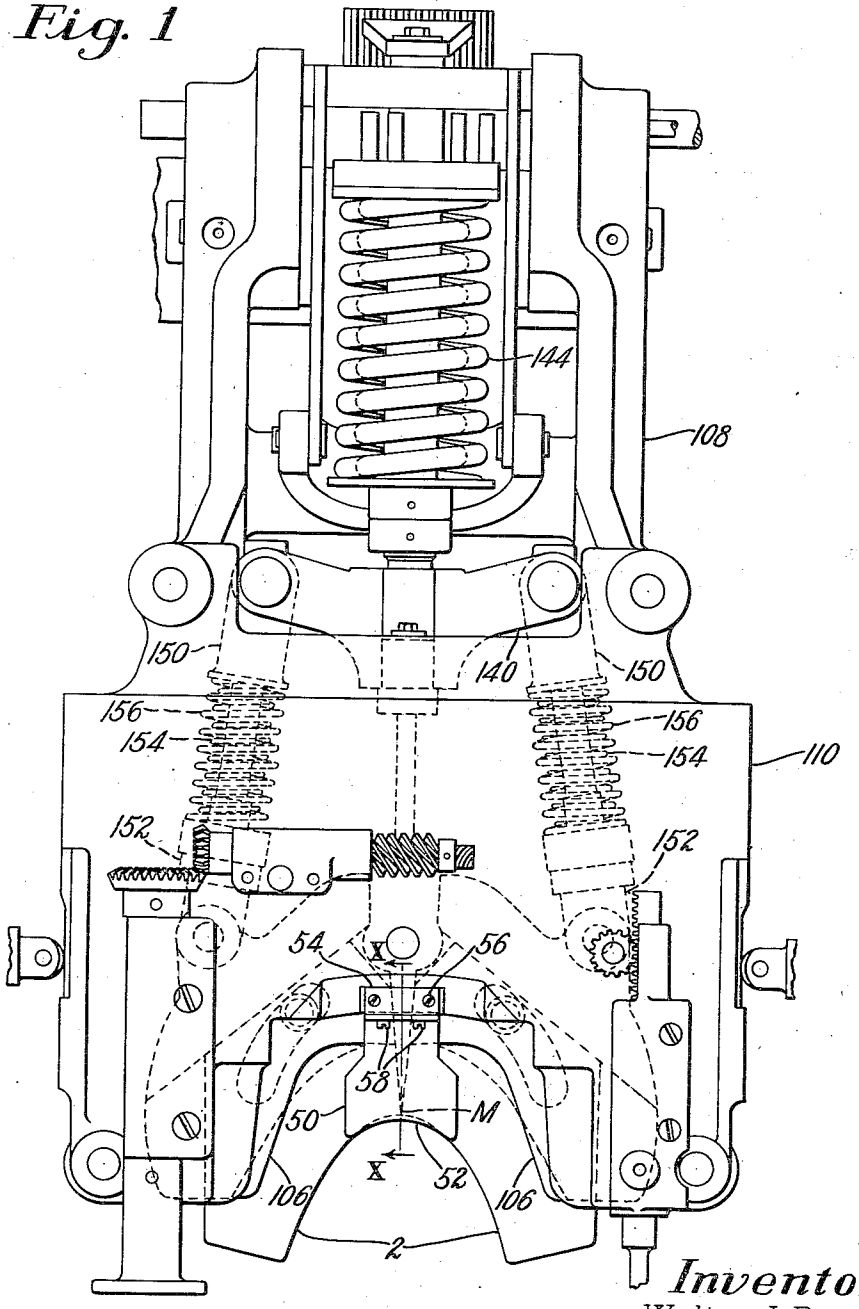
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LASTING MACHINES

