

(No Model.)

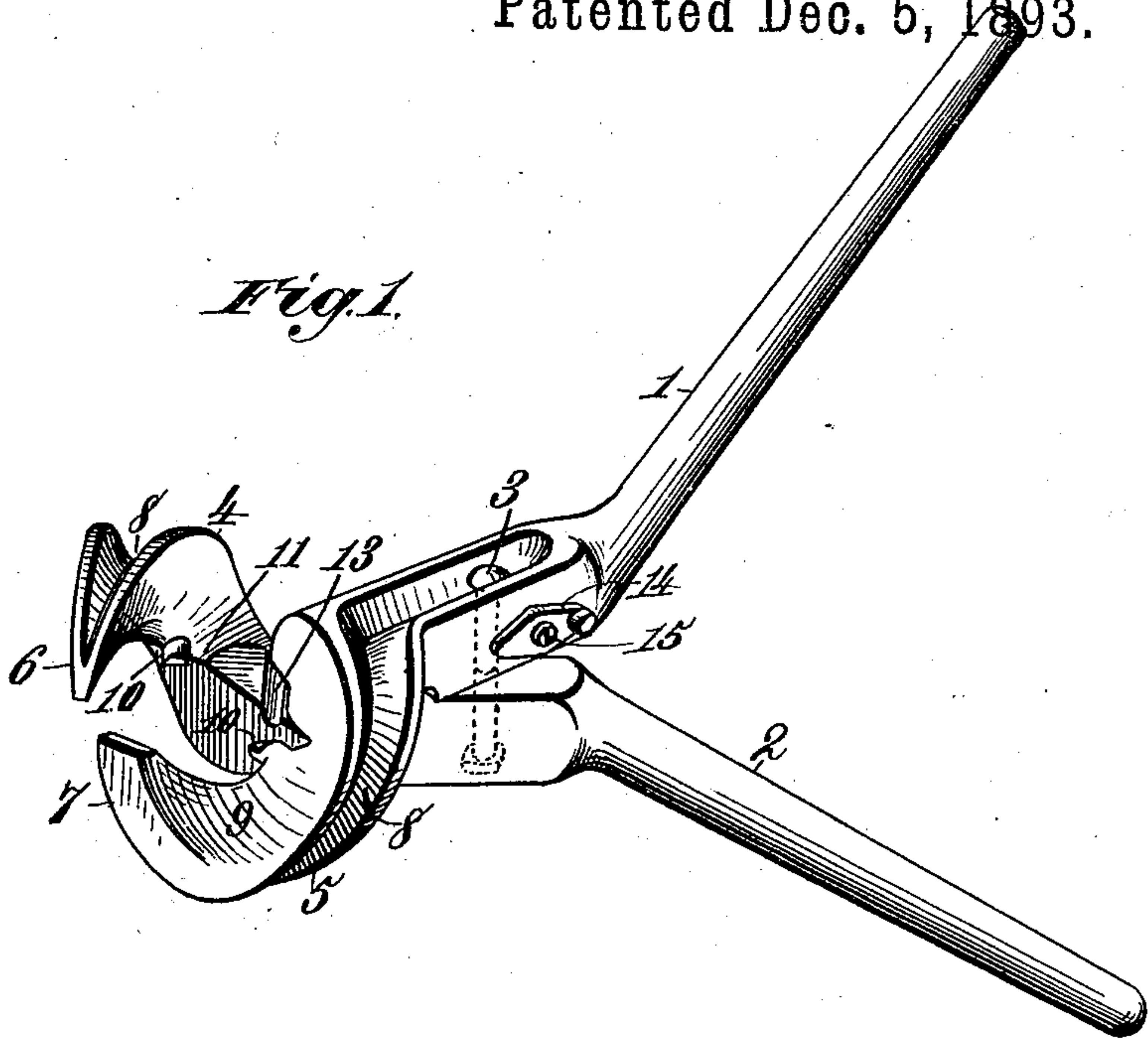
2 Sheets—Sheet 1.

