L. A. MORRILL AND E. N. GYNAN.

SHOE TOP IRONING MACHINE.

APPLICATION FILED OCT. 19, 1917.

1,357,337. **Patented Nov. 2, 1920.**

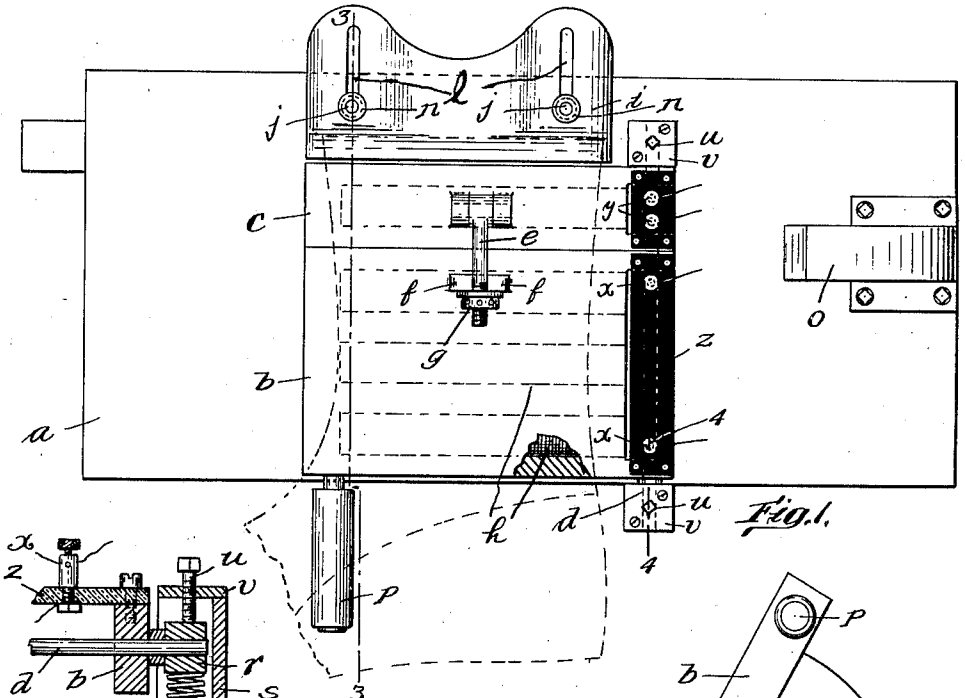


Fig. 1.

Fig. 4.

Fig. 2.

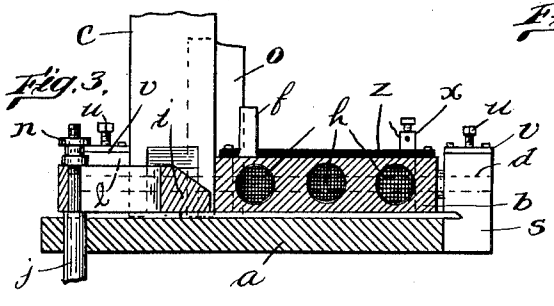


Fig. 3.

Inventor
Leslie A. Morrill and
Edgar N. Gynan.
by Louis B. Hammar
Atty.

UNITED STATES PATENT OFFICE.

LESLIE A. MORRILL AND EDGAR N. GYNAN, OF HAVERHILL, MASSACHUSETTS, ASSIGNORS TO O. A. MILLER TREEING MACHINE COMPANY, OF PORTLAND, MAINE, A CORPORATION OF MAINE.

SHOE-TOP-IRONING MACHINE.

1,357,337. Specification of Letters Patent. Patented Nov. 2, 1920.

Application filed October 19, 1917. Serial No. 197,407.

To all whom it may concern:

Be it known that we, LESLIE A. MORRILL and EDGAR N. GYNAN, citizens of the United States, and residents of Haverhill, county of Essex, and State of Massachusetts, have invented an Improvement in Shoe-Top-Ironing Machines, of which the following is a specification.

In the process of manufacturing shoes having cloth tops the latter become wrinkled, and it is desirable to press them so as to remove the wrinkles. Strictly speaking, shoes of the type mentioned are, perhaps, more properly called "boots," but the term "shoes" is used in the present instance in its broader sense for convenience, and is intended to mean the same as "boots."