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Fig. 1



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Fig. 2

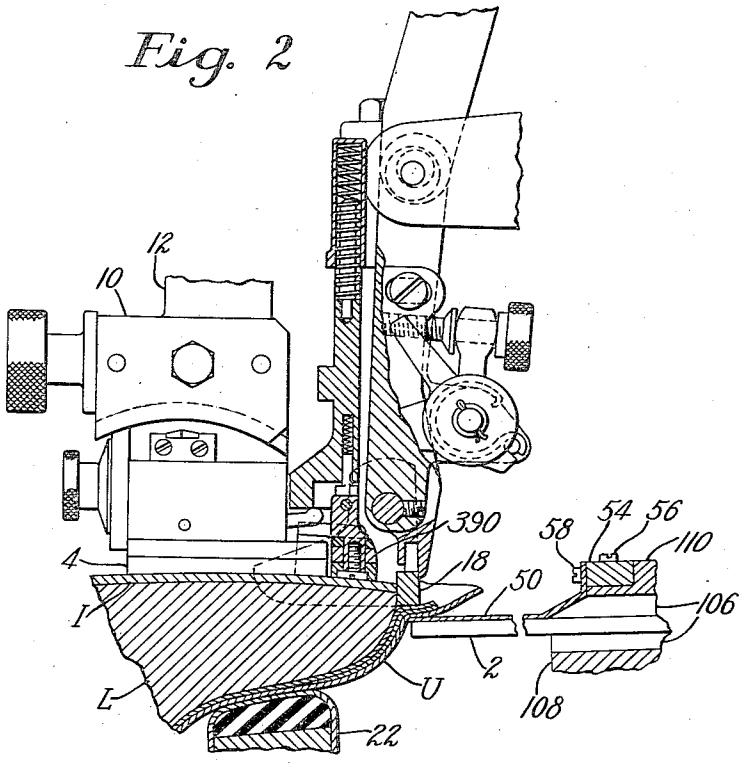
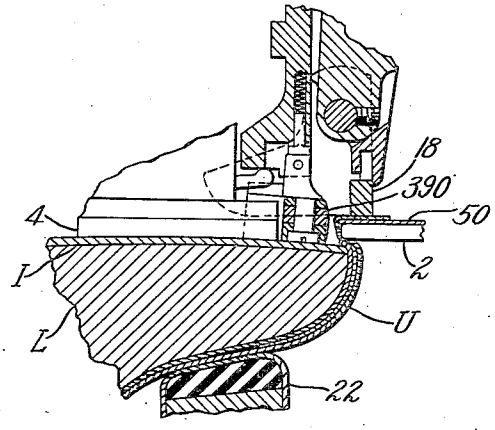


Fig. 3



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LASTING MACHINES

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4 Claims. (Cl. 12—8.8)

This invention relates to lasting machines and is herein illustrated as embodied in a toe lasting machine of the type disclosed in United States Letters Patent No. 2,596,169, granted May 13, 1952, on an application filed in the names of Leonard E. Proulx and Roscoe L. Hill. It will be understood, of course, that the invention is not necessarily limited to use in a toe lasting machine of the particular type disclosed in the mentioned patent or to the exact mechanical construction herein shown.

In toe lasting machines of the aforementioned type, the upper materials are wiped upwardly around the toe end of a last by means of a pair of end-embracing wipers which are mounted for movement heightwise and lengthwise relatively to the toe of a shoe being lasted and also for pivotal closing movements about an axis extending substantially through the point where the leading edges of the wipers meet. During this upwiping action it has been noted that there is a tendency for the upper materials to be marked or creased on their outer surface as a result of being forced into the opening or crack which is present at the so-called meeting point of the leading edge of the wipers, and this tendency is especially noticeable when, as in toe lasting machines of the type disclosed in the mentioned patent, the upper materials are clamped yieldingly against the uppermost sides of the wipers by means of a retarder or similar member during the upwiping action.

It is a principal object of this invention to avoid this difficulty and to provide an improved toe lasting machine wherein the marking or creasing of the upper materials is entirely and effectively avoided. With that purpose in view, the herein illustrated toe lasting machine, which has end-embracing wipers for wiping the upper materials of a shoe heightwise around the toe end of a last and for thereafter wiping the lasting margin of the upper materials inwardly over the bottom of an insole on the last, these wipers being mounted for pivotal closing movements on a carrier which is movable heightwise and lengthwise of the shoe being lasted, and which preferably has a retarder or similar member for cooperating with the wipers during the upwiping of the upper materials around the toe end of the last, is provided with an auxiliary wiping plate having a curved leading edge and mounted on the mentioned wiper carrier in a fixed position with its leading edge projecting just slightly beyond the meeting point of the wipers and so as to engage the upper materials in advance of such meeting point and to present a rigid and flat surface above the wipers against which the upper materials may be clamped by the retarder, during the wiping of the upper materials heightwise around the toe end of the last and inwardly over the bottom of the insole thereon.

