

No. 627,914.

Patented June 27, 1899.

D. FRANKFORD.
DEVICE FOR FORMING WIRE FENCE CLIPS.

(Application filed Feb. 1, 1899.)

(No Model.)

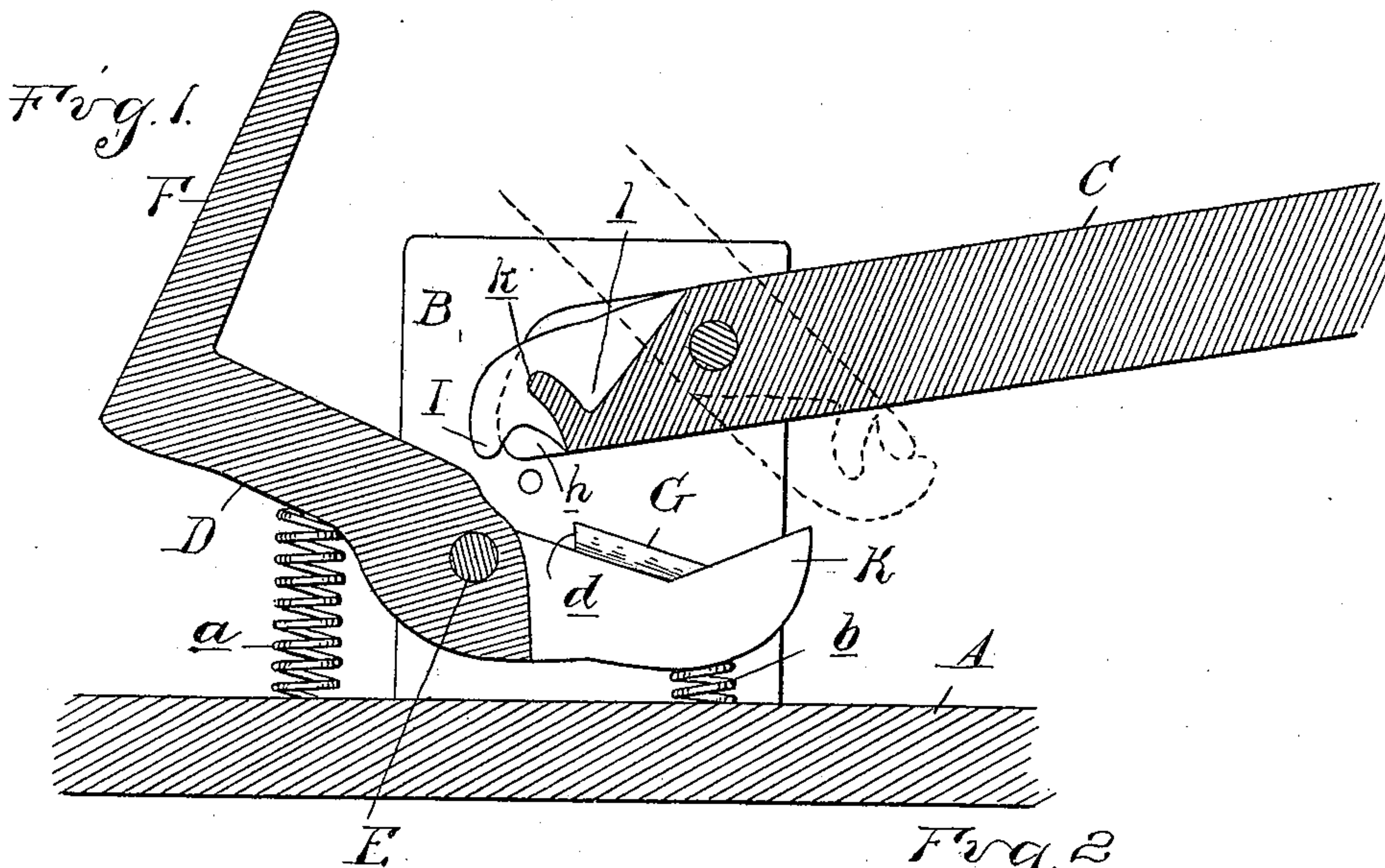


Fig. 3.

