April 25, 1939. O. GRAF 2,156,239

MACHINE FOR LAYING BREAST COVERS AT THE JOINT BETWEEN THE HEEL AND SHOE

Filed July 25, 1938 3 Sheets-Sheet 1

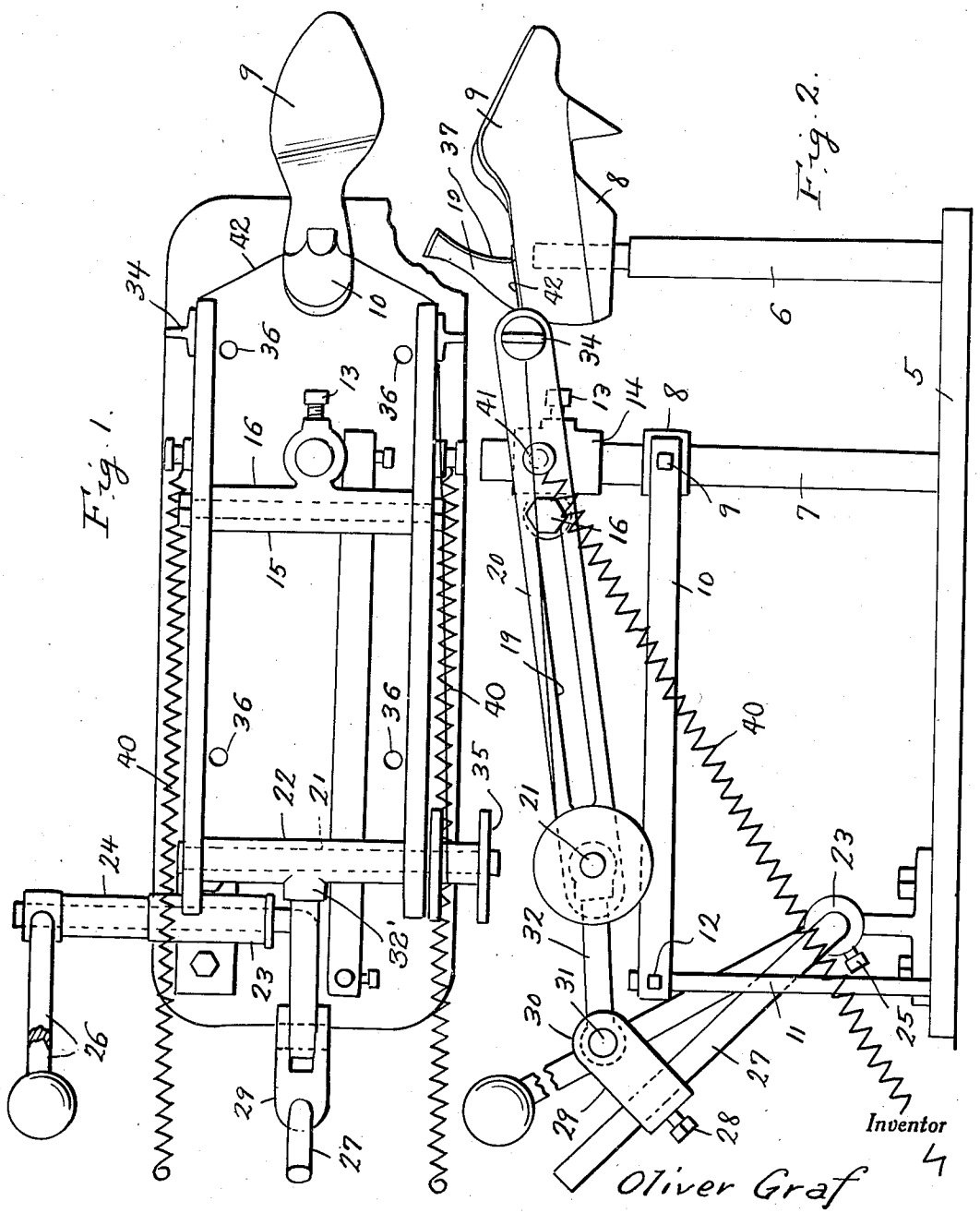


Fig. 1.

Fig. 2.

Inventor

Oliver Graf

By Clarence A. O'Brien and Hyman Berman

Attorneys

April 25, 1939. O. GRAF 2,156,239

MACHINE FOR LAYING BREAST COVERS AT THE JOINT BETWEEN THE HEEL AND SHOE

Filed July 25, 1938 3 Sheets-Sheet 2

Fig. 3.