E. G. SESSIONS & L. B. EMBREY.  
IMPLEMENT FOR TIGHTENING AND SPLICING FENCING WIRE.

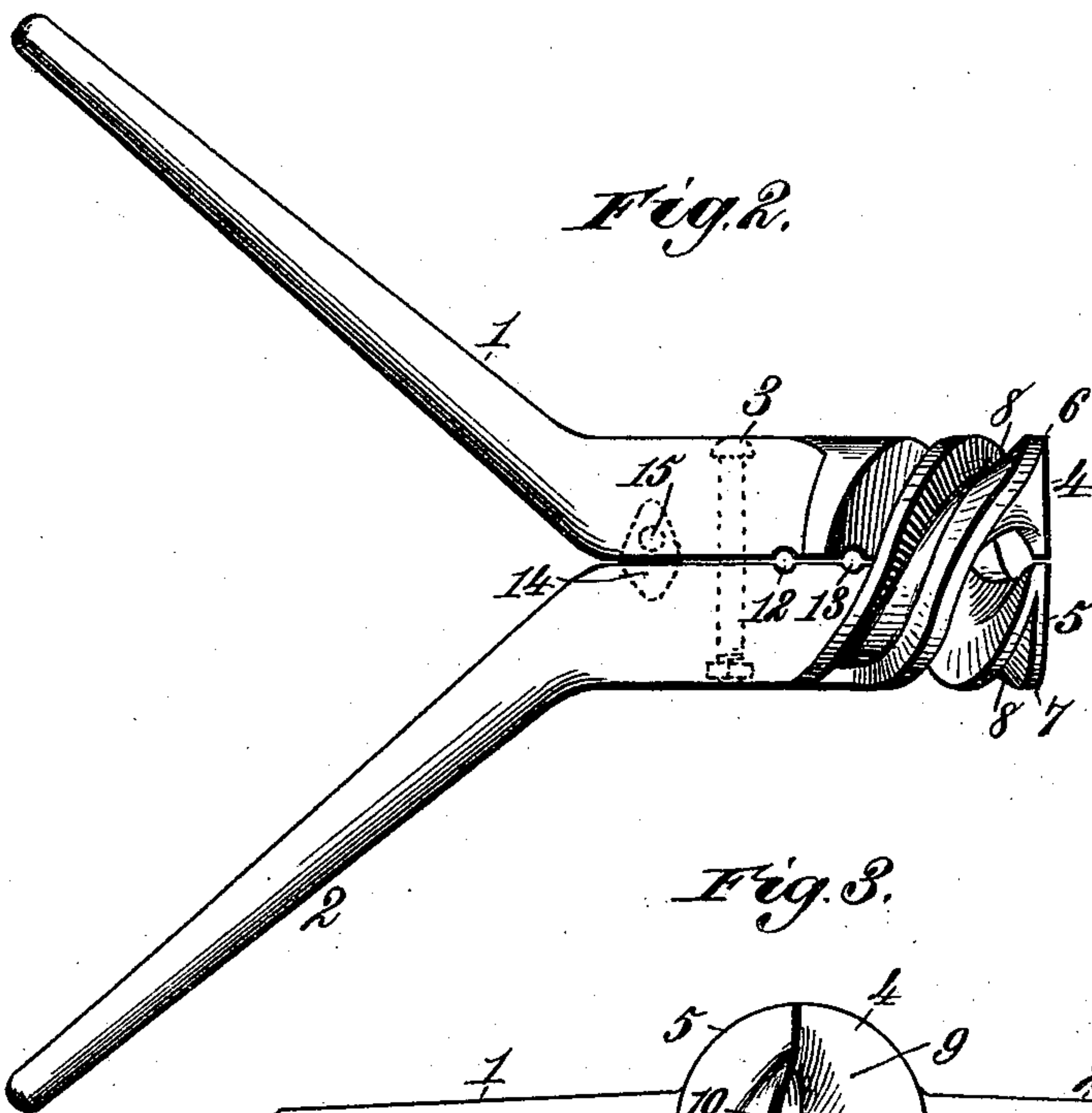
No. 510,299.

