(No Model.) 4 Sheets—Sheet 1.

H. FISCHER.

MACHINE FOR PASTING VAMPS TO UPPERS.

No. 520,590. Patented May 29, 1894.

Fig: 1.

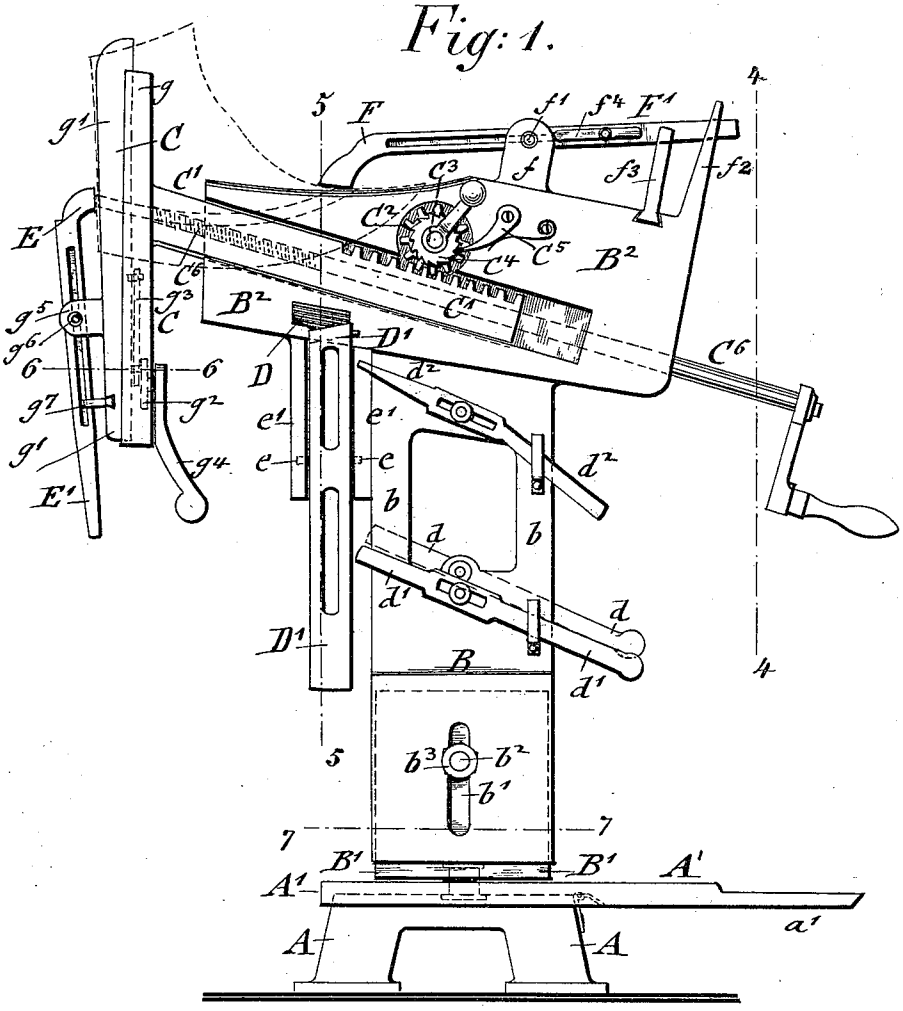
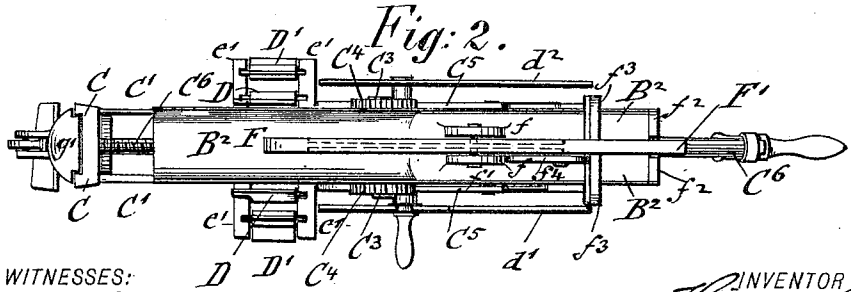


Fig: 2.



