July 15, 1947. F. DAWSON 2,423,878

SHOE PRESSING APPARATUS

Filed July 3, 1945 5 Sheets-Sheet 1

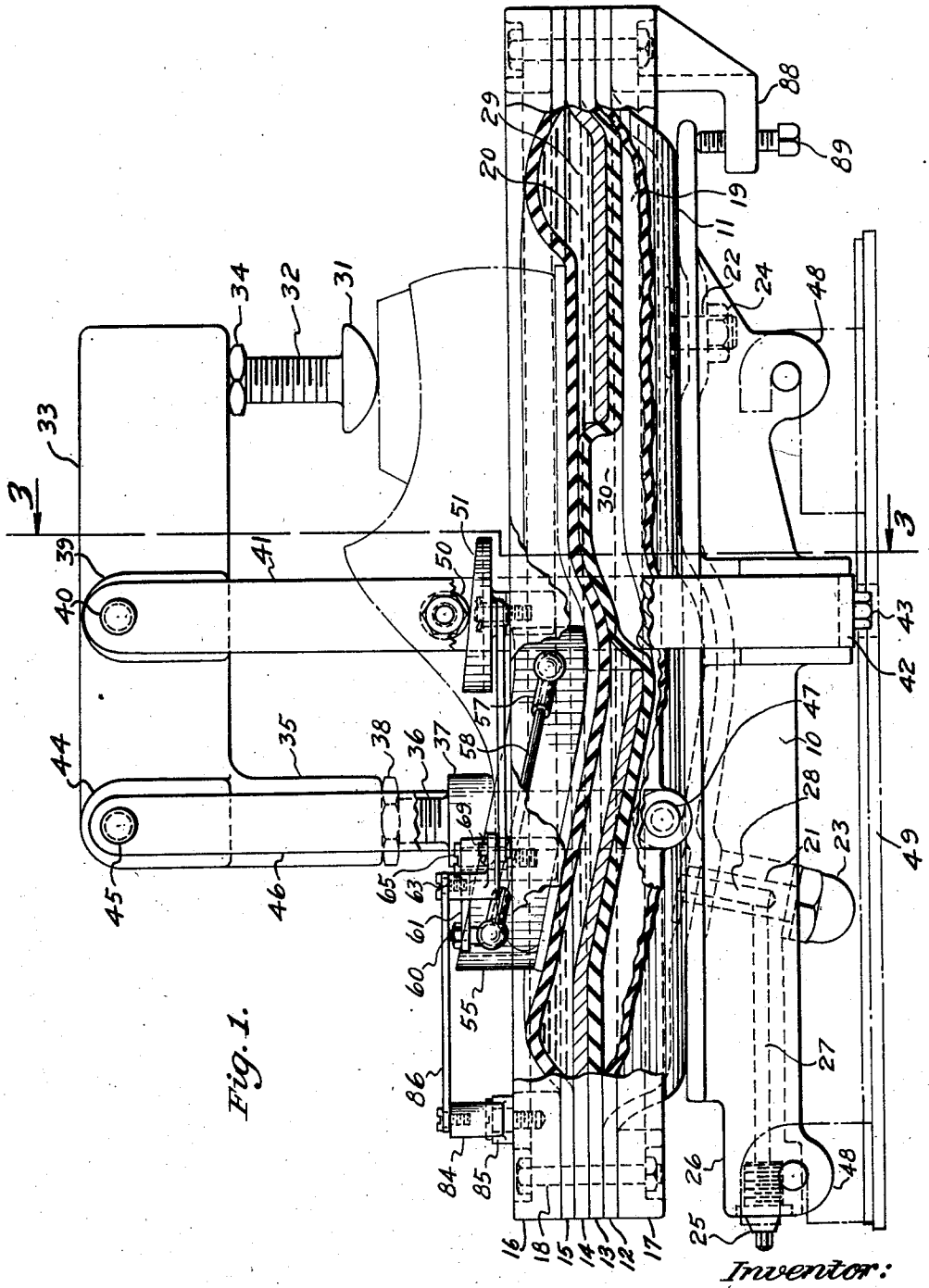


Fig. 1.

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SHOE PRESSING APPARATUS

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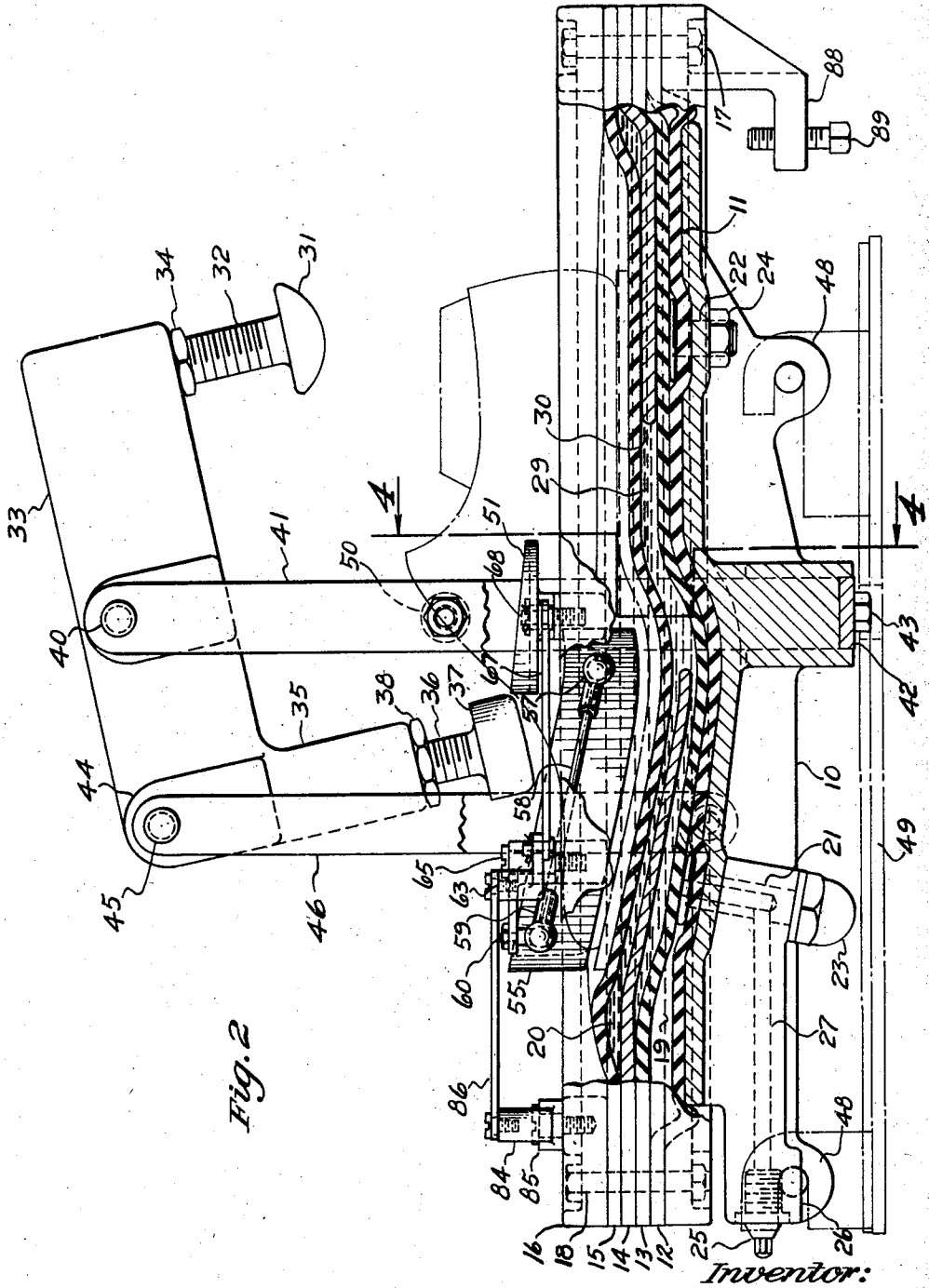


