

No. 776,555.

PATENTED DEC. 6, 1904.

R. S. SETTLE,  
SOLDERING PLIERS.

APPLICATION FILED OCT. 26, 1903.

NO MODEL.

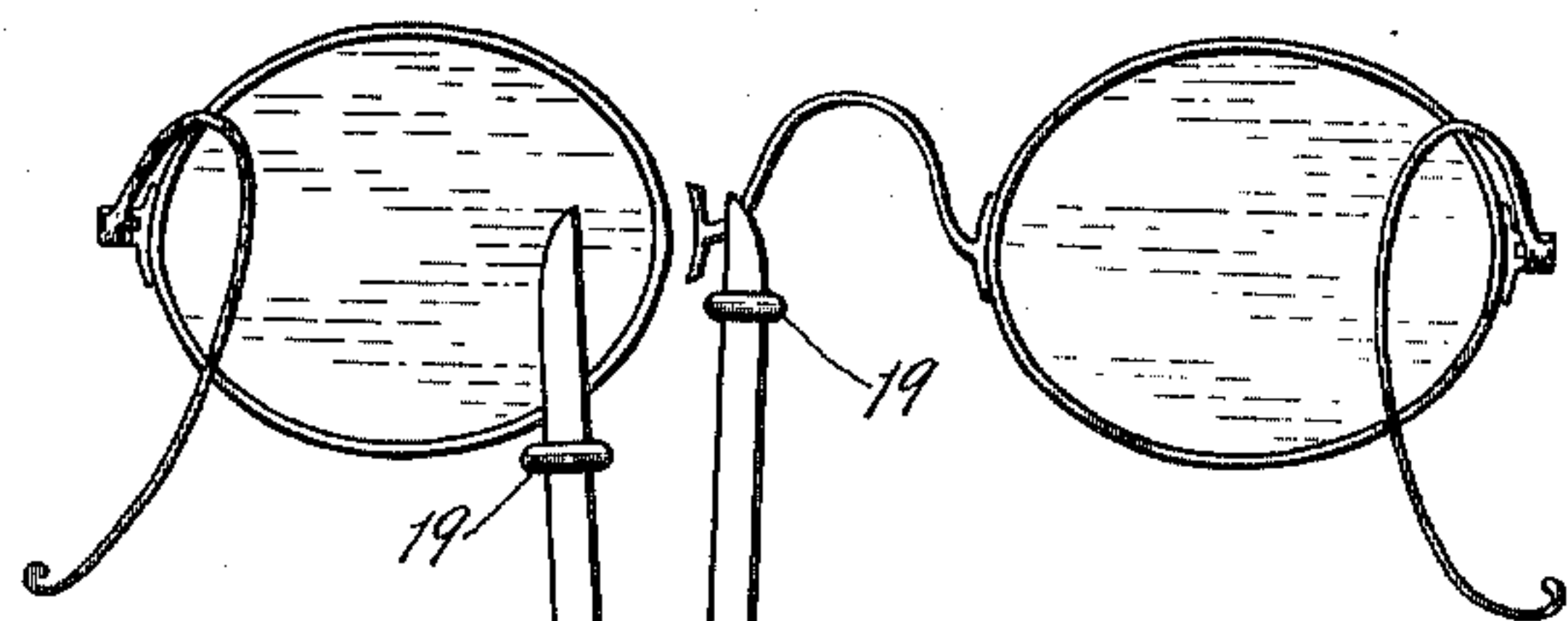
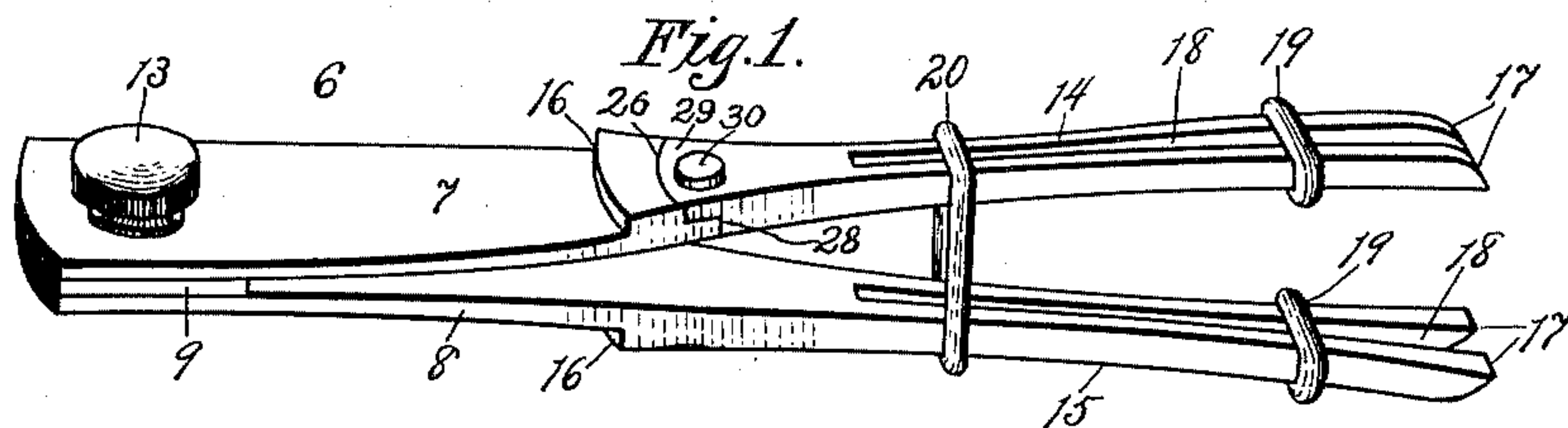


