2 Sheets--Sheet 1.

L. GODDU.

Hand-Tool for Channeling Soles.

No. 168,478. Patented Oct. 5, 1875.

Fig. 1.

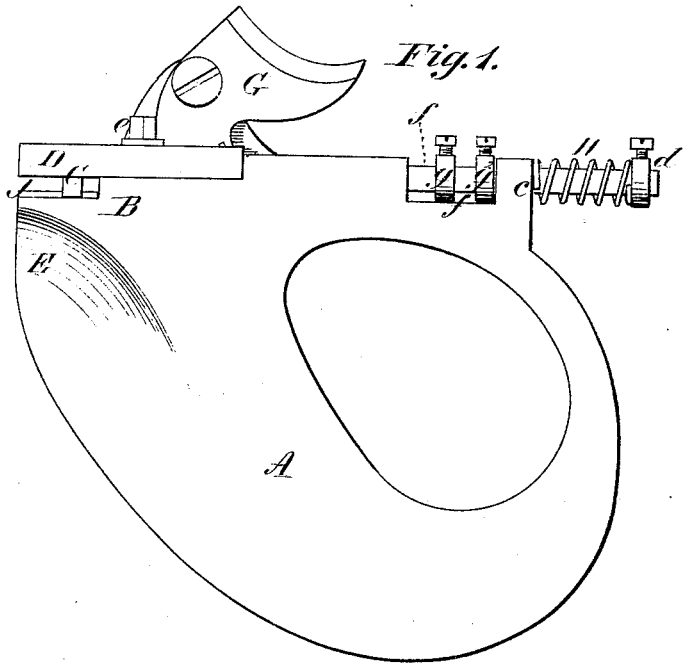


Fig. 2.

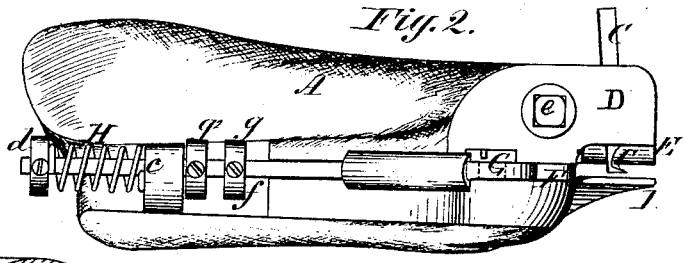


Fig. 4.

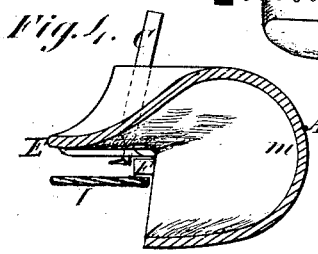
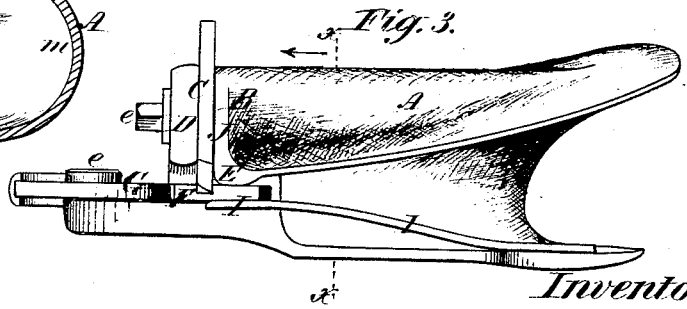


Fig. 3.



Witnesses:

J. Holt Wagner,

J. H. Rutherford

Inventor:

Louis Goddu

By Johnson and Johnson

his Atty's

2 Sheets--Sheet 2.

L. GODDU.

Hand-Tool for Channeling Soles.

No. 168,478. Patented Oct. 5, 1875.

Fig. 5.