Patented Dec. 5, 1893.

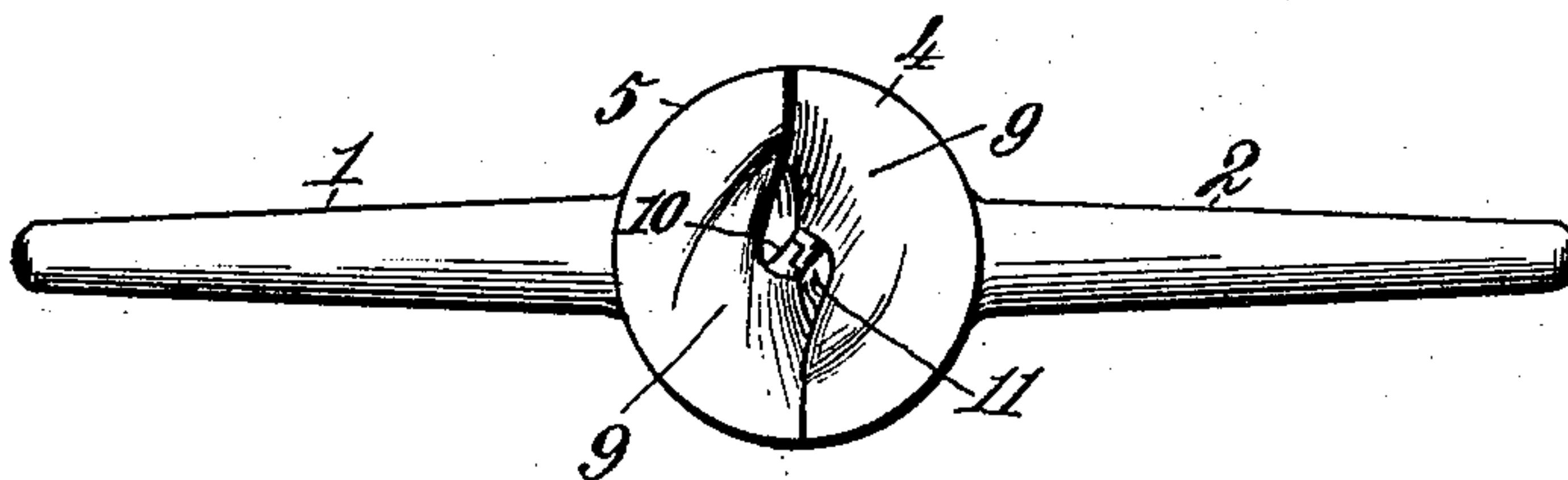
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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*Alfred Smith,*  