Fig. 2

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SHOE PRESSING APPARATUS

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Fig. 3.

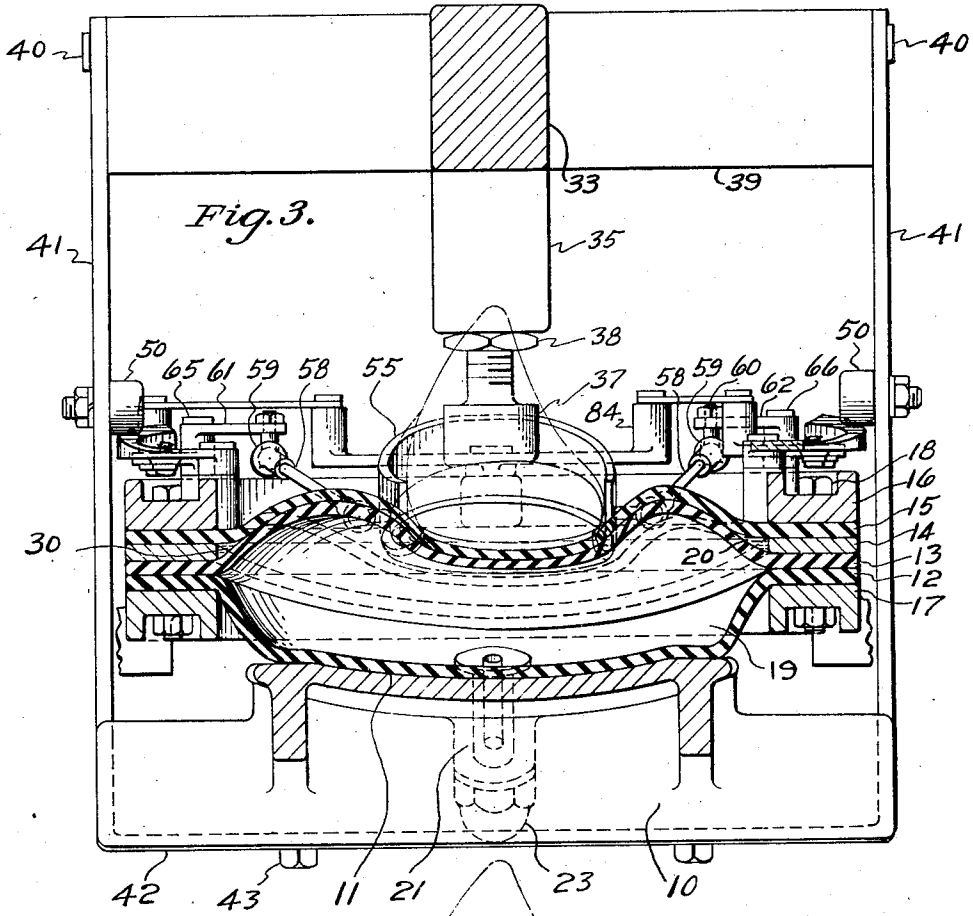
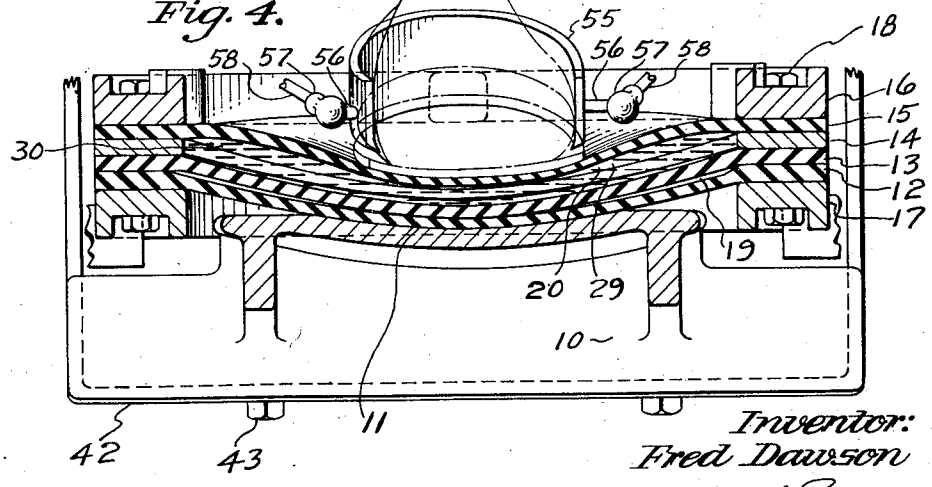


Fig. 4.



