

No. 669,026.

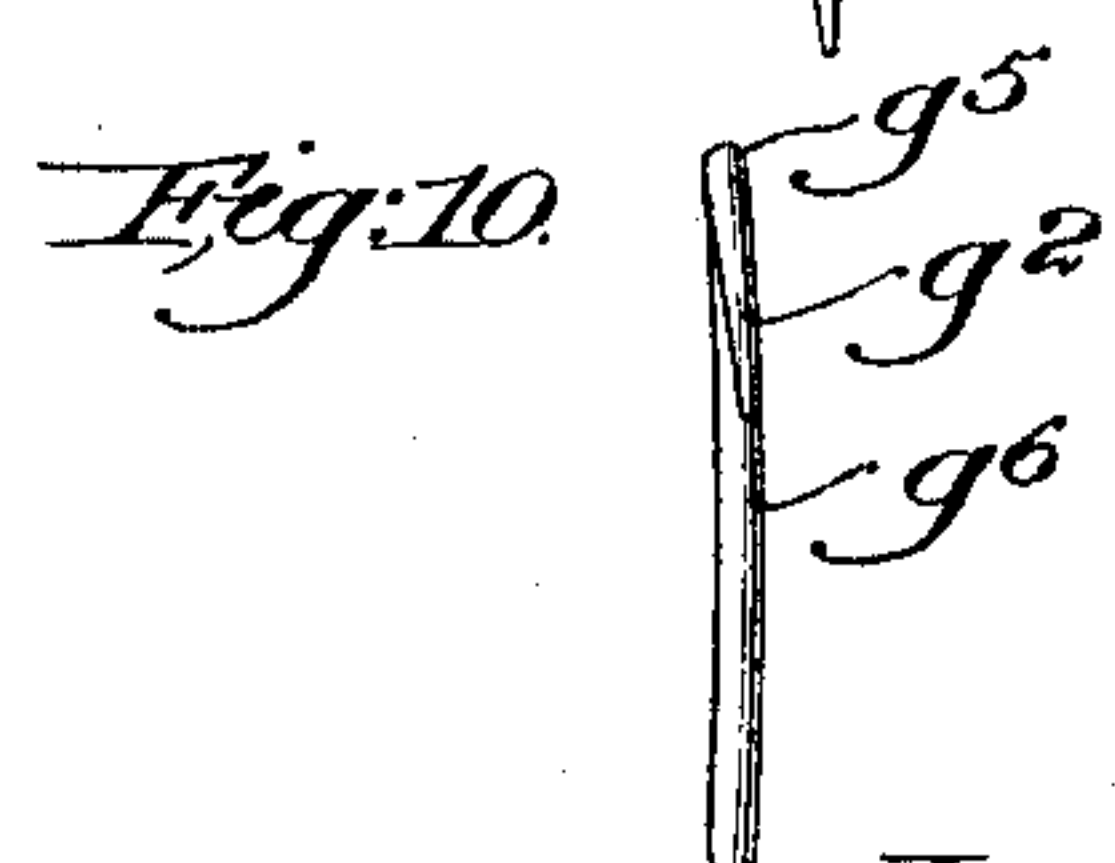
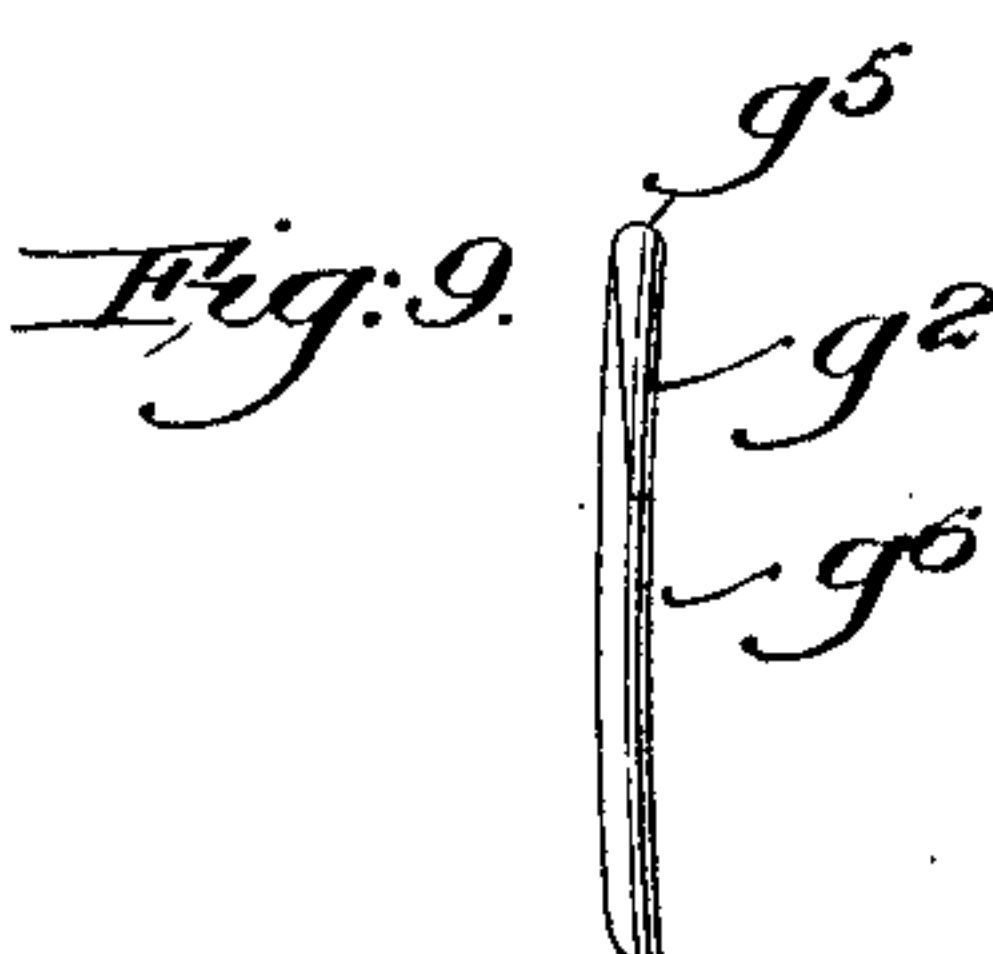