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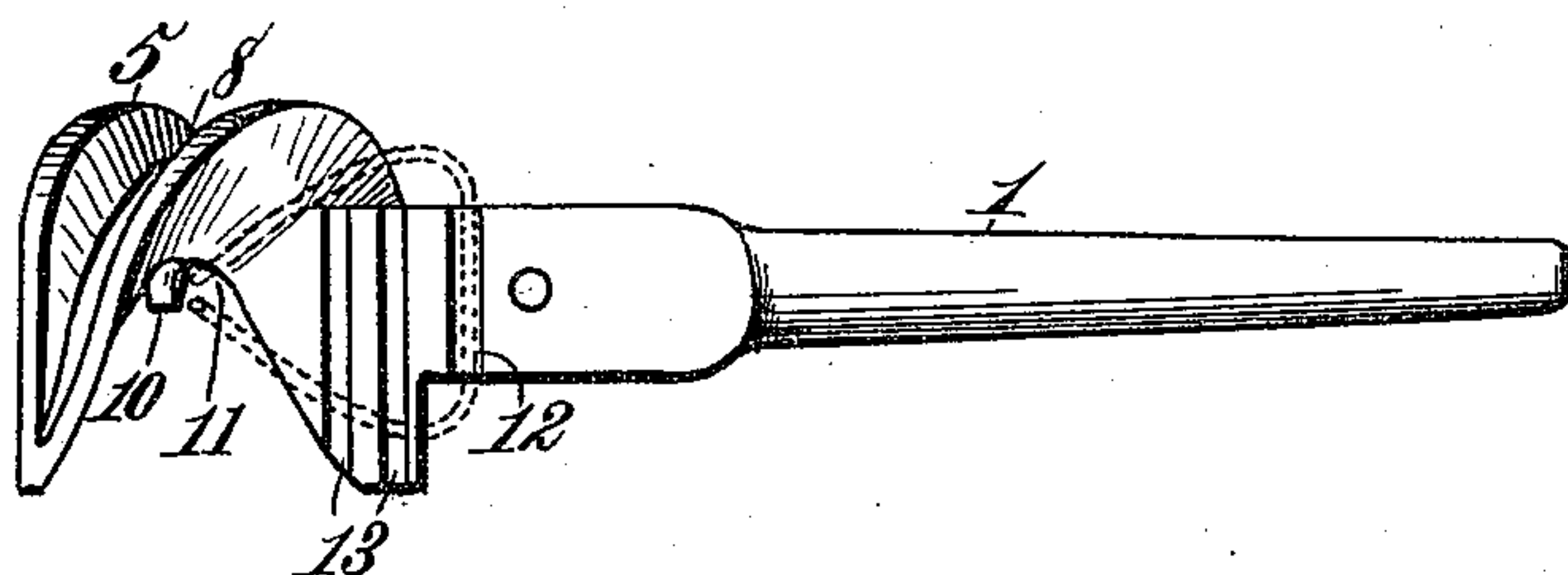
*Inventors.*  
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*Leonard B. Embrey*  
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(No Model.)

