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**(54)** **Machine for lasting side portions of shoe uppers.**

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## Description

This invention is concerned with a machine for use in lasting side portions of shoe uppers. The term "shoe" where used herein is used generically as indicating articles of outer footwear generally, including such articles in the course of manufacture.

In GB-A-1378631 is described a machine for lasting side portions of shoe uppers comprising a support for a shoe last on which an upper, the side portions of which are to be lasted, and an insole are positioned, and two side lasting assemblies arranged to act on opposite side portions of an upper positioned on a last supported by said support, wherein each side lasting assembly comprises clamping means, comprising at least one clamp member, movable towards the support to clamp a side portion of the upper against its last at a locality spaced from the feather line thereof, lasting element means comprising a plurality of lasting elements arranged side-by-side and movable inwardly towards the support so as to cause lasting marginal portions of the side portion of the upper to be wiped over corresponding marginal portions of the insole and be pressed there against, and lasting band means comprising at least one band portion of flexible sheet material arranged to be interposed between the shoe upper on the one hand and the lasting elements and the clamp member(s) on the other, whereby the side portions of the upper are clamped as aforesaid by the clamp members acting through the band portions the or each band portion of each side lasting assembly being connected at one end to the lasting elements of said assembly.

In GB-A-1559171 is described a side lasting machine in which each side lasting assembly comprises a single lasting band which is supported at its upper and lower edges, the arrangement being such that, as the lasting band is moved inwardly towards the last support, a portion thereof intermediate its upper and lower edges first engages the upper in the waist region, continued movement thereafter causing the upper to be deformed in the direction of both the top line and the feather line. The inward movement of each assembly, furthermore, is limited by a presser pad between which and the upper the lasting band is interposed, which pad also assists in holding the upper in position against the last during the lasting operation. When the inward movement of each lasting band is arrested, the lasting marginal portions of the upper, which are already partially folded over the feather line by the action of the inward movement of the lasting band, is merely rolled over and pressed against corresponding marginal portions of the insole by presser feet, which serve also to support one edge of the lasting band.

It will thus be appreciated that, in the operation of this machine, no significant drafting of the upper, in the waist portion thereof, takes place but rather the

upper is deformed to the shape of the last by the progressive application of pressure thereto from an intermediate point outwardly towards the top line and feather line. Furthermore, the action of the presser feet is merely to roll the lasting marginal portion of the upper over the insole edge without any inward wiping action being applied thereto.

In US-A-1722499 is described a machine having side lasting assemblies, each of which comprises a plurality of lasting devices, each device in turn comprising a lasting element in the form of a wiping finger, a strap of flexible material one end of which is secured to the wiping finger, and the other end also being secured to a portion of the assembly, and a clamp pad between which and the upper the strap is interposed. In the operation of this machine, each device operates independently of the others, the arrangement being such that each assembly is moved bodily towards the shoe and the presser pads are brought into pressing engagement with the band against the upper, thus to clamp the upper against the last at a locality closely adjacent the feather line. Thereafter, the pressure applied by the pads is increased as the wipers move inwardly to wipe lasting marginal portions of the upper against corresponding marginal portions of the insole and press them thereagainst. Thereafter, the wiping fingers are cammed down from an out-of-the-way position to lay the lasting marginal portions of the upper over corresponding marginal portions of the insole and press them thereagainst.

A further modification of this machine is described in US-A-1843232. In this machine, the straps are secured to the clamp members at one end and are resiliently connected at the other to the wiping fingers, the arrangement being such that the wiping fingers effect an in-wiping action effectively on the strap rather than on the upper, the resilient connection yielding during such inwiping movement so that the wiping fingers move relative to their associated straps. The overall effect of this arrangement is that the lasting marginal portions of the upper are again merely laid over corresponding marginal portions of the insole and pressed thereagainst.