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H. FISCHER.

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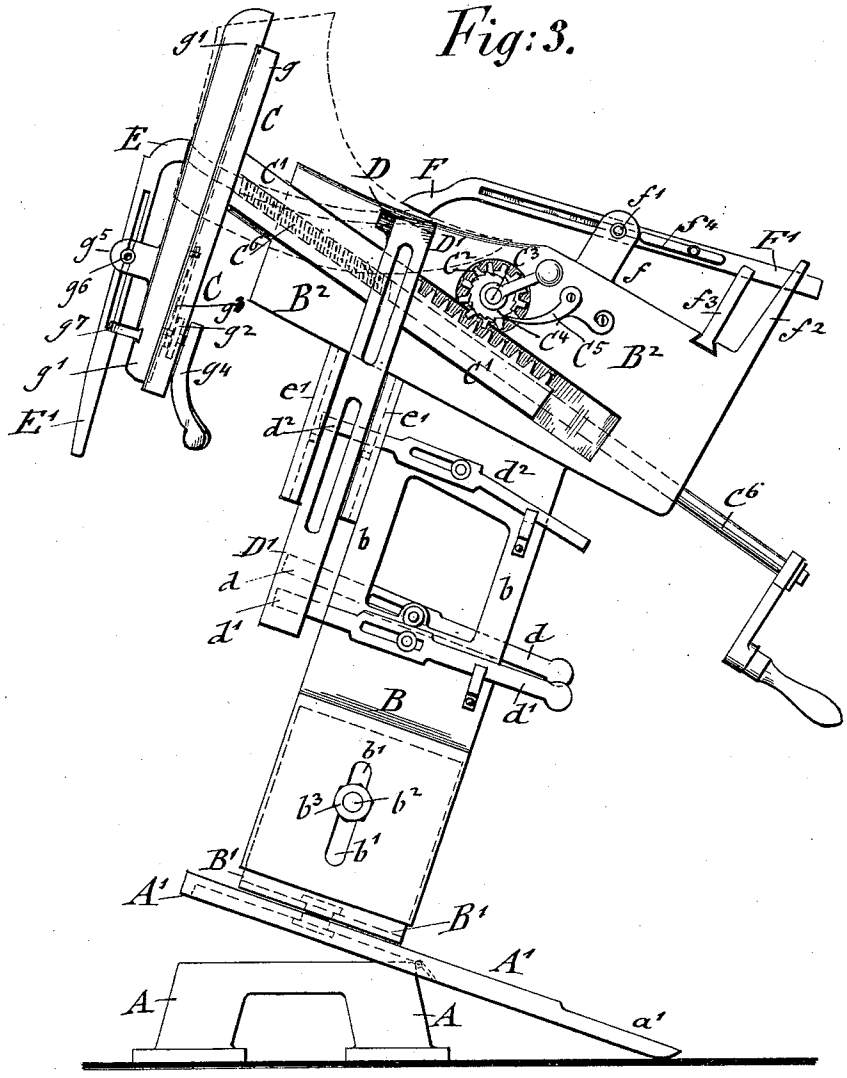
Fig: 3.



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H. FISCHER.

MACHINE FOR PASTING VAMPS TO UPPERS.

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Fig: 4.

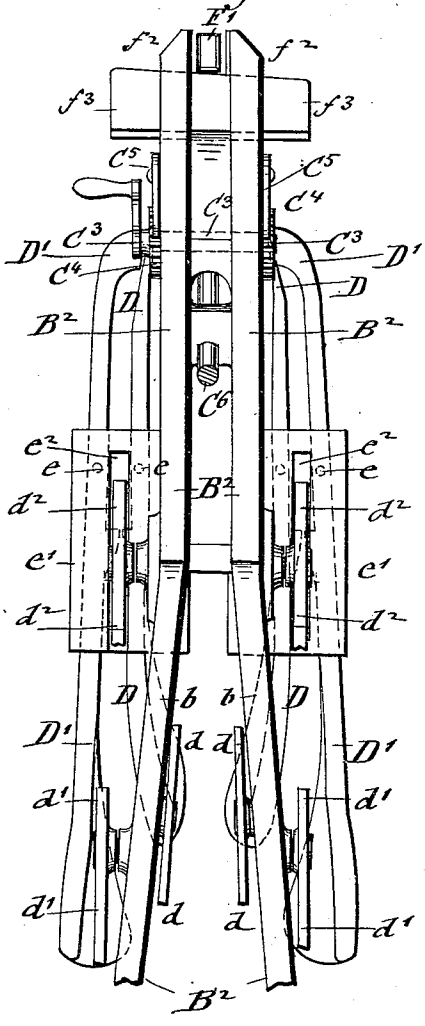

Fig: 5.