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SHOE PRESSING APPARATUS

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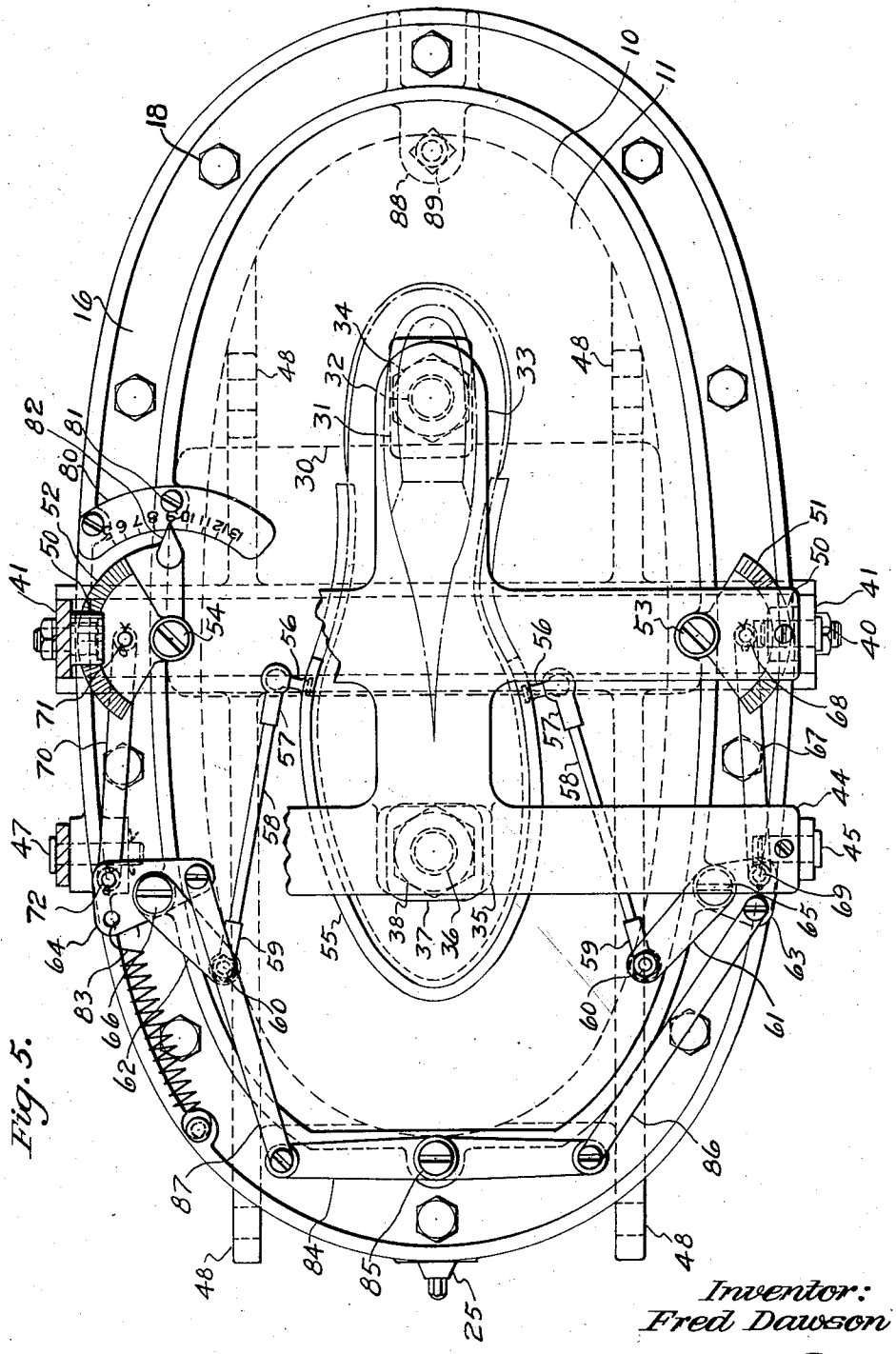


Fig. 5.

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SHOE PRESSING APPARATUS

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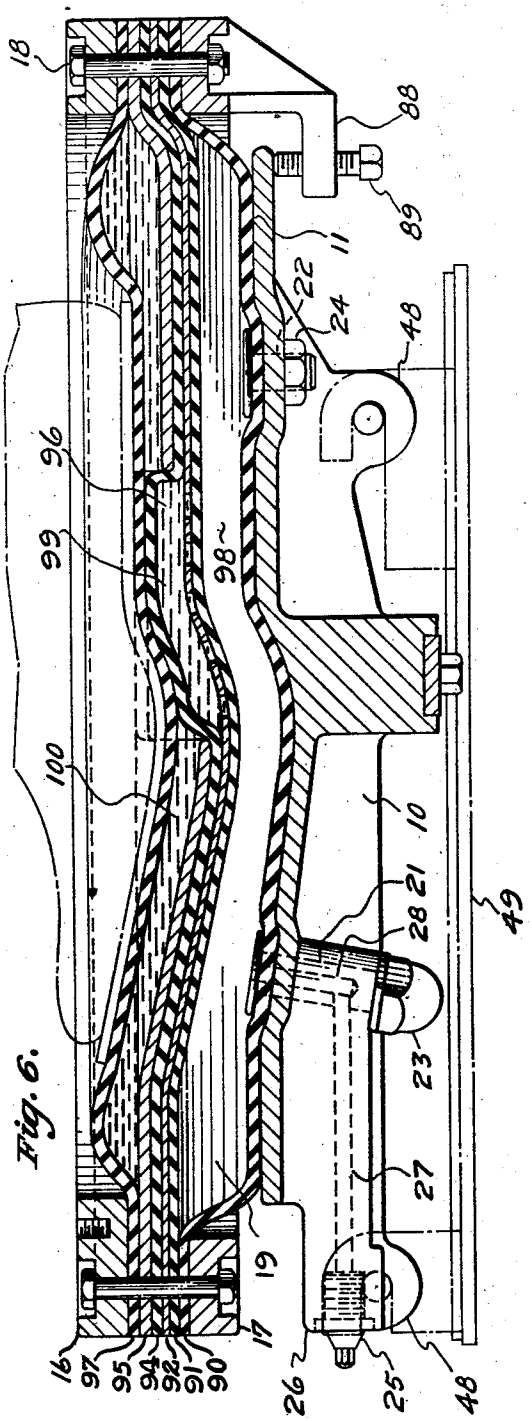


Fig. 6.

