

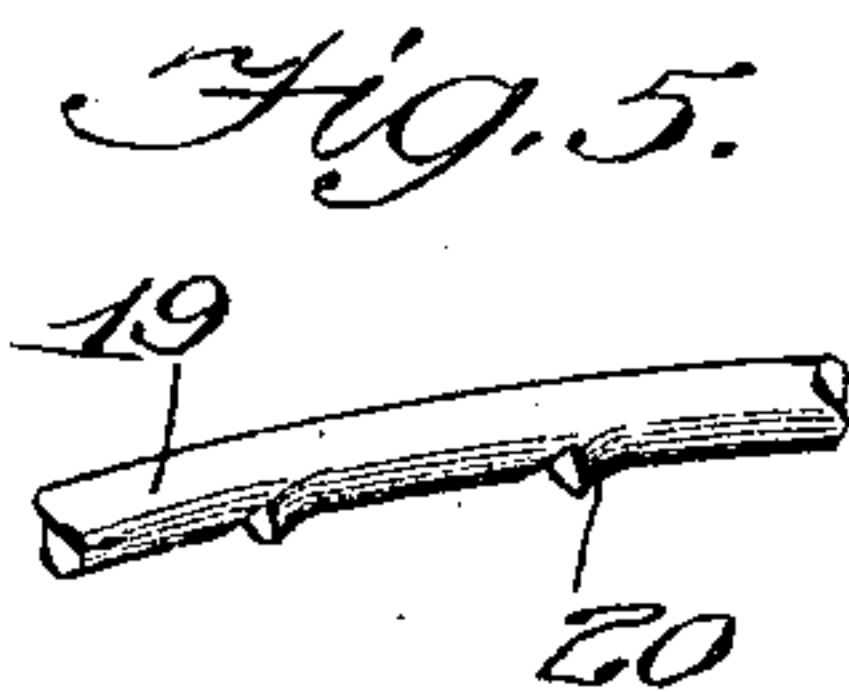
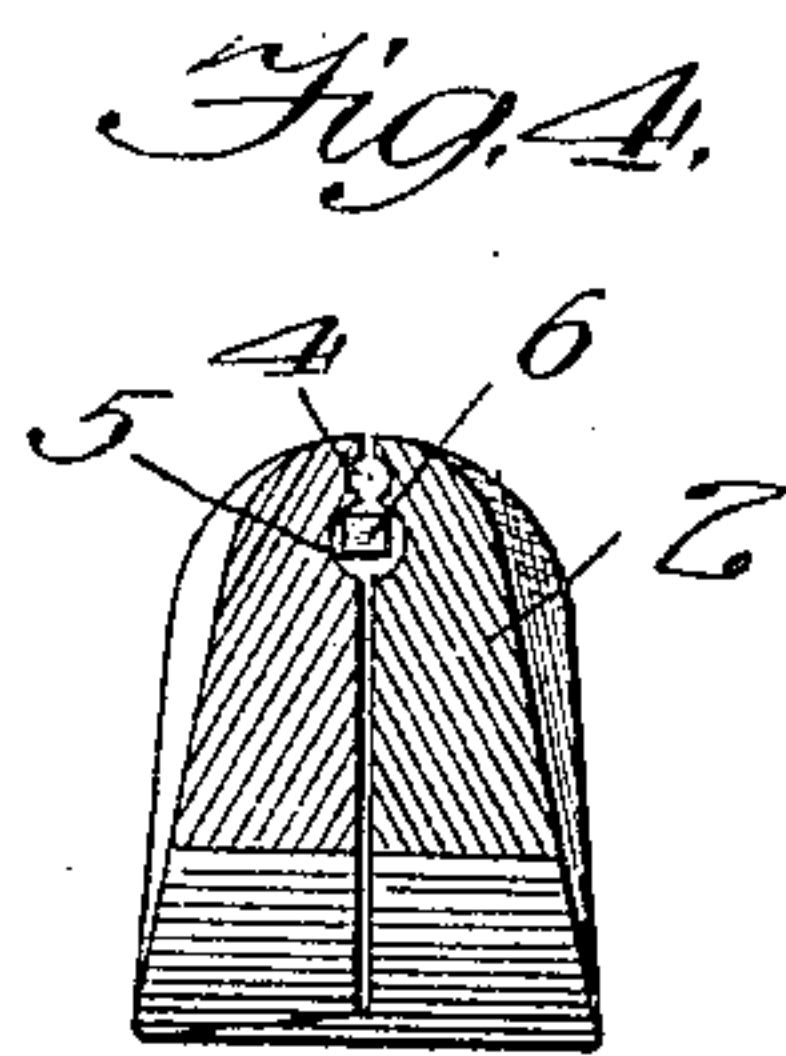