Fig. 2.

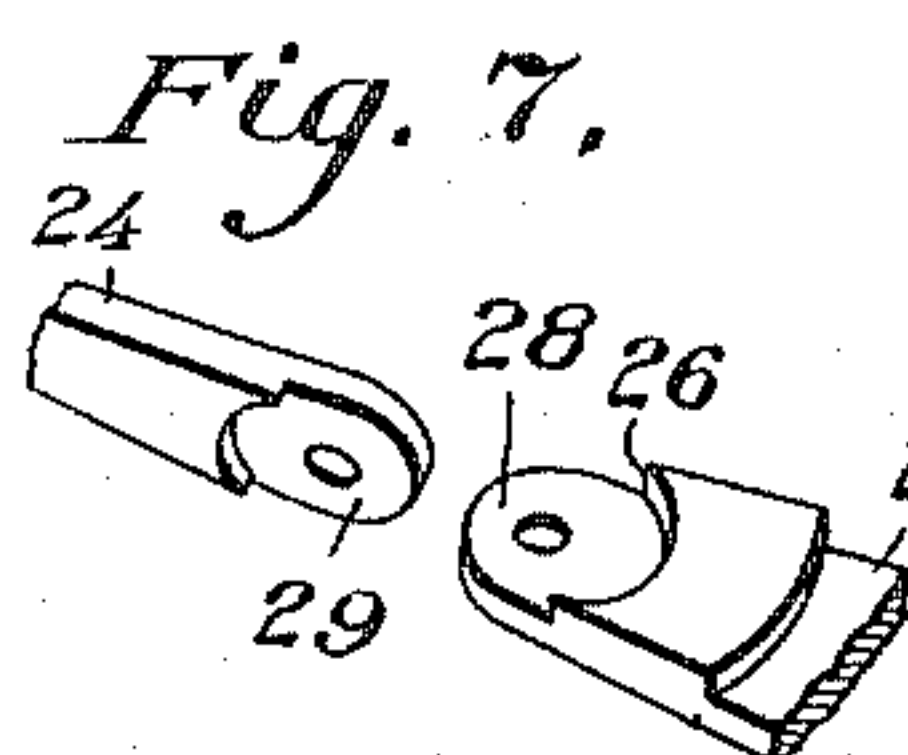


Fig. 3.