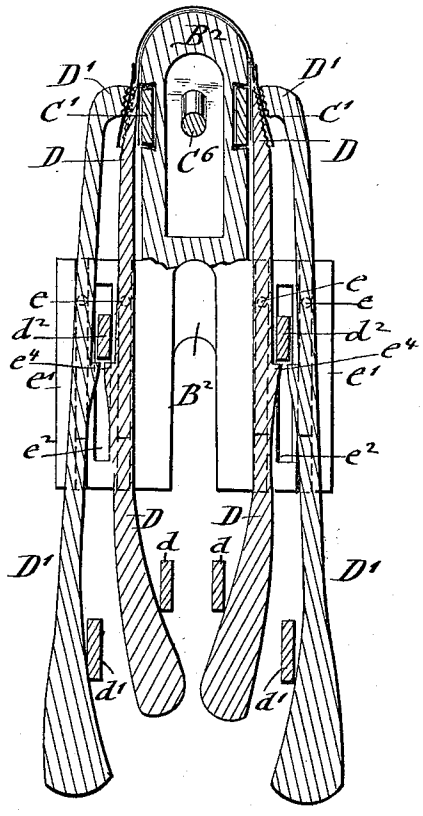

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Fig. 6.

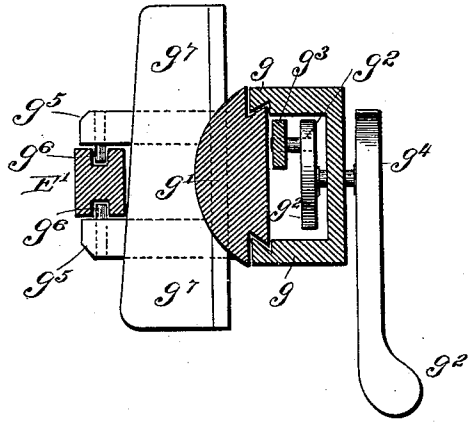


Fig. 7.

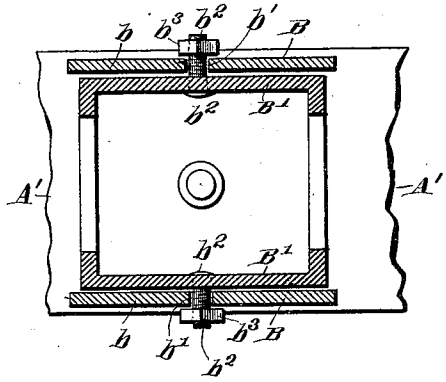


Fig. 8.

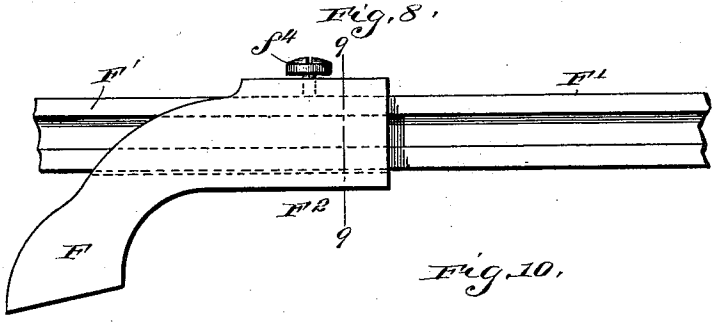


Fig. 9.