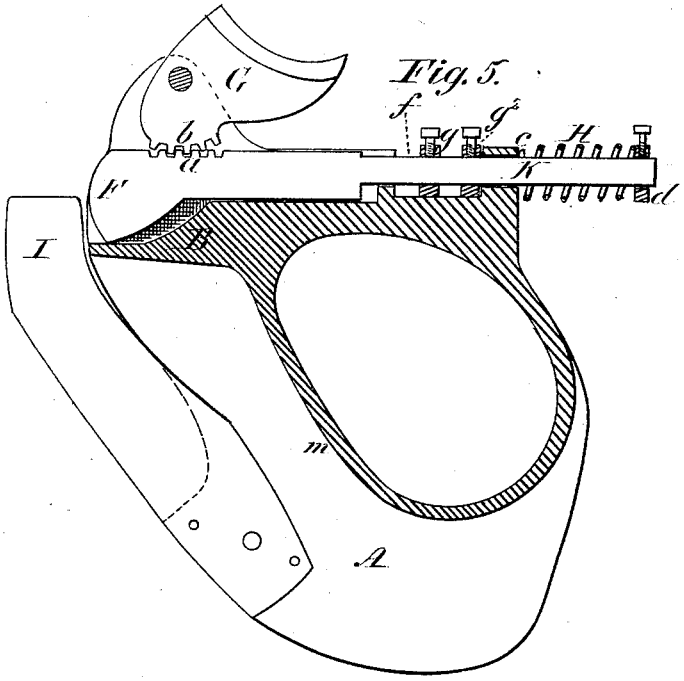
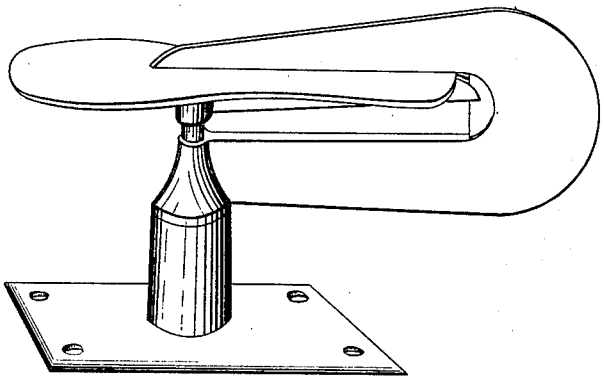


Fig. 6.



Witnesses:

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J. H. Rutherford

Inventor:

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his Attys

UNITED STATES PATENT OFFICE.

LOUIS GODDU, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO AMERICAN CABLE SCREW WIRE COMPANY, OF SAME PLACE.

IMPROVEMENT IN HAND-TOOLS FOR CHANNELING SOLES.

Specification forming part of Letters Patent No. **168,478**, dated October 5, 1875; application filed September 21, 1875.

CASE C.

To all whom it may concern:

Be it known that I, LOUIS GODDU, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Hand-Tool for Channeling the Soles of Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 represents a hand channeling-tool used in connection with my rotatable sole-clamp; Fig. 2, an end view, showing the adjustable edge-guide; Fig. 3, a view of the hollow side of the tool; Fig. 4, a cross-section on the line *x x* of Fig. 3; Fig. 5, a horizontal section of the tool, showing the adjustable edge-guide and its operating pivoted toothed lever, the outward-pressing spring, and the adjustable stops attached to the shank of the adjustable edge-guide; and Fig. 6, a view of my rotatable sole-clamp for channeling.

In connection with the employment of my rotative holder, for turning, clamping, and supporting the sole of boots and shoes while being channeled, as described and shown in a separate patent granted to me, I use a palm-handled cutter of peculiar construction, and which is the subject of this patent.

This tool consists of a curved holder, A, hollow and open on its inner surface, and made to be grasped by and fit to the palm of the hand. The head B of this tool is solid and of sufficient size to receive the cutter C, and a clamping-plate, D, therefor, and from this head B a top surface-gage, E, projects, to form a bearing and surface guide for the tool upon the upper surface of the sole, and a thumb-rest. At the base of the surface-bearing guide, and at right angles to it, is a controllable edge-guide, which serves as a bearing, F, and guide for the edge of the sole, to determine the distance of the channel from its edge at the shank, and controlled, for this purpose, by moving it during the operation of cutting the channel. This edge-guide moves in a slot cut into the tool-head, and is operated by the following device, irrespective of the position of the cutter. The edge-guide is made of a thickness equal to the thinnest leather to be channeled. On the outer edge of this guide is a series of cogs, *a*, into which match counterpart cogs *b* on the end of a finger-lever, G, pivoted to an extension of the head of the cutter. On the shank K of this controllable edge-guide, and beyond its support, is a spiral spring, H, one end of which rests against the bearing *c*, through which the shank moves, and the other end of the spring is confined by an adjustable collar, *d*, and set-screw, by which means any degree of pressure can be put upon the spring. Between the bearing for the spiral spring and along the groove through which the shank moves a recess, *f*, is made, into which two collars or stops, *g* g^2, with set-screws, are fixed upon the shank K of the edge-guide, in order to determine the maximum and minimum movement of the guide, while the spiral spring always brings the edge-guide to its normal position the moment the pressure is released from the pivoted lever.

The adjustable stop or collar g^2, striking against the shoulder in the holder, makes a solid bearing, and prevents the farther receding of the edge-guide, so that while the edge-guide is adjustable it is actually at its minimum extension as solid as if it were part of the head itself, and at its maximum extension it is equally as firm, and is maintained in its position so as to resist the pressure against the edge of the sole by the pivoted lever G, which is so placed as to come naturally under the action of the forefinger, and when grasped and brought down it operates to throw the edge-guide forward by the cogs of the pivoted lever acting on the cogs in the shank of the edge-guide.

When the pivoted lever is brought down it requires no additional outlay of strength to hold it in its position, for the force applied to keep it down operates in the same direction as the force required to draw the tool around the edge of the sole and make the channel.