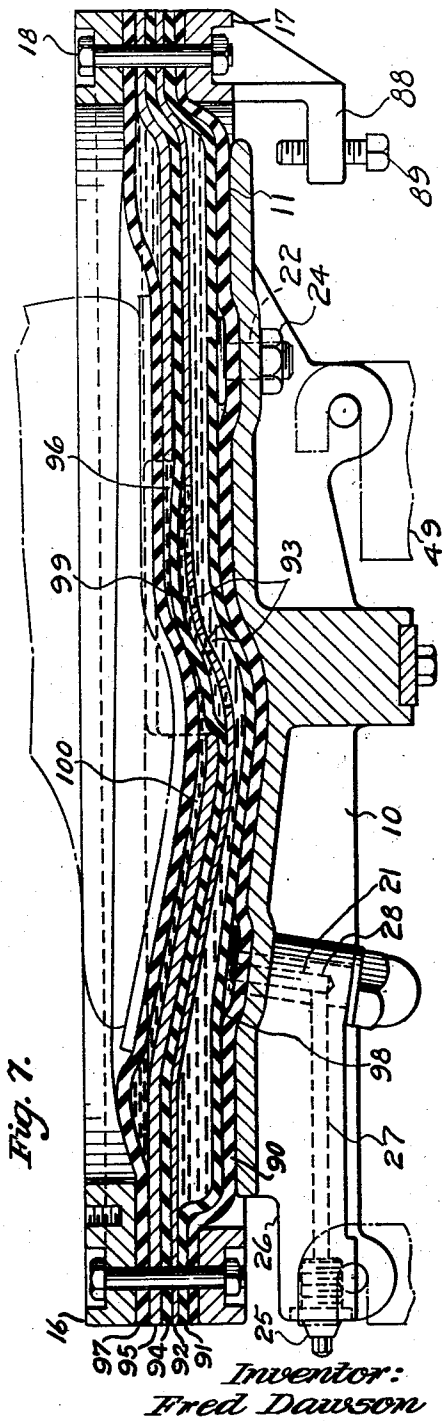


Fig. 7.

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Patented July 15, 1947 2,423,878

UNITED STATES PATENT OFFICE

2,423,878

SHOE PRESSING APPARATUS

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Application July 3, 1945, Serial No. 602,979

37 Claims. (Cl. 12—33)

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This invention relates to apparatus for use in the manufacture of footwear and more particularly to apparatus for applying pressure to shoe bottoms during such operations as cement sole attaching and the like.

In pressing soles to shoe bottoms, especially to the bottoms of welted shoes, it is necessary to hold the welt extension around the forepart of the shoe in a substantially flat plane, and to apply only sufficient pressure to the welt to counteract the pressure applied by the sole pressing pad in order to prevent the welt and sole extension from bending or curling upwardly and to avoid grinning at the inseam.

At the inside shank portion of the shoe, it is preferable that the welt and sole extension be curled upwardly so that the welt lies snugly against the outside of the shoe upper. To accomplish this, especially when heavy outsoles are used, a considerable amount of pressure is required which is far beyond that normally required to press the forepart of the outsole to the shoe bottom and to retain its desired flatness.

Heretofore, if the sole pressing pad pressure was increased in order to give the desired character to the inside shank portion of the shoe, the forepart of the sole pressing pad would dilate or balloon excessively causing the welt hold-down to be lifted and the sole extension and welt to curl resulting in unsightly shoe bottoms and much time and effort had to be expended in beating out and levelling operations to restore the desired flatness to the forepart of the shoe.

Also, when pressing soles to shoes with previous presses having inflatable sole pressing pads, frequent adjustment of the shoe and last contacting members had to be made to compensate for the variance in last heights, otherwise, the ballooning of the sole pressing pad around some shoes would be excessive and, in some instances, would prevent proper contact of the welt hold-down with the welt, whereas with shoes of the other size extreme there would be insufficient ballooning of the pad to ensure that the sole is pressed into intimate contact with the welt and shoe bottom.

An object of this invention is to provide a shoe press having a dilatable sole pressing pad which is arranged to apply a high pressure to the shank portion of a shoe and a comparatively lower pressure to the forepart of the shoe.

Another object of the invention is to provide a shoe press having a dilatable sole pressing pad and shoe contacting members, with suitable means for varying the distance between the pad and contacting members in a manner which allows the pad to balloon substantially uniformly around all sizes of shoes being processed.

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A further object of the invention is to provide a shoe press having a dilatable sole pressing pad and a welt hold-down, with a stop to limit vertical displacement of the pad and connections between the stop and the welt hold-down so that the effectiveness of the stop is varied according to the size of the shoe brought into engagement with the welt hold-down and positioned upon the pad.

A still further object of the invention is to provide a shoe press having an inflatable sole pressing pad and shoe contacting members, with simple means for automatically moving the pad and contacting members towards and away from each other as the pad is inflated and deflated, to allow for easy and unobstructed insertion and removal of a shoe from the press.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises the features of construction, combination of elements, and arrangement of parts, which will be exemplified in the construction set forth and the scope of the invention will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention reference should be had to the accompanying drawings, in which:

Fig. 1 is a side elevation, partly in section, of a shoe press embodying features of my invention and showing the sole pressing pad in its elevated position and a sole being pressed thereby;

Fig. 2 is a side elevation, partly in section, of the press shown in Fig. 1 but showing the sole pressing pad in its deflated condition;

Fig. 3 is a transverse sectional view taken substantially along lines 3—3 of Fig. 1;

Fig. 4 is a transverse sectional view taken substantially along lines 4—4 of Fig. 2;

Fig. 5 is a plan view of the press shown in Fig. 1 and indicating that a size 9 shoe is positioned upon the sole pressing pad and is engaged by the welt hold-down;

Fig. 6 is a longitudinal sectional view of the base portion of the press of this invention, but showing a modified form of sole pressing pad construction in the inflated condition; and,

Fig. 7 is a view similar to Fig. 6 but showing the modified form of pad construction in a deflated condition.

Referring to the drawings and first to Figs. 1 and 5, there is shown in the shoe pressing position a shoe press comprising a base casting 10 having an upper surface forming a pad support

11 which may be contoured as shown to suit the shape of the average shoe bottom. Resting upon the pad support 11 is a sole pressing pad assembly comprising a dilatable lower diaphragm 12, a dilatable shank pressing diaphragm 13, a rigid pressure resisting plate 14 and a dilatable sole pressing diaphragm 15 which are secured together along their peripheral margins by the upper and lower oval shaped rigid clamping rings 16 and 17 and the spaced bolts 18 in a manner which forms a lower fluid tight chamber 19 and an upper fluid tight chamber 20.