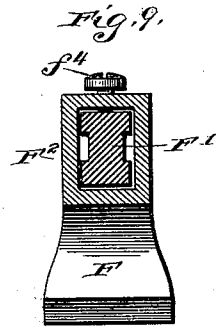
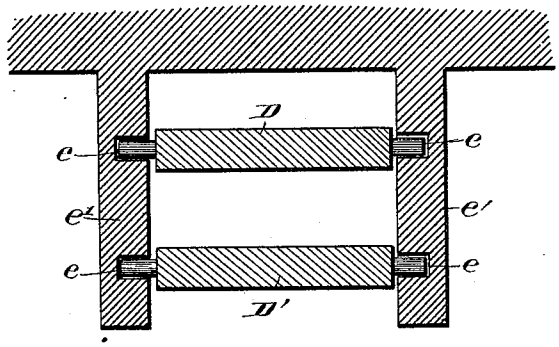


Fig. 10.



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UNITED STATES PATENT OFFICE.

HERMAN FISCHER, OF BROOKLYN, NEW YORK.

MACHINE FOR PASTING VAMPS TO UPPERS.

SPECIFICATION forming part of Letters Patent No. 520,590, dated May 29, 1894.

Application filed May 25, 1893. Serial No. 476,425. (No model.)

To all whom it may concern:

Be it known that I, HERMAN FISCHER, a citizen of the United States, and a resident of Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Machines for Pasting Vamps to Uppers, of which the following is a specification.

This invention relates to certain improvements in the machine for pasting vamps to uppers for which Letters Patent were granted to me, No. 487,388, dated December 6, 1892, said improvements being designed with a view of simplifying the construction of the machine and adapting the same in a higher degree to the requirements of the work to be accomplished; and the invention consists of certain improvements in the instep-jaw arranged on the main-piece, the heel-jaw on the stretcher-piece and the upper and vamp-retaining jaws arranged at both sides of the main-piece, together with the means for locking the side-jaws and stretching the pasted upper and vamp, as will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1, represents a side-elevation of my improved machine for pasting vamps to uppers. Fig. 2, is a plan-view of the machine. Fig. 3, is a side-elevation of the machine, showing the same in inclined or tilted position so as to facilitate the application of the heel-clamp to the vamp of the upper without requiring the stooping down of the attendant. Fig. 4, is an end-elevation of the upper part of the machine, drawn on a larger scale and partly in section on line 4 4, Fig. 1. Fig. 5, is a vertical transverse section on line 5 5, Fig. 1, drawn on a larger scale. Fig. 6, is a detail horizontal section on line 6 6, Fig. 1, showing the mechanism for adjusting and locking the heel-clamp. Fig. 7, is a horizontal section on line 7 7, Fig. 1, showing the swivel-connection of the supporting frame with the base of the machine. Figs. 8 and 9, show respectively a detail side-view and a vertical transverse section on line 9 9, Fig. 8, of a modified construction for the instep-retaining jaw, and Fig. 10, is a detail horizontal section on line 10, 10, Fig. 1, also drawn on a larger scale.

Similar letters of reference indicate corresponding parts.

Referring to the drawings A represents a suitable base which is preferably made of cast-iron and of suitable strength to support the machine. To the upper edge of the base A is hinged a plate A′ which is provided with two parallel arms a' that are extended beyond the base A and beveled at the ends, so that the plate A′ may be turned on its hinges into inclined or tilted position, as shown in Fig. 3, for the purpose hereinafter to be described. To the plate A′ is centrally swiveled the lower section B′ of an upright frame B which latter is made of two converging side-plates $b\,b$. The side-plates $b\,b$, are provided in their lower parts with longitudinal slots b' by which they are guided on screw-posts b^2 of the lower frame-section B′ and firmly attached to the latter by screw-nuts b^3, so as to permit the vertical adjustment of the frame B and the working parts supported on the same, to any convenient height above the base A as desired by the workman using the machine. The converging side-plates of the frame B are also made of cast-iron and serve to support the inclined main-piece B^2 which is attached to the upper end of the frame B in any approved manner. The upper front-end of the main-piece B^2 is made slightly curved and rounded off transversely, so as to form a curved rest on which the instep-portions of the vamp and upper are supported.