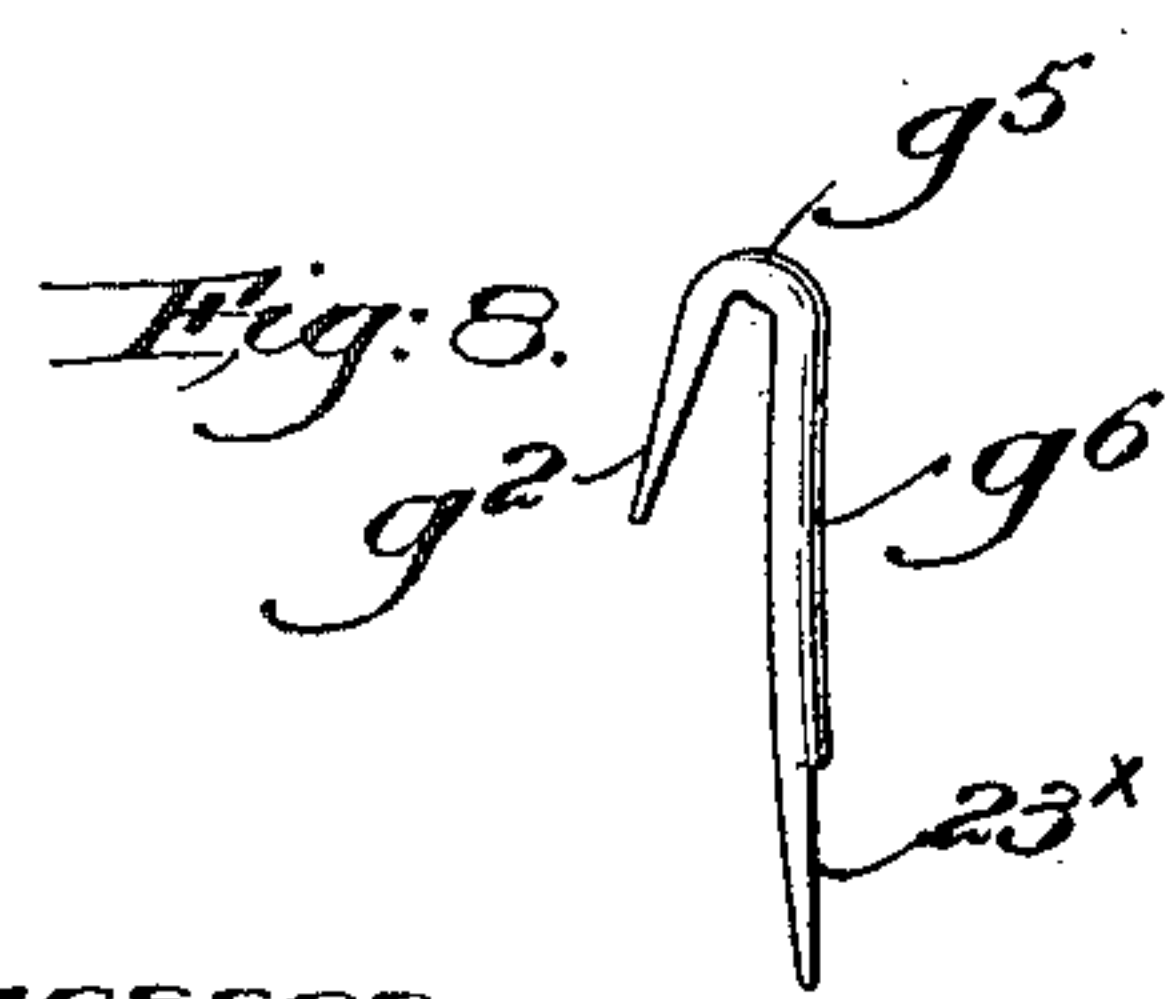
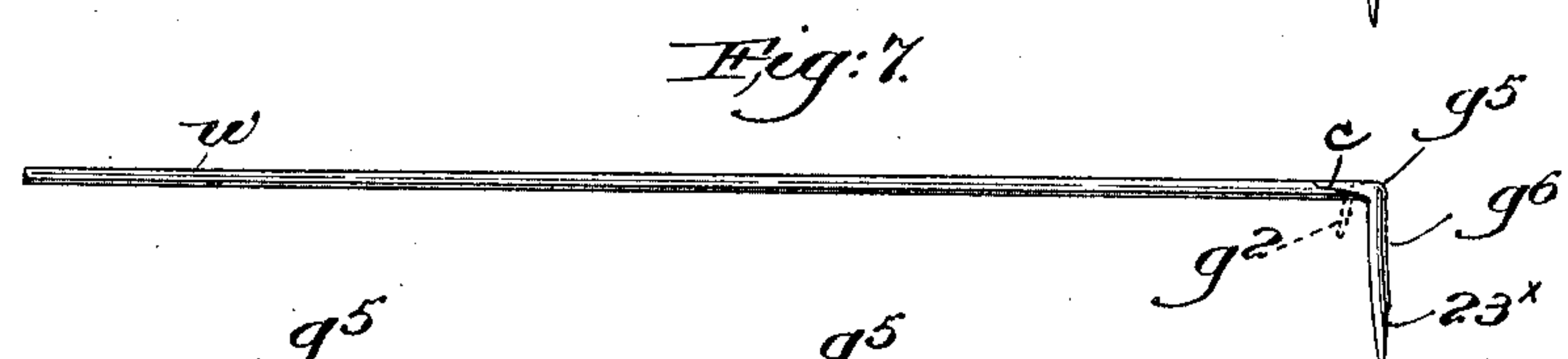
