

No. 815,754.

PATENTED MAR. 20, 1906.

D. C. SMITH.
WIRE SPLICER.

APPLICATION FILED AUG. 15, 1904.

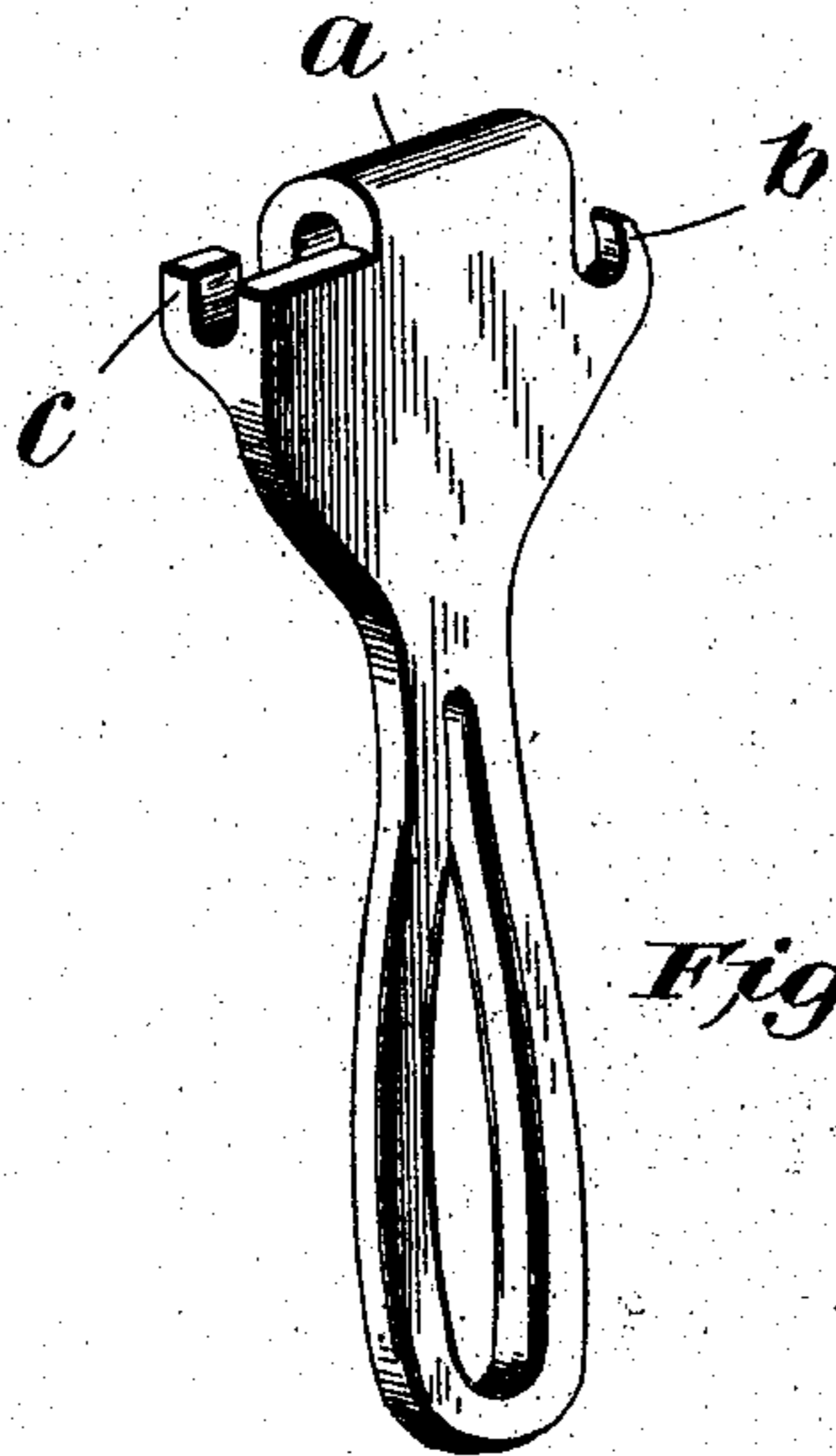


Fig. 1.

