J. L. FALK.

CRIMPING PLIERS.

APPLICATION FILED AUG. 27, 1910.

1,066,804. Patented July 8, 1913.

Fig. 3.

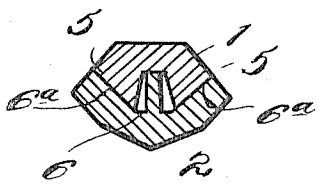


Fig. 1.

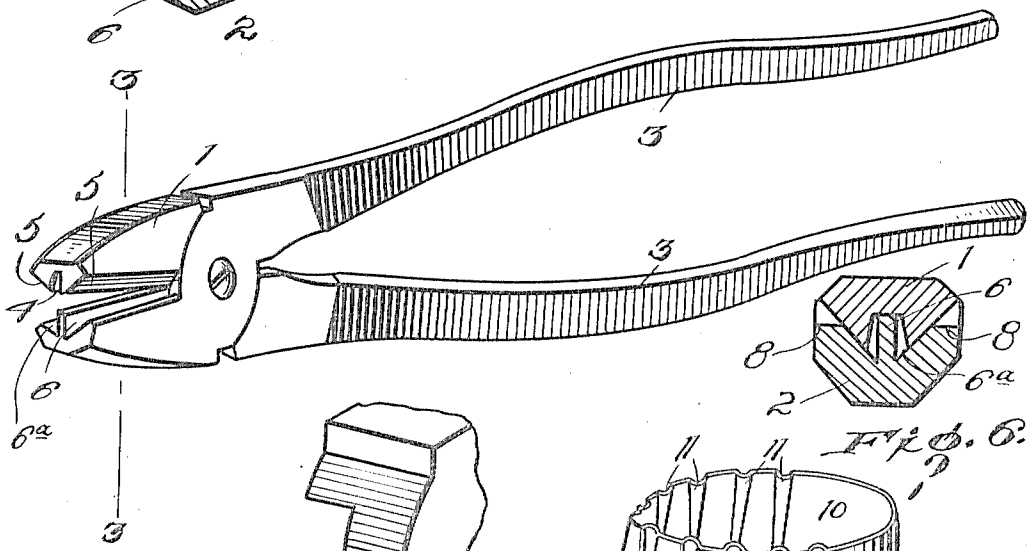


Fig. 2.

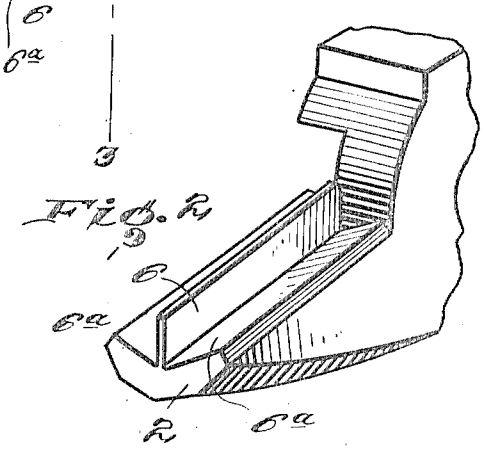
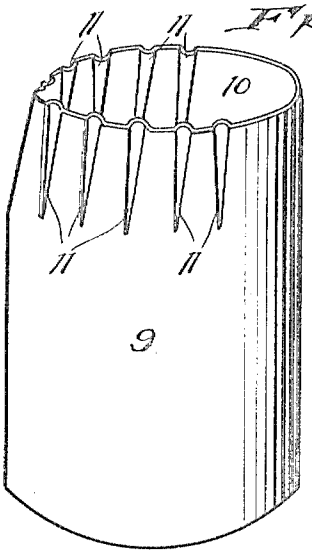


Fig. 6.



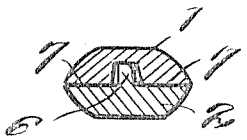


Fig. 4.

Fig. 5.

Witnesses

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CRIMPING-PLIERS.

