

July 13, 1937.

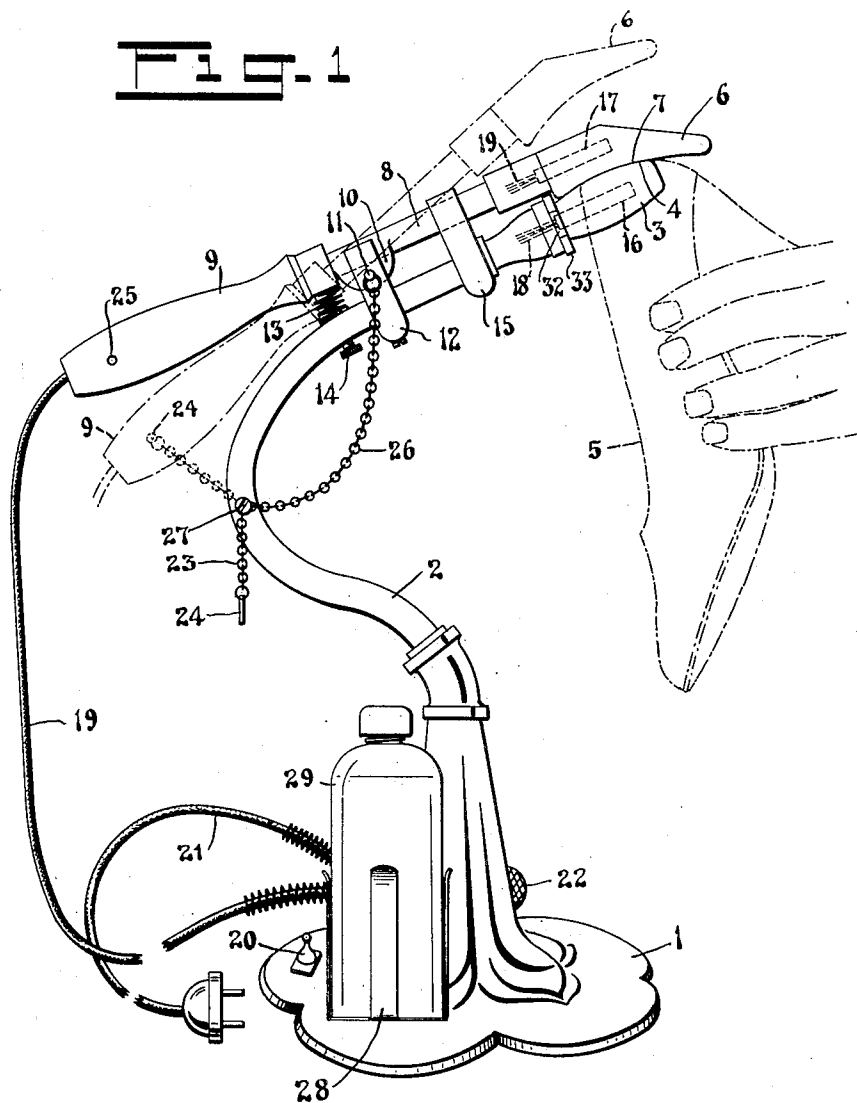
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2,086,917