In depressed ways in the opposite sides of the main-piece B^2 are guided the shanks C′ of a stretcher-piece C, which is supported at the outer ends of the shanks. The stretcher-piece C is made adjustable relatively to the main-piece B^2 by means of pinions C^2, which are located in depressions of the main-piece B^2 and adapted to mesh with racks in the upper edges of the shanks C′, said pinions being keyed to a transverse shaft C^3 which turns in bearings of the main-piece above the shanks C′ and which is provided with a crank, so as to turn the pinions and move the shanks C′ in forward or backward directions in the ways of the main-piece B for adjusting thereby the stretcher-piece C to the proper distance from the same.

On the shaft C^3 of the pinions C^2 are arranged ratchet-wheels C^4 that are engaged by pivoted and spring-actuated pawls C^5 which serve to hold the shanks of the stretcher-

piece C in the position to which they are adjusted. When it is desired to move the stretcher-piece C in backward direction in the ways of the main-piece B^2, the pawls are withdrawn from the ratchet-wheels. During the forward motion of the stretcher-piece C by the action of the crank-shaft, the pawls pass over the teeth of the ratchet-wheels and lock them and thereby the stretcher-piece C to the exact point to which they are adjusted. When it is desired to impart an additional adjustment to the stretcher-piece C after the same has been set by the pinions C^2, this is accomplished by screw-spindle C^6 which is supported in transverse bearings of the main-piece B^2 and swiveled at its front-end to the stretcher-piece so as to permit the auxiliary adjustment of the same. To the opposite square end of the spindle C^3 is applied a crank-handle by which the screw-spindle is conveniently operated.

At the top and sides of the main-piece B^2 are arranged an instep-jaw F and retaining side-jaws D. The shank F′ of the instep-jaw F is fulcrumed to lugs f on the top-part of the main-piece B^2 and provided with guide-grooves in its shank F′, by means of which it may be adjusted longitudinally along the fixed fulcrum-pin f' of the lugs f. The lower front-end of the instep-jaw F is concaved so as to fit over the rounded-off front-end or rest of the main-piece B^2. The rear-end of the shank F′ of the instep-jaw F is guided in a forked guide or keeper f^2 of the main-piece B^2, so that a steady position of the same is secured. The instep-jaw F is firmly clamped to the vamp by means of a transverse wedge-key f^3, which is guided in dovetailed-ways of the top-part of the main-piece B^2, as shown clearly in Figs. 1, 3 and 4.

To the rear-parts of the shank F′ of the instep-jaw F is pivoted a stop-lug f^4 which is made longer at one end than at the other and which serves for the arresting of the instep-jaw in the two positions to which the same is ordinarily required to be adjusted, namely the longer end of the stop-lug f^4 is used when the instep-jaw is applied to its normal position of the vamp, while the shorter end if the stop-lug is used when the vamp should be provided with wrinkles, in which case the jaw is moved over the vamp as far as the shorter end of the stop-lug will permit. In the forward position of the instep-jaw, the wrinkles will be retained in the upper without being pressed out or impaired by the clamping action of the jaw.

When it is desired to use the machine for pasting vamps to uppers for large and small shoes, it is preferable to make the instep-jaw F adjustable on its shank F′; this is accomplished by the construction shown in Fig. 8, in which the rear-end of the jaw F is made in the shape of a socket F^2, guided on the shank F′ and clamped thereto by a set-screw f^4. This connection of the instep-jaw F with its shank permits the adjustment of the jaw to any size of upper and vamp, so that the pasting of vamps to uppers intended for even the smallest size of shoes can be readily accomplished on the machine. The side-jaws D are applied to the sides of the upper and rigidly clamped thereto by means of levers d which are fulcrumed to the inside of the converging side-plates of the frame B, the rear-ends of the levers d serving as handles, while the front-ends move along the wedge-shaped lower ends of the shanks of the side-jaws D, as shown clearly in Figs. 4 and 5. The shanks of the side-jaws D are guided by means of pins e in grooved keepers e' that are attached to the under side of the front-end of the main-piece B^2. The upper ends of the jaws D are tapered off to a fine edge so as to permit the vamp to be placed into position over the same when it is pasted to the lower edge of the upper. A second pair of retaining jaws D′ is arranged over the upper-retaining jaws D and guided also by means of side-pins e in grooved keepers e'. The jaws D′ serve to clamp the vamp to the upper after the paste is applied to the upper. The jaws D′ are firmly clamped to the vamp by means of fulcrumed levers d' that engage the wedge-shaped lower ends of the shanks of the jaws D′. The faces of the vamp-retaining jaws D′ are provided with small parallel ribs that press on the correspondingly-ribbed surface of the upper-retaining jaws D, so as to hold the vamp firmly between said ribs.