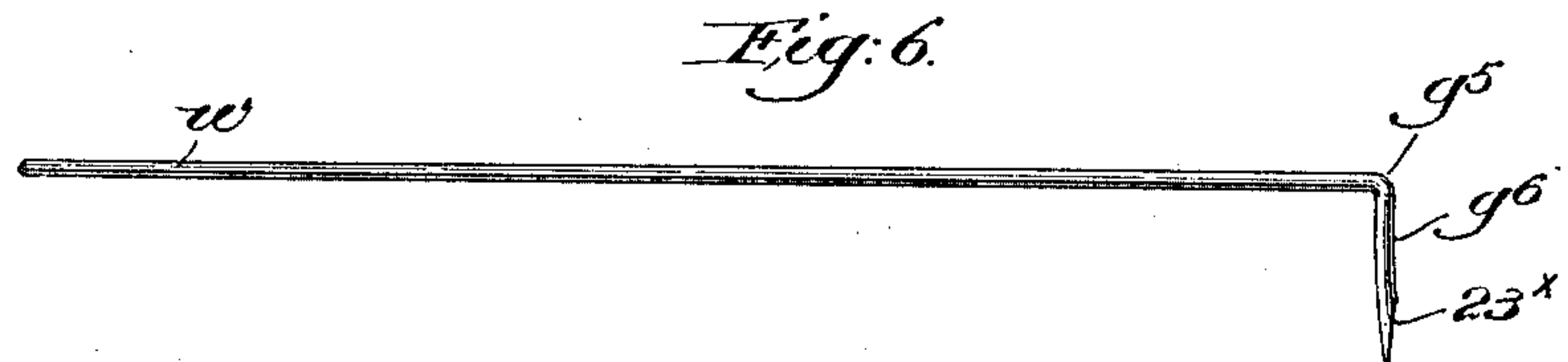
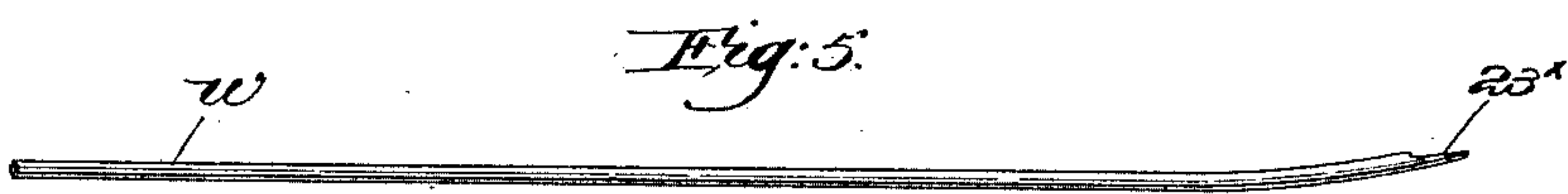
Patented Feb. 26, 1901.