In GB-A-1079611 are described two lasting machines, in a first of which two side lasting assemblies are provided, each comprising a plurality of lasting bands which are pressed against the upper by clamp members in the form of fingers the bands being capable of limited movement heightwise of the last thus to provide an updraft on the upper prior to lasting marginal portions thereof being folded over the insole edge and pressed against corresponding marginal portions of the insole. In this machine, however, no separate lasting elements are provided, the bands serving the function of both updrafting and overlaying members. Again, in GB-A-1339835, a machine is described having two side lasting assemblies, each comprising a plurality of lasting elements and a

plurality of bands, but in this case no clamping pads are provided, the upper merely being engaged by the bands which are drawn over the insole edge, together with lasting marginal portions of the upper, during the in-wiping movement of the lasting elements.

In the side lasting of shoes, problems arise where the inside of the last, at the waist region, is significantly inclined or rounded, so that it is difficult to ensure that the material of the upper, which is relatively bulky, is properly bedded down to the last before the lasting marginal portions of the upper are secured to corresponding marginal portions of the insole. Thus, it is not always sufficient merely to rely on the in-wiping action of wiping fingers to ensure that the upper is properly bedded to the last, nor it is necessarily sufficient merely to press the upper against the last without any drafting force being first applied. On the other hand, the use of wiping fingers or similar lasting elements is advantageous in ensuring a sharp feather edge on the finished shoe and also an adequate bedding down of the lasting marginal portions on to corresponding marginal portions of the insole, so that the mere application of an updrafting force does not in itself necessarily provide a good result in the finished shoe. Furthermore, it is desirable that clamp pads be provided so that a controlled drafting force can be applied to the upper, thus ensuring that any displacement of the upper does not lead to its being badly positioned on the last prior to the waist lasting operation.

It is thus the object of the present invention to provide a machine for lasting side portions of shoes, wherein the upper is properly conformed to the last, regardless of the shape of the latter in the waist region, by the application of a controlled drafting force, and also in the operation of which lasting marginal portions of the upper are wiped over corresponding marginal portions of the insole and pressed thereagainst using conventional lasting elements.

This object is resolved in accordance with the invention, in a machine as set out in the second paragraph of this specification, in that the or each band portion of each side lasting assembly is flexible but substantially non-stretchable and is yieldingly secured at its end opposite to the lasting elements, whereby inward movement of the lasting elements towards the support as aforesaid is effective to draw the band portion(s) heightwise of the shoe in a direction from the top line to the teather line thereof, and in that the or each band portion is pressed by the clamp member(s) against the side portion of the upper as aforesaid under a pressure which, as the or each band portion is so drawn by the inward movement of the lasting elements, allows the band portion(s) to slide between the last and the clamp member(s) but by which the or each band portion is pressed against the shoe upper sufficiently cause the portion of the upper engaged thereby to be drafted on its last in said direction.

It will thus be appreciated that, using a machine in accordance with the invention, the lasting elements are utilised to apply a controlled drafting force to the upper through the band portion(s), the control being specifically achieved by the action of the clamp member(s) acting on the band portion(s).

Desirably, the upper-engaging surface of the or each band portion is such as to cause the upper to be frictionally engaged thereby, thus to apply a drafting force to the upper as aforesaid and at least one of the opposite surface of the or each band portion and the surface of the or each clamp member engaging such opposite surface is a low-friction surface. Thus, for example, the aforementioned surface of the each clamp member may be of polytetrafluoroethylene. Conveniently, furthermore, the or each band portion may be made of a laminated sheet material having a first layer which comprises the upper-engaging surface and which provides sufficient friction to apply a drafting force the upper engaged thereby, and a second layer which comprises a low-friction surface which is engaged by the clamping member(s).

In order further to ensure that the drafting force applied by the band portion(s) is controlled, desirably the sheet material from which the or each portion is made has a modulus not less than 586.24 N/cm<sup>2</sup> (850 p.s.i.) at 100% elongation (as per the ASTM test procedure).

The holding pressure applied by the clamp member(s) to the upper-engaging band portion(s) is preferably of the order of 13.79 N/cm<sup>2</sup> (20 lbs/sq. in.). Furthermore, preferably the or each clamp member is mounted for pivotal movement about an axis extending heightwise of the last. Where the clamping means comprises a plurality of clamp members, desirably the position of each such axis in relation to its clamp member, and also the cross-sectional shape, viewed along said axis, of each clamp member, are such as to enable the clamp members to pivot without adjacent members binding on one another.