When it is desired to stretch the vamp so as to bring it to proper shape on the rest at the front-end of the main-piece B^2, preparatory to pasting it on the upper, a third pair of levers d^2 is used, which are also fulcrumed to the side-plates of the frame B, and the tapering ends of which pass through slots e^2 in the keepers and engage projecting shoulders e^4 on the shanks of both jaws D and D′ so as to move both at the same time in downward direction in the guide-grooves of their keepers e' and produce thereby the proper stretching of the vamp on the rest of the main-piece B^2. The levers d d' and d^2 are preferably slotted at the points of connection with their fulcrum-pins so as to give a certain play in forward and backward direction and to produce thereby the better adjustment to the shanks of the retaining jaws D D′. The outer handle-ends of the levers d^2 are guided in suitable keepers attached to the frame B so as to be held in position during the time when they are withdrawn and not applied to the jaws, as shown in Fig. 1.

The stretcher-piece C is composed of a main-piece part g and of a rounded-off movable piece g' which latter is guided in ways of the main-part and adjusted in the same by means of an eccentric g^2 in upward and downward direction. The eccentric g^2 is connected by the pivot-link or strap g^3 with the movable piece g', as shown in Figs. 1, 3 and 6. The shaft of the eccentric g^2 is supported in bearings at the lower part of the main-piece g and pro-

vided with a lever g^4 by which the eccentric is turned in one or the opposite direction. The movable piece g' is provided with lugs g^5 to which the heel-retaining jaw E is fulcrumed by means of pins g^6 that enter into the grooved sides of the shank E′ of the heel-jaw E, as shown clearly in detail in Fig. 6. When the heel-retaining jaw E is applied to the heel-portion of the vamp, it is firmly clamped to the upper by means of a wedge-key g^7, that is guided by its base in transverse dovetailed ways of the adjustable piece g', the wedge-key being retained by its base in position in the ways at the lower part of the adjustable piece g'.

The operation of my improved machine is as follows: The upper is placed in position on the rest of the main-piece and on the stretcher-piece, the latter being adjusted so as to tightly stretch the upper by operating the pinions by the crank-shaft C^3. The instep-jaw F is then applied to the instep of the upper, so that the same is held firmly in position on the rest of the main-piece by the clamping action of the instep-jaw. The side-jaws D are next applied to opposite sides of the upper and firmly clamped to the same by the levers d. The vamp is next placed over the rest of the main-piece, the side-jaws and the stretcher-piece, the instep-jaw F being released for the purpose of placing the vamp in the proper position on the instep of the upper. The lower edge of the upper is then supplied with paste and the edge of the vamp placed in position so as to overlap the upper. The heel-jaw E is then placed on the heel of the vamp so as to press the vamp firmly on the heel of the upper. The instep-jaw F is then placed in position over the instep-portion of the vamp, so as to press the same firmly on the instep of the upper. The vamp-retaining jaws D′ are then applied to the opposite side of the vamp and locked in position. The stretcher-piece C is next adjusted either by its crank-shaft C^3 or by the screw-spindle C′, or both, according as the upper and vamp have to be stretched more or less tight, so that the intimate contact between the overlapping edge of the vamp and the underlapping edge of the upper is produced. The next step is the stretching of the side-portions of the upper and vamp so as to hold the same firmly on the rest of the main-piece, which stretching is accomplished by the levers d^2 that engage the projections or shoulders on the shanks of the jaws D and D′ and move both in downward direction as far as required. While the jaws are applied to the vamp and upper and both stretched by the stretcher-piece, and side-jaws, the paste by which the vamp is pasted to the upper dries, so that the vamp and upper can be removed from the machine. This is accomplished by releasing the jaws and moving the stretcher-piece in inward direction on the main-piece it being then in position for applying the next upper and so on.