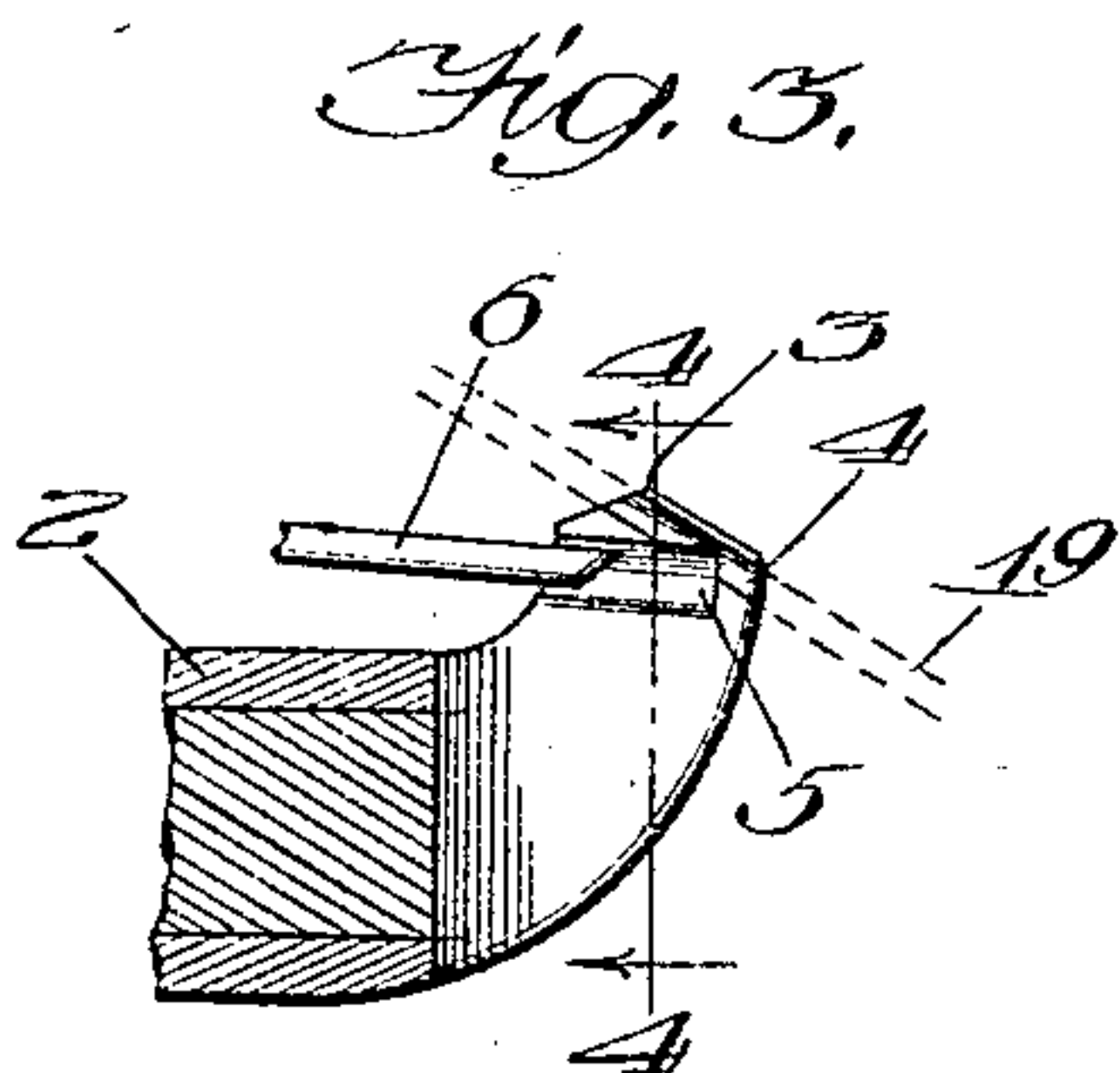
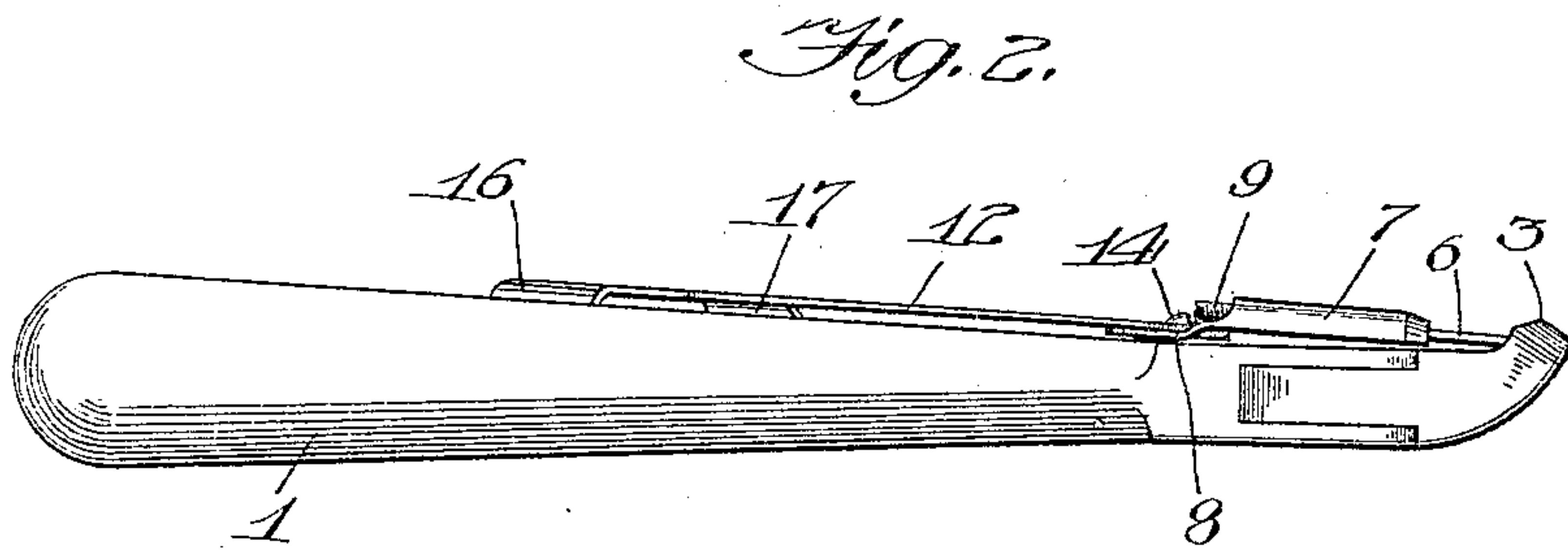