SHOE REFITTING MACHINE

Filed Sept. 24, 1936

2 Sheets-Sheet 1



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Fig. 2

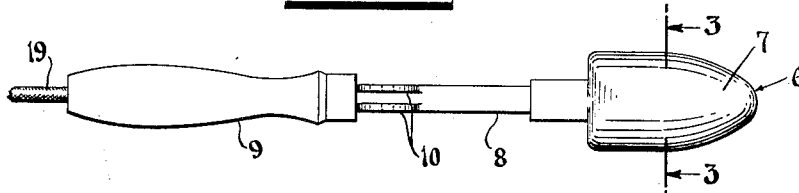


Fig. 4

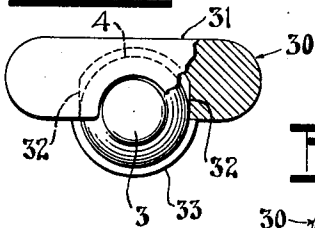


Fig. 3

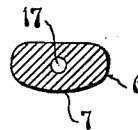


Fig. 5

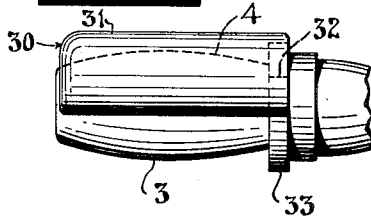
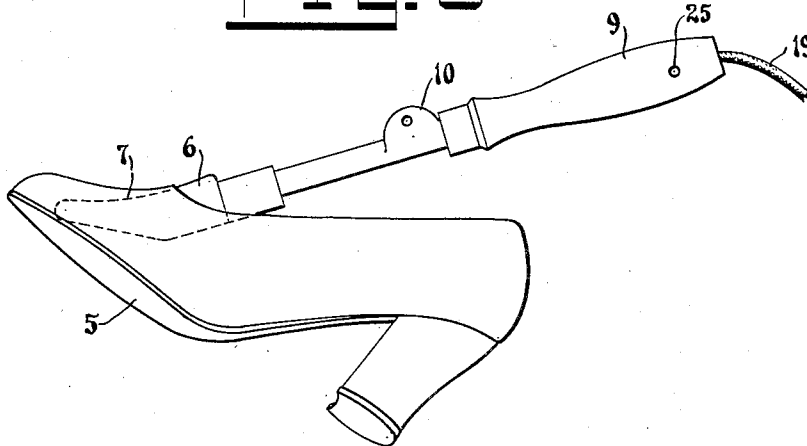


Fig. 6



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UNITED STATES PATENT OFFICE

2,086,917

SHOE REFITTING MACHINE

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Application September 24, 1936, Serial No. 102,312

3 Claims. (Cl. 12—51)

This invention relates to a new and useful improvement in shoe shaping machines designed primarily for use in retail shoe stores but equally useful in repair shops or factories. By means of it any part of the upper of a shoe can be stretched or shrunk, and wrinkles either in the leather or the lining can be ironed out. In short, imperfections in fit or comfort can be remedied and the shoe made to conform accurately with the foot. This is of great importance not only with respect to customers whose feet are difficult or impossible to fit perfectly with standard sizes and lasts but also with respect to the general run of customers since with rare exceptions no standard last fits any foot as well in all respects as could be desired. By this device if the heel is too tight it may be stretched, or if it is too loose it may be shrunk and slipping eliminated. Similarly if the shoe tends to gape at the side, a very common fault, it may be shrunk to eliminate it or, if the sides are too tight so that wrinkles in the leather and the lining are caused it may be stretched to eliminate them. Similarly the vamp may be raised or lowered by stretching or shrinking. Many other similar operations may be performed but these will suffice to illustrate the general purposes and utility of the invention.

Such alterations in a shoe must generally be made by the retail dealer while the customer waits. Therefore, a device for the purpose must be simple to operate, must not require any great degree of skill for its operation, must not be unduly cumbersome, and must be attractive in appearance. All of these features are embodied in this invention.

The form of the invention which has been selected for the purpose of illustration and description herein is disclosed in the accompanying drawings, of which

Figure 1 is a general side elevation of the device;

Fig. 2 is a plan view of the removable upper iron;

Fig. 3 is a cross-section of the upper iron on the line 3—3 of Fig. 2 viewed as indicated by the arrows;

Fig. 4 is an end view partly in section of the lower iron and detachable plate;

Fig. 5 is a side view of the same; and

Fig. 6 is a view illustrating the manner in which this unit may be used independently of the other for stretching the vamp or ironing the lining or outside surface of the shoe, etc.

