P. HAMMES.

LASTING DEVICE FOR BOOTMAKING.

APPLICATION FILED NOV. 11, 1912.

1,067,917.

Patented July 22, 1913.

2 SHEETS—SHEET 1.

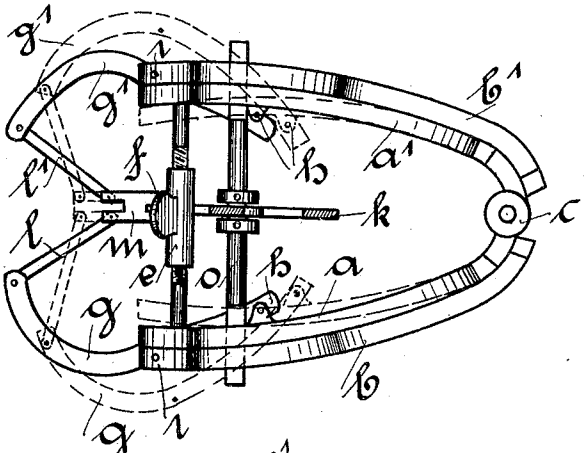


Fig. 1.

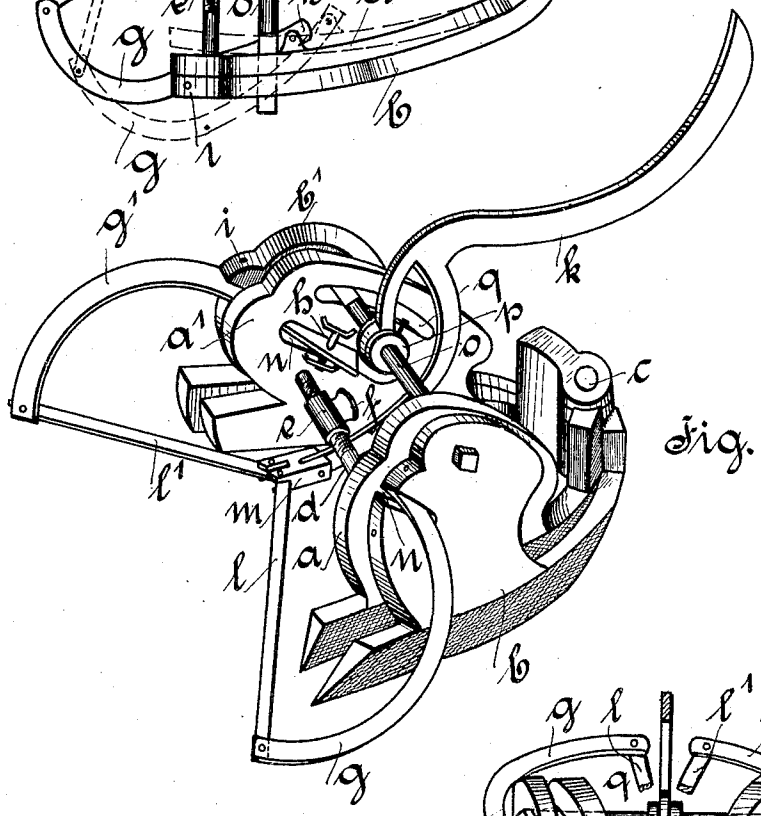


Fig. 2.

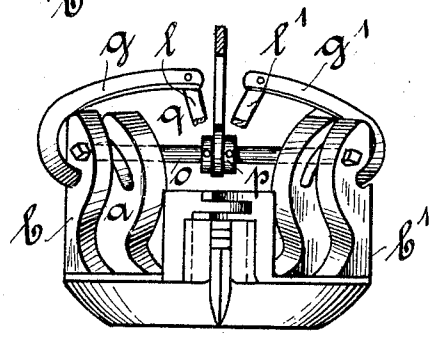


Fig. 3.

Witnesses:

Willy Erbner

John Enggry

Inventor:

Poul H. Hammes.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

P. HAMMES.

LASTING DEVICE FOR BOOTMAKING.

APPLICATION FILED NOV. 11, 1912.

1,067,917.