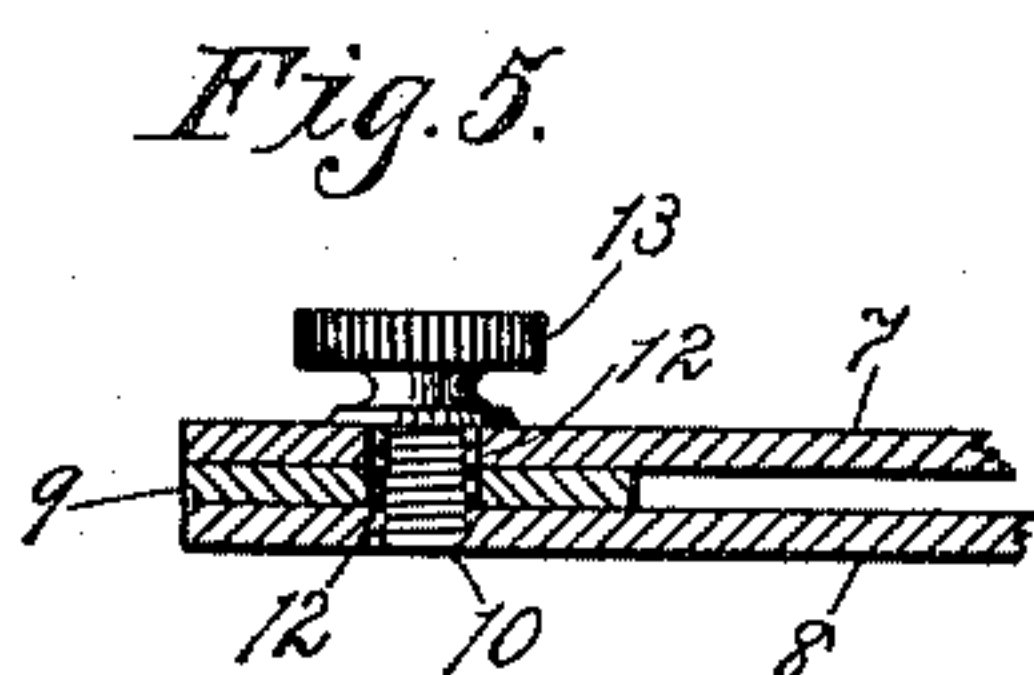


Fig. 4.

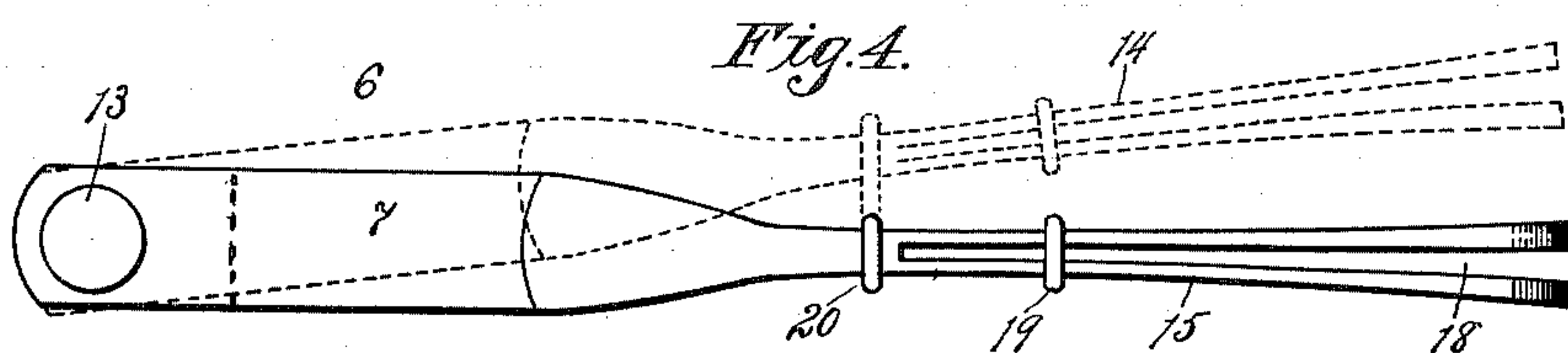


Fig. 5.

