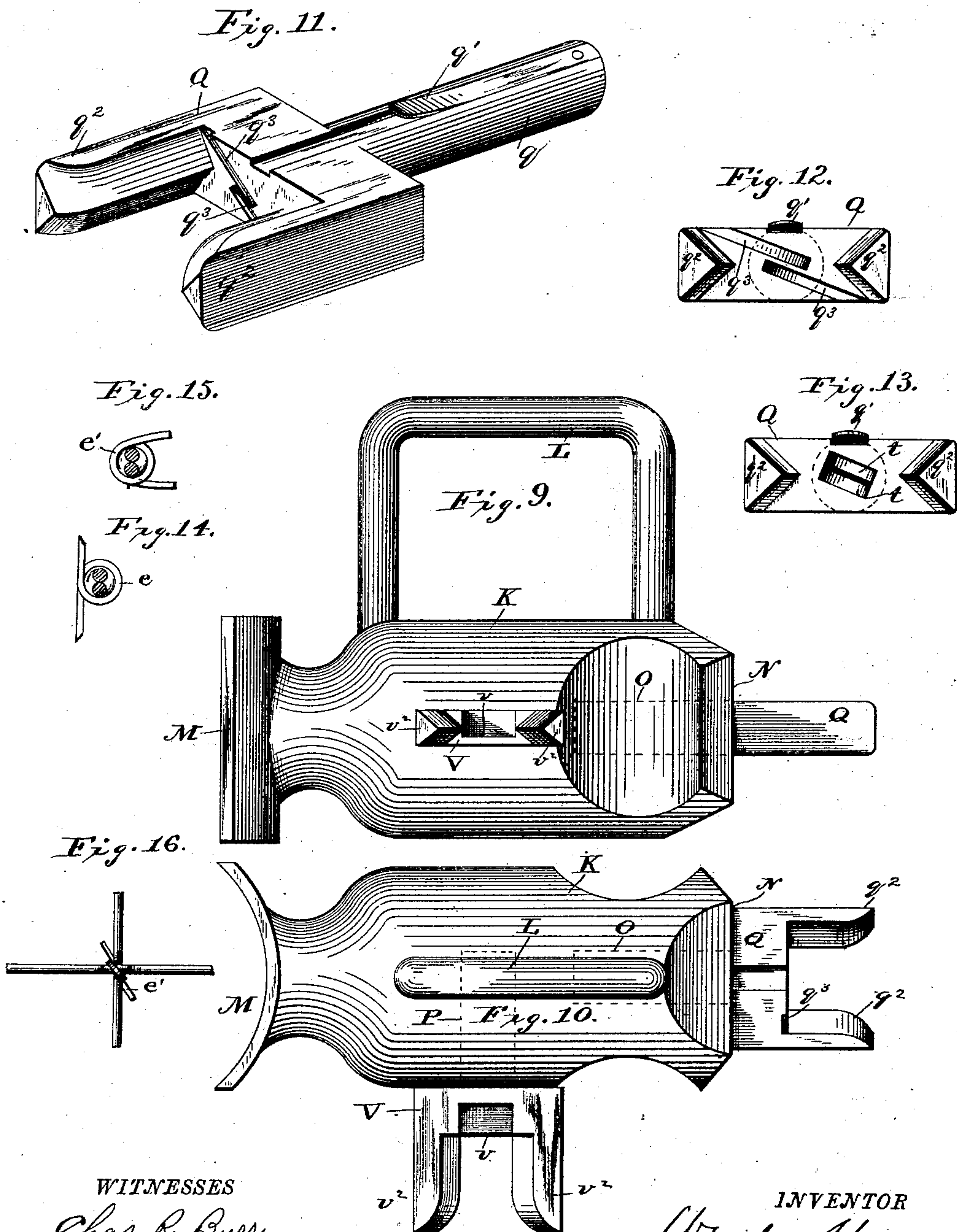
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UNITED STATES PATENT OFFICE.

WESLEY YOUNG, OF DAYTON, OHIO.

IMPLEMENT FOR DRIVING AND CLINCHING STAPLES.

SPECIFICATION forming part of Letters Patent No. 317,480, dated May 5, 1885.

Application filed February 4, 1885. (No model.)

To all whom it may concern:

Be it known that I, WESLEY YOUNG, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful improvements in implements for driving and securing staples in the construction of wire fences, wired hedge-fences, &c.; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

My invention has for its object to improve upon and extend the usefulness of the staple-driving instrument for which Letters Patent, No. 288,191, were issued to me on the 6th day of November, 1883; and it consists in certain novel features, which I will first describe, and then point out particularly in the claims at the end of this specification.