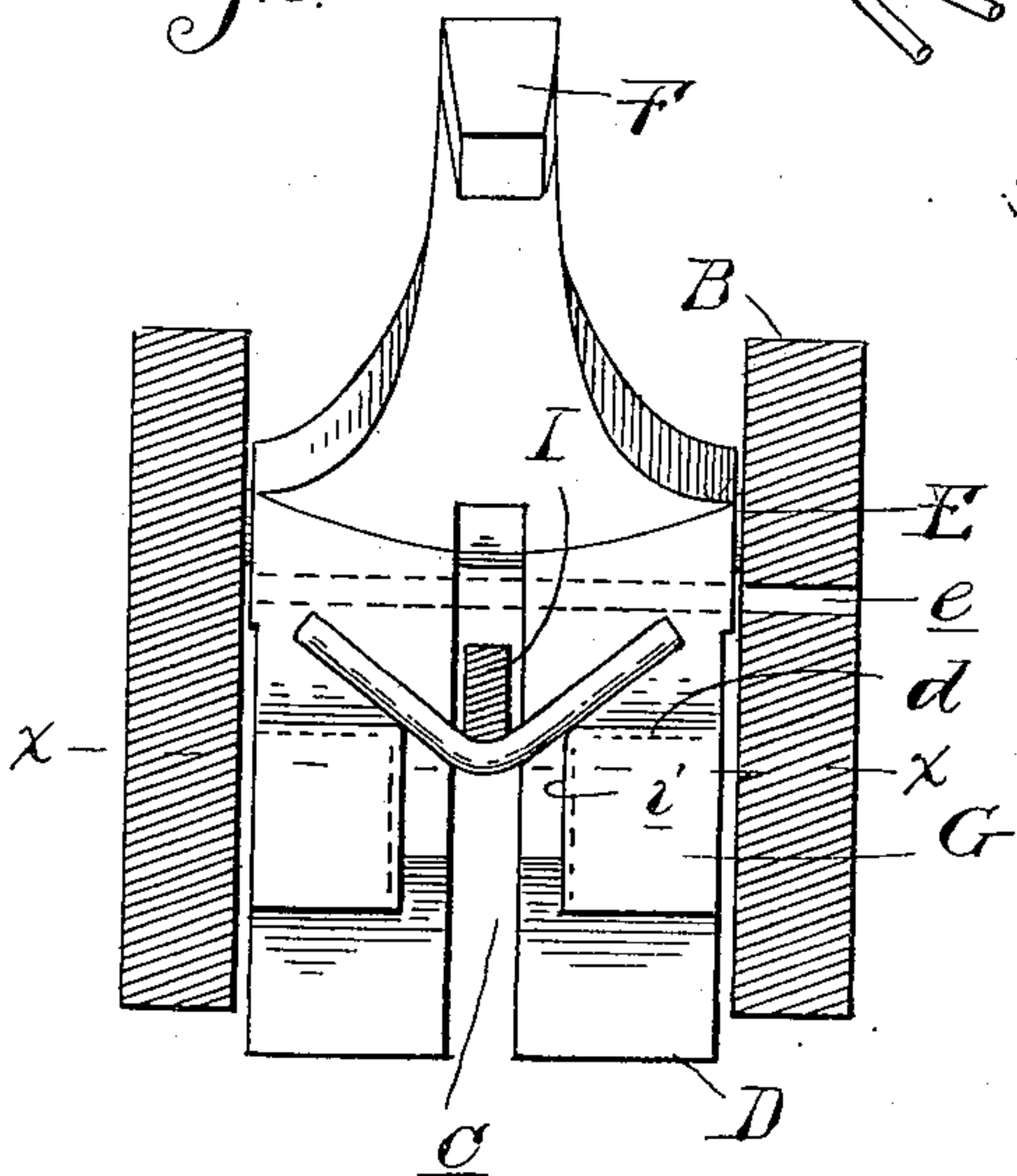


Fig. 5.