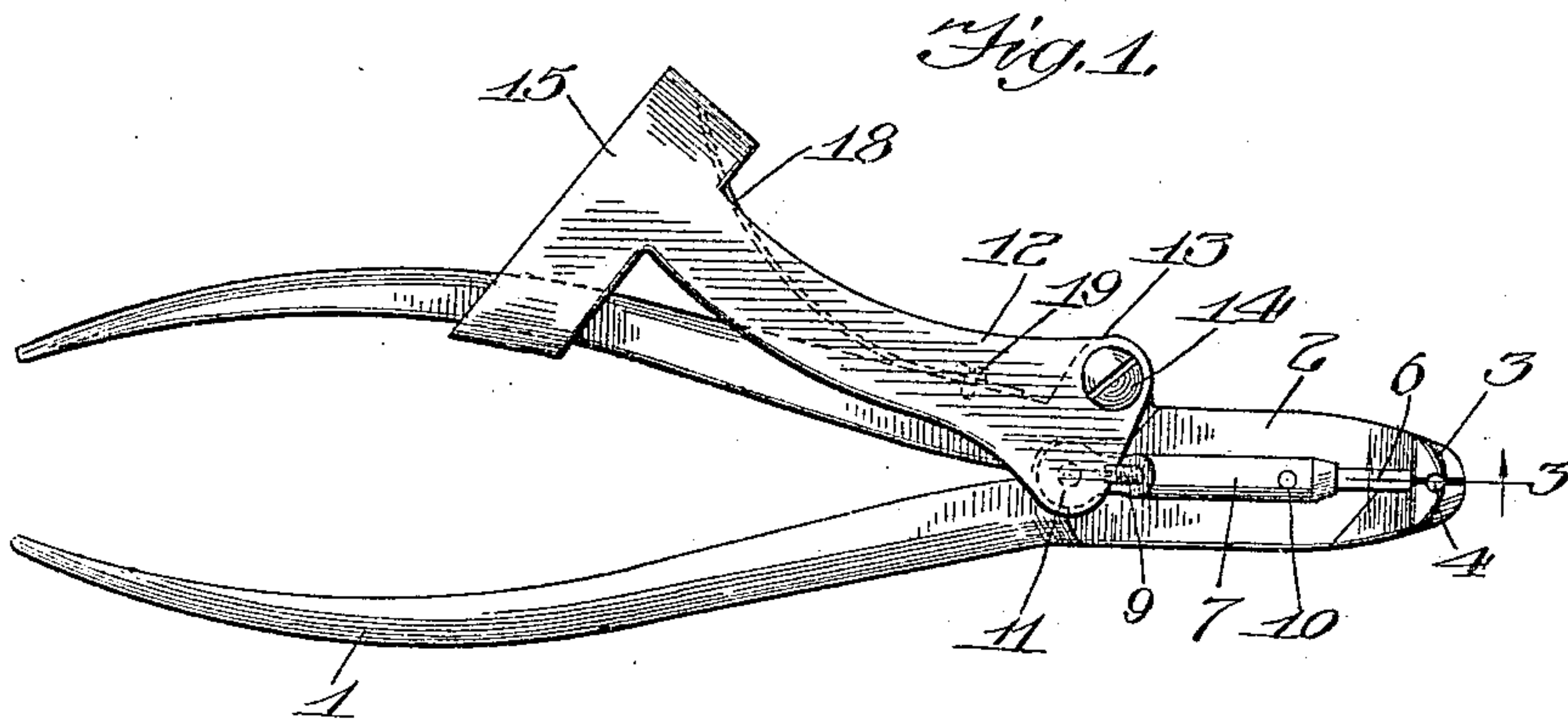
No. 816,668.