Referring to the accompanying drawings, Figure 1 represents a side elevation of my improved staple-driver; Fig. 2, a sectional plan view of a portion of the same; Fig. 3, a view of the outer end of the stock of the driver; Fig. 4, a top view of the end of the stock. Fig. 5 is a view of a modification in the form of the end of the stock; Fig. 6, a view of the wire-cutter, consisting of jaws mounted on the stock and plunger-handle of the implement, respectively. Fig. 7 is a view showing the manner in which the end of the stock, when formed as shown in Fig. 4, co-operates with a suitable anvil to secure two wires together by means of a staple driven by the plunger of the implement. Fig. 8 is a sectional view of a portion of the stock, showing the construction of the feed opening or throat through which the staples are fed into the longitudinal slots or channels of the stock. Fig. 9 is a side elevation of the block which carries the anvils forming part of the staple-bending and supplementary wire-cutting devices. Fig. 10 is a top view of the same. Fig. 11 is a perspective view of the anvil forming part of the staple-bending mechanism detached from the block. Fig. 12 is an end view of the same. Fig. 13 is a similar view of a modification of the same. Fig. 14 is a view showing the form of the staple after it has been bent upon the anvil shown in Figs. 11 and 12. Fig. 15 is a

view of the staple when bent upon an anvil, such as shown in Fig. 13. Fig. 16 represents a horizontal and a vertical wire united by a staple applied by means of my improved implement.

Similar letters of reference in the several figures indicate like parts.

The letter A indicates the stock of the staple-driver; B, Fig. 8, the longitudinal slot extending through the same for accommodating the plunger; C, Figs. 3 and 8, the grooves at the sides of the plunger-slot for receiving and guiding the staples; D, the entrance or throat through which the staples are fed into the stock; E, the bar upon which the staples are carried, and from which they are fed to the stock; F, the pivoted base-piece which carries the staple-holding bar E; G, the driving plunger, and H the handle of the plunger.

The general arrangement of all these parts is substantially the same as shown in the prior patent, though there are some difference in details, which I will now refer to. In the first place, the staple-holder in the present implement is very much simplified, consisting, as shown in Figs. 1 and 2, simply of a single piece of metal, wood, or other material, but preferably of wood, having a longitudinal slot, *e*, formed in it for the accommodation of the staples *e'*, and having its lower end inserted within the pivoted base F, and there clamped by means of set-screws *f f*, or other equivalent devices. This form of staple-holder is very light and inexpensive. Numbers of them are filled with staples and furnished to the operator who applies them to the implement one after another while in the field, throwing the empty ones away or aside as they become exhausted of staples. The staples are prevented from slipping off of the holders before use by the application of a rubber band or cord around the lower open end of the holders, as will be readily understood. In the second place, the feed opening or throat D of the implement I have improved by rounding or beveling its front corner, as shown at *d*. By this alteration should a staple drop into the guiding-slots with its forward end or prongs tilted upward, it would not become lodged under the blow of the plunger by reason of coming in contact with an abrupt shoulder, as in the former patented implement, but would,

by the beveled or rounded front corner of the throat, be directed downward into its proper channel. In the third place, the pivoted yoke employed in the old implement for locking the pivoted base F to the stock I now supplant by a spring-bolt, I, mounted upon the stock and adapted to be held normally projected over the outer end of the pivoted base, as shown in Figs. 1 and 2, so as to prevent the latter from rising. The outer end or extremity of the stock in the old implement was made angular, both vertically and horizontally, to enable the implement to obtain a more secure hold upon the plant or post on the one hand, and upon the horizontal wire to be secured to the plant or post on the other hand. In such a construction difficulty was sometimes experienced in properly holding and centering the wire while attempting to staple it to a plant or post standing somewhat out of the line of the fence. To obviate this in the present machine, I preferably form in the end a slot, *j*, as shown in Figs. 4 and 7. This slot serves to receive and hold securely the wire, and enables the end of the implement to be readily pressed against the plant or post to which the wire is to be stapled and there held, even though the plant or post be slightly out of the line of the fence, while the staple is driven. Another advantage derived from the employment of this slot *j* is that by inserting the line-wire within it the operator is enabled to readily raise and lower the wire, so as to staple it higher or lower on a plant or post or at the proper relative height on a post or plant that stands on an elevation or in a depression.

The former patented implement was designed, particularly, as a means for driving staples into plants or posts or elsewhere with a view to securing wires to such objects. I have found, however, that its usefulness can be further extended, and that when employed in connection with suitable co-operating devices it can be used as a means for applying staples to two parallel or to two crossed wires in a manner to securely bind such wires together, and, if desired, leave the ends of the staples projecting so as to serve as barbs; also, that it can be employed as a wire-cutter. These new uses for the implement will be explained particularly with reference to what is shown in Figs. 5, 6, and 7, and in Figs. 9 to 16, inclusive.

In Figs. 9 and 10, K represents what may be termed an "anvil-block." It is made preferably of cast metal, is provided with a handle, L, for supporting it, with a concave portion, M, at one end to enable it to be braced against a person's leg, and at its opposite end with a flat face, N, and it has a longitudinal aperture, O, and a lateral aperture, P, indicated by the dotted lines. When the staple-driver is employed to staple wires to hedge-plants, the end N of this implement K is pressed against the side of the plant opposite to that in which the staple is being driven, so as to prevent the plant from being bent or broken, as well as to

afford a substantial resistance to the action of the driver and insure the proper entry of the staple into the plant, the opening O serving to accommodate the points of any staple that may be driven clear through the plant. An implement such as this, for the purpose stated, has already been secured to me by patent No. 287,077, dated October 23, 1883. I avail myself of it, however, in carrying out my present invention, principally, for the reason that it simplifies the equipment of a hedge or wire fence builder. To the aperture O, I adapt the shank *q* of an anvil, Q, arranging a spring, *q'*, on said shank for the purpose of holding the anvil in place, though not preventing its removal by the application of a little force. This anvil Q has two projecting lugs, *q² q²*, and has on its face two oblique grooves, *q³ q³*, which are curved from their inner ends outwardly.