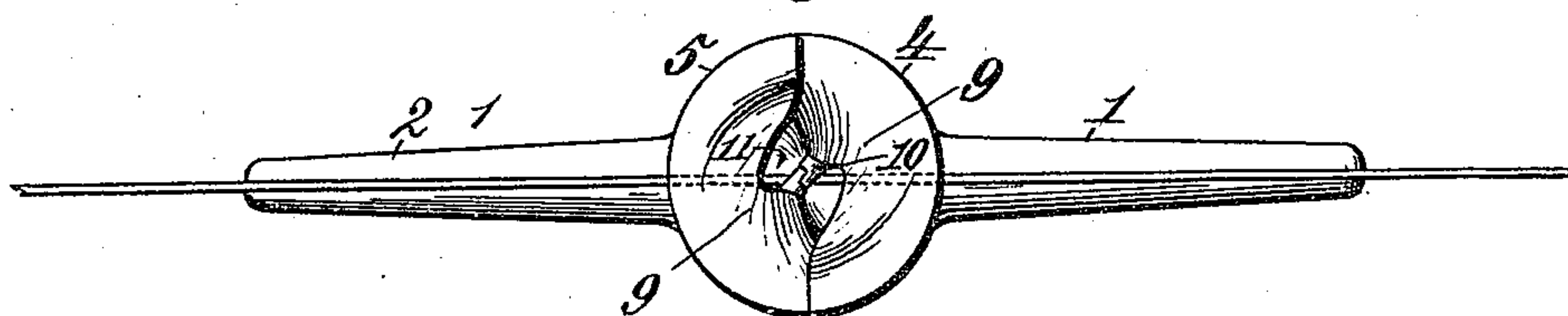
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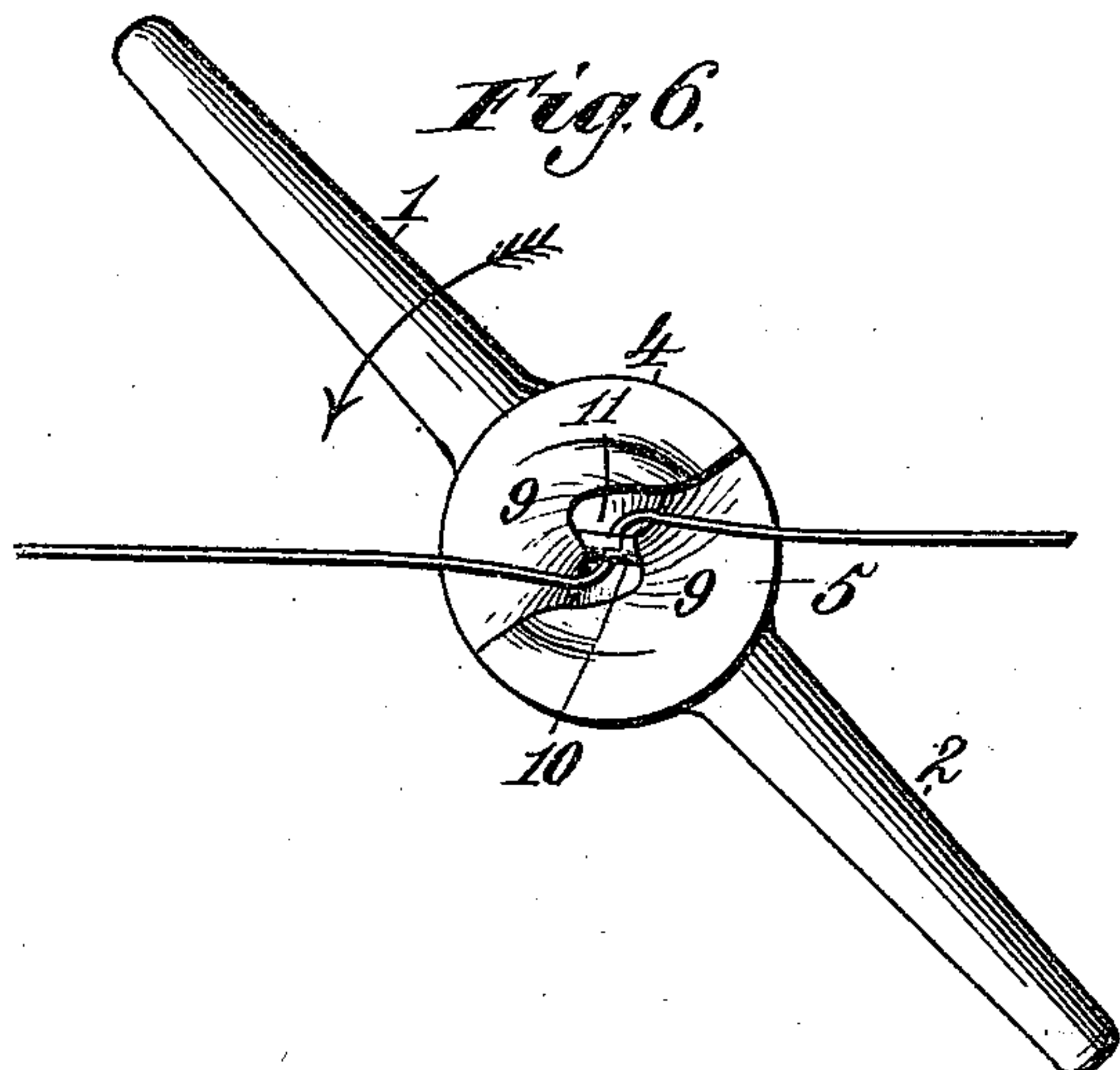
*Fig. 4.*