Patented July 22, 1913.

2 SHEETS—SHEET 2.

Fig. 4.

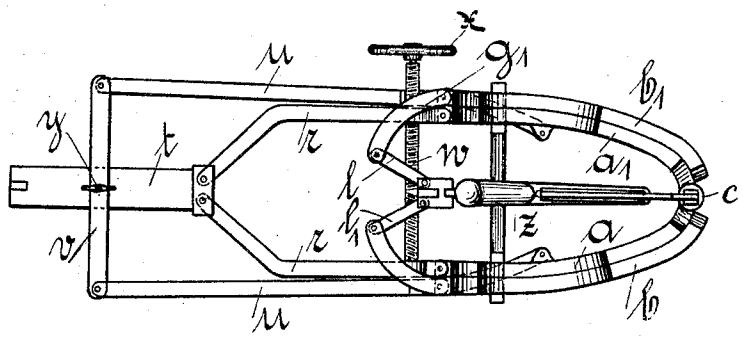
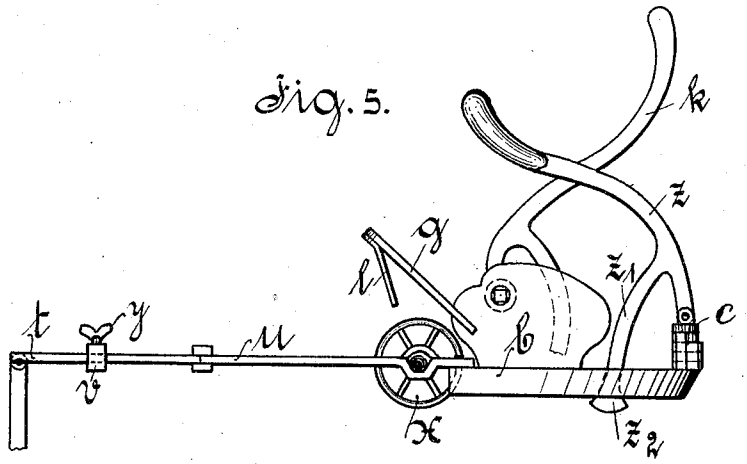


Fig. 5.



Witnesses:

Willy Ertmer

Johann Fuggers

Inventor:

Paul Hammes

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

PAUL HAMMES, OF TREVES, GERMANY.

LASTING DEVICE FOR BOOTMAKING.

1,067,917. Specification of Letters Patent. Patented July 22, 1913.

Application filed November 11, 1912. Serial No. 730,738.

To all whom it may concern:

Be it known that I, PAUL HAMMES, a subject of the German Emperor, residing at Treves, Germany, have invented a certain Improved Lasting Device for Bootmaking, of which the following is a specification.

The present invention relates to a device for pulling the upper of a boot or the like over the last, and consists in the provision of two pairs of gripping jaws which are curved so as to conform with the outlines of the sole. All the jaws are adapted to turn about a common pivot arranged at the toe part of the device, and the inner jaws are distanced by stays which allow them to be adjusted for different widths of sole. A system of levers is provided for actuating the outer jaws so as to clamp the edge of the upper between them and the inner ones, and another lever serves to lift the jaws from the last and stretch the leather after it has been thus gripped by the jaws.

In the accompanying drawings the invention is illustrated by way of example, Figure 1 representing a plan of the device in its simplest construction, partly in section, the jaws being closed, Fig. 2, a perspective view of the same with open jaws, and Fig. 3, a front view. Fig. 4 is a plan view showing a further development of the invention, and Fig. 5, a side view of the latter device, part of the elements being removed.