For effecting movement of the clamp member(s) towards the last support as aforesaid, preferably fluid pressure operated means is provided. In addition, preferably locking means, e.g. a bar lock arrangement associated with the or each clamp member, is also provided for locking the clamp member(s) in position after having been moved towards the last support to hold the band portion(s) as aforesaid.

The machine in accordance with the invention is preferably constructed and arranged in such a manner that operation of the fluid pressure operated means is also effective to cause inward movement of the lasting elements to take place, further fluid pressure operated means also being provided for effecting further inward movement of the lasting elements, when the or each clamp member is holding the band portion(s) against the upper as aforesaid. Conveniently, such further inward movement of the lasting

elements is through a predetermined distance. Furthermore, conveniently in the operation of the machine, after lasting marginal portions of the upper have been wiped over corresponding marginal portions of the insole as aforesaid under the action of

## Claims

1. Machine for lasting side portions of shoe uppers comprising a support (10) for a shoe last on which an upper, the side portions of which are to be lasted, and an insole are positioned, and two side lasting assemblies (16) arranged to act on opposite side portions of an upper positioned on a last supported by said support (10), wherein each side lasting assembly (16) comprises clamping means (72), comprising at least one clamp member (72), movable towards the support (10) to clamp a side portion of the upper against its last at a locality spaced from the feather line thereof, lasting element means (46), comprising a plurality of lasting elements (46) arranged side-by-side and movable inwardly towards the support (10) so as to cause lasting marginal portions of the side portion of the upper to be wiped over corresponding marginal portions of the insole and to be pressed thereagainst, and lasting band means (128) comprising at least one band portion (128) of flexible sheet material arranged to be interposed between the shoe upper on the one hand and the lasting elements (46) and the clamp member(s) (72) on the other, whereby the side portions of the upper are clamped as aforesaid the clamp members (72) acting through the band portions (128), the or each band portion (128) of each side lasting assembly (16) being connected at one end to the lasting elements (46) of said assembly (16), characterised in that the or each band portion (128) of each side lasting assembly 16 is flexible but substantially non-stretchable and is yieldingly secured at its end opposite to the lasting elements (46), whereby inward movement of the lasting elements (46) towards the support (10) as aforesaid is effective to draw the band portion(s) (128) heightwise of the shoe in a direction from the top line to the feather line thereof, and in that the or each band portion (128) is pressed by the clamp member(s) (72) against the side portion of the upper as aforesaid under a pressure which, as the or each band portion (128) is so drawn by the inward movement of the lasting elements (46), allows the band portion(s) to slide between the last and the clamp member(s) (72), but by which the or each band portion (128) is pressed against the shoe upper sufficiently to cause the portion of the upper engaged thereby to be drafted on its last in said direction.

2. Machine according to Claim 1 characterised in that the upper-engaging surface of the or each upper-engaging band portion (128) is such as to cause the

upper to be frictionally engaged thereby, thus to apply a drafting force to the upper as aforesaid, and further in that at least one of the opposite surface of the or each band portion (128) and the surface of the or each clamp member (72) engaging such opposite surface is a low-friction surface.

3. Machine according to Claim 2 characterised in that the or each upper-engaging band portion (128) is made of laminated sheet material having a first layer which comprises the upper-engaging surface and which provides sufficient friction to apply a drafting force to the upper engaged thereby, and a second layer which comprises a low-friction surface which is engaged by the clamp member(s) (72).

4. Machine according to any one of the preceding Claims characterised in that the or each clamp member (72) is mounted for pivotal movement about an axis (136) extending heightwise of the last.

5. Machine according to Claim 4 characterised in that the clamping means comprises a plurality of clamp members and in that the position of each said axis (136) in relation to its clamp member (72), and also the cross-sectional shape, viewed along said axis (136), of each clamp member (72), are such as to enable the clamp members (72) to pivot without adjacent members (72) binding on one another.