The entire sole pressing assembly is held to the pad support 11 by the headed studs 21 and 22 which pass through holes formed in the lower diaphragm 12 and the base casting 10 and the nuts 23 and 24 threaded to the studs serve to draw the heads of the studs tightly against the inner face of the lower diaphragm 12 in a manner which makes a fluid tight seal.

The lower chamber 19 is adapted to be inflated with a fluid which is supplied via the conventional inflating and deflating valve 25 screw threaded into a boss 26 formed integral with the base casting 10, and the conduit 27 communicating with the bore 28 formed in the headed stud 21 and which communicates with the lower chamber 19.

A body of fluid, e. g. water, is confined in the upper chamber 20 and is displaced as the lower chamber 19 is inflated by virtue of the pressure diaphragm 13 being dilated so as to enter an aperture 30 formed in the rigid pressure resisting plate 14 and located beneath the portion of the sole pressing pad 15 which contacts the shank of a shoe.

For resisting the pressure applied to a shoe and sole positioned upon the sole pressing diaphragm 15, there is provided a last engaging member 31 having a stem 32 which is screw threaded into one end of the rocker arm 33 so that it may be adjusted heightwise to a position favorable for all last heights and then locked in position by the nut 34. The other end of the rocker arm 33 is provided with a depending boss 35 into which is screw threaded the stem 36 of a toe engaging member 37 and the nut 38 serves to lock the toe engaging member in a selected heightwise position. The rocker arm 33 at its central portion is provided with laterally extending bosses 39 which together span the entire width of the press and a rod 40, extending through and pressed into the bosses, serves to pivot the rocker arm to the upstanding legs 41 of an inverted yoke member 42 which is secured to the base casting 10 by the screws 43. The forward or toe end of the rocker arm 33 is also provided with laterally extending bosses 44, and the rod 45 which extends therethrough, pivotally connects the rocker arm to one end of the links 46 which are pivoted at their lower ends by the pins 47 to bosses formed on the sides of the lower clamping ring 17.

The base casting 10 is provided with the lugs 48 so that the complete press can be mounted on the belt 49 of a shoe press machine, e. g. that shown in the patent to Weiss No. 1,945,762.

Referring to Fig. 2 showing the press with the lower chamber 19 deflated, it can readily be seen that as fluid under pressure is admitted into the lower chamber 19 via the valve 25, the pressure diaphragm 13 is dilated upwardly into contact with the under surface of the rigid pressure resisting plate 14 and displaces the body 29 of fluid. As inflation of the lower chamber 19 continues and the pressure therein increases, the entire sole pressing pad assembly, except for the portion of the lower diaphragm 12 secured to the base casting 10, is elevated and carries with it the shoe placed upon the sole pressing diaphragm 15. As upward movement of the sole pressing assembly occurs, the links 46, which are pivoted at their lower ends to the lower clamping ring 17, also move upwardly and by virtue of their pivoted connection to the rocker arm 33 they swing the rocker arm about its pivot 40 so that the last engaging member 31 moves downwardly to meet the rising shoe.

As previously stated, it is desirable that a comparatively low pressure be applied to the forepart of the shoe and a considerably higher pressure be applied to the shank portion of the shoe. To achieve this desired result, elevation of the sole pressing pad assembly and likewise descent of the last engaging member is limited by the stops 50 which are secured to the upstanding legs 41 of the yoke 42 so that they engage the faces of the arcuate cams 51 and 52 pivoted at 53 and 54 respectively to the top surface of the upper clamping ring 16. The cams 51 and 52 are adjusted, by means hereinafter described, so that regardless of the size shoe placed upon the sole pressing diaphragm 15, elevation of the sole pressing pad assembly is arrested just as the shoe is clamped between the sole pressing diaphragm and the toe and last engaging members and before any appreciable pressure is brought to bear against the shoe bottom. Then, as inflation of the lower chamber 19 is continued to final pressure, which may be in the order of 100 lbs. per square inch, the portion of the pressure diaphragm 13 under the aperture 30 in the rigid pressure resisting plate 14, is dilated so that it is forced into the aperture until it comes to bear against the under side of the sole pressing diaphragm and applies pressure to the shank portion of the shoe. As the pressure diaphragm 13 is forced into the aperture 30 it displaces the body 29 of fluid in the upper chamber 20 and the displaced fluid dilates the forepart and heel portions of the sole pressing diaphragm to apply a comparatively lower pressure to the forepart and heel portions of the shoe.

It will be readily understood by those skilled in the art, that the difference in pressures applied to the shank and other portions of the shoe can be varied by varying the pressure in the lower chamber, by varying the volume of fluid in the upper chamber, by varying the position of the stop members 50 or by varying the position of the cams 51 and 52.

To ensure that elevation of the sole pressing pad assembly will be arrested just as the shoe, regardless of its size, is clamped between the sole pressing diaphragm 15 and the toe and last engaging members, and thereby the pressure applied to each shoe and the ballooning of the sole pressing diaphragm around each shoe will be approximately uniform, the cams 51 and 52 are adjusted as the shoe is placed upon the sole pressing diaphragm and is pushed forward into engagement with the welt hold-down 55. To accomplish this, the ball end studs 56 are secured to the sides of the welt hold-down 55 and are socketed in the ends 57 of rods 58 which at their other ends 59 are socketed to the ball studs 60 secured to the arms 61 and 62 of the crank levers 63 and 64 pivoted at 65 and 66 respectively to the upper clamping ring 16. The link 67 is pivoted at 68 to the cam 51 and at 69 to the crank lever 63. Likewise, the link 70 is pivoted at 71 to the cam 52 and at 72 to the crank lever 64.

As a shoe is brought into engagement with the welt hold-down **55**, and is pushed forwardly to correctly position it upon the sole pressing diaphragm **15**, the crank levers **63** and **64** and the cams **51** and **52** will, by virtue of the connections described, be rotated and thus position the cams to arrest elevation of the sole pressing pad as the lower chamber **19** is inflated.

To inform an operator when the shoe has been correctly positioned upon the sole pressing diaphragm and that the cams are properly positioned, a segment **80**, which is graduated and numbered according to shoe sizes as determined by the shape of the cam surface which engages the stops **50**, is secured by the screws **81** to the clamping ring **16** and a pointer **82** formed on the cam **52** is adapted to coincide with the number of the shoe size being processed when it has been correctly positioned upon the sole pressing diaphragm.

The tension spring **83** which is secured at one end to the crank lever **64** and at its other end to the clamping ring **16** serves to return the welt hold-down and the cams **51** and **52** to a position ready to receive the smallest size shoe to be processed.