That portion of the edge-guide which rests against the sole is made convex, so as to lessen the friction caused by its being drawn against the edge of the sole, and also to fit more closely into the sharp curve in the shank of the sole, as seen in Fig. 5.

A controllable edge-guide is desirable from

the fact that an extension-edged sole is greatly used at the present time, and as the sole extends around the ball and toe some distance beyond the upper the fastenings must be set farther from the edge around this part of the sole than in the shank, where the sole does not project beyond the upper.

This adjustable edge-guide enables the operator, without stopping to alter the position of his knife, to commence at one shank, cutting a channel near the edge until the ball is reached, and then releasing the pressure upon the pivoted lever, when the spiral spring, together with the pressure against the guide, moves it back, and the sole edge following close against it, consequently cutting a channel farther from the edge of the sole until the opposite shank is reached, when pressure is again applied to the pivoted lever, which moves the edge-guide forward, and at the same time moving the edge of the sole nearer the knife, and, of course, cutting a channel the same distance from the edge as on the opposite shank and point of starting. The movable edge-guide moves between the upper fixed resting-surface of the head and the self-adjusting bearing-spring which keeps the sole firmly against the upper bearing-surface E, thereby always insuring a uniform depth of channel, whatever the thickness of the leather. For the purpose of keeping the sole firmly against the upper-surface guide E in cutting the channel I combine with such upper bearing-surface a self-adjusting lower presser, I, between which and the upper-surface guide E the sole passes in moving the tool around its outer edge, so that soles of different thicknesses can be easily inserted, while the yielding presser I will adjust itself to such varying thicknesses. The position of the cutter C with respect to the upper bearing-surface E is such that the depth of the incision made by the cutter in the surface of the sole will not be affected in any way by the thickness of the sole being channeled. The self-adjusting presser I is secured to the lower inner side of the open curved handle, and consists of a steel plate, I, having a suitable bearing-surface immediately below the upper surface-bearing. The head of the handle is recessed at J, Fig. 1, to receive the cutter C, which consists of a knife of any desired cutting-surface, and is secured to the head by a face-plate, D, and clamp-screw *e*. This knife can be clamped so as to cut any desired depth of channel, and can be set as near the edge-guide as may be desired. When it is desired to cut a channel of uniform distance from the edge of the shoe all round, the movable edge-guide can be dispensed with, and an edge-guide formed by a part of the head itself. An essential feature of this knife-holder lies in its hollow shell, formed with a curved back, *m*, so as to follow the short curves in the shank of the sole by having the knife and its handle, at its curved back *m*, nearly coinciding with the arc of a circle. In drawing the knife round the edge of the sole as soon as it comes near the shank the sole enters the hollow of the palm-handle, which allows the knife to keep the same distance from the edge of the sole. Were it not for this construction of the handle the knife would be thrown out from the edge in channeling the shank and thus prevent the channel being cut all the way round the edge of the sole. To have as little friction as possible in drawing the tool around the edge of the sole I propose to fit a loose roll at the end of the movable edge-guide F, in any convenient manner that will best answer the purpose, and also one at the end of the adjustable presser. The peculiar back curve of the handle allows it to be grasped and held with great ease, the thumb resting upon the head-surface and the forefinger resting on the pivoted lever.

I claim—

1. The combination, in a hand-tool for channeling the soles of boots and shoes, of an upper bearing-surface guide, E, a self-adjusting presser-plate, I, an edge-bearing for the sole, and a channel-cutter, C, substantially as herein set forth.

2. In a hand-tool for channeling the soles of boots and shoes, by means of a cutter carried thereby, a controllable edge-guide, F, substantially as herein set forth, whereby the distance of the channel from the edge of the sole at the shank is determined.

3. The combination, in a hand-tool for channeling the soles of boots and shoes, of an adjustable toothed edge-guide, F, with a toothed lever, G, and a spring H, substantially as herein set forth, whereby to determine the maximum and minimum movement of the edge-guide, as described.

4. The combination, with the controllable edge-guide F and its operating toothed finger-lever G, and the spring, of means for adjusting and regulating the movement of said edge-guide with respect to the channeling-tool, substantially as and for the purpose herein set forth.

5. A hand channeling-tool, provided with a palm-handle having a curved recess or hollow, *m*, on its inner surface to receive the edge of the sole as the knife is manipulated along the short curves in the channeling operation, substantially as set forth.

6. A hand-tool for channeling the soles of boots and shoes, consisting of a hollow curved palm-handled channeling-knife holder, A, an upper bearing-surface guide, E, a self-adjusting lower pressure-plate, I, a channel-cutter, C, and a controllable edge-guide, F, substantially as herein set forth.

In testimony that I claim the foregoing I have affixed my signature in the presence of two witnesses.

LOUIS GODDU.

Witnesses:
F. O. TOBEY,
J. W. NUTTER.