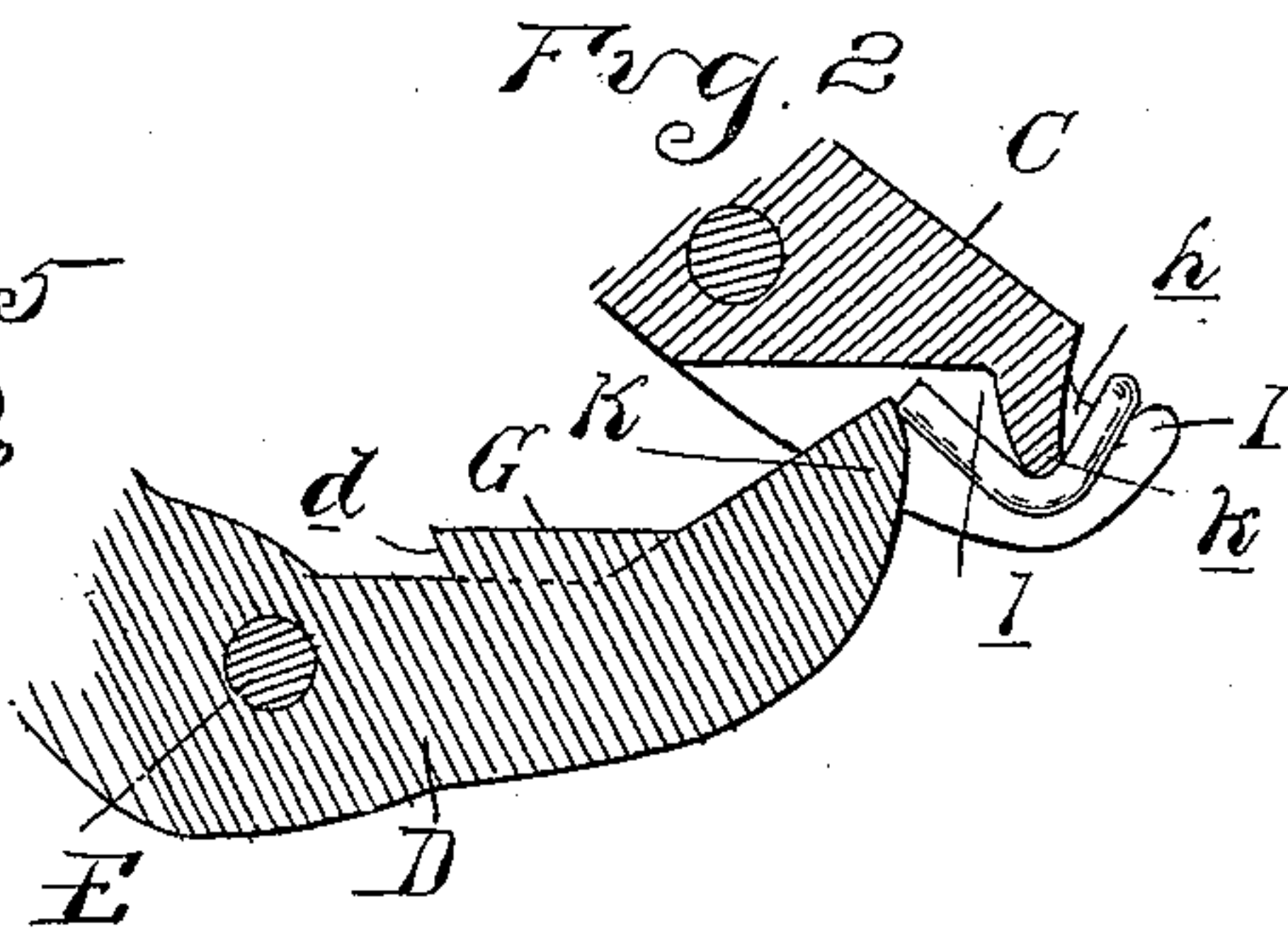
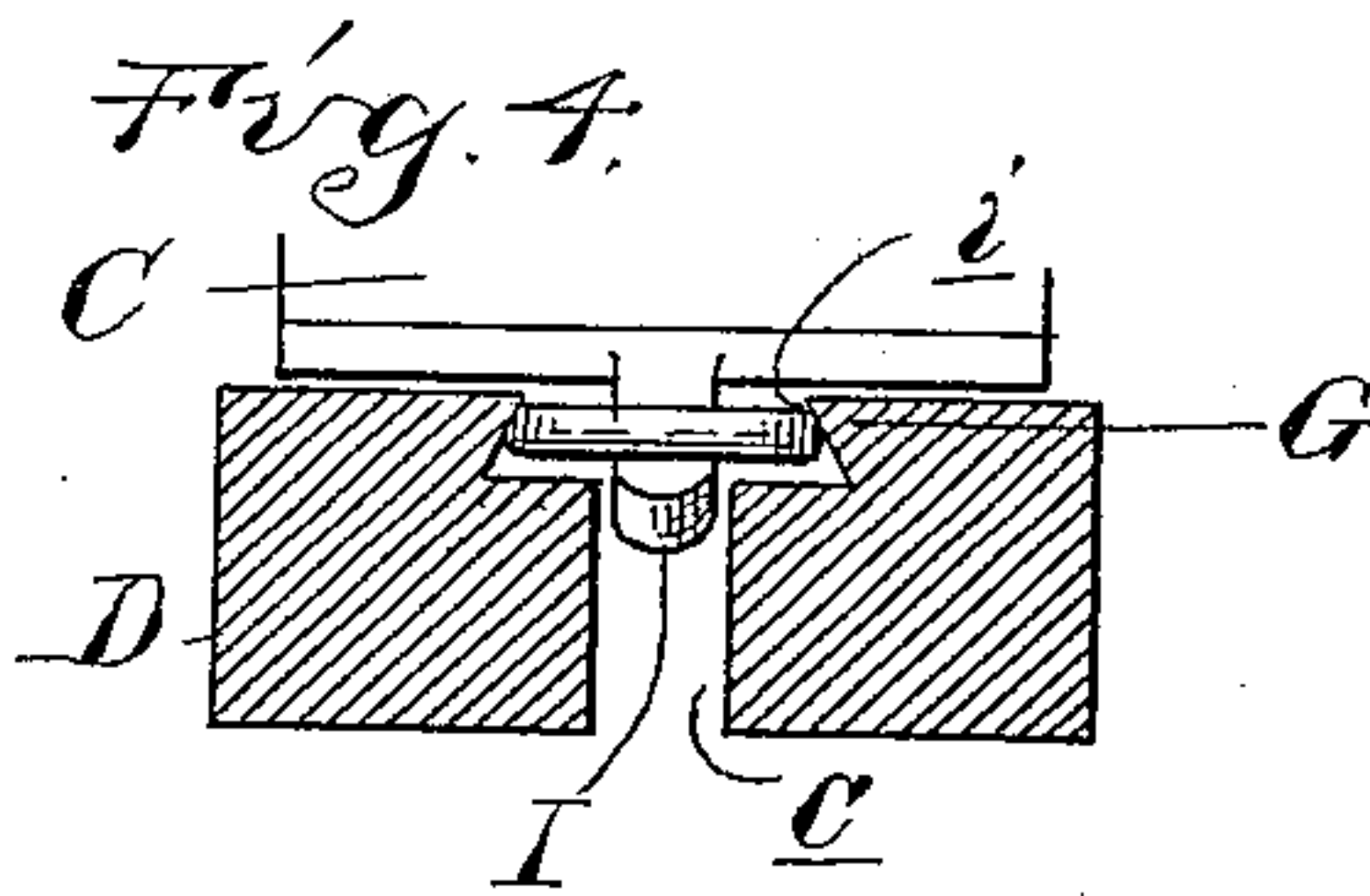