In order to ensure that each of the cams **51** and **52** will be rotated an even distance and thus prevent the sole pressing pad assembly from tilting laterally when a shoe is being pressed, an equalizing device is provided which comprises the lever **84** which is pivoted at **85** to the upper clamping ring **16** and which is connected by the links **86** and **87** to the crank levers **63** and **64** in a manner which only permits equal rotation of the crank levers and the cams.

To vary the longitudinal tilt of the sole pressing pad assembly to compensate for the various toe springs of lasts, the bracket **88** formed integral with the lower clamping ring **17** is threaded to receive the stop screw **89** which can be adjusted to strike the under side of the surface **11** of the base casting **10** as the sole pressing pad is elevated.

Referring to Figs. 6 and 7, there is shown a modified sole pressing pad assembly comprising the dilatable lower diaphragms **90** and **91**, a rigid pressure resisting plate **92** having holes **93** formed therein at its shank portion, a pressure diaphragm **94**, a rigid pressure resisting plate **95** having an aperture **96** formed in its shank portion, and an upper or sole pressing diaphragm **97**, which are secured together by the upper and lower clamping rings **16** and **17** and the spaced bolts **18** in a manner which forms a lower fluid tight chamber **98**, a central fluid tight chamber **99**, and an upper fluid tight chamber **100**.

A body of fluid, e. g. water, is confined in the central chamber **99** and a body of similar fluid is confined in the upper chamber **100**, and, as in the previously described construction, the lower chamber **98** is adapted to be inflated with a fluid via the valve **25**.

In operation of this modified sole pressing pad assembly, fluid under pressure is introduced into the lower chamber **98** and the complete sole pressing pad assembly elevates until arrested by the stop mmebers previously described. As inflation of the lower chamber is continued to final pressure the diaphragm **91** is forced against the pressure resisting plate **92** and displaces the fluid which passes through the holes **93** causing the pressure diaphragm **94** to be dilated through the aperture in the pressure resisting plate **95** where it applies pressure to the shank portion of the upper or sole pressing diaphragm **97**. As the pressure diaphragm enters the aperture in the pressure resisting plate **95** it displaces the fluid in the upper chamber **100** so that pressure is applied to dilate the sole pressing diaphragm into pressing relation with the forepart and heel portions of the shoe.

With this construction, the difference in the pressures applied to the shank and other portions of the shoes depends upon the volume of fluid within the chambers **99** and **100** and as long as the lower chamber **98** is inflated to a pressure sufficient to displace the fluid in the central chamber, an increased pressure in the lower chamber will not affect the ultimate pressures applied to the shoe bottom since the diaphragm **91** is restrained from further displacing the fluids in the upper chambers by the under surface of the pressure resisting plate **92**.

Since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a shoe press, the combination comprising a dilatable sole pressing diaphragm and a dilatable pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate, and means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate and to dilate said sole pressing diaphragm.

2. In a shoe press, the combination comprising a dilatable sole pressing diaphragm and a dilatable pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate to form a chamber between said diaphragms, a body of fluid confined in said chamber, and means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate to displace said body of fluid and to dilate said sole pressing diaphragm.

3. In a shoe press, the combination comprising a dilatable sole pressing diaphragm and a dilatable pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate to form a chamber between said diaphragms, a body of fluid confined in said chamber, and fluid pressure means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate to displace said body of fluid and to dilate said sole pressing diaphragm.

4. In a shoe press, the combination comprising three flexible diaphragms, means securing to-

gether the marginal portions of said diaphragms to form upper and lower chambers, a rigid pressure resisting plate secured between the diaphragms forming said upper chamber, said resisting plate having an aperture formed therein, a body of fluid confined within said upper chamber, and means for introducing fluid under pressure into said lower chamber.

5. In a shoe press, the combination comprising a flexible sole pressing diaphragm having forepart and shank engaging portions, a flexible pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having formed therein an aperture located below the shank engaging portion of said sole pressing diaphragm, means securing together the marginal portions of said diaphragms and said resisting plate to form a chamber between said diaphragms, a body of fluid in said chamber, and fluid pressure means for dilating a portion of said pressure applying diaphragm into said aperture to contact and to apply a pressure to the shank portion of said sole pressing diaphragm and to displace said body of fluid to apply a different pressure to the forepart portion of said sole pressing diaphragm.

6. In a shoe press, the combination comprising a flexible sole pressing diaphragm having forepart, shank and heel engaging portions, a flexible pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having formed therein an aperture located below the shank engaging portion of said sole pressing diaphragm, means securing together the marginal portions of said diaphragms and said resisting plate to form a chamber between said diaphragms, a body of fluid in said chamber, and fluid pressure means for dilating a portion of said pressure applying diaphragm into said aperture to contact and to apply a pressure to the shank portion of said sole pressing diaphragm and to displace said body of fluid to apply a different pressure to the forepart and heel portions of said sole pressing diaphragm.

7. In a shoe press, the combination comprising three flexible diaphragms arranged in superposition, means securing together the marginal portions of said diaphragm to form upper and lower chambers, a body of fluid confined in said upper chamber, means for admitting fluid under pressure into said lower chamber to urge the central diaphragm into contact with the upper diaphragm and to displace the fluid in said upper chamber, and means for restraining selected portions of the central diaphragm from contacting the upper diaphragm.

8. In a shoe press, the combination comprising a pad support, a dilatable pressing pad mounted upon said support, said pad having a rigid flange around its periphery, shoe contacting members sustained above said pad, means for bodily elevating said pad upon its support to bring a shoe positioned thereon into engagement with said contacting members, means engageable with the rigid flange of said pad for limiting elevation of said pad, and means for dilating said pad to apply pressure to the bottom of the shoe engaged by said contacting members.

9. In a shoe press, the combination comprising a pad support, a sole pressing pad mounted upon said support, shoe contacting members sustained above said pad, means for elevating said pad upon its support to bring a shoe placed thereon into engagement with said contacting members, means for limiting elevation of said pad, and means operable by positioning of a shoe upon said pad to vary the effectiveness of said limiting means.

10. In a shoe press, the combination comprising a pad support, a dilatable sole pressing pad mounted upon said support, shoe contacting members sustained above said pad, means for elevating said pad upon its support to bring a shoe positioned thereon into engagement with said contacting members, means for limiting elevation of said pad, means operable by positioning of the shoe upon said pad to vary the effectiveness of said limiting means according to the size of the shoe positioned, and means for dilating said sole pressing pad to apply pressure to the bottom of the shoe positioned thereon.