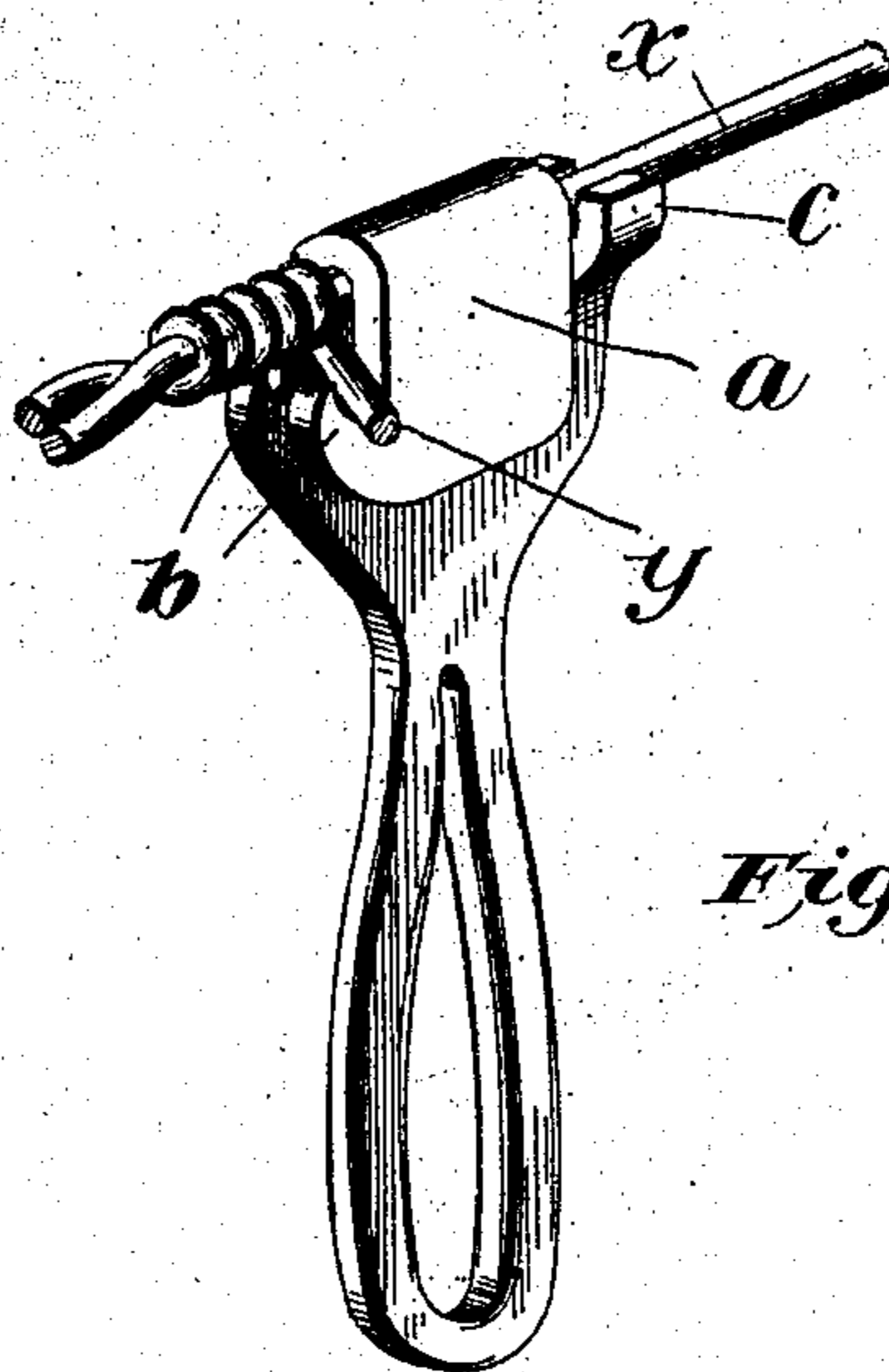


Fig. 2.