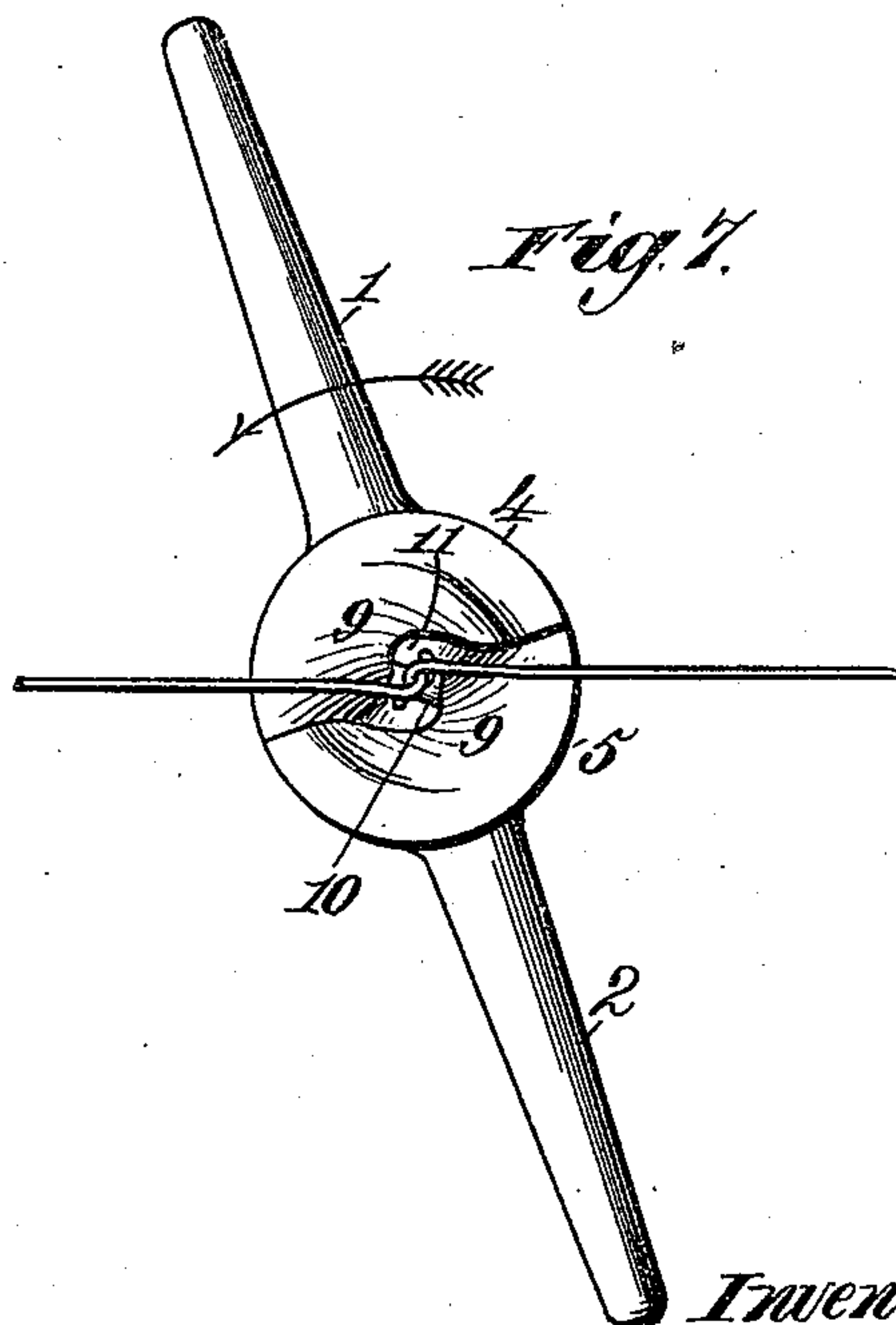
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