11. In a shoe press, the combination comprising a pad support, a dilatable sole pressing pad mounted upon said support, shoe contacting members sustained above said pad, means for elevating said pad upon its support to bring a shoe positioned thereon into engagement with said contacting members, means for limiting elevation of said pad, means operable by positioning of the shoe upon said pad to vary the effectiveness of said limiting means according to the size of the shoe positioned, and means for dilating said sole pressing pad to apply different pressures to different portions of the shoe positioned thereon.

12. In a shoe press, the combination comprising a pad support, a dilatable sole pressing pad mounted upon said support, shoe contacting members sustained above said pad, fluid pressure operated means for elevating said pad upon its support to bring a shoe positioned thereon into engagement with said contacting members, means for limiting elevation of said pad, means operable by positioning of the shoe upon said pad to vary the effectiveness of said limiting means, and fluid pressure operated means for dilating said sole pressing pad to apply pressure to the bottom of the shoe positioned thereon.

13. In a shoe press, the combination comprising a pad support, a flexible sole pressing pad mounted upon said support, shoe contacting members sustained above said pad, means for elevating said pad upon its support to bring a shoe positioned thereon into engagement with said contacting members, means for limiting elevation of said pad, a welt hold-down moveably mounted above said pad, and means operable by movement of said welt hold-down to vary the effectiveness of said limiting means.

14. In a shoe press, the combination comprising a pad support, a flexible sole pressing pad mounted upon said support, shoe contacting members sustained above said pad, means for elevating said pad upon its support to bring a shoe positioned thereon into engagement with said contacting members, means for limiting elevation of said pad, a welt hold-down moveably mounted above said pad, means operable by movement of said welt hold-down to vary the effectiveness of said limiting means, and means for dilating said sole pressing pad to cause pressure to be applied to the shoe positioned thereon.

15. In a shoe press, the combination comprising a pad support, a sole pressing pad mounted upon said support, shoe contacting members mounted above said pad, said contacting members being arranged for swinging movement towards and away from said pad, means for elevating said pad upon its support, and means connected to said pad and depending upon elevation thereof for moving said contacting members.

16. In a shoe press, the combination compris-

ing a pad support, a sole pressing pad mounted upon said support, shoe contacting members mounted above said pad, said contacting members being arranged for swinging movement towards and away from said pad, means for elevating said pad and for moving said contacting members towards said pad, and means operable by positioning of a shoe upon said pad for limiting elevation of said pad and movement of said contacting members.

17. In a shoe press, the combination comprising a pad support, a sole pressing pad mounted upon said support, shoe contacting members mounted above said pad, said contacting members being arranged for movement towards and away from said pad, means for elevating said pad upon its support and for moving said contacting members, means for limiting elevation of said pad and movement of said contacting members, a welt hold-down mounted above said pad, and means connected to said welt hold-down for varying the effectiveness of said limiting means.

18. In a shoe press, the combination comprising a pad support, a sole pressing pad assembly mounted upon said support, a member extending upwardly from said support, a lever pivoted at its central portion to said member, shoe contacting members depending from the ends of said lever, and means connecting one end of said lever to said pressing pad assembly.

19. In a shoe press, the combination comprising a pad support, a sole pressing pad mounted upon said support, said pressing pad having a rigid flange secured thereto, a member extending upwardly from said support, a lever pivoted at its central portion to said member, shoe contacting members secured to the ends of said lever, and a link connecting one end of said lever to said rigid flange.

20. In a shoe press, the combination comprising a pad support, a sole pressing pad mounted upon said support, said pad having a rigid flange secured thereto, a leg member extending upwardly from said support, shoe contacting members connected to said leg member, means for elevating said pad upon its support to bring a shoe positioned thereon into engagement with said contacting members, a stop extending from said leg member, and means mounted upon said rigid flange for engaging said stop as said pad is elevated upon its support.

21. In a shoe press, the combination comprising a pad support, a sole pressing pad mounted upon said support, said pad having a rigid flange secured thereto, leg members extending upwardly from each side of said support, a lever located between said leg members and pivoted at its central portion thereto, a shoe contacting member secured to each end of said lever, a link connecting one end of said lever to said rigid flange, stops secured to said leg members, means for elevating said pad upon its support to bring a shoe positioned thereon towards said shoe contacting members and to swing said shoe contacting members towards said positioned shoe, cams adjustably mounted on said rigid flange and arranged to contact said stops as said pad is elevated, and means operable by positioning of the shoe upon said pad for moving said cams to arrest elevation of said pad according to the size of the shoe positioned thereon.

22. In a shoe press, the combination comprising a pad support, a sole pressing pad mounted upon said support, said pad having a rigid flange secured thereto, leg members extending upwardly from each side of said support, a lever located between said leg members and pivoted at its central portion thereto, a shoe contacting member secured to each end of said lever, a link connecting one end of said lever to said rigid flange, stops secured to said leg members, means for elevating said pad upon its support to bring a shoe positioned thereon towards said shoe contacting members and to swing said shoe contacting members towards said positioned shoe, cams adjustably mounted on said rigid flange and arranged to contact said stops as said pad is elevated, a welt hold-down mounted above said pad, and means connected to said welt hold-down for adjusting the position of said cams.

23. In a shoe press, the combination comprising a pad support, a sole pressing pad mounted upon said support, said pad having a rigid flange secured thereto, leg members extending upwardly from each side of said support, a lever located between said leg members and pivoted at its central portion thereto, a shoe contacting member secured to each end of said lever, a link connecting one end of said lever to said rigid flange, stops secured to said leg members, means for elevating said pad upon its support to bring a shoe positioned thereon towards said shoe contacting members and to swing said shoe contacting members towards said positioned shoe, cams adjustably mounted on said rigid flange and arranged to contact said stops as said pad is elevated, a welt hold-down mounted above said pad for movement longitudinally thereof, connections between said welt hold-down and said cams, and means urging said welt hold-down towards the heel end of said sole pressing pad.