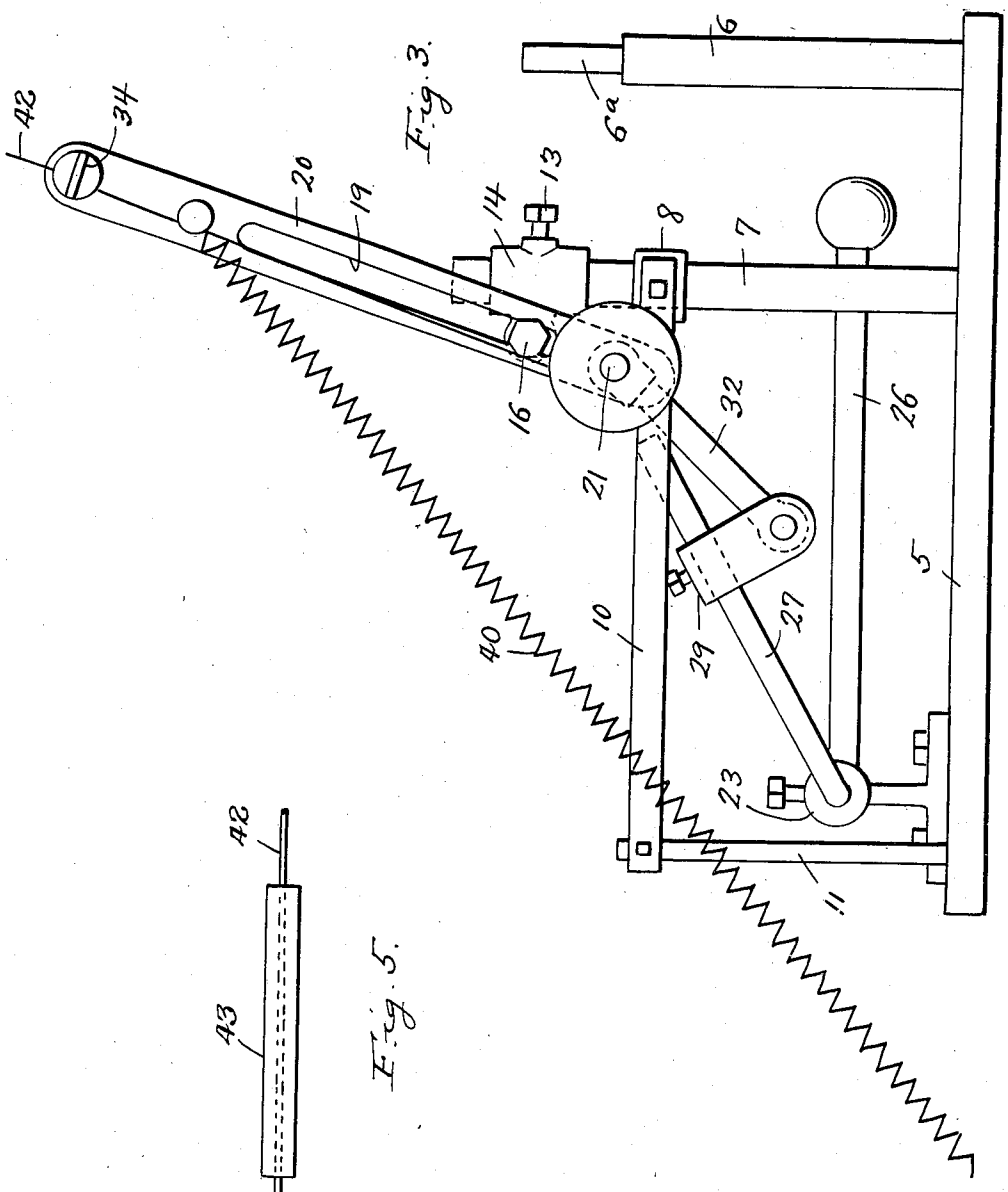


Fig. 5.