6. Machine according to any one of the preceding Claims wherein fluid pressure operated means is provided for effecting movement of the clamp member(s) (72) inwardly towards the last support (10) as aforesaid, operation of said means also being effective to cause inward movement of the lasting elements (76) therewith, and wherein locking means (78, 100, 104, 106) is provided for locking the clamp member(s) (72) in such position, after having been moved to hold the band portion(s) (128) as aforesaid, further fluid pressure operated means then being effective to cause further inward movement of the lasting elements (46) whereby to cause lasting marginal portions of the upper to be wiped over and pressed against corresponding marginal portions of the insole, characterised in that said locking means (98, 100, 104, 106) is operated to cause the clamp member(s) (72) to be released when bedding pressure is applied through the lasting elements (46) to the wiped-over lasting marginal portions of the upper.

7. Machine according to any one of the preceding Claims wherein each lasting element (46) is also movable heightwise of the last support between a first condition, in which a pressure-applying surface thereof is spaced from the shoe bottom, and a second condition, in which, in the operation of the machine, said element is in pressing engagement with the shoe bottom, characterised in that, as each element (46) is moved towards the last support (10) as aforesaid, it is also moved from its first to its second condition, whereby the or each band portion (168) is caused to be drawn

around the feather edge of the shoe bottom, thus effecting a drafting force on the upper prior to the lasting marginal portions of the upper engaged thereby being pressed against corresponding marginal portions of the insole.

8. Machine according to any one of the preceding Claims characterised in that the lasting elements (46) of the lasting element means arranged in pairs, each pair having associated therewith a clamp member (72), and one band portion of the lasting band means being associated with each pair of lasting elements (46).

## Patentansprüche

1. Maschine zum Zwicken der Seitenbereiche von Schuhschäften, mit einem Träger (10) für einen Schuhleisten, an welchem ein Schaft, dessen Seitenbereiche zu zwicken sind und eine Innensohle angeordnet sind, wobei zwei Seiten-Zwickanordnungen (16) vorgesehen sind, um auf gegenüberliegende Seitenbereiche eines an dem von dem Träger (10) getragenen Leisten angeordneten Schaftes wirken, wobei jede Seiten-Zwickanordnung (16) eine Klemmeinrichtung (72) umfaßt, welche wenigstens ein Klemmglied (72) einschließt, das zu dem Träger (10) bewegbar ist, um einen Seitenbereich des Schaftes gegen seinen Leisten an einer Stelle im Abstand von seiner Nahtlinie zu klemmen, wobei eine Zwickелеlementeinrichtung (46) vorgesehen ist, welche eine Vielzahl von Zwickelementen (46) umfaßt, die Seite an Seite angeordnet und einwärts zu dem Träger (10) bewegbar sind, um so zu verursachen, daß zwickende Randabschnitte des Seitenbereiches des Schaftes über entsprechende Randabschnitte der Innensohle gestreift und dagegen gedrückt werden, wobei eine Zwickbandeinrichtung (128) wenigstens einen Bandabschnitt (128) aus flexiblem Streifenmaterial umfaßt, der so angeordnet ist, daß er zwischen dem Schuhschaft einerseits und den Zwickelementen (46) und den Klemmgliedern (72) andererseits angeordnet werden kann, so daß die Seitenbereiche des Schaftes mit Hilfe der Klemmglieder (72) wie oben erläutert festgeklemmt werden, welche über die Bandabschnitte (128) wirken, wobei der oder jeder Bandabschnitt (128) einer jeden Seitenzwickanordnung (16) an einer Seite mit den Zwickelementen (46) der genannten Zwickanordnung (16) verbunden ist, dadurch gekennzeichnet, daß der oder jeder Bandabschnitt (128) einer jeden Seitenzwickanordnung (16) flexibel jedoch im wesentlichen nichtdehnbar gestaltet und an seinem Ende nachgebend befestigt ist, und zwar gegenüber seiner Zwickelemente (46), wobei die Bewegung der Zwickelemente (46) nach innen in Richtung des Trägers (10) wie oben erläutert dazu ausreicht, um eine Bewegung der Bandabschnitte (128) in Bezug auf die Schuhhöhe in einer Richtung von der