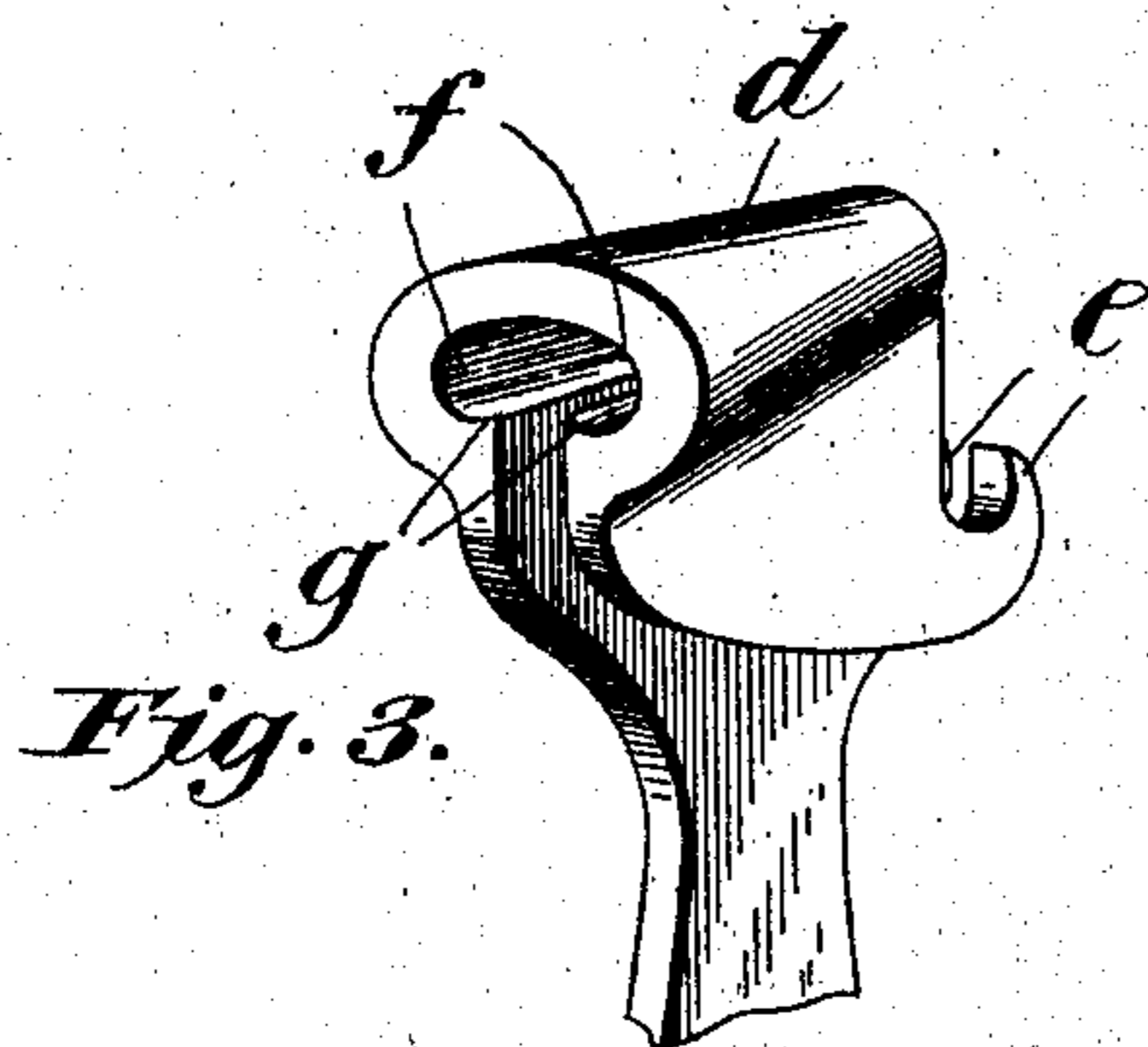


Fig. 3.