Inventor

Oliver Graf

By Clarence A. O'Brien and Hyman Berman

Attorneys

April 25, 1939. O. GRAF 2,156,239

MACHINE FOR LAYING BREAST COVERS AT THE JOINT BETWEEN THE HEEL AND SHOE

Filed July 25, 1938 3 Sheets-Sheet 3

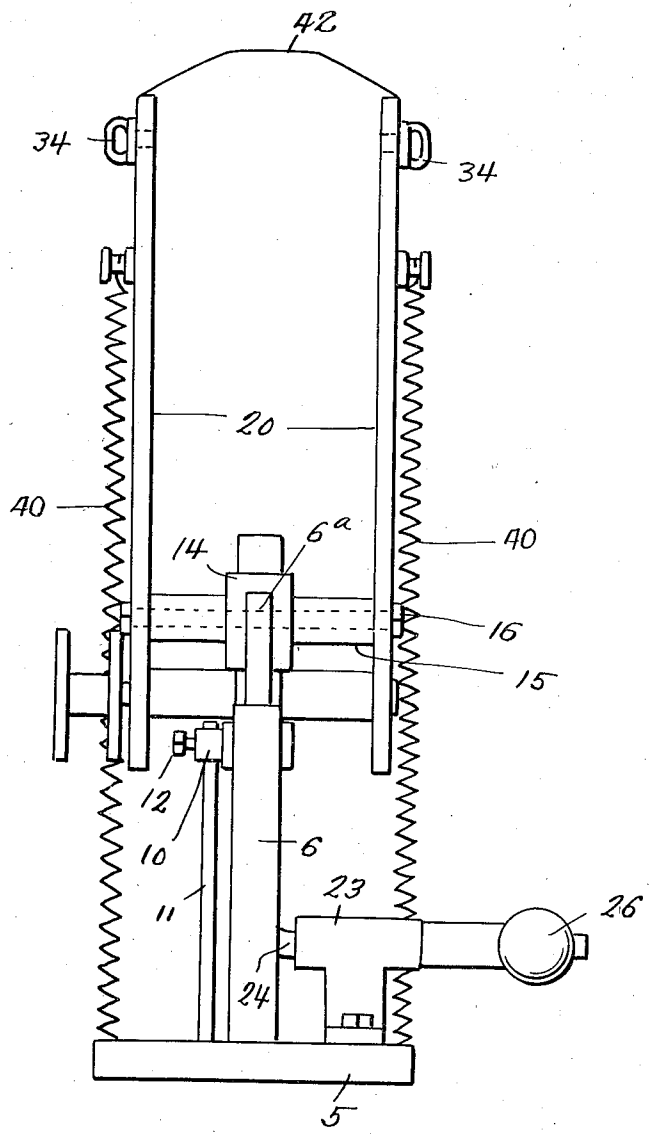


Fig. 4.

Inventor

Oliver Graf

By Clarence O'Brien and Hyman Berman

Attorneys

Patented Apr. 25, 1939 2,156,239

UNITED STATES PATENT OFFICE

2,156,239

MACHINE FOR LAYING BREAST COVERS AT THE JOINT BETWEEN THE HEEL AND SHOE

Oliver Graf, Washington, Mo., assignor of one-half to Albert H. Freie, Washington, Mo.

Application July 25, 1938, Serial No. 221,222

7 Claims. (Cl. 12—125)

This invention relates to machines or devices for properly laying the "apron" or breast cover of a shoe heel at the joint between the shoe and the heel.

As is well-known in the art the thin strip of leather called an "apron" or breast cover, in manufacturing women's shoes is customarily cemented to the shank and front or breast of the heel and much difficulty has been encountered in properly laying this apron or cover at the joint or angle between the shoe at the shank thereof and the heel at the breast of the shoe. Heretofore the fastening of the apron or breast cover at the angle formed by the joint has been done by hand and generally in a very unsatisfactory manner in that in time the apron or cover at this point would pull loose before the shoe was finished requiring loss of time and further labor in replacing the apron or cover.

An object of the invention is to provide a machine whereby the laying of the breast or apron at the joint between the shoe and heel may be quickly, expeditiously, and satisfactorily accomplished; and the invention together with its objects and advantages will be best understood from a study of the following description taken in connection with the accompanying drawings wherein:

Figure 1 is a top plan view of the machine.

Figure 2 is a side elevational view thereof illustrating the application of the invention.

Figure 3 is a side elevational view of the machine with the parts in position ready for use, and

Figure 4 is a fragmentary elevational view showing a wire and a tubular element associated therewith and employed when the joint between the shoe and heel at the breast of the heel is rounded instead of being at a sharp angle as is sometimes the case.

Figure 5 is a detail showing a tube attachment for the wire for use upon certain types of heels.

Referring to the drawings by reference numerals it will be seen that in the preferred embodiment thereof the machine comprises a suitable base 5 from which rises, at one end of the base, a standard 6 provided at the upper end thereof with a pin 7 for accommodating a shoe last 8 on which the shoe, in the process of manufacture, is placed. The shoe is indicated by the reference numeral 9 and the heel thereof by the reference numeral 10.

