

J. N. MACDONALD.
CHAIN REPAIR TOOL.
APPLICATION FILED JULY 20, 1912.

1,041,826.

Patented Oct. 22, 1912.

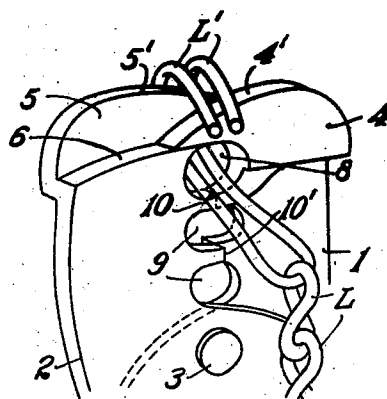
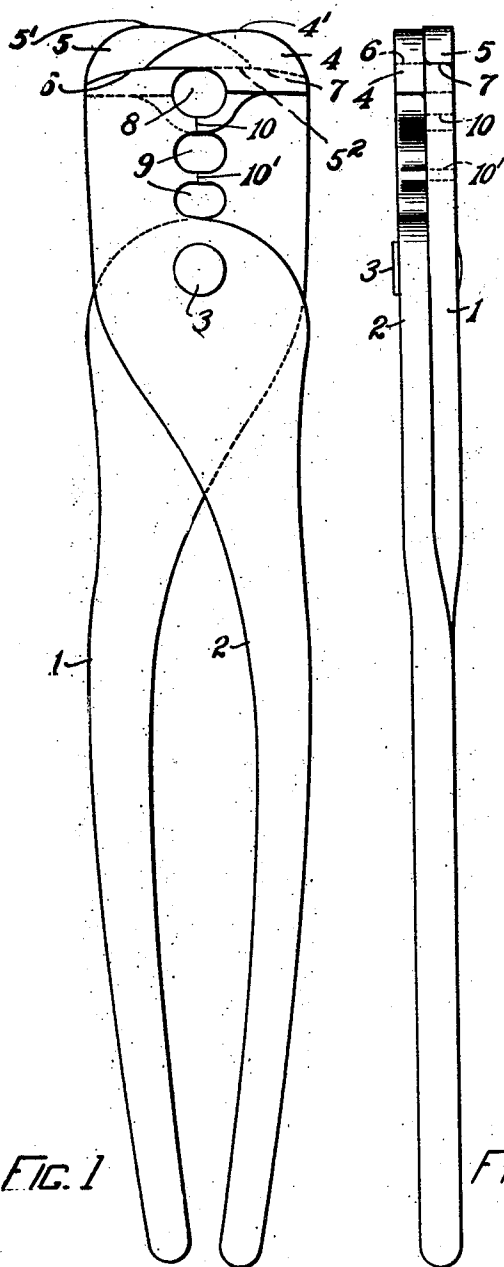


FIG. 4

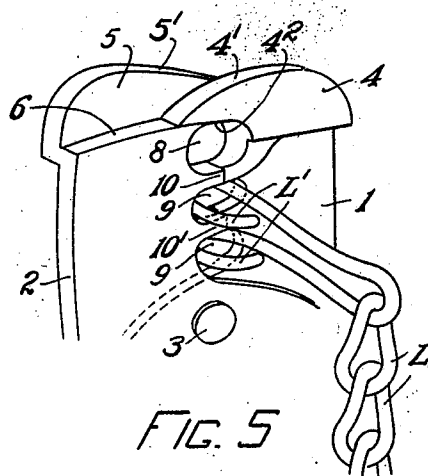


FIG. 5

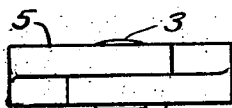


FIG. 3

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JOHN N. MACDONALD, OF HARTFORD, CONNECTICUT, ASSIGNOR TO JAMES M. MACDONALD, OF WETHERSFIELD, CONNECTICUT.

CHAIN-REPAIR TOOL.

1,041,826.

Specification of Letters Patent.

Patented Oct. 22, 1912.

Application filed July 20, 1912. Serial No. 710,641.

To all whom it may concern:

Be it known that I, JOHN N. MACDONALD, a citizen of the United States, residing at Hartford, county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Chain-Repair Tools, of which the following is a specification.

This invention relates to chain repair tools and particularly to an improvement in tools for opening and closing the end hooks of the cross chains of an automobile tire chain and the like.

My present invention involves certain new improvements in the construction of the bills of the wedging members, and further of the construction of the closing members by which the parallel hooks may be maintained parallel preventing overlapping and distortion.

Various other features of construction are also included which will be more fully described in the specification which follows.

In the drawings I have shown a form of my tool which I have found well adapted to practical use and which well illustrates the principles involved in my invention.

Throughout specification and drawing like reference numerals are employed to indicate corresponding parts, and in the drawings.— Figure 1 is a side view of a tool embodying my invention, Fig. 2 is an edge view of the same, Fig. 3 is an end view showing the overlapping bills, Fig. 4 is an enlarged detail of the head showing the action of bills in opening a hook, and Fig. 5 is a detail showing the action in closing.

The tool as illustrated comprises a pair of crossed handle members 1 and 2 pivoted at 3.

The member 2 has an offset bill 5 having an external expanding surface 5¹ and an internal expanding surface 5². The offset portion leaves an inclined shoulder 6. The bill of the member 1 is correspondingly formed with an offset wedge 4 with the shoulder 7 and having an external expanding surface 4¹ and an internal expanding surface 4². Just inside the bills on each jaw is formed a projection 10 which constitutes

a stop and also defines an opening 8 which provides a free space in which the shank or point of the hook may rest during the opening operation shown in Fig. 4. Just below the projection 10 and between it and the bill 3 is formed another projection 10¹ defining two openings 9 into which the parallel hooks L¹ of the end hook of the chain L may rest in closing. In this position the hooks are held absolutely parallel in closing with a firm pressure so that there is no possibility of the overlapping of the points.

The offsetting of the wedges 5 so that they lie on the opposite side of the pivot 3 from that on which the handle crosses makes mutual lateral support for the wedges. The shoulders 6 and 7 furthermore provide supports for the tips of the wedges shortly after they come into contact therewith so that as the strain of the wedges increases they are supported by the shoulders 6 and 7.

Various modifications may obviously be made in my device, all without departing from the spirit of my invention if within the limits of the appended claims.

What I, therefore, claim and desire to secure by Letters Patent is:—

1. A tool of the class described comprising a pair of pivoted crossed members, a wedge shaped bill on each member, said bills being each laterally offset so as to lie in the plane of the opposite member and forming with its own member a shoulder for receiving and supporting the point of the opposite bill.

2. A tool of the class described comprising a pair of pivoted crossed members, a wedge shaped bill on each member, said bills being each laterally offset so as to lie in the plane of the opposite member and forming with its own member a shoulder for receiving and supporting the point of the opposite bill, each of said members being correspondingly recessed below its bill to form a clearance space below the surface and each having a pair of similar grooves providing opposite individual bearing surfaces for closing the hooks while supporting them in parallel position.

3. A tool of the class described comprising

a pair of pivoted crossed members, a wedge shaped bill on each member, said bills being each offset so as to lie in the plane of the opposite member, and forming with its own
5 member a shoulder for receiving and supporting the point of the opposite bill, each of said members being correspondingly recessed below its bill to form similar opposite

grooves for supporting double hooks in parallel position during closing.

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

JOHN N. MACDONALD.

Witnesses:

MAY C. McCORMICK,
JAMES M. MACDONALD.