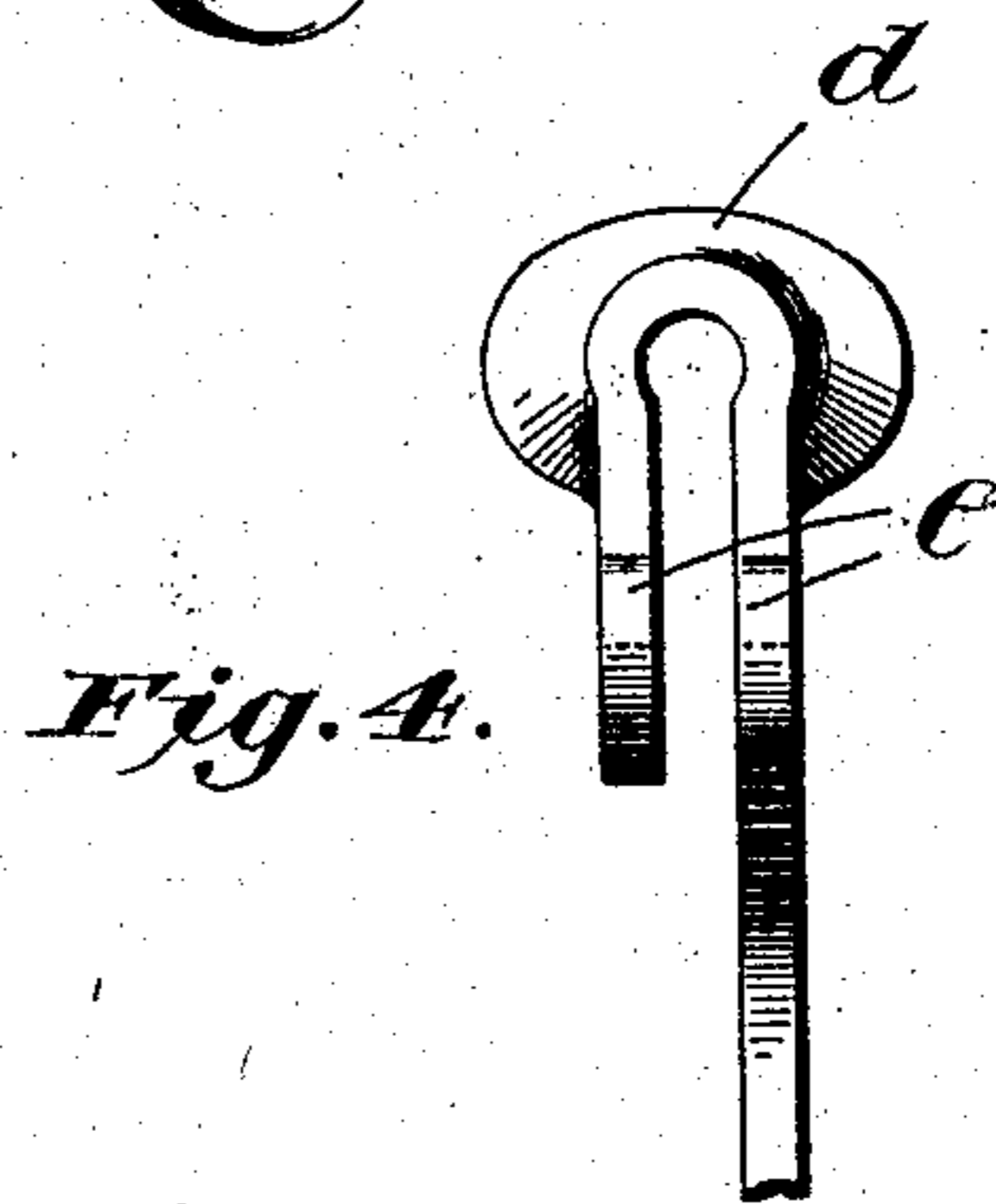


Fig. 4.