The object of this invention is to provide a convenient and efficient apparatus adapted to press the tops of shoes so as to remove wrinkles therefrom. The tops of shoes of the type mentioned vary in height, and this fact is taken into account in the construction of the apparatus shown, so that tops of various heights may be pressed and smoothed with substantially uniform results.

The accompanying drawings show an apparatus for the purpose stated, comprising a bed having a work-supporting surface, a plurality of presser sections mounted so as to be movable to and from work-engaging positions where they co-act with said surface, and work-clamping means the work-engaging element of which may be adjusted to various positions according to the height of the shoe top. The presser sections may be used collectively when operating upon a top of relatively great length, and in such case they may be coupled to each other so as to move as a unit to and from work-engaging position. On the other hand, when a relatively short top is to be pressed, one of the presser sections may remain retracted from the bed while another section is being used, the coupling means being designed to couple and uncouple the sections quickly. When one of the sections is to be left in its retracted position to facilitate operating upon a short top, the clamping device may be adjusted to occupy a clamping position in close proximity to a presser section that is to be used.

The clamping device serves two purposes, one of which is to hold one marginal portion of the top so that the latter may be stretched prior to and during the action of the pressing elements. The other purpose of the clamping device is to indicate to the operative the correct position for a visual characteristic of the work relatively to the pressing elements, the clamping device having the function of a gage in this respect. A great many shoes having cloth tops are provided with strips extending around their upper margins for an ornamental purpose or for a reinforcing purpose, or both, and in practice such strips may serve in conjunction with the clamping device to determine the position of the top relatively to the pressing section or sections. The clamping device may be adjusted to lie in contiguous relation to one of the presser sections or to another, as the case may be, and when the upper margin of the top is arranged to be clamped by the clamping device, the latter having been adjusted as hereinbefore explained, one of the presser sections will be guided to the work without leaving unpressed any substantial portion of the top between it and the portion underlying the clamp.

The foregoing features and others are hereinafter described and claimed and are illustrated by the accompanying drawings in which—

Figure 1 is a plan view of an apparatus embodying our invention.

Fig. 2 is a front elevation thereof.

Fig. 3 is a section taken at the line 3—3 of Fig. 1 and showing the parts in different positions.

Fig. 4 is a detail sectional view taken at the line 4—4 of Fig. 1.

As shown in the drawing, the device comprises a flat metal base plate *a*, which is preferably mounted in a horizontal position on a suitable support, and a flat metal presser plate composed of two section *b* and *c*, arranged edge to edge and pivotally mounted at adjacent ends on a rod *d*, so that the flat under surfaces of said sections may be pressed uniformly on the surface of the base plate. The section *c* has a bolt *e* pivoted thereon, which is adapted and arranged to be swung between ears *f* on section *b*, so that by screwing a nut *g* on said bolt against said ears, said sections may be

securely locked together in a relation in which their under surfaces are practically continuous. Electrical heating units *h* are provided in each section, three being, in practice, employed in section *b* and one in section *c*, the circuits connected thereto being arranged so that the wider section *b* may be heated independently of the other, and the electrical connections being made through binding posts *x* and *y*, mounted on insulating strips *z*, secured on the plate sections.

A clamping jaw *i* having a flat under face is mounted on the upper ends of a pair of parallel rods *j*, which are mounted to slide vertically in the base plate *a* and are connected through a yoke *k* and through a stiff spring to a treadle *m*, said jaw being arranged to be forced into pressing contact with the surface of the base plate closely adjacent the rear edge of the rear-most presser plate section *c*. Said jaw *i* is provided with parallel slots *l*, which extend at right angles to the front edge thereof, and in which the upper ends of the rods *j* are located, said rods having nuts *n* on their upper ends for clamping said jaw against shoulders on the rods to secure the same thereto and permit forward and rearward adjustment thereof.

A bracket *o* is mounted on the base plate at one side of the presser plates to serve as a rest for the latter when not in use, and a handle *p* is secured on the front edge of section *b*, to enable the sections to be conveniently raised and pressed down.