The above and other objects and features will appear in the following detailed description of the preferred embodiment thereof which is illustrated in the accompanying drawings and will be pointed out in the claims.

In the drawings,

Fig. 1 is a plan view of a portion of a toe lasting machine provided with an auxiliary wiping plate in accordance with the present invention; and

Figs. 2 and 3 are two views, each at an enlarged scale and with parts shown in vertical section, substantially on line X—X of Fig. 1 and looking in the direction of the arrows, illustrating the manner in which the auxiliary wiping plate functions during the operation of the machine.

Referring to these drawings, the machine therein illustrated is similar to the machine disclosed in the above-mentioned patent to Proulx et al., and only so much of that machine is shown as is necessary for an understanding of the present invention. Also, in order further to simplify the disclosure, the parts of the prior machine which are referred to herein are identified by the same reference characters as were used in the prior patent.

Thus, the herein illustrated machine has a pair of end-embracing wipers 2, 2 detachably mounted on wiper holders 106, 106 which are guided for pivotal wiper closing movements laterally over a shoe being lasted, in curved paths about an axis at the meeting point M of the leading edges of the wipers, on a wiper carrier 108 beneath a cover member 110 which, in effect, forms a part of the wiper carrier. For thus closing the wipers, power operated means exactly similar to that of the aforementioned patent and including springs 144, 154 and 156, a slide 140, and members 150, 152, is provided. The wiper carrier is mounted for movement extending lengthwise and heightwise of a shoe being lasted, herein illustrated as comprising a last L having assembled thereon upper materials, indicated generally by the reference character U, and an insole I, by means of power operated mechanism, not shown, but similar to that of the machine shown in the mentioned patent so as to cause the upper materials to be wiped first upwardly around the toe end of the last and thereafter to be wiped inwardly over the insole at the toe end of the last.

For supporting the shoe during the lasting operation, the herein illustrated machine, in common with the machine of the mentioned patent, has a shoe engaging plate or shoe rest 4, which is adjustably mounted on a block 10 associated with a supporting rod or post 12, a toe rest 22 adapted to be elevated to clamp the toe end of the shoe against the mentioned plate by power operated means, not shown, and a heel rest, not shown, for engaging the heel end of the shoe. Also, the herein illustrated machine is provided with an insole holddown 390 and a retarder 18 which are of the same construction as, and are operated by mechanism similar to, the corresponding elements of the machine in the mentioned patent.

As will be readily understood by reference to the prior patent mentioned above, during the upwiping action of the wipers 2, 2 the lasting margin of the upper materials is clamped yieldingly against the uppermost side of the wipers by the retarder 18 and, as the upwiping operation continues, the lasting margin is drawn from between the retarder and the wipers. Accordingly, as is pointed out above, there is a tendency with the machine of the aforementioned patent for the upper materials to be creased or marked as a result of being forced into the narrow opening which exists at the meeting point M of the wipers 2, 2. To avoid this difficulty, the herein illustrated machine is provided with an auxiliary wiping plate 50 having an arcuate leading edge 52, and mounted on the wiper carrier cover 110 by means of a crossbar 54, and screws 56, 58 (see Figs. 1 and 2). As is shown in Fig. 1, the curved leading edge 52 of the plate 50 extends just a very short distance beyond the meeting point M of the wipers 2, 2, and has a radius of curvature which is somewhat greater than that of the curvature of the leading edges of the wipers adjacent to the toe end

of a shoe when the wipers are in their open positions.