The device consists essentially of four jaws a, b, and a^1, b^1 which are arranged in pairs and curved so as to conform with the outlines of the boot sole. All the jaws are connected at c to a common pivot about which they can turn. Each pair of jaws is adapted to grip the edge of the upper at opposite sides of the last, and the jaws are tapered downward to a fine edge so as to occupy as little space as possible. The inner jaws a, a^1 are interconnected by a stay d which is divided into two parts, one provided with a right-hand and the other, with a left-hand screw-thread. Both parts of the stay screw into a sleeve e which is fitted with a thumb-piece f so as to allow of being easily turned for adjusting the length of the stay and thus the distance between the outer ends of the two pairs of jaws. In this manner the jaws can be accommodated to soles of different width. While the inner jaws are thus held firm by the stay d, the outer jaws are moved for gripping the upper. This is effected by means of two curved levers g and g^1 which pass obliquely inward through slots n made in the cheek parts of the jaws and which are pivoted at h to the inner jaws and at i to the outer ones. The arrangement is such that the levers, when actuated in the manner of a pair of tongs, open and close the jaws, the levers being slotted at one of the pivots, for instance h, to allow the necessary movement. To facilitate the operation a hand-lever k is provided which is adapted to turn about a shaft o between two collars p. This shaft is passed through elongated slots q in the cheek parts of the inner jaws and is also held loosely in the outer jaws so as to be supported by the latter without impeding their movement. The hand-lever k has a curved arm which is carried under the shaft and pivoted to a block m. The latter is connected by means of links l and l^1 to the outer ends of the levers g and g^1 respectively so as to transmit the rocking movement of the lever k to the levers g, g^1 and thence to the jaws. When the lever k is pulled upward, the jaws close, as shown in Fig. 1; when it is pressed down the jaws open, as shown in Fig. 2. It is evident that when the lever k is pulled upward, the upper, simultaneously with being gripped by the jaws, will also be stretched over the last. The jaws are milled so as to obtain a firm grip on the leather. They may also, particularly toward the toe-part, be made sinuous so as to conform with and distribute the folds formed on the leather edge.

In Figs. 4 and 5 a further development of the invention is illustrated. In the first place means are provided for securing the jaws in clamping position. For this purpose the inner jaws are pivoted at their free ends to a pair of links r which in their turn are pivoted to a longitudinal bar t, the latter being passed through a slot in a cross-bar v. Another pair of links u are pivoted to the ends of the bar v and to the ends of the outer jaws. The previously described stay d is discarded, and substituted therefor is a screw-spindle w fitted, with oppositely cut screw-threads, in the links r. The screw-spindle is passed through a slot in one of the links u and provided at the end with an actuating wheel x by means of which it can be turned for adjusting the position of the jaws a, a^1. A wing-screw y is fitted in the bar v so as to allow the latter to be secured

to the bar t in various positions. The bar t is attached in known manner to the heel part of the boot. The operation of this construction is as follows: The bar v is first set free by loosening the screw y whereupon the jaws a, a^1 are adjusted by means of the screw-spindle w so as to conform with the width of the last. The jaws are then opened by means of the lever k so as to admit the edge of the upper between them whereupon the lever is turned in the opposite direction for clamping the jaws to the leather. During the movement of the jaws b, b^1 the bar v is caused to move along the bar t. After the jaws have been clamped to the leather, the screw y is tightened for securing the bar v in position on the bar t. Being unable to move, the bar v also prevents the jaws b, b^1 from moving back so as to release the leather. In order to clamp the jaws with great force to the leather, the spindle w is then again turned for pressing the inner jaws against the outer ones.

For stretching the upper over the last after it has been gripped by the jaws, another hand-lever z is provided. This lever is hinged to the upper end of the pivot c and has a slot through which the lever k is admitted. An arm z^1, fitted at its free end with a shoe z^2, is connected to the lever z so as to bear with its shoe against the insole on the last. When the lever z is pressed down, the shoe z^2 acts as a fulcrum for the lever and lifts the jaws from the last, thereby stretching the leather. Since the shoe z^2 is applied to the insole, it is evident that this stretching can be effected without said insole being dislocated.

I claim:

1. A lasting device comprising two pairs of jaws having cheek parts and arranged so as to be capable of gripping the edges of the upper and curved in conformity with the outlines of the sole, all the jaws being adapted to turn about a common pivot arranged at the toe, means for interconnecting the inner jaws and for varying the distance between them according to the width of the last, a pair of curved levers fitted in slots in the cheek parts of the jaws, said levers being pivoted to the inner as well as to the outer jaws so as to open and close the latter when rocked, and an actuating lever supported on the jaws and linked to the free ends of said curved levers for rocking the latter and clamping the jaws to the upper.

