UNITED STATES PATENT OFFICE.

RUDOLF ERNST CRAIN, OF OBERURSEL, GERMANY, ASSIGNOR TO MASCHENFABRIK MOENUS A. G., OF FRANKFORT-ON-THE-MAIN, GERMANY, A CORPORATION.

PULLING-OVER MACHINE FOR USE IN THE MANUFACTURE OF BOOTS AND SHOES.


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To all whom it may concern:

Be it known that I, RUDOLF ERNST CRAIN, a subject of the Grand Duke of Saxe-Weimar, residing at 18 K uploadsstraße, Oberursel a. T., in the Kingdom of Prussia and Empire of Germany, have invented certain new and useful Improvements in Pulling-Over Machines for Use in the Manufacture of Boots and Shoes, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in pulling-over machines having a sole presser adapted to be operated as required by a pedal, and carriers which, at the parts of the last corresponding to the ball of the foot, can be adjusted as regards height, for the purpose of obtaining an inclination of the last varying in accordance with the direction in which it is required that the pull of the pincers shall take place.

The present invention has more particularly for its object to enable the operator of the machine to effect the proper stretching of the upper over the last by raising the latter and, in addition thereto, to so control the last, as to bring it before, during, and after this stretching into such position relatively to the upper that perfect pulling over is effected. This adjustment of the position of the last relatively to the upper consists in giving certain inclinations to the last in the longitudinal direction, which inclinations are produced solely by the raising and lowering of the said ball-part carriers by the operator in such a manner that the pulls of the various pincers, and also the tensional strains on the leather caused by these pulls, bear proper relation to the elastic properties of the leather; moreover this adjustment can be applied to lasts of various shapes.

The accompanying drawing illustrates a construction in accordance with this invention.

Figure 1 is a side elevation; Fig. 2 is a plan of the sole presser; Fig. 3 shows a side elevation of the ball-part carriers on an enlarged scale, and Fig. 4 is a transverse section of the same.

Upon the table of the machine is mounted a bracket 194 carrying a double-armed lever 198, one arm of which is forked so as to embrace the pin 117 of a forked vertical rod 118, while the other arm is jointed by means of a pin 192 to a forked rod 191, through which it is in connection with a central bar 180. A projecting part of the table takes up a second bracket 112, carrying a pin 116 which constitutes a pivot for a double-armed lever 113, one arm of which is forked and has a pin engaging a horizontal slot in a vertical rod 110, the lower part of which is guided in the table of the machine, the upper part of the said rod being rigidly connected with a projection b on the central bar 180. The pin 114 serves as a pivot for the lever a which carries at its top the toe support e furnished below with the pin f connected with the horizontally arranged bolt g secured to the projection b and surrounded by a spring i. The central bar 180 carries a sliding piece 189 on which the angle shaped heel support 189 is mounted.

In accordance with this invention, the ball-part carriers n, n, are provided upon the short arm of a hand lever 1, of frame-like shape, fulcrumed on a bolt 2 carried by the central bar 180. The longer arm of the lever 1 has a handle 3 and a locking catch 4 adapted to be withdrawn when the handle is grasped. Connected with the catch 4 are links 5 formed with a handle or trigger 7 which is pressed outward by a spring 6. The central bar 180 which connects the sole supporting members a, n, with the forked rod 191, carries a toothed sector 8, with which the catch 4 engages. By actuating the lever 1 the operator can raise or lower, as desired, the ball-part carriers n, n, so that the last assumes longitudinally the position most adapted to the work being dealt with.

In order that the ball-part carriers n, n shall always have proper contact with the sole of the last or the inner sole, and that the inner sole shall not be shifted in an undesirable manner, use is made of the device shown on an enlarged scale in Figs. 3 and 4. The ball-part carriers n, n, are mounted on a block 10, furnished with guiding links 9 and capable of moving in vertical grooves in the sides of the central bar 180. The block 10 has on both sides links 11 connected to the shorter arm of the lever 1. When the lever 1 is turned on the pivot 2, vertical motion is imparted to the block 10, and consequently to the ball-part carriers n, n.
I claim:

1. In a pulling-over machine a last support of the character described, comprising in combination with a central bar toe and heel supports carried by said bar, a double-armed hand lever pivoted to the central bar, ball-part carriers attached to the hand lever, and means for locking the said hand lever in position.

2. In a pulling-over machine a last support of the character described, comprising in combination with a central bar toe and heel supports carried by said bar, a double-armed hand lever pivoted to the central bar, ball-part carriers attached to the hand lever and adapted to slide vertically in the central bar, links connecting the ball-part carriers and central bar, and means for locking the said hand lever in position.

3. In a pulling-over machine a last support of the character described, comprising in combination with a central bar toe and heel supports carried by said bar, a double-armed hand lever pivoted to the central bar, ball-part carriers attached to the hand lever, a toothed sector secured to the central bar, and a catch mounted on the hand lever adapted to engage the toothed sector.

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

RUDOLF ERNST CRAIN.

Witnesses:

JEAN GRUND,

CARL GRUND.

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