L. A. CASGRAIN.

METHOD OF MAKING METALLIC FASTENINGS.

(Application filed May 25, 1900.)

(No Model.)



Witnesses,
Edward F. Allen.
W. C. Linsford

Inventor,
Louis A. Casgrain.
by Crosby & Gregory
attys.

UNITED STATES PATENT OFFICE.

LOUIS A. CASGRAIN, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO
UNITED SHOE MACHINERY COMPANY, OF BOSTON, MASSACHUSETTS.

METHOD OF MAKING METALLIC FASTENINGS.

SPECIFICATION forming part of Letters Patent No. 669,026, dated February 26, 1901.

Application filed May 25, 1900. Serial No. 17,938. (No specimens.)

To all whom it may concern:

Be it known that I, LOUIS A. CASGRAIN, a citizen of the United States, residing at Winchester, county of Middlesex, and State of Massachusetts, have invented an Improvement in Methods of Making Metallic Fastenings, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention consists in a novel method of producing from continuous wire a novel metallic fastening having a shank or body and a head with a downturned portion or depending point constituting a hook-shaped end.

The fastening may be produced in accordance with my improved method either by hand or by the use of mechanism. In manufacturing the fastening for commercial use I produce it in large quantities, and therefore prefer to make it by machinery. I have shown in my application for United States Letters Patent, Serial No. 734,828, filed October 26, 1899, a commercial machine comprising mechanism for making this fastening in accordance with my improved method. The machine of that application is organized also to drive the fastenings; but it is obvious that the fastening having been made in accordance with my method by hand or by any suitable mechanism might be driven in a separate machine.

The novel fastening constitutes the subject-matter of my United States application, Serial No. 44,376, filed January 23, 1901, which is a division of this present application.

In the drawings, Figure 1 shows a piece of wire suitable for the production of my improved fastening. Fig. 2 shows the same wire after it has been curved. Figs. 3 and 4 show the wire with a point formed on its end. Fig. 5 is a view of the wire with another curve imparted to it. Fig. 6 shows the wire after it has been bent to form the shank of the fastening. Fig. 7 shows the diagonal cut in the wire, the head-forming portion before the fastening is completed being indicated in full lines, the dotted lines showing the hook-shaped head after the head-forming portion has been bent. Fig. 8 shows the completed

fastening enlarged, and Figs. 9 and 10 are enlarged views of the fastening with different curvatures in its shank.