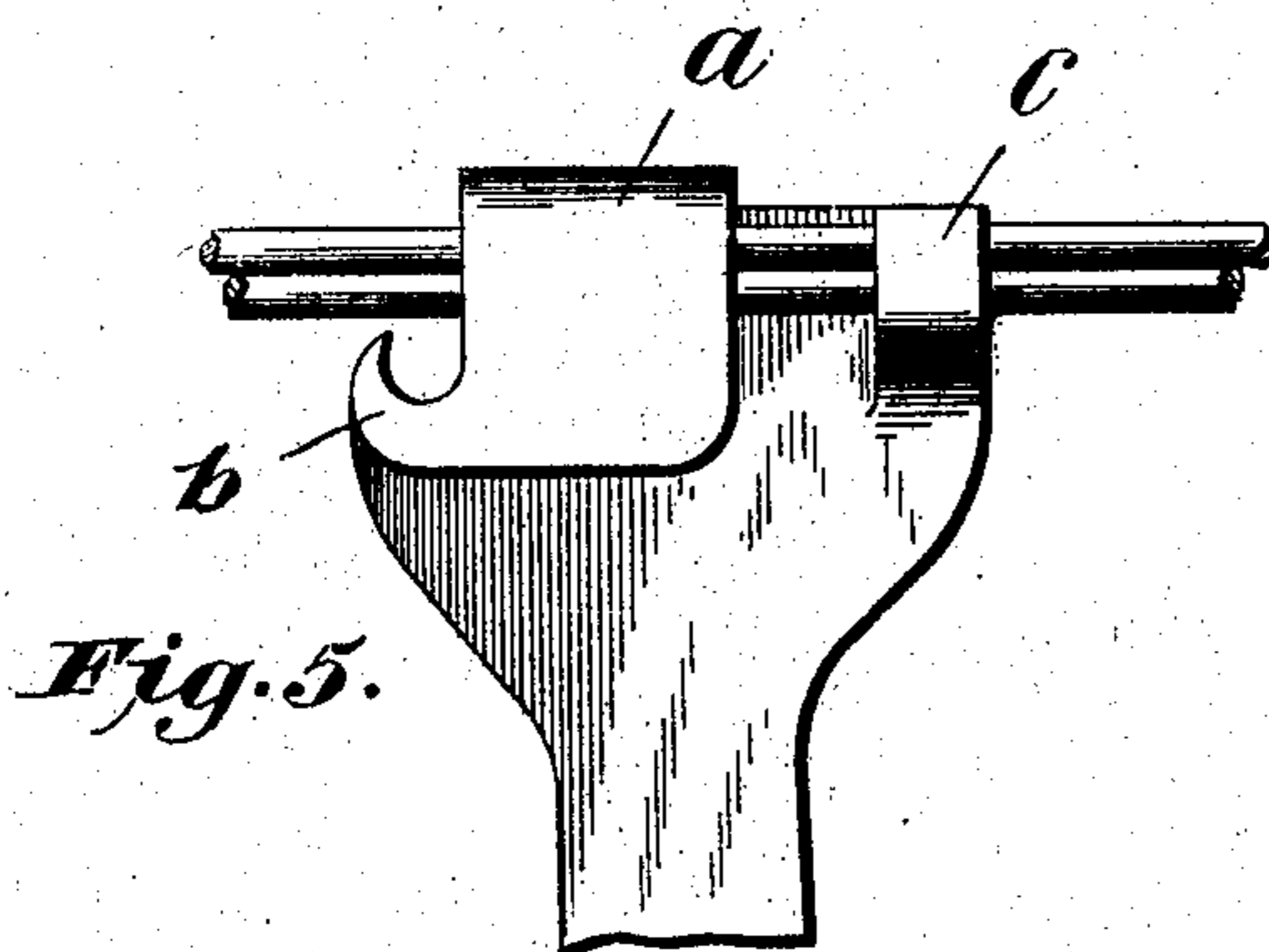


Fig. 5.