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# UNITED STATES PATENT OFFICE.

EGBERT G. SESSIONS, OF RICE, AND LEONARD B. EMBREY, OF CORSICANA, TEXAS.

## IMPLEMENT FOR TIGHTENING AND SPLICING FENCING-WIRE.

SPECIFICATION forming part of Letters Patent No. 510,299, dated December 5, 1893.

Application filed June 20, 1893. Serial No. 478,264. (No model.)

*To all whom it may concern:*

Be it known that we, EGBERT G. SESSIONS, residing at Rice, and LEONARD B. EMBREY, residing at Corsicana, county of Navarro, State of Texas, citizens of the United States, have invented new and useful Improvements in Implements for Tightening and Splicing Fencing-Wire, of which the following is a specification.

Our invention relates to improvements in hand-tools or implements for tightening the wires of wire fencing or taking up the slack therein which occurs from various known causes after the fence has been built, said tool or implement being also adapted for joining together or splicing the ends of fencing-wire which may become broken.

Said invention has for its object the provision of a tool or implement of the character mentioned having a novel construction whereby a loop is formed in the strand of wire which is to be tightened and the parts of such wire adjacent to the loop are brought into parallelism so that they may be intertwined accurately and neatly; and by which novel construction the parts of a broken wire are brought into parallelism while being twisted or spliced, in order that the joint or splice may be strong, accurate and neat; and my invention also has for its object the provision of means for forming loops of different sizes in the fencing-wire or strand, whereby a greater or lesser amount of slack can be taken up at one operation of the implement.

To such ends our invention consists in the novel construction and combination of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1, is a perspective view of an implement constructed in accordance with our invention, the loop-forming and twisting jaws being in their open position. Fig. 2 is a plan view, said jaws being closed. Fig. 3, is a front view, the jaws being closed. Fig. 4, is a side view of one of said jaws, showing, in dotted lines, a loop formed in a fencing-strand for tightening or taking up the slack in the same. Fig. 5, is a detail front view, the front wire to be twisted lying in a pocket behind the confining devices. Fig. 6, is a detail front view

showing a fencing-wire or strand held in the loop-forming and twisting jaws in the position it lies when the loop therein is about to be formed. Fig. 7, is a similar view, showing the wire or strand, after a twist has been made and another about to be made.

In the accompanying drawings, the reference numerals 1 and 2, indicate a pair of handles, pivoted together by a pivot pin 3. In front of the pivot-pin 3, the handles are formed into jaws 4, and 5, which are provided with curved spiral guide-extensions 6 and 7, which extend forward in an inclined direction. The outer surfaces of these guide-extensions are, preferably, convex, and together with the outer face of the jaws 4 and 5, may be grooved, as at 8, for the purpose of decreasing the weight of the implement, such grooving in no manner impairing their strength or durability.

The front face of each of the guide-extensions 6 and 7, is formed with curved, inclined guide-surfaces 9, running from their rear ends to their points or front ends and said extensions are concave on their inner faces, as shown in the drawings. Projecting from the concave faces at suitable distance from the front ends of the extensions are lugs or pins, 10, which when the jaws are closed and the extensions brought together contact with each other forming a cross-bar behind which is a wire-receiving pocket 11.

Behind the pocket 11, grooves 12 and 13, located one in advance of the other, are formed in the jaws 4 and 5, so that when the jaws are closed said grooves form wire-receiving recesses, communicating with the guide-surfaces 8 and 9.

The operation of the implement is as follows: When it is desired to tighten the wires of a fence to take up the slack therein, the handles are moved in the proper direction and the jaws opened and passed over the wire, and then being closed the wire is received in the pocket 11 and prevented escaping therefrom by the lugs 10, with which the wire engages. The wire now lies in the space between the guide surfaces 9, and runs at right-angles to the guide-extensions as shown in Fig. 5. To tighten the wire, the implement is rotated to the right, the wire slipping up



the guide-surfaces 9, as shown in Fig. 6. Further rotation of the implement brings the wire to the extremities of said guide-surfaces and the parts of said wire to be twisted together lie parallel with each other, and in position to be twisted. The wire is twisted around the lugs 10 by continued rotation of the implement and that portion of the wire which encircles the said lugs is formed into a loop; in this manner the slack of the wire is taken up and the wire drawn tight. In case the slack of the wire is too great to permit it being tightened by forming a loop around the lugs 10, it is placed in one or the other of the recesses 12 or 13, which being located at some distance from the front of the lugs 10, where the twisting operation takes place, a larger loop, as shown in Fig. 4, is formed, and consequently a greater amount of slack is taken up.