Referring to the drawings, w is a piece of wire of convenient length from which a fastening may be formed in accordance with my improved method. If it is desired that the shank g^6 of the completed fastening shall be curved in a plane substantially at a right angle to the plane of the hook-shaped head, as shown in Figs. 9 and 10, the wire w may be curved as shown in Fig. 2. The curvature therein shown will produce the curvature in the shank shown in Fig. 9. In case such a curvature is not desired in the shank this step will be omitted. For the next step I preferably form a tapered point 23^\times on the end of the wire, and I prefer also to slightly bevel one edge of the tapered point, as shown at p , Fig. 4. In order to insure that the fastening shall be driven straight into the stock, I prefer to have the shank g^6 of the completed fastening curved away from the depending point g^2 of the head, as shown in Fig. 8. To secure this curvature, I curve the wire as shown in Fig. 5, this curvature being in a plane at a right angle to the plane of the curvature shown in Fig. 2. Where the wire is curved in both of these planes, it is obvious that the shank of the completed fastening will have a double curvature. The next step in the formation of the fastening by my novel method is the bending of the end of the wire, as shown in Fig. 6, to form the shank of the fastening and also to define the head of the fastening. The partially-formed blank for the fastening is next severed from the wire by a diagonal cut c , which forms a tapered point on the head-forming portion g^5 of the fastening and which also leaves a tapered point on the body of the wire, as shown in Fig. 3. By this cutting operation I therefore form a tapered point for the hook-shaped head of my fastening and at the same time form a tapered point on the body of the wire, which will constitute the point of the shank of the next fastening. The next step in the formation of my fastening is the bending of the head-forming portion g^5 to form the hook-shaped head of the fastening, having the point g^2 depending from the preferably curved head

g⁵, as shown in Fig. 8 and in dotted lines, Fig. 7. This completes the formation of my improved fastening by my novel method.

It is distinctly preferable first to bend the end of the continuous wire to form the shank of the fastening and to bend the wire to form the hook-shaped head at a subsequent operation after the blank for the fastening has been severed from the continuous wire.

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

1. That improvement in the art or method of forming fastenings from continuous wire, which consists in curving the wire, then bending the wire to form the curved shank or body of the fastening, then severing the fastening from the wire and thereafter further bending the wire of the fastening to form a hook-shaped head having a depending point shorter than the shank.

2. That improvement in the art or method of forming shoe-fastenings from continuous wire which consists in forming a flat tapered point on the wire, bending the wire to form a pointed shank or body, severing the fastening from the wire, and further bending the wire of the fastening to form a head with a depending point shorter than the shank.

3. That improvement in the art or method of forming shoe-fastenings from continuous wire which consists in making a flat tapered point on the end of the wire, slightly beveling one edge of the tapered point, and thereafter bending the wire to form the shank or body and then the hook-shaped head of the fastening shorter than the shank.

4. The method of producing shoe-fastenings from metal or wire, which consists in bending the wire to define the shank for the fastening and also define the position for its head, and thereafter severing the wire at a

point behind said bend forming a flat tapered point, leaving an end shorter than the shank extending from the shank of a length sufficient for the formation of a hook-shaped head.

5. The method of producing shoe-fastenings from metal or wire, which consists in bending the wire to define the shank for the fastening, and also define the position for its head, thereafter severing the wire at a point behind said bend forming a flat tapered point and leaving a short end extending from the shank, and then bending such short end to complete the head and form a depending point shorter than the shank.

6. That improvement in the art or method of forming shoe-fastenings from continuous wire which consists in forming a flat tapered point on the wire, bending the wire to form a pointed shank or body, severing the blank of the fastening from the wire, forming a tapered head-forming portion, and then bending the wire to form a hook-shaped head for the fastening shorter than the shank.

7. That improvement in the art or method of forming shoe-fastenings from continuous wire which consists in bending the wire to form the shank or body of the fastening, severing the fastening from the wire by a cut which forms a pointed head-forming portion on the fastening and at the same time forms on the body of the wire a point for the shank of the fastening next to be made, and thereafter further bending the wire of the fastening to form a hook-shaped head shorter than the shank.

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

LOUIS A. CASGRAIN.

Witnesses:

NELSON W. HOWARD,
EDWARD H. PALMER.