Also rising from the base 5 rearwardly of the standard 6 is a standard 7 provided with a collar 8. Secured to the collar 8 as at 9 is a brace bar 10. At the end thereof remote from the standard 7 the brace bar 10 is provided with an opening which receives the upper end of a supporting rod 11, and the last-named end of the brace bar 10 is secured on the standard 11 through the medium of a set screw 12.

Also mounted on the standard 7 above the collar 8 and adapted to be secured on the standard 7 at the desired position of vertical adjustment through the medium of a set screw 13 is a sleeve 14 that is formed integral with a tubular bearing 15.

Arranged in the bearing 15 is a rod 16 the opposite ends of which are accommodated in elongated slots 19 provided in parallel frame bars 20.

The frame bars 20 adjacent one end thereof are connected by a cross rod 21 on which is mounted between the bars 20 a spacer sleeve 22.

Suitably mounted on the base 5 adjacent one side of the base, and near the end thereof farthest remote from the standard 6 is a relatively short bearing standard 23 in which is journaled a shaft 24. Suitably secured to the shaft 24 adjacent one end of the latter as at 25 is a handle member 26.

At the end thereof remote from the handle 26 the shaft 24 is provided with a crank arm 27 on which is adjustably secured through the medium of a set screw 28 a coupling lug 29.

The lug 29 is provided with a pair of spaced coextensive ears 30 between which is pivoted as at 31 one end of a rod 32 the opposite end of which is suitably coupled to the spacer sleeve 22 intermediate the ends of the latter as at 32'. It will thus be seen that rocking movement of the shaft 24 is transmitted through the crank arm 27, block 29, rod 32, sleeve 22 and connecting rod 21 to the frame arms 20 for shifting the frame arms relative to the rod 16 from the position shown in Figure 3 to the position shown in Figure 2 and vice versa and for rocking the frame arms 20 incidental to the shifting of the frame arms from the said one position to the other and vice versa.

The frame arms 20 are releasably held in either of the positions mentioned through the medium of coil springs 40 which at one end are suitably anchored to the frame bars 20 as at 41 and at opposite ends are anchored to the ground or the like at a point remote from and rearwardly with respect to the base 5.

Extending between the frame bars 20 at the forward ends of the latter is an apron laying wire 42 which is secured in position relative to the frame bars through the medium of screws 34 threadedly engaged with the frame bars at the

forward ends of the latter and adapted to bind on the wire 42.

The wire 42 may be supplied from a roll 35 that is conveniently carried on one end of the connecting bar 21.

To accommodate screws or other fastening elements for anchoring the base plate 5 to the flooring or other suitable supporting surface said base plate 5 is provided with openings 36 located as suggested in Figure 1.

In using the machine the shoe 9 is positioned on the last 8 and the breast cover or apron 37 is cemented to the shank and breast of the heel.

The handle 26 is then swung from the position shown in Figure 3 to the position shown in Figure 2 whereby to lower the frame bars 20 and thus pass the wire 42 over the heel and into engagement with the apron or breast cover 37 at the joint between the shoe 9 and its heel 10. Springs 40 will also tend to exert a pull on the frame bars 20 for urging the wire 42 into intimate contact with the apron or breast cover 37 at said joint to insure a positive uniting of the apron or breast cover with the shank and heel breast at said joint.

When the wire 42 has been held in contact with the apron or breast cover 37 for the desired period of time handle 26 is then swung from the position shown in Figure 2 to the position shown in Figure 1 causing the arms 20 to first move forwardly so that the wire 42 will clear the heel 10 and then move upwardly to the position shown in Figure 3 thus permitting the shoe 9 to be readily removed from the standard 6 and another shoe placed in that position for the laying of the apron or breast cover thereof in the manner just explained.

In Figure 2 I have illustrated the application of the invention where the joint between the shoe 9 and its heel 10 at the breast side of the heel is at a sharp angle. However, and as well-known in the art, sometimes at the angle between the heel 10 and the shoe 9, at the breast side of the heel a rounded formation is provided thus reducing materially the sharpness of the angle and where such is the case there is sleeved onto the wire 42 a tube 43 of suitable exterior diameter. Tube 43 is formed of rubber or other suitable material and will readily conform to the shape of the rounded formation at the heel joint and thereby contact the apron or heel breast cover at the joint in a manner to insure intimate contact of the apron or breast cover with the heel breast and shoe shank to insure a positive uniting of the apron or breast cover with the shoe shank and heel breast at the joint therebetween.

