Aug. 24, 1948. J. MELTZER 2,447,590

SHOE CONSTRUCTION HAVING STITCHED-IN INSOLE AND PRESSURE-COVERED MOLDED HEEL COUNTER

Filed Dec. 1, 1945 3 Sheets-Sheet 1

FIG. 1.

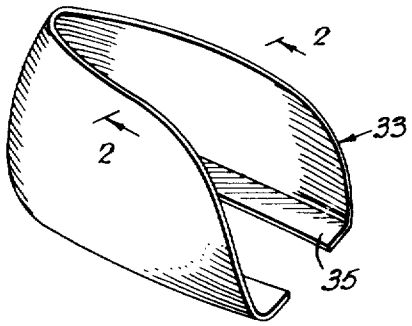


FIG. 2.

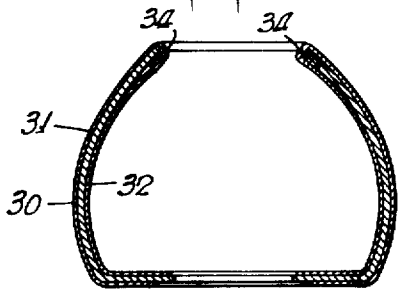


FIG. 3.

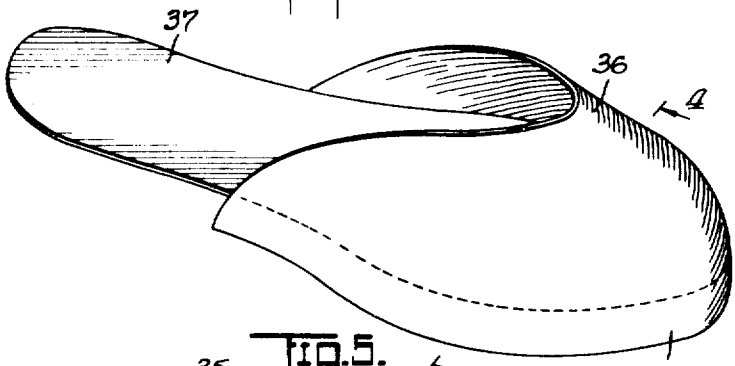


FIG. 4.

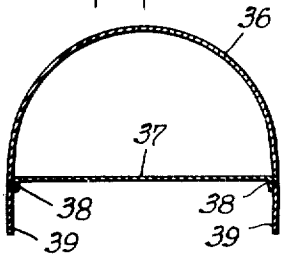


FIG. 5.

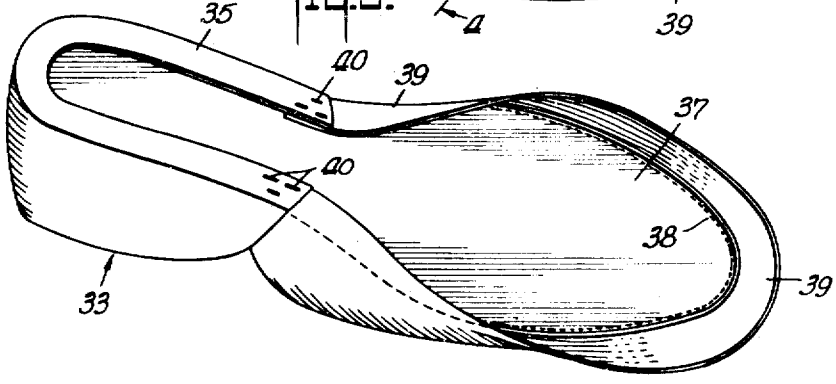
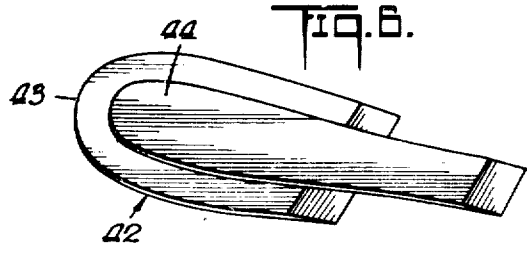


FIG. 6.