As shown in Fig. 1 the device consists of a

base 1 of sufficient weight to afford a firm support from the upper end of which projects a goose-neck 2 which terminates in an iron 3, the surface 4 of which is curved to conform to the average curvature of the heel of a shoe such as 5. Cooperating with iron 3 is a second iron 6, one surface 7 of which is curved longitudinally to complement the curvature of surface 4 of iron 3, otherwise iron 6 is shaped along the lines of a shoe last or shoe tree, as will be evident from Figs. 1, 2 and 3. This iron is mounted on a shaft 8 having a handle 9 and also a lug 10 through which it is pivoted by means of a pin 11 to a yoke 12 attached to goose-neck 2 so that normally the complementary surface 7 of iron 6 will rest upon the upper part of surface 4 of iron 3 but can be separated therefrom by depressing handle 9 as indicated in the dotted line of Fig. 1. Any desired amount of pressure between irons 3 and 6 may be obtained by means of spring 13 which urges iron 6 downwardly with a pressure determined by adjusting screw 14. Iron 6 may be removed from the device for independent uses which will be described hereinafter simply by removing pin 11 and lifting the iron out of yoke 12 by means of handle 9. When irons 3 and 6 are used together, as shown in Fig. 1, accurate engagement between the two is insured by a guide yoke 15 also secured to goose-neck 2 between the open ends of which shaft 8 makes a reasonably close fit which, however, is loose enough to permit free swinging of the iron.

Irons 3 and 6 are each provided with an electrical heating unit 16 and 17 respectively, of suitable heating capacity to produce the required temperature. Current is supplied to each of these heating units by electric cords 18 and 19 respectively, cord 18 running downward from iron 3 through the goose-neck 2 to a junction box 40 in the base 1, and cord 19 running from iron 6 through the shaft 8 and handle 9 and from the end of the handle to the junction box in the base 1 from which it runs to a switch 20 and ultimately by cord 21 to an outlet in the wall or other sources of current. Since iron 6 will at times be used independently of the other iron, cord 19 should be of sufficient length to permit of such use, say two or three feet longer than required to reach the junction box. By throwing the single switch 20 the heating of both irons 3 and 6 may be controlled irrespective of whether they are used together or independently. The electrical circuit may also include a pilot light

to illuminate a ruby lens 22 as a visual indication that the current is on.

To maintain the iron 6 in the upwardly swung position indicated in the dotted lines of Fig. 1 a chain 23 may be provided which is equipped with a pin 24 adapted to enter a hole 25 in handle 9 to hold iron 6 in upwardly swung position against the tension of spring 13. Pin 11 may also be attached to a chain 26 so that it will not become lost when removed from yoke 12. Both chains 23 and 26 may conveniently be attached to goose-neck 2 as at 27 so that both pins will be at hand when wanted.

Since for shrinking operations it is usually necessary to moisten the leather or the lining two holders are provided on opposite sides of base 1, one of which is shown at 28, each adapted to hold a container 29 of the proper liquid, for example, one for leather and the other for fabric. As shown, these holders consist of four resilient clips in opposed pairs attached to base 1 between which a bottle or receptacle 29 may be inserted. Thus all parts of the device and the necessary accessories are assembled in a single compact unit of pleasing design by no means detrimental to the appearance of a shoe store.

The following will illustrate the manner in which the device operates. To stretch the heel the shoe is slipped onto iron 3, as shown in Fig. 1, and iron 6 permitted to press against the outside surface. Then the shoe is swung manually to right and left so that an ironing action is produced between the two irons 3 and 6. Or, if desired, iron 6 may be raised into the dotted position and iron 3 alone employed, downward pressure being applied manually by pulling down on the shoe while it is being manipulated upon iron 3. For this operation no heat is required. Therefore, the irons remain cold.

To shrink the heel the outside or the lining, or both, are moistened. The irons are heated, the heel gripped between them and the necessary manipulations performed. When iron 3 alone is used for shrinking, of course, there should be no downward pull exerted upon the shoe as in the stretching operation.

Similarly other parts of the upper of the shoe may be stretched or shrunk either through the combined use of irons 3 and 6, cold or heated, as the case may be, or through the use of either iron 3 or 6 separately. With iron 6 in its upwardly swung position most operations upon the toe and vamp of the shoe can be carried out upon it without removing the iron from the device.