oberen Linie zur dessen Nahtlinie zu ziehen und wobei der bzw. jeder Bandabschnitt (128) von dem Klemmglied bzw. den Klemmgliedern (72) gegen den Seitenbereich des Schaftes unter einem Druck gepreßt werden, der indem der bzw. jeder Bandabschnitt (128) durch die Bewegung der Zwickelemente (46) nach innen so gezogen wird, daß der Bandabschnitt bzw. die Bandabschnitte (128) zwischen Leisten und den Klemmgliedern (72) gleiten können, wobei jedoch der bzw. jeder Bandabschnitt (128) gegen den Schaft derart gedrückt wird, daß der damit erfasste Teil des Schaftes auf seinem Leisten in die genannte Richtung gezogen wird.

2. Maschine nach Anspruch 1, dadurch gekennzeichnet, daß die den Schaft ergreifende Oberfläche des oder eines jeden Bandabschnittes (128) derart ist, daß der Schaft damit in Reibeingriff bringbar ist, um so eine Zugkraft auf den Schaft aufzubringen und daß wenigstens eine entgegengesetzte Fläche des oder eines jeden Bandabschnittes (128) und die Oberfläche des oder eines jeden Klemmgliedes (72), welches diese entgegengesetzte Fläche ergreift, eine Oberfläche geringer Reibung ist.

3. Maschine nach Anspruch 2, dadurch gekennzeichnet, daß der oder jeder Bandabschnitt (128) aus einem laminierten Streifenmaterial mit einer ersten Schicht, welche die den Schaft ergreifende Fläche umfaßt und ausreichend Reibung schafft, um eine Zugkraft auf den davon ergriffenen Schaft aufzubringen, und einer zweiten Schicht besteht, welche eine Oberfläche mit niedriger Reibung umfaßt, welche von dem Klemmglied bzw. den Klemmgliedern (72) ergriffen ist.

4. Maschine nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß jedes Klemmglied (72) um eine Achse (136) schwenkbar angeordnet ist, welche sich in Bezug auf die Höhe des Leistens erstreckt.

5. Maschine nach Anspruch 4, dadurch gekennzeichnet, daß die Klemmeinrichtung eine Vielzahl von Klemmgliedern umfaßt und daß die Position einer jeden Achse (136) in Bezug auf sein Klemmglied (72) und auch die Querschnittsausgestaltung eines jeden Klemmgliedes (72) längs der Achse (136) derart sind, daß die Klemmglieder (72) schwenkbar sind, ohne daß benachbarte Glieder (72) miteinander in Eingriff kommen.

6. Maschine nach einem der vorhergehenden Ansprüche, wobei eine mit Fluiddruck betätigbare Einrichtung vorgesehen ist, um, wie erwähnt, eine Bewegung des Klemmgliedes bzw. der Klemmglieder (72) einwärts zu dem Leistenträger (10) zu bewirken, wobei im Betrieb dieser Einrichtung damit ebenfalls eine Einwärtsbewegung der Zwickelemente (46) verursacht wird, wobei eine Verriegelungseinrichtung (98, 100, 104, 106) vorgesehen ist, um die Klemmglieder (72) in einer solchen Position zu verriegeln, nachdem sie bewegt sind, um den Bandabschnitt bzw. die

Bandabschnitte (128) wie erwähnt zu halten, wobei eine weitere mit Fluiddruck betätigbare Einrichtung dann wirksam wird, um eine weitere Einwärtsbewegung der Zwickelmente (46) zu verursachen, so daß Randabschnitte des Schaftes über entsprechende Randabschnitte der Innensohle gelegt und dagegengepreßt sind, dadurch gekennzeichnet, daß die Verriegelungseinrichtung (98, 100, 104, 106) betätigbar ist, um zu verursachen, daß das Klemmglied bzw. die Klemmglieder (72) gelöst werden, wenn über die Zwickelmente (46) auf die überlegten Randabschnitte des Schaftes ein Einbettungsdruck aufgebracht ist.