It is thought that a clear understanding of the construction, utility, operation and advantages of a machine of this character will be had without a more detailed description; it being understood that while I have herein referred to the element 42 as a wire, I do not intend to limit myself to wire, but, without departing from the spirit of the invention, cord, buckskin or similar material may be used in lieu of the wire.

Having thus described the invention what is claimed as new is:

1. A machine for laying and holding a breast cover in intimate contact with the shank and breast of a shoe heel at the joint therebetween, and embodying a laying member, spaced parallel elements bridged at one end thereof by said laying member, said laying member being secured to said elements adjacent said one end of said elements, supporting means for said elements, and means connected with said elements for moving the latter bodily into and out of position engaging the laying member with the breast cover, including resilient means acting on said elements normally urging the same in one direction for maintaining said laying member in yielding intimate contact with the breast cover at the joint between the heel and shoe.

2. A machine for laying and retaining a heel breast cover in intimate contact with the heel breast and shank of a shoe at the joint between the heel and shoe, and embodying a pair of spaced parallel members, a standard, a pin extending horizontally and transversely relative to said standard and having end portions engaging in longitudinal slots in said members, a rotatably mounted shaft, means operatively connecting said shaft with said members for shifting said members relative to said pin and for substantially rotating said members about the pin as an axis into and out of raised and lowered positions, and a breast-laying member bridging said members at one end of the latter and secured to said members at said end, said laying member being movable with said members into and out of engagement with the breast cover.

3. A machine for laying and retaining a heel breast cover in intimate contact with the heel breast and shank of a shoe at the joint between the heel and shoe, and embodying a pair of spaced parallel members, a standard, a pin extending horizontally and transversely relative to said standard and having end portions engaging in longitudinal slots in said members, a rotatably mounted shaft, means operatively connecting said shaft with said members for shifting said members relative to said pin and for substantially rotating said members about the pin as an axis into and out of raised and lowered positions, and a breast-laying wire bridging said members at one end of the latter and secured to said members at said end, said wire being movable with said members into and out of engagement with the breast cover, and the means connecting said shaft with said members including a bar connecting said members together, a spacer sleeve on said bar, a rod extending from said spacer sleeve intermediate the ends of the latter, said shaft provided at one end thereof with a crank arm, and means adjustably and pivotally connecting said rod with said crank arm.

4. A machine for laying and retaining a heel breast cover in intimate contact with the heel breast and shank of a shoe at the joint between the heel and shoe, and embodying a pair of spaced parallel members, a standard, a pin extending horizontally and transversely relative to said standard and having end portions engaging in longitudinal slots in said members, a rotatably mounted shaft, means operatively connecting said shaft with said members for shifting said members relative to said pin and for substantially rotating said members about the pin as an axis into and out of raised and lowered positions, and a breast-laying wire bridging said members at one end of the latter and secured to said members at said end, said wire being movable with said members into and out of engagement with the breast cover, and the means connecting said shaft with said members including a bar connecting said members together, a spacer sleeve on said bar, a rod extending from said spacer sleeve intermediate the ends of the latter, said shaft provided at one end thereof with a crank arm, and means adjustably and pivotally connecting said rod with said crank arm, and suitably anchored springs secured at one end to said

members and yieldably acting to hold said members in either raised or lowered position, and also for bodily shifting said members in a direction to yieldably engage said breast cover laying wire in contact with the breast cover at the joint between the heel and shoe.

5. In a device for laying breast covers and shoe heels and for holding the breast cover in intimate contact with the shank and breast of the heel, comprising a breast cover laying wire adapted to be disposed transversely of the breast cover at said joint, a movable frame connected with opposite end portions of the wire, and spring means acting on the frame to maintain a pull thereon to thereby retain the wire in intimate contact with the cover at the joint between the heel and shank of the shoe.

6. In a device for laying breast covers and shoe heels and for holding the breast cover in intimate contact with the shank and breast of the heel and comprising a breast cover laying wire adapted to be disposed transversely of the breast cover at said joint, attaching means for spaced portions of the wire, spring means yieldably urging the attaching means in a direction for retaining the wire in engagement with the breast cover, and means for moving the attaching means to initially loosen the wire and subsequently remove the wire from the shoe.

7. In a device for laying breast covers and shoe heels and for holding the breast cover in intimate contact with the shank and breast of the heel and comprising a flexible breast cover laying member adapted to be disposed transversely of the breast cover at said joint, a sleeve removably mounted on said member for contacting the breast cover at the joint, and means connected with spaced portions of the flexible member and acting thereon to yieldably maintain the sleeve in contacting position with the breast cover.

OLIVER GRAF.