With the improved arrangement provided in accordance with this invention, the upper materials U are clamped yieldingly against the upper side of the auxiliary wiping plate 50 which is rigidly supported on the cover 110 which, of course, constitutes a portion of the wiper carrier 108. Therefore, as the upper materials are drawn out from between the retarder 18 and this auxiliary wiping plate during the upwiping operation, illustrated in Figs. 2 and 3 of the drawings, the leading edge of the auxiliary wiping plate presents a smooth and unbroken surface to the upper materials so that marking or creasing of these materials is effectively avoided. In addition, with this auxiliary wiping plate rigidly mounted on the wiper carrier in fixed lengthwise relation to the wipers as they are advanced and closed, the action of the retarder on the upper materials, especially adjacent to the extreme toe end of the shoe, is considerably improved. Inasmuch as the auxiliary wiping plate overlaps the wipers 2, 2 only in the vicinity of the extreme toe end of the shoe being lasted, the curvature of which does not change radically with variations in size or style, the exact shape of its arcuate leading edge can readily be so selected with respect to the curvature of the leading edges of the wipers 2, 2 that one auxiliary plate is substantially universally applicable for use on shoes of widely varying size and/or style.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a lasting machine having a pair of end embracing wipers for wiping the upper materials of a shoe heightwise around the toe end of a last and for thereafter wiping the lasting margin of the upper materials inwardly over the bottom of an insole on the last, a carrier on which said wipers are mounted, said carrier being movable heightwise and lengthwise of the shoe being lasted and said wipers being pivotally mounted on said carrier for closing movements relatively thereto about an axis extending through the meeting point of the leading edges of said wipers, an auxiliary wiping plate having a leading edge and mounted on said carrier in a fixed position with its leading edge projecting slightly beyond the meeting point of the leading edges of said wipers, said auxiliary wiping plate being adapted to engage the upper materials in advance of the meeting point of the leading edges of the wipers during the wiping of the upper materials heightwise of the last.

2. In a lasting machine having a pair of end embracing wipers for wiping the upper materials of a shoe heightwise around the toe end of a last and for thereafter wiping the lasting margin of the upper materials inwardly over the bottom of an insole on the last, a carrier on which said wipers are mounted, said carrier being movable heightwise and lengthwise of the shoe being lasted and said wipers being pivotally mounted on said carrier for closing movements relatively thereto about an axis extending through the meeting point of the leading edges of said wipers, an auxiliary wiping plate having an arcuate leading edge mounted on said carrier in a fixed position with its leading edge projecting slightly beyond the meeting point of the leading edges of said wipers, said auxiliary wiping plate being adapted to engage the upper materials in advance of the meeting point of the leading edges of the wipers during the wiping of the upper materials heightwise of the last.

3. In a lasting machine having a pair of end embracing wipers for wipers the upper materials of a shoe heightwise around the toe end of a last and for thereafter wiping the lasting margin of the upper materials inwardly over the bottom of an insole on the last, a carrier on which said wipers are mounted, said carrier being movable heightwise and lengthwise of the shoe being lasted and said wipers being pivotally mounted on said carrier for closing movements relatively thereto about an axis extending through the meeting point of the leading edges of said wipers, and a retarder, an auxiliary wiping plate having a leading edge mounted on said carrier above the wipers in a fixed position with its leading edge projecting slightly beyond the meeting point of the leading edges of said wipers, said auxiliary wiping plate being adapted to engage the upper materials in advance of the meeting point of the leading edges of the wipers and to provide a rigid and flat surface above the wipers against which the upper materials may be clamped by the retarder, during the wiping of the upper materials heightwise of the last.

4. In a lasting machine having a pair of end embracing wipers for wiping the upper materials of a shoe heightwise around the toe end of a last and for thereafter wiping the lasting margin of the upper materials inwardly over the bottom of an insole on the last, a carrier on which said wipers are mounted, said carrier being movable heightwise and lengthwise of the shoe being lasted and said wipers being pivotally mounted on said carrier for closing movements relatively thereto about an axis extending through the meeting point of the leading edges of said wipers, and a retarder, an auxiliary wiping plate having an arcuate leading edge mounted on said carrier above the wipers in a fixed position with its leading edge projecting slightly beyond the meeting point of the leading edges of said wipers, said auxiliary wiping plate being adapted to engage the upper materials in advance of the meeting point of the leading edges of the wipers and to provide a rigid and flat surface above the wipers against which the upper materials may be clamped by the retarder, during the wiping of the upper materials heightwise of the last.

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