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

DAVID FRANKFORD, OF ELKHART, INDIANA, ASSIGNOR TO THE ELKHART IRON WORKS COMPANY, OF SAME PLACE.

DEVICE FOR FORMING WIRE-FENCE CLIPS.

SPECIFICATION forming part of Letters Patent No. 627,914, dated June 27, 1899.

Application filed February 1, 1899. Serial No. 704,148. (No model.)

To all whom it may concern:

Be it known that I, DAVID FRANKFORD, a citizen of the United States, residing at Elkhart, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Machines for Forming Fence-Clips, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The invention consists in the construction of a machine for forming fence-clips; and it consists in the combination, arrangement, and construction of the parts, as hereinafter described, and more particularly pointed out in the claims.

15 In the drawings, Figure 1 is a vertical central longitudinal section through my improved machine. Fig. 2 is a detail section showing the position of the parts with the staple in position at the completion of the movement. Fig. 3 is a horizontal section on line with the wire-feeding aperture, showing the drawing and bending die in elevation. Fig. 4 is a partial vertical section on line *xx* in Fig. 3. Fig. 25 5 is a perspective view of the clip which my machine is designed to make.

The machine comprises a bed or base A, having upon opposite sides the standards B, in which is journaled the lever C. Beneath the lever C is the drawing and bending die D. This die is pivoted upon the transverse pivot E, having rocking movement, and is held in the desired position for the drawing of the staple into its U shape by the springs *a b*, arranged upon opposite sides of its fulcrum. At the rear end it is provided with a finger F, the object of which will be hereinafter explained.