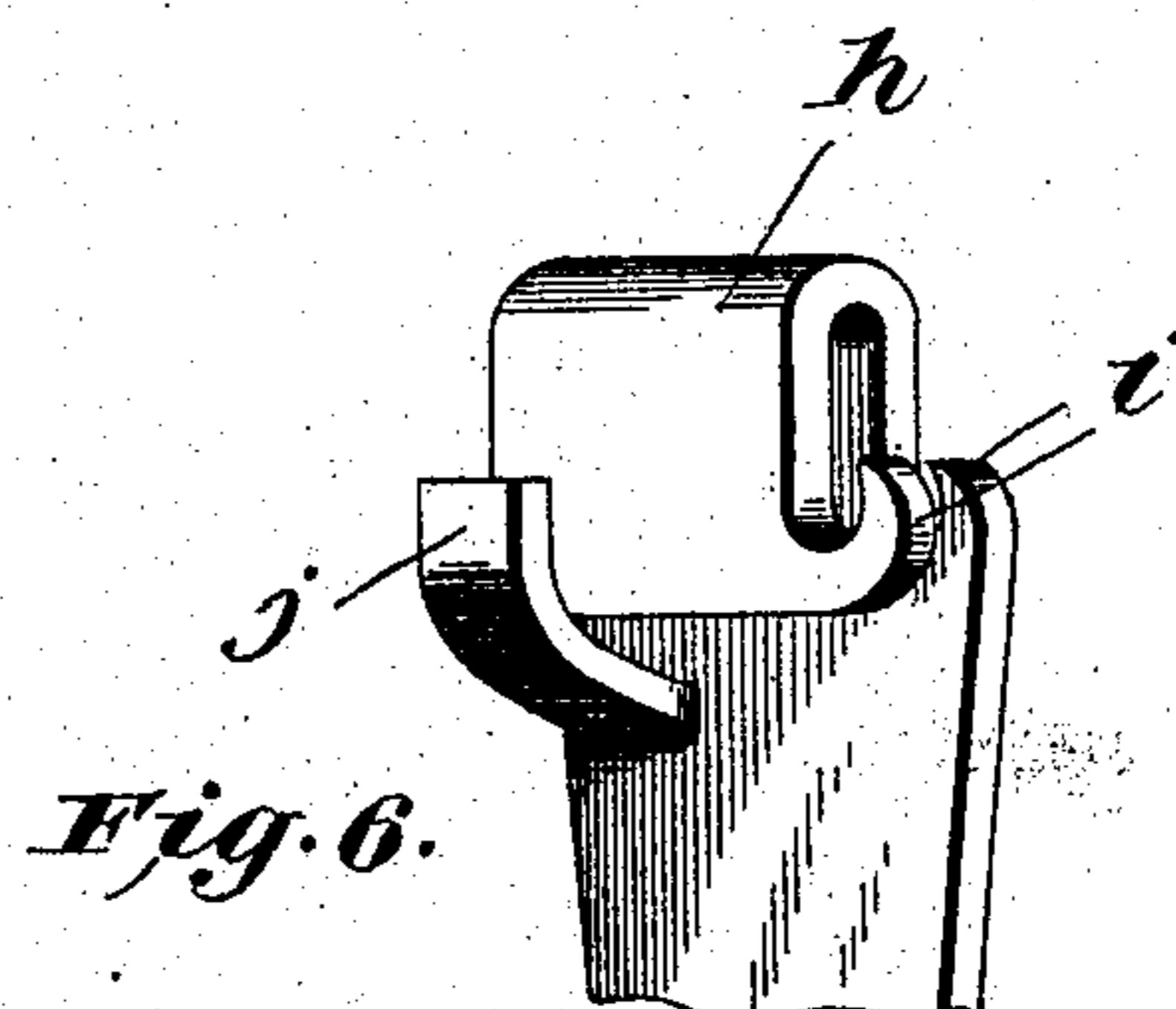


Fig. 6.

WITNESSES:

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WIRE-SPLICER.

No. 815,754.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed August 15, 1904. Serial No. 220,837.

To all whom it may concern:

Be it known that I, DATUS C. SMITH, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Wire-Splicers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to implements used by linemen, wire-fence builders, and others for splicing or joining adjacent ends of wires, for coiling wire stays around fence-strands, and for similar purposes.

There is a common type of splicer comprising a flat shank having a return-bend or hook for holding the "dormant" wire, by which is meant the wire around which another is to be wound, and having lateral notches, shoulders, or projections at the side of the hook for engaging the wire that is to be wound and coiling it about the dormant wire as the tool is carried around the latter. This implement is simple, convenient, and of great utility, but has the defect of tending to swing off the dormant wire, owing to the resistance of the wire being coiled or wound thereon, requiring considerable force to maintain the strand or dormant wire seated in the hook. In case of heavy and stiff wires this defect becomes vital.