By arranging the wire-engaging lugs in rear of the extremities of the guide-extensions the parts of the wire to be twisted together lie parallel so that a perfect twisting of the wire is accomplished in contra-distinction to one part of the wire being wound about the other. This is advantageous in that the slack is taken up equally from both sides of the point where the operation is performed and an accurate and neat intertwisting of the wire accomplished.

The perfect intertwisting of the wire effected by the employment of our improved implement also avoids liability of the wire breaking during the operation.

We are aware that a wire twisting implement has heretofore been constructed which is provided with flared jaws having ribs to catch over the wire, which jaws when closed, resemble an auger-bit so that a loop is formed when the wire is twisted around the ribs, and such, therefore, we do not claim. The ribs in such prior device are, however, formed at the extreme ends of the jaws and it is not provided with guides extending beyond the ribs. In the use of such prior device it is essential that the operator shall present the instrument accurately at right angles to the wire, and if it is not so presented the wire will not be intertwisted, but one part of the wire will wind itself around the other, the wire in many instances being broken, and the slack of the wire is not evenly taken from both sides of the point where the operation is performed, which is manifestly objectionable. The loop formed by such device, also, is misshapen and unsightly.

By our construction we provide an implement which can be operated by a boy or unskilled hand and it is not necessary that the implement be presented at right angles to the wire, for the reason that the guide-surfaces extending beyond the wire-engaging lugs at all times bring the parts of the wire

to be twisted into parallelism, in which position an accurate intertwisting of the wire is effected, taking the slack evenly from both sides and avoiding liability of the wire being broken.

Our improved implement is also adapted for joining together or splicing the ends of a broken fence-wire, the ends of the wire being passed in behind the lugs 10, at opposite sides, then along the sides of the jaws 4 and 5, and the ends placed in one or the other of the recesses 12 or 13. By now rotating the implement, the ends of the wires are intertwisted and securely joined or spliced.

For the purpose of locking the jaws closed, we may provide a button 15, Fig. 1, pivoted to one handle and adapted to be turned to engage the other handle back of the pivot 3.

Having thus described our invention, what we claim is—

1. In a wire-tightening implement, the combination with a pair of pivoted handles provided with jaws having spiral guide extensions, of wire engaging devices carried by said guide-extensions and located in rear of the extremities thereof, substantially as described.

2. In a wire-tightening implement, the combination with a pair of pivoted handles provided with jaws having spiral guide-extensions formed with wire-guiding surfaces, of wire engaging devices carried by said guide-extensions and located in rear of the extremities thereof, substantially as described.

3. In a wire-tightening implement, the combination with a pair of pivoted handles provided with jaws having spiral guide-extensions, of two or more sets of wire-engaging devices located in rear of the extremities of said guide-extensions, substantially as described.

4. In a combined wire-tightening and splicing implement, the combination with a pair of pivoted handles provided with jaws having spiral guide-extensions, of grooves formed in said jaws in rear of the extremities of said guide-extensions which when the jaws are closed, form a wire-receiving recess, substantially as described.

5. In a combined wire-tightening and splicing implement, the combination with a pair of pivoted handles provided with jaws having spiral-guide extensions, of lugs carried by said extensions in rear of their extremities and grooves formed in said jaws in rear of said lugs, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

EGBERT G. SESSIONS.  
LEONARD B. EMBREY.

Witnesses:

M. Y. WILSON,  
J. M. WEAVER.