In using the device for pressing or ironing cloth-top shoes, the back seam is usually first hammered flat, the top is laid across the base plate, with its top end beneath the jaw *i* and its bottom portion, beyond the top of the counter extending beyond the base plate, as indicated in dotted outline in Fig. 1. The presser plates will, at this time, be swung back, so that they rest against the bracket *o*, as shown in Fig. 2.

The clamp jaw *i* will then be drawn down into clamping engagement with the top end portion beneath it, by depressing the treadle. While thus held, the top is stretched sufficiently to remove all wrinkles by pulling on the bottom portion of the shoe and then the heated presser plate sections *b* and *c* are swung down onto the top (see Fig. 1) and held firmly pressed thereagainst for a sufficient length of time to press out all wrinkles, then they are swung back against the bracket, and the clamp jaw is released, a spring *q* being provided for raising it to a suitable extent above the base plate.

In practice, the presser plate sections *b* and *c* are locked together and operated as one plate when a very high boot top is to be pressed. When a lower boot top is to be pressed, or one which is only slightly longer than the width of the presser plate section *b*, the nut *g* is loosened and the bolt *e* is swung out of engagement with the section *b*, permitting the section *c* to be swung up against the bracket *o*. The clamp jaw *i* is then adjusted forwardly until its front edge is in close proximity to the rear edge of the section *b*, and clamped in this position, so that, when the shoe top is pressed, the result will be substantially the same as when this operation is performed on a shoe having a higher top.

The clamping member *i* serves not only to clamp the work to the bed but it serves to determine the desired location of the work on the bed. This is especially so in the case of tops having strips at their upper margins, although it is true also in the case of tops that do not have such strips. When the clamping member is adjusted to occupy contiguous relations to one or the other of the presser sections, no appreciable area of the top will be left unpressed by the presser when the latter is brought down to work-engaging position.

As it is necessary that the pressure be applied uniformly over the surface of the shoe top and, as the tops vary somewhat in thickness, means are provided for adjusting the pivot of the presser plates vertically, the specific means employed being shown in detail in Fig. 4, and consisting of a bearing member *r*, which is vertically movable in a casing *s* and in which the pivot rod *d* is mounted, a spring *t* being arranged to engage the under side of said member *r* and a screw *u* being arranged in a cap *v* in position to engage the upper side thereof. The spring *t* acts to hold the member *r* against the screw *u*, in all positions of the latter, so that, to adjust the pivot rod, it is merely necessary to turn the screw down to lower it, and to turn it up to raise it. This construction is provided at each end of the pivot rod, and, by means thereof, the position of the rod may be accurately adjusted.

The device may thus be adapted for the various conditions which are likely to be met. While the presser is in work-engaging position its pressure due to the force of gravity may be supplemented by manual pressure, the springs *t* permitting it to yield to such supplemental pressure so that the presser may be brought to bear upon the top with as much pressure as the operative desires to use.

We claim:—

1. An apparatus for pressing shoe-tops, comprising a bed having a work-supporting surface, a plurality of presser sections arranged to co-act with separate areas of said surface, means arranged to guide said sections to and from their respective work-engaging positions, a work-engaging member arranged to co-act with said surface to clamp

the work, and means for operating said clamping member, the latter being adjustable to co-act with various areas of said surface including that with which one of said presser sections is arranged to co-act.

2. An apparatus for pressing shoe-tops, comprising a bed having a work-supporting surface, a plurality of presser sections arranged to co-act with said surface and to occupy edge-to-edge relation when in work-engaging position, means arranged to guide said sections to and from their respective work-engaging positions, and work-clamping means arranged to co-act with said surface to clamp the work, the work-engaging element of said clamping means being adjustable to various operative positions in contiguous relation to one or another of said presser sections.

3. An apparatus for pressing shoe-tops, comprising a bed having a work-supporting surface, a presser arranged to be movable to and from coöperative work pressing relation with said surface, pivoting means connecting the presser and the bed, said means being constructed and arranged so as to render the presser movable toward and from the bed otherwise than about the axis of said pivoting means, and yielding means arranged adjacent to said pivoting means to hold the presser normally away from the bed.