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SHOE CONSTRUCTION HAVING STITCHED-IN INSOLE AND PRESSURE-COVERED MOLDED HEEL COUNTER

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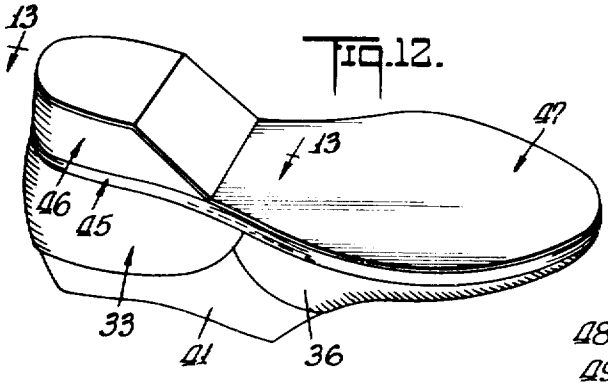


Fig. 12.

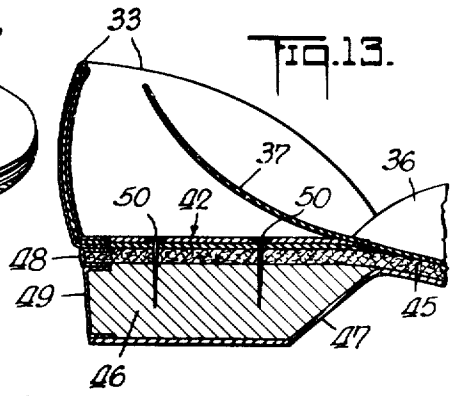


Fig. 13.

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SHOE CONSTRUCTION HAVING STITCHED-IN INSOLE AND PRESSURE-COVERED MOLDED HEEL COUNTER

Filed Dec. 1, 1945

3 Sheets-Sheet 3

Fig. 10.

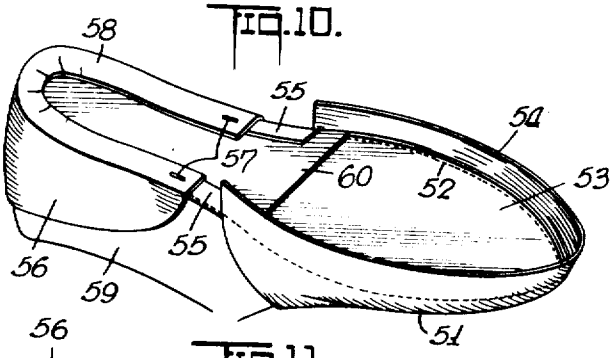


Fig. 11.

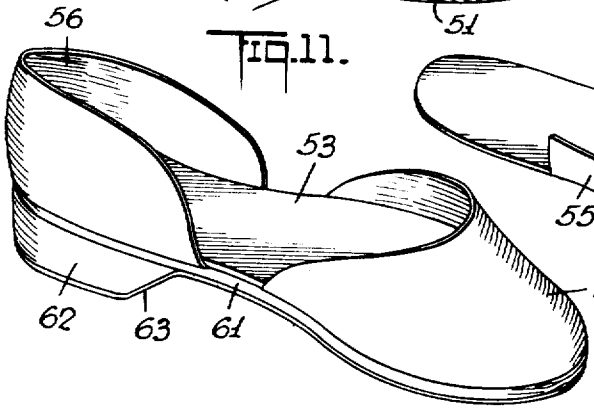


Fig. 9.

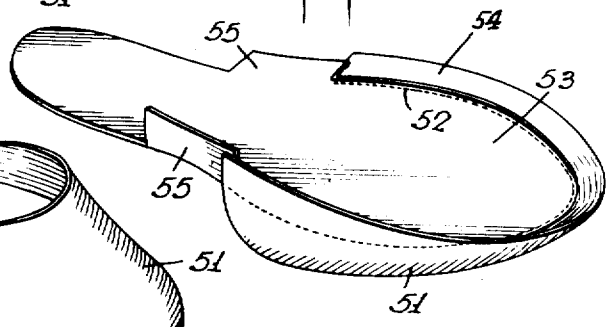


Fig. 7.