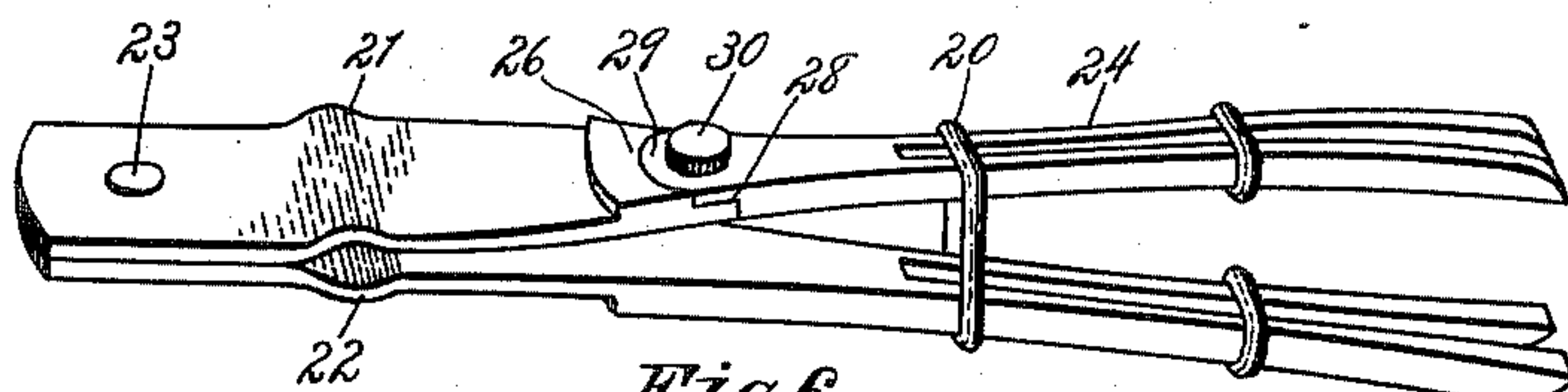


Fig. 6.

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## SOLDERING-PLIERS.

SPECIFICATION forming part of Letters Patent No. 776,555, dated December 6, 1904.

Application filed October 26, 1903. Serial No. 178,571. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD S. SETTLE, a citizen of the United States of America, residing at Kearney, in the county of Clay and State of Missouri, have invented certain new and useful Improvements in Soldering-Pliers; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The invention has for its object an efficient tool or implement for holding and drawing together separate and disjointed articles which require soldering or welding, such as in various branches of workshop construction are frequently difficult to bring into perfect contact and adjustment; and it consists in the novel construction and combination of parts, such as will be first fully described and then specifically pointed out in the claims.

In the drawings, Figure 1 is a view in perspective of the novel pliers. Fig. 2 is a plan view showing the pliers without the socket-joint and as applied to one of the various uses in the drawing together of the nose-piece and eyeglass-frame of spectacles. Fig. 3 is a similar view of the pliers as seen in Fig. 2, showing the operative position of the jaws in dotted lines. Fig. 4 is a side view of the pliers as seen in Figs. 2 and 3, showing in dotted lines an elevated position of one jaw when above the plane of the other. Fig. 5 is a vertical sectional view of the rear end portion of the handle of the pliers. Fig. 6 is a view in perspective of the pliers as seen in Fig. 1, showing a modification of the handle. Fig. 7 is a detail broken view of the joint structure as seen in Figs. 1 and 6.

Similar characters of reference indicate corresponding parts in all the figures of the drawings.

Referring to the drawings, 6 indicates the handle of the pliers, which consist of separate spring-plates 7 and 8, constructed from flat spring-steel and narrow in width. Between the rear ends of the said plates 7 and 8 is a flat separating-plate 9 of the same width as the handle. In the plate 8 is a screw-threaded

opening 10, and in the plates 7 and 8 are openings registering with the screw-threaded openings 10, but slightly larger in circumference, in which openings is fitted an adjusting-screw 12, provided with a milled head 13. The forward ends of the plates 7 and 8 are sprung outwardly from near the operating-plate 9 and retain normally a wider position apart than adjacent to said plate.

Extending forwardly from the forward ends of the plates 7 and 8 and integral therewith are the parallel grasping-jaws 14 and 15. These jaws are of considerable length and of an increased thickness to that of plates 7 and 8, the outer surfaces terminating in a shoulder 16 upon the forward end of the said plates, and from said shoulder forwardly the sides of the jaw curve inwardly and are narrow in width. The outer surface of each jaw at the forward ends is curved inwardly to the lines of the inner surfaces, as indicated at 17.

In each jaw is a longitudinal slot 18, extending from the forward end through the upper and lower surfaces and about two-thirds the distance in the direction of the handle 6, the sides of each jaw upon the outer surface increasing in width in a slight degree in the direction of their forward ends, so that each portion separated by the slot 18 is slightly wider than at the rear end of said slot and each portion sprung normally away from the other. Upon each jaw is a slidable link 19, which extends around the jaw near the rear end of slot 18 and when moved forwardly draws the forward ends of the separate parts of each jaw into closer relations. Extending around both jaws 14 and 15, near the rear end of slot 18, is a slidable clasp 20, which when moved forwardly draws the jaws 14 and 15 into closer relations.

In order that the plates composing the handle 6 may retain a fixed position (which is effected by tightening the adjusting-screw 13) and the lateral movement of the jaw accomplished independently and by the finger, one of the jaws, 14, is made separate from the spring-plate 7, in the forward end of which is an inwardly-curved recess or socket 26, a portion of the upper surface of the plate being cut



away concentric with the said recess and inwardly about one-half the thickness of the spring-plate to form a seat 28. The inner end of the jaw 14 is curved in the arc of a circle and halved from the lower surface inwardly to form a bearing 29 and fit within the socket 26 and upon the seat 28. An adjusting-screw 30 extends through the bearing 29 and within a threaded opening in the seat 28.