When it is desired to secure two wires together by a staple, the implement K is placed upon one side of said wires with the face of its anvil Q against them, as indicated in Fig. 7. The end of the staple-driver is then pressed against the face of the anvil and between the lugs *q² q²* thereof, as shown in Fig. 7, and by means of the plunger a staple is driven forward through the stock of the driver so as to bestride the two wires and impinge upon the face of the anvil, the points or prongs of the staple as they strike the anvil entering the grooves *q³ q³* thereof, and by reason of the curvature of said grooves being directed past each other and out at opposite sides in a manner to cause the wires to be encircled by one turn of the material of the staple and leave the ends of the latter projecting in the form of barbs, as shown.

It will be observed that in Fig. 7 the ends of the staple are shown bent backwardly from the face of the anvil and at an angle to each other. This is due to the fact that the end or head of the driving implement is beveled off at the points *r r*, as shown in Fig. 3. If it is desired to leave the ends of the staple projecting in the same plane, as shown in Fig. 14, it is only necessary that the end or head of the driving implement be filled out so as to present a flat instead of a beveled face, as shown in Fig. 5 at *s*. On the other hand, where it is desired to impart to the staple the form shown in Fig. 15, the grooves in the anvil-block may be made shorter and with sharper curvature, as shown at *t t* in Fig. 13. In fact, the ultimate shape imparted to the staple is dependent entirely upon the contour of the co-operating surfaces of the driver-end and anvil, respectively, and can be varied at the pleasure of the constructor.

In the practical use of these devices employed in carrying out my invention it becomes necessary to frequently sever the wires employed upon the hedge or fence under construction, and I have therefore provided in connection with my invention two wire-cutters, the first consisting of two overlapping plates, U U', having cutting-edges *u u'*, and

mounted on the stock and plunger handle, respectively, as shown in Figs. 1 and 6, and the other consisting of a cutting-anvil, V, having a cutting-edge, *v*, a shank, and holding-spring, similar to that shown in Fig 11, upon the anvil Q, and adapted to co-operate with the plunger of the driving implement. The manner of using this second wire-cutter is as follows: The wire to be cut is placed between the jaws *v*² *v*² of the cutting-anvil and against the cutting-edge *v* thereof, after which the end of the driving implement is inserted between the jaws *v*² *v*² in the same manner in which said implement is inserted between the jaws of the anvil, as shown in Fig. 7, then as the plunger is forced forward its forward edge, co-operating with the edge *v* of the cutting-anvil, severs the wire with a clean cut.

Having thus described my invention, what I claim as new is—

1. The combination of the detachable slotted feed-bar with the base-piece mounted on the stock of the implement and means, substantially such as described, for securing the feed-bar to the base-piece.

2. The combination, with the stock and with the base-piece pivoted thereto and carrying the feed-bar, of the automatic spring-bolt mounted on the stock, substantially as described, for the purpose specified.

3. The combination, with the plunger, of the stock having the longitudinal slot for the passage of the plunger, the grooves for guiding the staples, and the throat or feed-opening beveled or rounded at the front, substantially as described, for the purpose specified.

4. The stock having its outer end or head provided with the slot for receiving and holding the wire or wires to which the staple is to be secured, substantially as described.

5. The combination, with the stock, its plunger, and plunger-handle, of the cutting-plate secured to the stock and the co-operating cutting-plate secured to the plunger-handle, substantially as described.

6. The combination, with the staple-driver and its plunger, of an anvil provided with the two parallel curves or inclines, one for each leg of the staple, for bending the legs of a staple driven by the plunger around a wire or wires held between the end of the staple-driver stock and the said anvil, substantially as described.

7. The combination, with the staple-driver stock, formed as described, and the plunger and staple-feeding devices of said staple-driver, of the anvil having the grooves in its face and the projecting lugs, substantially as described.

8. The combination of the staple-bending anvil having the shank and spring with the block having the opening for receiving the shank of the anvil, substantially as described.

9. The combination, with the staple-driver, constructed as described, of the cutting-anvil having the projecting lugs and the cutting-edge for co-operating with the end of the staple-driver plunger, to sever the wire, substantially as described.

10. The combination, with the staple-bending anvil having the curved or inclined grooves in its face, of the staple-driver having the end of its stock formed flat at the points *s s*, for the purpose of pressing the ends of the attached staple into the same plane, substantially as described.

WESLEY YOUNG.

Witnesses:

A. L. WILSON,
WM. S. BROWN.