(No Model.)

L. GODDU.

SOLE FASTENING WIRE.

No. 262,287. Patented Aug. 8, 1882.

Fig: 1.



Fig: 2.



Fig: 7.



Fig: 3.

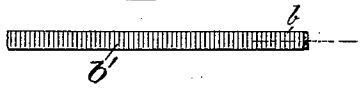


Fig: 10



Fig: 8.



Fig: 4.



Fig: 11.



Fig: 9.



Fig: 5.



Fig: 12.



Fig: 6.



Witnesses.
Fred A. Powell.
Chas. F. C. Brinckerhoff

Inventor.
Louis Goddu
by Crosby & Gregory attys

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

LOUIS GODDU, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO GORDON McKAY, OF NEWPORT, RHODE ISLAND, AND JAMES W. BROOKS, OF CAMBRIDGE, MASSACHUSETTS, TRUSTEES.

SOLE-FASTENING WIRE.

SPECIFICATION forming part of Letters Patent No. 262,287, dated August 8, 1882.

Application filed June 26, 1882. (No model.)

To all whom it may concern:

Be it known that I, LOUIS GODDU, of Winchester, county of Middlesex, State of Massachusetts, have invented an Improvement in Sole-Fastening Wire, of which the following description, in connection with the accompanying drawings, is a specification.

This invention has for its object the production of a novel wire for use in nailing-machines for boot and shoe work wherein the said wire is cut into sole-fastenings of the proper length. This wire, preferably quadrangular in cross-section, has its surface between its smooth corners serrated or indented like a file to engage the fiber of the leather, and the wire is twisted axially to give it the holding power of a screw, and also to add to its stiffness and insure that the fastening cut from it will drive straight. A twisted or screw-like fastening which turns axially as it is being driven will not run or bend from a straight line when being driven through a piece of leather as readily as would a fastening of same cross-section if not twisted. The serrated or indented surface of the wire effectually co-operates with the twist put into the wire, and each adds greatly to the holding power of the fastening made therefrom when driven into the material to be united by it.

My invention consists in a twisted and toothed or serrated sole-fastening wire.

Figure 1 represents in perspective a piece of plain wire from which to make my improved wire; Fig. 2, a cross-section thereof; Fig. 3, a perspective view of the simplest form of toothed or serrated wire to be twisted in accordance with my invention; Fig. 4, a cross-section of Fig. 3; Fig. 5, a longitudinal section of a piece of sole-fastening wire such as shown in Fig. 3. Fig. 6 shows the wire twisted, ready to be wound on a reel or otherwise to be used in a nailing-machine. Figs. 7, 8, 9, 10, and 11 represent cross-sections of different forms of sole-fastening wire serrated or indented at its sides; and Fig. 12 represents a side view of a piece of wire such as shown by the section, Fig. 7.

I first take a round or other suitable-shaped wire, *a*, and run it between roller-dies, which give to the said wire the cross-section desired—as, for instance, as shown by wire *b* in Figs. 3 and 4 and wires *c d e f* in Figs. 7, 8, 9, 10, and 11—the said wires as they are being rolled into either of the said shapes having their sides toothed or serrated between their corners b^2, thus making a series of fine teeth, b', (seen best in Fig. 5,) which teeth are adapted to cut into the leather, the latter contracting into the spaces between the said teeth. To further add to the holding power of fastenings to be cut from the said toothed or serrated wires, and also to add to the stiffness thereof and enable the fastenings cut therefrom to be driven straight into and through leather without injuriously "running," as it is called, or diverging from a straight line, the said wires are twisted, as shown at Fig. 6 of the wire *b*. (Represented in Figs. 3, 4, and 5.)

A wire having a cross-section such as shown in either of the figures of the drawings, unless provided with a point exactly central with the center of the wire, could not be driven straight into and through the leather without a hole were made therein for its reception by an awl, and hence such a wire could not practically be used in nailing-machines, for such machines, so far as I am aware, have no provision by which it is possible to cut off the wire and leave a central point; but, on the contrary, the point is left more or less at one side of the said center. If the wire be twisted so that the fastening cut therefrom is compelled to rotate as it is driven into the leather, the tendency of the fastening to run or be deflected to one side in its passage through the said leather is practically neutralized.

The surfaces which are toothed or serrated may be somewhat concaved, as shown in the section, Fig. 11, the metal displaced in forming the said concavities and the indentations between the teeth b' appearing in the smooth corners b^2. The teeth or serrations b' will be produced by teeth forming part of the rolls employed in rolling the wire into the shape required.

I do not broadly claim a twisted wire, as I know that to be old; nor do I broadly claim a toothed or serrated wire; but I am not aware that a toothed or serrated wire many sided or oval in cross-section has ever been twisted.

In Fig. 7 the notched or serrated strip is oval in cross-section, in Fig. 8 triangular, in Fig. 9 square or quadrangular, in Fig. 10 hexagonal, and in Fig. 11 a square and concaved sides. All these different forms of strips or wires are finely toothed or serrated when being rolled into the cross-sections illustrated, and each form of strip is then twisted, as indicated by the right-hand end of the strip in Fig. 6.

Instead of making the metal strip in the forms shown in cross-section in Fig. 3 to 11, I may, without departing from my invention, adopt any other usual many-sided form which, when the strip is cut transversely, will produce corners which, when the strip has been toothed or serrated and twisted, will form a fastening-wire that as it is driven will turn like a screw.

In Fig. 6 but one end of the toothed or serrated metal strip *b* has been serrated in accordance with my invention.

I claim—

As an improved article of manufacture, a twisted sole-fastening wire having its sides toothed or serrated as described, for the purposes set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS GODDU.

Witnesses:
G. W. GREGORY,
FRED A. POWELL.