PATENTED APR. 3, 1906.

L. S. LOURIE.

DENTAL INSTRUMENT FOR RAISING BARBS UPON WIRES.

APPLICATION FILED JUNE 5, 1905.



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UNITED STATES PATENT OFFICE.

LLOYD S. LOURIE, OF CHICAGO, ILLINOIS.

DENTAL INSTRUMENT FOR RAISING BARBS UPON WIRES.

No. 816,668.

Specification of Letters Patent.

Patented April 8, 1906.

Application filed June 5, 1905. Serial No. 263,829.

To all whom it may concern:

Be it known that I, LLOYD S. LOURIE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Dental Instruments for Raising Barbs upon Wires, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to improvements in pliers, and more particularly to pliers used by dentists.

The object of my invention is to provide a pair of pliers whereby a sliver or a slight projection may be raised upon a piece of wire or like material.

In dental work, especially in straightening the teeth of the mouth, it is usually customary to place upon the outside of the teeth an arch-shaped wire, known as the "expansion-arch," which lies within the mouth and around the teeth, and upon the teeth to be straightened small bands are attached, which are connected by tie-wires to the expansion-arch, and due to the strain of these tie-wires upon the teeth the same are straightened and drawn into their proper position. Under ordinary circumstances the tie-wires will not slip along the expansion-arch; but where it is necessary to attach the tie-wires in such a manner that the strain will be broad at an angle the tie-wires will slip, and it is therefore necessary to provide some projection upon the expansion-arch to maintain the tie-wires in position. This is frequently done by soldering upon the expansion-arch small pins, against which the tie-wires rest; but in such an instance when it is necessary to attach another tie-wire the arch must be removed from the teeth, necessitating the loosening of all the tie-wires in the mouth. In order to avoid the necessity of removing the arch, I have found that by raising a small sliver or projection upon the arch the same result may be accomplished without disturbing the tie-wires already attached to the teeth. My present invention is designed for raising this projection upon the expansion-arch while the same is in the mouth and without disturbing the remaining tie-wires or without disturbing the arch in any way.