4. A shoe top pressing device comprising a base plate, a presser plate composed of two sections arranged edge to edge and each pivoted at one end on said base plate to swing independently of each other and to be held in pressing engagement with the base plate means to lock said sections together to permit simultaneous use thereof, a clamping jaw, a movable support for said jaw arranged to force the same into clamping engagement with said base plate adjacent the rear edge of one of said sections and means permitting adjustment of said jaw on said support into proximity to the rear edge of the other of said sections, when the first named section is held in position of disuse.

5. A shoe top pressing device comprising a base plate, a presser plate composed of two sections arranged edge to edge and each pivoted at one end on said base plate to swing independently of each other and to be held in pressing engagement with the base plate, means to lock said sections together to permit simultaneous use thereof, a clamping jaw, a movable support for said jaw arranged to force the same into clamping engagement with said base plate adjacent the rear edge of one of said sections and means to heat said sections independently.

6. An apparatus for pressing shoe-tops, comprising a bed having a work-supporting surface, a movable presser, and means for guiding the presser to and from the bed, said presser comprising a plurality of sections one of which is movable independently of another to and from work-engaging position, and means arranged to couple said sections to each other to cause them to move collectively.

7. An apparatus for pressing shoe-tops, comprising a bed having a work-supporting surface, a presser movable to and from said surface, and means for guiding the presser to and from the bed, said presser comprising a plurality of sections movable about a common axis, one of said sections being movable independently of another to and from work-engaging position, and means arranged to couple said sections to cause them to move collectively about said axis.

8. An apparatus for pressing shoe-tops, comprising a bed having a work-supporting surface, a movable presser, pivotal means arranged to guide the latter, the presser being arranged to swing about the axis of said pivotal means to and from said surface, said presser consisting of a plurality of sections one of which is movable to and from work-engaging position independently of another, and means arranged to couple said sections in edge-to-edge relation with their work-engaging faces in flush relation.

9. An apparatus for pressing shoe-tops, comprising a bed having a work-supporting surface, a plurality of presser sections one of which is movable to and from work-engaging position independently of another, and means to guide said sections to and from work-engaging position, said sections being arranged to occupy edge-to-edge relation in work-engaging position.

10. An apparatus for pressing shoe-tops, comprising a bed having a work-supporting surface, a plurality of movable presser sections and means to guide them to and from work-engaging position, said sections being arranged to occupy edge-to-edge relation on the work, one of said sections being movable to and from work-engaging position independently of another, a work-engaging member arranged to co-act with said surface to clamp the work, and means arranged to operate said clamping member, the latter being adjustable from a coöperative relation in respect to one of said sections to a similar relation in respect to another one of the sections.

11. An apparatus for pressing shoe-tops, comprising a bed having a work-supporting surface, a presser section arranged to co-act with said surface, a work-clamping member arranged to co-act with said surface, another presser section arranged to co-act with said surface between the first said presser section and said work-clamping member, means to guide said presser sec-

tions to and from their respective work-engaging positions, and means to operate said clamping member, the latter being adjustable from an operative position adjacent to one of said sections to an operative position adjacent to the other.

12. An apparatus for pressing shoe-tops, comprising a bed having a work-supporting surface, a plurality of movable presser sections and means to guide them to and from work-engaging positions, and clamping means arranged to hold the work in operative position on the bed, the work-engaging portion of said clamping means being adjustable from a coöperative relation in respect to one of said sections to a similar relation in respect to another one of the sections.

13. An apparatus for pressing shoe-tops, comprising coöperative pressing elements connected with each other and arranged to engage opposite sides of the work, one of said elements including a plurality of sections one of which may remain out of contact with the work while another is in operative engagement with the work, and work-holding means including a clamping device arranged to be adjustable to an operative position adjacent one of said sections and to another operative position adjacent another one of the sections.

14. An apparatus for pressing shoe-tops, comprising coöperative pressing elements arranged to engage opposite sides of the work, one of said elements including a plurality of sections one of which may remain out of contact with the work while another is in operative engagement with the work, and work-clamping means including coöperative work-engaging elements one of which is adjustable to various operative positions in one of which it is adapted to function in contiguous relation to one of the pressing sections and in another one of which it is adapted to function in contiguous relation to another one of said sections and to another operative position to locate the work relatively to another one of the sections.

In testimony whereof, we have signed our names to this specification.

LESLIE A. MORRILL.
EDGAR N. GYNAN.

Witness:
L. H. HARRIMAN.