7. Maschine nach einem der vorhergehenden Ansprüche, wobei jedes Zwickelment (46) ebenfalls in Bezug auf den Leistenträger zwischen einer ersten Lage, in welche eine Druckaufbringfläche im Abstand vom Schuhboden angeordnet ist und einer zweiten Lage bewegbar ist, wobei im Betrieb der Maschine dieses Element mit dem Schuhboden in Preßeingriff steht, dadurch gekennzeichnet, daß indem wie erwähnt jedes Element (46) zu dem Leistenträger (10) bewegt ist, es ebenfalls von seiner ersten in seine zweite Lage bewegt ist, sodaß der bzw. jeder Bandabschnitt (168) um den Nahrand des Schuhbodens gezogen ist, sodaß auf den Schaft eine Zugkraft bewirkt ist, bevor die dabei mitgenommenen, zwickelnden Randabschnitte des Schaftes gegen die entsprechenden Randabschnitte der Innensohle gedrückt werden.

8. Maschine nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß die Zwickelmente (46) der Zwickelmenteneinrichtung paarweise angeordnet sind, daß jedem Paar ein Klemmglied (72) zugeordnet ist und daß ein Bandabschnitt der Zwickelbandeinrichtung einem jeden Paar der Zwickelmente (46) zugeordnet ist.

## Revendications

1. Machine à monter des côtés d'empeignes de chaussures, comprenant un support (10) pour une forme de chaussure sur laquelle une empeigne, dont les côtés doivent être montés, et une première sont positionnées, et deux ensembles de montage de côté (16) destinés à agir sur les côtés opposés d'une empeigne positionnée sur une forme supportée par ledit support (10), dans laquelle chaque ensemble de montage de côté (16) comporte un dispositif de serrage (72) comprenant au moins une pièce de serrage (72) mobile vers le support (10) pour serrer un côté de l'empeigne contre sa forme dans une position espacée de sa marge de montage, un dispositif à éléments de montage (46) comprenant plusieurs éléments de montage (46) disposés côte à côte et mobiles vers l'intérieur, vers le support (10) de manière que des parties marginales de montage du

côté de l'empeigne soient rabattues sur des parties marginales correspondantes de la première et soient serrées contre elles, et un dispositif à bande de montage (128) comprenant au moins une partie de bande (128) d'une matière en feuille souple destinée à être intercalée entre l'empeigne de chaussure d'une part et les éléments de montage (46) et la pièce ou les pièces de serrage (72) d'autre part, de manière que les côtés de l'empeigne soient serrés de la manière précitée par les pièces de serrage (72) agissant par l'intermédiaire des parties de bande (128), la partie de bande ou chaque partie de bande (128) de chaque ensemble de montage de côté (16) étant raccordée à une première extrémité aux éléments (46) de montage de l'ensemble (16), caractérisée en ce que la partie ou chaque partie de bande (128) de chaque ensemble de montage de côté (16) est flexible mais pratiquement inextensible et est fixée élastiquement à son extrémité opposée aux éléments de montage (46), si bien que le mouvement des éléments de montage (46) vers l'intérieur, vers le support (10) comme indiqué, assure l'application d'une force de traction aux parties de bande (128) dans la direction de la hauteur de la chaussure, de l'axe supérieur vers la marge de montage, et en ce que la partie ou chaque partie de bande (128) est repoussée par la pièce ou les pièces de serrage (72) contre la partie du côté de l'empeigne comme indiqué sous une pression qui, lorsque la partie ou chaque partie de bande (128) est tirée par le mouvement des éléments de montage (46) vers l'intérieur, permet à la partie ou aux parties de bande de glisser entre la forme et la pièce ou les pièces de serrage (72), mais grâce à laquelle la partie ou chaque partie de bande (128) est repoussée contre l'empeigne de chaussure suffisamment pour que la partie de l'empeigne qui est à son contact soit tirée sur sa forme dans cette direction.