10 The adaptability of the tool for the repair of spectacles by the optician is clearly shown in Fig. 2. In this instance the rims for the lenses are inserted in the slot 18 in one jaw of the tool and the link 19 pushed forward to

15 cause the jaw to grasp the rim and the nose-piece inserted in the slot of the other jaw and the link pushed forward to enable the jaw to grasp the nose-piece, in which position of the jaws the sliding link or clasp 20 is pushed

20 forward, which action draws the jaws toward each other and the nose-piece and rim of the spectacles into close relation, so that the application of the solder may be accomplished without the liability of displacement of the

25 joined parts of the spectacles. An advantage in the use of the tool is found especially in the repair of broken rims of spectacles which ordinarily require dexterous manipulation in order to draw the broken parts together and

30 retain their position for the application of the solder. The convenience of the tool is further shown in Fig. 3, which exemplifies a method of soldering or welding the contiguous ends of wire strands, adapting the tool

35 for the use of wire-workers and analogous purposes.

The frequent disparity in thickness of separate articles required to be joined together, as well as the variance in planes, affords

40 unique adaptability of the tool. For this purpose the adjusting-screw 13 is loosened, which enables one jaw to be raised in position above the plane of the other, the slidable link 20 adjusting itself to the changed position of

45 the jaws, as seen in Fig. 4, and upon tightening the adjusting-screw the position of the jaws is retained.

In Figs. 6 and 7 the separating-plate 9, as seen in Fig. 1, is dispensed with between the

50 plates 21 and 22 of the handle, which are secured together by the rivet 23, and a portion of these plates 21 and 22 are bent intermediate their length in an outwardly-curved line, in which construction the plates retain a po-

55 sition normally sprung apart. The jaws are the same as in Fig. 1. Such other modifications of the invention may be employed as are within the scope of the invention.

Having fully described my invention, what

60 I now claim as new, and desire to secure by Letters Patent, is—

1. A tool, the handle of which comprises separate spring-expanded plates, parallel jaws

upon the forward ends of said plates, comprising separate spring-expanded grasping parts, 65 and means for drawing said parts and the jaws toward each other.

2. A tool, the handle of which comprises separate spring-expanded, adjustably-connected plates, and parallel jaws upon the forward ends 70 of said plates, and means for drawing said jaws toward each other.

3. A tool, the handle of which comprises separate spring-expanded plates, parallel jaws upon the forward ends of said plates, said jaws 75 comprising separate longitudinally-extended, grasping parts, and a device for drawing said parts toward each other.

4. A tool, the handle of which comprises separate spring-expanded plates, parallel jaws 80 upon the forward ends of said plates, said jaws having a longitudinal slot separating the forward ends, the separate parts of the jaws being outwardly sprung, and a slidable link on the said jaws, drawing said parts toward each 85 other.

5. A tool, the handle of which comprises separate spring-expanded plates, parallel grasping-jaws upon the forward ends of said plates, said jaws being adjustably connected with said 90 plates.

6. A tool, the handle of which comprises separate spring-expanded plates, parallel grasping-jaws upon the forward ends of said plates, a socket-joint connecting the forward end of one of said plates with the inner end of one 95 of said jaws, and an adjusting-screw.

7. A tool, the handle of which comprises separate spring-expanded plates, parallel grasping-jaws upon the forward ends of said plates, 100 having longitudinal slots separating the forward ends, the separate parts of the jaws being outwardly sprung, and each part increased in thickness at its forward end, a slidable link for drawing the separate parts of the jaw to- 105 ward each other, and a slidable clasp acting to draw the jaws toward each other.

8. A tool, the handle of which comprises separate spring-expanded plates, an intermediate separating-plate at their rear ends, and an ad- 110 justing-screw connecting said plates with each other, longitudinally-extended, parallel grasping-jaws upon the forward ends of said spring-plates, each of which jaws having a longitudinal slot separating the forward ends, the 115 said parts of the jaw being outwardly sprung and of increased width at the forward ends, a link on each jaw adapted to draw the separate parts thereof toward each other, and a slidable clasp acting to draw the jaws toward 120 each other.

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Witnesses:

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