At times, however, it may be more convenient to use iron 6 as an independent hand iron. As heretofore explained, this can be done by pulling out pin 11 by means of which this iron is pivotally mounted on goose-neck 2. The iron may then be removed from yoke 12 and because of the extra length of cord 19 can be used as a separate hand iron apart from the rest of the device and when so used may be heated as above described. For example, one common use for iron 6 as a hand iron is illustrated by Fig. 7 i. e. for raising the vamp of a shoe. For this purpose the iron, grasped in the hand, is inserted in the toe of the shoe, the tip resting against the bottom and then swung upwardly until the upper surface engages with the vamp with the desired pressure. Similarly wrinkles either in the lining or the outer surface of the shoe may be treated by iron 6 as a separate hand iron, as indicated in Fig. 4, the

surface being gently ironed when either in a damp or dry condition, according to requirements.

For some uses of iron 6 as a hand iron it may be desirable to apply heat to the opposite surface of the shoe. Therefore, the device may be provided with a table 30 having a flat top 31 and a concave under surface adapted to fit snugly upon surface 4 of iron 3. To removably hold this table against turning its rear end is constructed so as to fit the notches 32 provided in the sides of flange 33 of iron 3, as shown in Figs. 4 and 5. In this way a flat ironing table is provided which may be heated indirectly through iron 3 and upon which various ironing operations may be carried on by means of iron 6 used as an independent hand iron as described above.

In the device described above is combined a machine which acts as a unit for numerous stretching, shrinking and ironing operations upon a shoe, in which the two irons can be separated if desired and either one used independently without disturbing the unitary structure and in which one of the irons can be removed from the device and used independently as a hand iron without otherwise disturbing the assembly or the electrical connections.

Because of these features its utility is much greater than that of devices in commercial use at the present time in which no provision is made for the independent use of two irons and in which the hand iron is a wholly independent accessory supplied at extra cost and requiring independent connection to a source of electricity whenever it is used and also independent storage, the latter being a matter of considerable annoyance and danger when the iron is hot.

What I claim is:

1. A shoe re-fitting device which includes a support having an iron rigidly mounted thereon, a second iron swingably mounted upon said support and so positioned and shaped with respect to said first iron that the upper of a shoe may be pressed between them, means normally urging the two irons towards each other, means for swinging the second iron widely apart from said first iron so that a shoe may be manipulated upon either iron without interference from the other, means for maintaining said iron in said widely separated positions, an electric heating element in each iron, and electrical conductors adapted to connect each heating element with a source of electricity, said second iron also being detachable from said support so that it may be used as a hand iron independently of the electrical device.

2. A shoe re-fitting device which includes a support having an iron rigidly mounted thereon, a second iron swingably mounted upon said support and so positioned and shaped with respect to said first iron that the upper of a shoe may be pressed between them, means normally urging the two irons towards each other, means for swinging the second iron widely apart from said first iron so that a shoe may be manipulated upon either iron without interference from the other, means for maintaining said iron in said widely separated positions, said second iron also being detachable from said support, an electric heating element in each iron, separate electric conductors leading from each iron to a junction in said support, and another conductor joining the first two conductors and adapted to be connected to a source of electric current, the conductor leading to the heating unit of the detachable iron being of sufficient length to permit that

iron when detached from said support to be used as a hand iron independently of the rest of the device.

5 3. A shoe re-fitting device which includes a support having an iron rigidly mounted thereon, a second iron swingably mounted upon said support and so positioned and shaped with respect to said first iron that the upper of a shoe may be pressed between them, means normally urging the two irons towards each other, means for
10 swinging the second iron widely apart from said first iron so that a shoe may be manipulated upon either iron without interference from the other,

means for maintaining said iron in said widely separated positions, said second iron also being detachable from said support so that it may be used as a hand iron independently of the rest of the device, and a detachable table upon the rigidly mounted iron with which the swingable iron
5 is adapted to engage and which may form a pressing table for use in conjunction with the swingable iron when said iron is detached from said support and used as an independent hand
10 iron.

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