40 The forming-die preferably extends substantially across the space between the two standards B. It is provided at its middle with a longitudinal slot or groove *c* and upon each side thereof with the lugs G, which have the hooks or shoulders *d* in line and slightly in advance of the feeding-in aperture *e* through one of the standards B.

50 The lever C is provided with a shearing-plate *h*, adapted to pass over the aperture *e*, and is provided with a hook I, adapted to pass in the slot or groove *c* as the lever is turned about its pivot.

In forming a staple into the ordinary U shape the parts are moved into the position shown in full lines in Fig. 1. The wire is pushed through the aperture *e* until it strikes the standard upon the opposite side. The lever C now turns about its fulcrum and in its first movement the shear *h* cuts off that portion of the wire which is between the standards and which is of proper length to form the completed staple. This blank drops upon the drawing-die and rests against the shoulders *d*. The continued movement of the lever C will cause the hook I to engage against the middle portion of the blank and bend the blank against the edges of the lugs G, as plainly shown in Fig. 3. The blank is prevented from springing up by the overhanging shoulders *i* on the edges of the lugs G, which are of the construction shown in Fig. 4. The lugs G are separated a sufficient distance to determine the spread or width of the staple. As the lever continues its movement it is evident that the wire will be bent in substantially U shape by being drawn between the lugs G, the springs maintaining the forming-die in positive engagement with the lever during this movement. If it is only desired to make an ordinary staple, this is all that is required in the machine and the staple will be delivered in its completed shape as soon as the lever passes a sufficient distance beyond the end of the forming-die; but in my machine I desire to bend the staple so as to form a hooked staple, as shown in Fig. 5, and this is accomplished by the following means: Upon each side of the hook I on the lever C the lever is formed with the bending-lugs *k*, as shown in Fig. 2, and in rear of these lugs is a recess *l*. (Shown in that figure.) As the lever approaches the end of its movement, so far as bending the staple into U shape is concerned, it will strike the finger F, formed upon the rear end of the forming-die, and cause the forward end thereof to be raised proportionately as the handle or lever continues its movement. This forces the upturned end K of the forming-die against the lever and into the recess *l*, which action, as shown in Fig. 2, will bend the staple upon the bending-lugs *k*. The continued depression of the lever will cause the upturned end K to pass beyond the end of the staple and

release it, so that it will hang down from the hook I, and the reverse movement of the lever will disengage it therefrom and drop it free of the machine. The use and application of the hook or bending-staple to fasten said wires upon fence-wires is well known and is no part of my present invention.

A machine thus constructed is exceedingly simple, is certain in its operation, and very rapid in performing its function, with little chance of wear and without any small parts or pieces which are liable to get out of order.

It is evident that if desired the blanks may be cut into the proper length by a separate machine.

What I claim as my invention is—

1. In a machine of the kind described, the combination with a forming-die, of spacing-lugs thereon against the base portions of which the wire blank is adapted to rest, an actuating-lever of the first class fulcrumed above the die, and a finger or hook constituting the shorter lever-arm extending downward between the lugs, said finger being adapted upon the initial actuation of the lever to engage the blank below the lugs, and upon the final actuation of said lever to pass between the lugs and draw the blank there-through, substantially as described.

2. In a machine of the kind described, the combination with a rocking forming-die, of spacing-lugs thereon, against which the blank is adapted to rest, an actuating-lever of the

first class fulcrumed above the die, and a finger or hook upon the shorter lever-arm constructed, upon the initial actuation of the lever, to engage the blank below the lugs, and upon the final actuation of said lever, to draw the blank between the lugs.

3. In a machine of the kind described, the combination of the supporting-frame, the lever having a hook at the end, the pivoted drawing-die, the lugs G thereon, the shoulders *d* on said lugs, the overhanging flanges *i* on the side of the lugs, the hook on the lever being adapted to draw the blank between the lugs and beneath the overhanging flanges thereon, substantially as described.

4. In a machine of the kind described, the combination of the base and standards, of the lever journaled therein, the drawing and bending die pivotally supported therein, the lugs G, the hook I on the lever adapted to draw the blank between the lugs, the bending-lugs *k* on the lever, the upturned end or flange K on the forming-die and means for actuating the forming-die and bending the staple around the forming-lugs, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID FRANKFORD.

Witnesses:

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CHARLES H. DOTY.