The object of my invention is to improve the type of splicer above referred to by providing as a rigid, integral, or unitary part of the tool means for effectively holding the dormant wire firmly seated in the hook of the shank. In another application for a similar invention, filed concurrently herewith, Serial No. 220,838, I have illustrated several splicers having movable stops for locking the wire within the hook, an excellent example of which is a splicer composed of two pivoted parts, one of which has a hook for engaging the wire, while the other slips within the hook for holding the wire therein; but in the present case the invention comprises a single-piece implement which is simple, more convenient, and less expensive and fulfils the twofold end of providing suitable retaining means and preserving singleness or integrality of structure, while other advantages also result from different specific constructions or embodiments adopted. By the words "single" and "inte-

gral" I refer rather to a one-part implement or unitary structure in contradistinction to two-part splicers, or those having movable retaining devices, so that it is understood that the invention is not limited to a literal integral construction, since the retaining device or other parts may be formed separately and rigidly affixed, though an integral-piece implement is preferable for the obvious reasons of simplicity, strength, and economy.

In the accompanying drawings, which form a part of this specification, several implements embodying my invention are illustrated, each of which will be described, whereupon the invention will be defined in the claims annexed hereto.

Figure 1 is a perspective view of one implement, and Fig. 2 another view of the same, showing it in operation, the two figures showing opposite sides of the implement. Figs. 3 and 4 are perspective and edge views of another implement. Fig. 5 shows a splicer, similar to that of Figs. 1 and 2, used as a clamp. Fig. 6 shows still another form of implement.

The splicer shown in Figs. 1 and 2 consists of a shank or handle having a flat part formed with a hook *a*, for grasping or holding onto the dormant wire, with correlated notches, shoulders, or small coiling-hooks *b* formed in or on both parts of the hook at the same side thereof for engaging the wire to be wound, and with a small hook *c* at the opposite side of the hook from the coiling-hooks *b*, adapted to hold the dormant wire in its seat in the bend of the large main hook *a*. The hooks *a* and *c* open in opposite directions, and a space is left between them sufficient to receive the dormant wire around which another is to be wound.

The implement can be applied to the wire only by holding it practically longitudinally thereof, receiving the wire between hooks *a* and *c*, and then turning the implement at an angle to the wire so as to seat the wire in both hooks. Hence the tool cannot be disengaged from the wire except by the reverse of these movements. The operation of splicing or joining is illustrated in Fig. 2. The tool having been properly applied to the wire *x* in the manner stated, the end of the wire *y* which is to be coiled around the wire *x* is engaged by one of the shoulders or coiling-hooks *b*, and the splicer is given a suitable number of turns

around the dormant wire to make the twist or coil. One or the other of the coiling-hooks *b* is used according to whether a right-hand or left-hand coil is to be made. The two wires which are being joined may be held in proper relation during the operation by hand or by any suitable means. For example, in the case of splicing the free ends of two wires an initial twist may be given by hand, or they may be overlapped and held by a clamp or pincers while their ends are coiled one around the other, or in the case of attaching stays to strands in fences the strands are naturally held taut and the stay may be held properly by the operator's hand. The resistance of the wire which is being wound forces the dormant wire against its seat in the bend of the hook *a* at the side of the hook next the shoulders *b*, while at the other side the wire is held in place by the hook *c*. A great advantage of this implement, in addition to those primarily stated, is that the dormant wire cannot be disengaged except by slipping the tool along on the wire away from the coil, then turning it to a position substantially parallel with the wire or longitudinally thereof, so as to permit the latter to pass out through the space between the hooks *a* and *c*.

The splicer shown in Figs. 3 and 4 comprises a shank having a hook *d*, which flares or enlarges from one end or side of the tool to the other. At the side of the tool next the smaller end of the hook are the shoulders, notches, or projections *e* for engaging and coiling the wire to be wound in either direction, these notches or shoulders being formed in both members of the return-bend, though, of course, this is not essential. At the larger end recesses *f* are formed in opposite inner faces of the hook *d* by the shoulders *g*, which merge into the inner walls of the hook toward its smaller end. In operation the dormant wire is seated in the hook *d*, and the wire to be wound is engaged by one of the notches or shoulders *e*. As soon as the resistance of the wire to be wound acts against the said shoulder or projection *e* the dormant wire is thrown into one or the other of the recesses *f*, where it is held during the joining operation.