2. Machine selon la revendication 1, caractérisée en ce que la surface d'engagement d'empeigne de la partie ou de chaque partie de bande (128) d'engagement d'empeigne est telle que l'empeigne est en coopération par frottement avec elle, si bien qu'une force de traction est appliquée à l'empeigne de la manière précitée, et en outre en ce que l'une au moins de la surface opposée de la partie ou de chaque partie de bande (128) et de la surface de la pièce ou de chaque pièce de serrage (72) qui est au contact de la surface opposée est une surface à faible coefficient de frottement.

3. Machine selon la revendication 2, caractérisée en ce que la partie ou chaque partie de bande d'engagement d'empeigne (128) est formée d'une matière en feuilles contre-collées ayant une première couche qui constitue la surface d'engagement d'empeigne et qui produit un frottement suffisant pour appliquer une force de traction sur l'empeigne ainsi engagée, et une seconde couche constituant la surface à faible coefficient de frottement qui est au contact de la pièce ou

des pièces de serrage (72).

4. Machine selon l'une quelconque des revendications précédentes, caractérisée en ce que la pièce ou chaque pièce de serrage (72) est montée afin qu'elle pivote autour d'un axe (136) disposé suivant la hauteur de la forme.

5. Machine selon la revendication 4, caractérisée en ce que le dispositif de serrage comprend plusieurs pièces de serrage, et en ce que la position de chaque axe (136) par rapport à sa pièce de serrage (72) et aussi la configuration en coupe, suivant l'axe (136) de chaque pièce de serrage (72), sont telles que les pièces de serrage (72) peuvent pivoter sans que des pièces voisines (72) s'entraînent mutuellement.

6. Machine selon l'une quelconque des revendications précédentes, dans laquelle un dispositif actionné par une pression de fluide est destiné à provoquer un déplacement de la pièce ou des pièces de serrage (72) vers l'intérieur, vers le support de forme (10) de la manière précitée, le fonctionnement dudit dispositif ayant également pour effet de provoquer un déplacement vers l'intérieur des éléments associés de montage (46), et dans laquelle un dispositif de blocage (98, 100, 104, 106) est destiné à bloquer la pièce ou les pièces de serrage (72) dans cette position après avoir été déplacées pour le maintien de la partie ou des parties de bande (128) de la manière précitée, un autre dispositif actionné par une pression de fluide ayant ensuite pour effet de provoquer un autre déplacement vers l'intérieur des éléments de montage (46) afin que des parties marginales de l'empeigne soient rabattues et serrées contre des parties marginales correspondantes de la première, caractérisée en ce que le dispositif de blocage (98, 100, 104, 106) est commandé de manière qu'il libère la pièce ou les pièces de serrage (72) lorsqu'une pression de tassement est appliquée par les éléments de montage (46) sur les parties marginales de montage rabattues de l'empeigne.

7. Machine selon l'une quelconque des revendications précédentes, dans laquelle chaque élément de montage (46) est également mobile dans le sens de la hauteur du support de forme entre une première position dans laquelle une surface d'application de pression qui en fait partie est espacée du dessous de chaussure et une seconde position dans laquelle, pendant le fonctionnement de la machine, ledit élément est en contact sous pression avec le dessous de chaussure, caractérisée en ce que, lorsque chaque élément (46) est déplacé vers le support de forme (10) de la manière précitée, il est aussi déplacé de sa première à sa seconde position de manière que la partie ou chaque partie de bande (128) soit tirée autour du quart de forme du dessous de chaussure, produisant ainsi une force de traction sur l'empeigne avant que les parties marginales de montage de l'empeigne ainsi engagée ne soient serrées contre les parties marginales correspondantes de la première.

8. Machine selon l'une quelconque des revendications précédentes, caractérisée en ce que les éléments de montage (46) du dispositif à éléments de montage sont disposés par paires, chaque paire étant associée à une pièce de serrage (72), et une partie de bande du dispositif à bande de montage étant associée à chaque paire d'éléments de montage (46).