The advantages of my improved machine, as compared to the construction shown in my prior patent are, first, that the construction of the instep and heel-jaws is considerably simplified; secondly, that the top and side-clamps for the upper shown in my former patent are entirely dispensed with; thirdly, that the stretching of the vamp is accomplished in an easier and more effective manner, and lastly, that by swiveling and tilting the supporting frame of the machine, the working parts can be placed into more convenient position for the workman, as he can turn the machine and place it in inclined position without stooping down or walking around the machine when adjusting the parts in pasting the upper and vamp together.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a main-piece having a rest for the upper and vamp, of a stretcher-piece guided in ways of the main-piece, means for adjusting the stretcher-piece, a longitudinally-adjustable instep-retaining jaw at the top of the main-piece, means for adjusting the latter along the top of the rest, and a transverse wedge-key for locking the instep-jaw in clamping position, substantially as set forth.

2. The combination of a main-piece having a rest for the upper and vamp, an instep-jaw at the top of the main-piece, a stretcher-piece guided in said main-piece, means for adjusting the stretcher-piece, a heel-jaw on said stretcher-piece, longitudinally-adjustable upper-retaining jaws arranged at opposite sides of the rest, means for clamping said jaws to the upper, longitudinally-adjustable vamp-retaining jaws, also arranged at opposite sides of the main-piece, means for clamping said jaws to the vamp, and means for simultaneously adjusting the upper and vamp-retaining jaws, whereby the side portions of the upper and vamp are stretched, substantially as set forth.

3. The combination, with a main-piece having a rest for the upper and vamp, of an instep-jaw having a grooved shank, fulcrum-pins engaging said grooved shank, a recessed keeper for the rear-end of the shank and a transverse wedge-key for locking the instep-jaw, substantially as set forth.

4. The combination, with a main-piece having a rest for the upper and vamp, of an instep-jaw having a grooved shank, fulcrum-pins for engaging said grooved shank, a recessed keeper for the rear-end of the shank of the instep-jaw, a transverse wedge-key for locking the instep-jaw and a stop-lug pivoted to the shank of the instep-jaw so as to permit the setting of the instep-jaw to the proper position on the instep of the upper, substantially as set forth.

5. The combination, with a main-piece, having a rest for the upper and vamp, of an instep-jaw having a grooved shank, fulcrum-

pins for said shank, a recessed keeper for the rear-end of the shank, a transverse wedge-key for locking the instep-jaw and means for adjusting the instep-jaw at the front-end of the grooved shank, substantially as set forth.

6. The combination, with a main-piece having a rest for the upper and vamp, of a stretcher-piece the shanks of which are guided in ways of the main-piece, means for adjusting the shanks of said stretcher piece, mechanism for locking said shanks, and a screw-spindle supported in the main-piece and adapted to adjust the stretcher-piece for auxiliary adjustment, substantially as set forth.

7. The combination, with a main-piece having a rest for the upper and vamp, of an instep-jaw at the top-part of said main-piece, upper-retaining jaws at opposite sides of the main-piece, vamp-retaining jaws also at the opposite sides of the main-piece, levers for clamping respectively the upper and vamp-retaining jaws, and levers for engaging both sets of jaws so as to produce the proper stretching of the vamp, substantially as set forth.

8. The combination, with a main-piece having a rest for the upper and vamp, of fulcrumed side-jaws for clamping respectively the upper and vamp, grooved keepers for the fulcrum-pins of said jaws, and levers for clamping the side-jaws to the upper and vamp, substantially as set forth.

9. The combination, with a main-piece, having a rest for the upper and vamp, of fulcrumed side-jaws for clamping respectively the upper and vamp, grooved keepers for guiding the fulcrum-pins of said jaws, levers for clamping the jaws to the upper and vamp respectively and levers for engaging the projecting shoulders on the shanks of the jaws for stretching the vamp, substantially as set forth.

10. The combination, with a main-piece, having a rest for the upper and vamp, of a stretcher piece guided in the same, a movable piece guided in the stretcher-piece, means for adjusting said movable piece, a heel-retaining jaw fulcrumed to the movable piece, and a transverse wedge-key for locking the heel-retaining jaw, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

HERMAN FISCHER.

Witnesses:
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CHARLES SCHROEDER.