1,066,804. Specification of Letters Patent. Patented July 8, 1913.

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To all whom it may concern:

Be it known that I, JOHN L. FALK, a citizen of the United States of America, residing at Spokane, in the county of Spokane and State of Washington, have invented certain new and useful Improvements in Crimping-Pliers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to tools for crimping the ends of tubes to taper the same, and the principal object of the same is to embody the tool in a pair of pliers which are adapted to crimp the ends of cylindrical, rectangular, or other shape of tubes.

In carrying out the objects of the invention generally stated above, it will be understood, of course, that the essential features thereof are necessarily susceptible of changes in details and structural arrangements, preferred and practical embodiments of which are shown in the accompanying drawings, wherein:

Figure 1 is a perspective view of the improved pliers. Fig. 2 is a fragmentary perspective view of one of the jaws thereof. Fig. 3 is a sectional view taken on the line 3—3 Fig. 1. Fig. 4 is a view similar to Fig. 3, but showing the modified jaws. Fig. 5 is a perspective view of the tube crimped by the improved pliers. Fig. 6 is a view similar to Figs. 3 and 4, but showing another modification of the invention.

Referring to the accompanying drawings by numerals, it will be seen that the improved pliers comprises a pair of jaws 1 and 2 which are provided with handles 3, said handles being held in pivotal crossed relation. The gripping surface of jaw 1 is provided with a central longitudinal groove 4, the side walls of which are beveled and the gripping surface of the jaw on each side of the groove is also beveled as indicated at 5. Jaw 2 is provided with a central longitudinal tongue 6. The gripping surface of jaw 2 on each side of the tongue 6 is beveled, as indicated at 6^a.

In the modified jaws suggested in Fig. 4, the gripping surfaces of the jaws are flat, as indicated at 7. In all other respects this form of the invention is the same as in the preferred form.

In Fig. 6 another modification of the invention is suggested in which the jaw 2 has the beveled gripping surfaces 6^a on each side of the tongue, and the upper, or outer portions of said gripping surfaces merge into flat surfaces 8.

The improved tool is equally adapted for use in connection with flat, circular or rectangular edge work, an example being shown in Fig. 5 wherein a tube 9 has been shown provided with a crimped end 10. The grooves 11 in the end 10 of the tube 9 taper longitudinally, the larger or under portion thereof being at the edge of said ends. This shape of groove is formed by reason of the fact that the inner end of the heel of the tongue 6 exerts a greater pressure on the tube than the outer end or nose of said tongue.

It will be seen from the foregoing that when the jaws 1 and 2 are brought together the tongue and groove will form a groove in the end of a tube, the gripping surfaces in the ends of the tongue and groove of the jaws firmly clamping the material.

As is shown in Figs. 3, 4 and 6 of the drawings, considerable space is left between the inclined sides of the groove 4 and the sides of the tongue 6 when the jaws are brought together and the material which is being crimped by said jaws is loose in said spaces so that when they have been acted upon by the tongue supports and the groove therein, no undue stretching or straining pressure is applied to said material such as would tend to destroy or damage the same. It will also be noted that this invention is one that is not limited in use to any particular form of material, but can be used to crimp flat circular, or the corners of square surfaces.

It should be noted that the central tongue extends above the surfaces of the shoulders and that because of this relationship the sheet is partially bent over the tongue by the inner edges of the jaw 1 before the metal of the sheet is gripped between the clamping jaws and therefore the top of the corrugation will be thrown above the remainder of the sheet.

What I claim as my invention is:—

A crimping tool comprising a pair of pivotally connected coacting jaws, one of said jaws provided with a centrally arranged groove having beveled gripping surfaces, the other jaw provided with a central longi-

tudinally arranged tongue, and beveled gripping surfaces extending from either side of said tongue and terminating in flat shoulder portions, said tongue being of sufficient length so as to extend above the surfaces of said shoulders.

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

JOHN L. FALK.

Witnesses:
R. H. HOERING,
W. A. KNOWLES.