2. A lasting device comprising two pairs of jaws having cheek parts and arranged so as to be capable of gripping the edges of the upper and curved to conform with the outlines of the sole, all the jaws being adapted to turn about a common pivot arranged at the toe, means for interconnecting the inner jaws and for varying the distance between them according to the width of the last, a pair of curved levers fitted in slots in the cheek parts of the jaws, said levers being pivoted to the inner as well as to the outer jaws so as to open and close the latter when rocked, a shaft fitted loosely in the cheek parts of the jaws, an actuating lever adapted to turn about said shaft, and an arm on said actuating lever linked to the free ends of said curved levers for rocking the latter and clamping the jaws to the upper.

3. A lasting device comprising two pairs of jaws having cheek parts and arranged so as to be capable of gripping the edges of the upper and curved in conformity with the outlines of the sole, all the jaws being adapted to turn about a common pivot arranged at the toe, means for interconnecting the inner jaws and for varying the distance between them according to the width of the last, a pair of curved levers fitted in slots in the cheek parts of the jaws, said levers being pivoted to the inner as well as to the outer jaws so as to open and close the latter when rocked, an actuating lever supported on the jaws and linked to the free ends of said curved levers for rocking the latter and clamping the jaws to the upper, means for securing the jaws in clamping position, and means for lifting the device from the last so as to stretch the upper.

4. A lasting device comprising two pairs of jaws having cheek parts and arranged so as to be capable of gripping the edges of the upper and curved to conform with the outlines of the sole, all the jaws being adapted to turn about a common pivot arranged at the toe, means for interconnecting the inner jaws and for varying the distance between them according to the width of the last, a pair of curved levers fitted in slots in the cheek parts of the jaws, said levers being pivoted to the inner as well as to the outer jaws so as to open and close the latter when rocked, an actuating lever supported on the jaws and linked to the free ends of said curved levers for rocking the latter and clamping the jaws to the upper, a longitudinal bar linked to the inner jaws, a cross-bar linked to the outer jaws and guided on the longitudinal bar so as to move relative to the latter when the jaws are operated, and means for clamping the bars together so as to prevent the jaws from moving apart and the upper from being released.

5. A lasting device comprising two pairs of jaws having cheek parts and arranged so as to be capable of gripping the edges of the upper and curved to conform with the outlines of the sole, all the jaws being adapted to turn about a common pivot arranged at the toe, a pair of curved levers fitted in slots in the cheek parts of the jaws, said levers being pivoted to the inner as well as to the outer jaws so as to open and close the latter when rocked, an actuating lever sup-

ported on the jaws and linked to the free ends of said curved levers for rocking the latter and clamping the jaws to the upper, a longitudinal bar, links connecting the bar with the inner jaws, a screw-spindle engaging said links one with a right-hand and the other with a left-hand screw-thread, a hand-wheel for turning the spindle and adjusting the distance between the inner jaws in conformity with the width of the last, a cross-bar linked to the ends of the outer jaws and guided on said longitudinal bar so as to move relative to the latter when the jaws are operated, and means for clamping the bars together so as to prevent the jaws from moving apart and the upper from being released.

6. A lasting device comprising two pairs of jaws having cheek parts and arranged so as to be capable of gripping the edges of the upper and curved to conform with the outlines of the sole, all the jaws being adapted to turn about a common pivot arranged at the toe, means for interconnecting the inner jaws and for varying the distance between them according to the width of the last, a pair of curved levers fitted in slots in the cheek parts of the jaws, said levers being pivoted to the inner as well as to the outer jaws so as to open and close the latter when rocked, an actuating lever supported on the jaws and linked to the free ends of said curved levers for rocking the latter and clamping the jaws to the upper, a lever hinged to the pivot of the jaws, and an arm connected to said latter lever so as to fulcrum the same on the last and allow it to be turned for lifting the jaws so as to stretch the upper.

PAUL HAMMES.

Witnesses:
OSCAR DEPNER,
JOSEPH STRATTEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."