I have illustrated the preferred embodiment of my invention in the accompanying drawings, in which—

Figure 1 is a top plan of my pliers. Fig. 2

is a side elevation of the same. Fig. 3 is a sectional view taken on the line 3 3 of Fig. 1. Fig. 4 is a sectional view taken on the line 4 4 of Fig. 3, and Fig. 5 is a perspective view of a portion of the wire with the slivers raised thereon.

As shown in the drawings, my pliers consist of the usual two members pivoted together and forming handles 1 and the jaws 2. The two members of the pliers are pivoted in the usual manner, whereby by spreading the handles the jaws are also opened. The outer end of each jaw has an inwardly-projecting portion 3, which is provided with a groove 4, in which the wire is adapted to lie when the pliers are in operation. A second groove 5 is also formed in each jaw to accommodate the chisel 6. This chisel is preferably mounted in a small tubular support 7, which at its rear end is provided with a flat rearwardly-extending lug 8. A set-screw 9, entering the rear of the support, serves to adjust the chisel in the support, and another set-screw 10 is provided for maintaining the same in a rigid position within the tubular support. The rearwardly-extending lug 8 is pivotally connected, as at 11, with the lower side of a lever 12, the upper side of the lever being pivotally connected to a projection 13, formed on one of the members of the pliers, by means of a small screw 14. The lever 12 extends rearwardly to a point about midway between one of the handles of the pliers and has an end portion 15 set substantially at right angles therewith, which is provided on its lower end with an inturned lug 16, adapted to engage under one of the handles of the pliers to limit the movement of the lever and at its upper end with a second inturned lug 17, beneath which is adapted to engage the outer end of a spring 18. The opposite end of the spring is fastened to one of the handles of the pliers by means of the screw 19 at a point near the lug 13. In this manner the spring serves to maintain the lever in such a position that the chisel is always maintained in a retracted position.

In operation the wire 19 is grasped between the two jaws of the pliers and held in the groove 4 by pressing the two jaws together, and then by depressing the lever 12 the chisel 6 is moved forwardly and engages the wire at an angle, as shown in Fig. 3, in such a manner that a projection or sliver is raised upon the wire. In Fig. 5 I have shown a portion of the wire and the small projections 20,

which are raised thereon by the action of the chisel.

It will be noted that by providing the pliers with the inturned lugs 3 the chisels are adapted to lie in a plane which is slightly diagonal with a plane parallel of the wire, and by this construction I am enabled to readily work upon an expansion-arch within the patient's mouth.

While I have described my device as being particularly useful in dental work and have described this use, it will be understood that the same is adapted for use in a number of places, and it will also be understood that while I have shown and described a chisel for raising a sliver upon the wire the same could be readily constructed to cut clear through the wire, if so desired.

It will of course be understood that although a chisel is shown as being supported in the tubular support 7 any other tool may be carried thereby—as, for instance, a plunger, which would engage the wire and straighten out small kinks in the same, or a plunger having a serrated end, which when it engaged the wire would cause small indentations or serrations on the surface of the wire. Other tools of like character may be readily supported in the tubular support, and I do not wish to be limited to the specific construction shown.

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

1. The combination with a pair of pliers, of independently-actuated means carried thereby, for engaging the article grasped by said pliers, to raise a sliver thereon.

2. The combination with a pair of pliers, of a plunger movably mounted thereon and adapted to engage and cut into or bend the article grasped by the pliers, and means carried by said pliers for operating the plunger.

3. The combination with a pair of pliers, of a plunger movably mounted thereon, said pliers being arranged to hold the article at an oblique angle to said plunger, whereby when the same is operated a sliver or barb is raised upon the article.

4. The combination with a pair of pliers, of a plunger movably mounted thereon and adapted to engage the article held by said pliers, and a lever connected with said plunger and pivotally mounted upon said pliers for operating the same.

5. The combination with a pair of pliers, of a lever pivotally mounted upon said pliers, a tubular support pivotally connected to said lever, and a plunger carried by said tubular support adapted to engage and cut or bend the article grasped by the pliers.

6. The combination with a pair of pliers, of a lever pivotally mounted upon said pliers, a tubular support pivotally connected to said lever, and a plunger adjustably carried by said tubular support and adapted to engage and cut or bend the article grasped by the pliers.

In witness whereof I have hereunto subscribed my name in the presence of two witnesses.

LLOYD S. LOURIE.

Witnesses:

M. PERRY HAHN,
M. R. ROCHFORD.