My improved splicer may serve well as a clamp to hold the two wires from turning while one wire is being coiled around the other. This use of the implement is illustrated in Fig. 5, wherein the device shown is similar to that of Figs. 1 and 2. In this case both the hooks *a* and *c* are narrow enough to admit but one wire, but deep enough to hold two wires, one resting on the other, and the space between *a* and *c* is wide enough to admit the two wires together. When the implement is applied to the two wires by passing them through the space between hooks *a* and *c* and then turning the implement to lodge the wires in both hooks, as already explained with reference to Figs. 1 and 2, the

wires are held firmly in position. Thus the two wires may be held with one implement, while one wire is coiled around the other with another implement. In fencework of course the use of a clamp or holder is not necessary.

In Fig. 6 a splicer is shown comprising a shank having a hook *h* for holding or seating the dormant wire therein, with coiling-hooks *i* at one side, as in Figs. 1 and 2, and with a plain projection or shoulder *j* at the other side overlying the short member of the hook of the shank. The dormant wire is seated in the hook *h* by passing it under the projection *j* or between *h* and *j*, and this shoulder or stop prevents the dormant wire from leaving the hook *h*.

Obviously the invention may be embodied in various other constructions.

In this specification the word "shank" is used irrespective of any particular form of handle or holder and denotes the body portion of the tool which carries the acting parts comprising the return-bend or hook and associated features.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. A wire-splicer comprising a shank having a return-bend or hook for holding or grasping the dormant wire, a lateral shoulder at one side thereof for engaging the wire to be wound, and a rigid seat or abutment for the dormant wire at its side opposite said shoulder adapted to hold said wire seated in the bend of the hook during a joining operation.

2. A wire-splicer comprising a shank having a return-bend or hook for holding or grasping the dormant wire, a shoulder at one side of said bend for engaging the wire to be wound, and a hook at the opposite side of said bend separated from the main hook or bend and opening in a reverse direction, whereby the tool can be applied to the dormant wire by holding it longitudinally of said wire, receiving the wire between the hooks, then turning the tool to seat the wire in both hooks.

3. A tool for use in splicing or joining wires, the same comprising a shank having oppositely-opening hooks side by side and extending in reverse directions, said hooks being of suitable depth and width and separated by a suitable space to admit and hold a plurality of wires one upon another and thus serve as a clamp.

4. A wire-splicer comprising a shank having a hook for holding or seating the dormant wire therein, means at one side of said hook for engaging and coiling the wire to be wound, and a rigid non-movable stop for preventing the dormant wire from leaving the hook.

5. A wire-splicer comprising a shank having a hook for holding the dormant wire, a coiling device at one side of said hook for engaging the wire to be wound, and a stop or

seat for the dormant wire at the opposite side of said hook and separated therefrom and opposed to the seat in the bend of the hook.

5 6. A wire-splicer comprising a shank having a hook for holding or grasping the dormant wire, a coiling shoulder or device at one side of the hook, and a rigid seat for the dormant wire opposed to the seat in the bend of the hook.

10 7. A wire-splicer comprising a shank having a return-bend or hook for grasping the dormant wire, a coiling shoulder or device at one side of said hook, and a secondary hook at the opposite side opposed to the main hook.

15 8. A wire-splicer comprising a shank of flat metal formed with a return-bend or hook for grasping the dormant wire, one or both members of said hook having at one side thereof a coiling shoulder or notch for engaging the wire to be wound, and said shank having at the opposite side of said hook an opposed secondary hook separated from the main hook and extending in a reverse direction.

9. A wire-splicer comprising in an integral 25 implement a shank having a return-bend or hook for holding the dormant wire, a lateral coiling device for engaging the wire to be wound, and means for holding the dormant wire firmly seated in the bend of the hook. 30

10. A wire-splicer comprising a handle having a hook or bend for holding or grasping the dormant wire; and means preventing direct seating of said wire therein and providing a passage whereby the wire can be seated only 35 by applying the implement thereto at an angle to its correct working position, with the hook or bend arranged longitudinally of said wire, and then turning the implement to working position to seat said wire in the hook 40 or bend; and having a coiling device for engaging and coiling the wire to be wound.

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

DATUS C. SMITH.

Witnesses:

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