24. In a shoe press, the combination comprising a pad support, a sole pressing pad mounted upon said support, said pad having a rigid flange secured thereto, leg members extending upwardly from each side of said support, a lever located between said leg members and pivoted at its central portion thereto, a shoe contacting member secured to each end of said lever, a link connecting one end of said lever to said rigid flange, stops secured to said leg members, means for elevating said pad upon its support to bring a shoe positioned thereon towards said shoe contacting members and to swing said shoe contacting members towards said positioned shoe, cams adjustably mounted on said rigid flange and arranged to contact said stops as said pad is elevated, a welt hold-down mounted above said pad for movement longitudinally thereof as a shoe is positioned thereon, means operated by movement of said welt hold-down for adjusting said cams, and means for equalizing adjustment of said cams as said welt hold-down is moved.

25. A shoe press comprising a dilatable sole pressing diaphragm and a pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate, a support for the assembly thus defined, and means for bodily elevating the assembly upon its support and for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate and to dilate said sole pressing diaphragm.

26. A shoe press comprising a dilatable sole pressing diaphragm and a pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means secur-

ing together the marginal portions of said diaphragms and said resisting plate, a support for the assembly thus defined, and fluid pressure operated means for bodily elevating the assembly upon its support and for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate and to dilate said sole pressing diaphragm.

27. A shoe press comprising a dilatable sole pressing diaphragm and a pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate, a support for the assembly thus defined, shoe contacting members sustained above said support, means for bodily elevating the assembly upon its support to bring a shoe placed thereon into engagement with said contacting members, and means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate and to dilate said sole pressing diaphragm.

28. A shoe press comprising a dilatable sole pressing diaphragm and a pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate, a support for the assembly thus defined, shoe contacting members sustained above said support, fluid pressure operated means for bodily elevating the assembly upon its support to bring a shoe placed thereon into engagement with said contacting members, and fluid pressure operated means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate and to dilate said sole pressing diaphragm.

29. A shoe press comprising a dilatable sole pressing diaphragm and a pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate, a support for the assembly thus defined, shoe contacting members sustained above said support, said contacting members being arranged for swinging movement towards said support, connections between said contacting members and said assembly, means for bodily elevating said assembly upon its support to bring a shoe placed thereon towards said contacting members and to swing said contacting members towards said shoe, and means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate and to dilate said sole pressing diaphragm.

30. A shoe press comprising a dilatable sole pressing diaphragm and a pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate, a support for the assembly thus defined, shoe contacting members sustained above said support, said contacting members being arranged for swinging movement towards said support, connections between said contacting members and said assembly, fluid pressure operated means for bodily elevating said assembly upon its support to bring a shoe placed thereon towards said contacting members and to swing said contacting members towards said shoe, and fluid pressure operated means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate and to dilate said sole pressing diaphragm.

31. A shoe press comprising a dilatable sole pressing diaphragm and a pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate, a support for the assembly thus defined, shoe contacting members sustained above said support, said contacting members being arranged for swinging movement towards said support, connections between said contacting members and said assembly, means for bodily elevating said assembly upon its support to bring a shoe placed thereon towards said contacting members and to swing said contacting members towards said shoe, means for limiting elevation of said assembly, and means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate and to dilate said sole pressing diaphragm.

32. A shoe press comprising a dilatable sole pressing diaphragm and a pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate, a support for the assembly thus defined, shoe contacting members sustained above said support, said contacting members being arranged for swinging movement towards said support, connections between said contacting members and said assembly, fluid pressure operated means for bodily elevating said assembly upon its support to bring a shoe placed thereon towards said contacting members and to swing said contacting members towards said shoe, means for limiting elevation of said assembly, and fluid pressure operated means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate and to dilate said sole pressing diaphragm.

33. A shoe press comprising a dilatable sole pressing diaphragm and a pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate, a support for the assembly thus defined, shoe contacting members sustained above said support, said contacting members being arranged for swinging movement towards said support, connections between said contacting members and said assembly, means for bodily elevating said assembly upon its support to bring a shoe placed thereon towards said contacting members and to swing said contacting members towards said shoe, means for limiting elevation of said assembly, means operable by positioning of a shoe upon said assembly for varying the effectiveness of said limiting means, and means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate and to dilate said sole pressing diaphragm.

34. A shoe press comprising a dilatable sole pressing diaphragm and a pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate, a support for the assembly thus defined, shoe contacting

members sustained above said support, said contacting members being arranged for swinging movement towards said support, connections between said contacting members and said assembly, fluid pressure operated means for bodily elevating said assembly upon its support to bring a shoe placed thereon towards said contacting members and to swing said contacting members towards said shoe, means for limiting elevation of said assembly, means operable by positioning of a shoe upon said assembly for varying the effectiveness of said limiting means, and fluid pressure operated means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate and to dilate said sole pressing diaphragm.

35. A shoe press comprising a dilatable sole pressing diaphragm and a pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed therein, means securing together the marginal portions of said diaphragms and said resisting plate, a body of fluid confined between said diaphragms, a support for the assembly thus defined, shoe contacting members sustained above said support, said contacting members being arranged for swinging movement towards said support, connections between said contacting members and said assembly, means for bodily elevating said assembly upon its support to bring a shoe placed thereon towards said contacting members and to swing said contacting members towards said shoe, means for limiting elevation of said assembly, means operable by positioning of a shoe upon said assembly for varying the effectiveness of said said limiting means, and means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate to displace said body of fluid and to dilate said sole pressing diaphragm.

36. A shoe press comprising a dilatable sole pressing diaphragm and a pressure applying diaphragm, a rigid pressure resisting plate located between said diaphragms, said resisting plate having an aperture formed thereon, means securing together the marginal portions of said diaphragms and said resisting plate, a body of fluid confined between said diaphragms, a support for the assembly thus defined, shoe contacting members sustained above said support, said contacting members being arranged for swinging movement towards said support, connections between said contacting members and said assembly, fluid pressure operated means for bodily elevating said assembly upon its support to bring a shoe placed thereon towards said contacting members and to swing said contacting members towards said shoe, means for limiting elevation of said assembly, means operable by positioning of a shoe upon said assembly for varying the effectiveness of said limiting means, and fluid pressure operated means for dilating said pressure applying diaphragm to force it to enter the aperture in said resisting plate to displace said body of fluid and to dilate said sole pressing diaphragm.

37. A shoe press comprising a pad support, three flexible diaphragms arranged in superposition upon said support, means securing together the marginal portions of said diaphragms to form upper and lower chambers, a rigid pressure resisting plate secured between the diaphragms forming said upper chamber, said resisting plate having an aperture formed therein, a body of fluid confined in said upper chamber, shoe contacting members sustained above said support, and means for inflating said lower chamber.

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