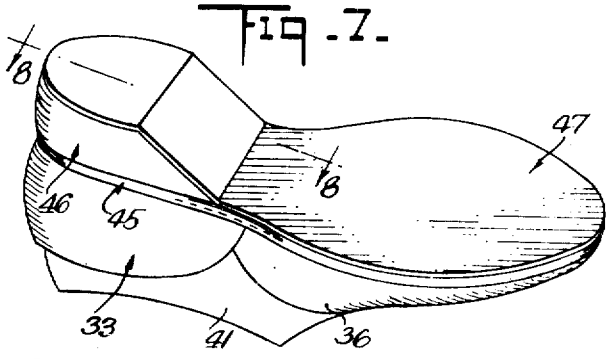
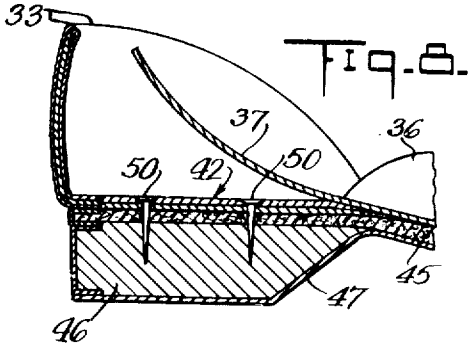


Fig. 8.



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Patented Aug. 24, 1948 2,447,590

UNITED STATES PATENT OFFICE

2,447,590

SHOE CONSTRUCTION HAVING STITCHED-IN INSOLE AND PRESSURE-COVERED MOLDED HEEL COUNTER

Jack Meltzer, New York, N. Y.

Application December 1, 1945, Serial No. 632,140

2 Claims. (Cl. 36—19.5)

1

My present invention relates generally to shoes, and has particular reference to certain improvements in the type of shoe in which the outer sole is adhesively secured in place.

A general object of the invention is to provide an improved footwear construction in which the advantages of a pressure-covered molded heel counter are attained in a shoe having an insole of the stitched-in type.

A stitched-in insole is highly desirable because it is not susceptible to displacement and is devoid of edges which may curl and thereby cause discomfort or which may impair the attractiveness of shoes having openings at the toe or elsewhere.

A pressure-covered molded heel counter of the kind which I propose to use consists, in brief, of an integrated assembly of superposed elements comprising a reinforcing element sandwiched between an element of shoe-upper material and a lining element therefor, the reinforcement being initially inserted in relatively soft and pliable state and the entire group being adhesively bonded into a stiff molded unit by heat and pressure. This unit contributes desirable attributes to a shoe, imparting enhanced strength and wearing qualities as well as an improved appearance. Its advantage lies in the fact that the reinforcement is rigidly held in bonded association with both of the plies which cover it, and that each of the latter is maintained in a taut, smooth and attractive condition.

So far as I am aware, it has not heretofore been deemed feasible to employ a pressure-covered molded heel counter in a shoe having a stitched-in insole. The present invention makes it possible, in a simple and practical manner, to produce a shoe having not only all the advantages of a stitched-in insole, but also the advantages inherent in a pressure-covered molded heel counter.

In the present structure, the edge of the insole is stitched to the upper along a line which is parallel to but offset inwardly from the edge of the upper, the resultant margin of the upper defining an anchoring extension by means of which the upper is secured in place between the insole and the outer sole.

The successful achievement of the desired objective is predicated upon a thoroughly practical solution of the problem of retention of the heel counter in proper positional relation to the vamp portion of the shoe during the assembly of the several parts of the shoe into a completed structure. Where the heel counter is preliminarily molded and covered, it may be stapled or otherwise secured at its base to the anchoring extension of the vamp portion of the upper, or to an anchoring extension specially formed on the insole itself.

In each case, the procedure is of simple character capable of performance by relatively unskilled hands, and the finished article of footwear has a neat-appearing rigidified heel region firmly integrated with a forward portion of attractive and comfortable character and provided with a smooth-lying stitched-in insole.

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I achieve these general objects and advantages, and such other objects and advantages as may hereinafter appear or be pointed out, in the manner illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of one type of pressure-covered molded heel counter;

Figure 2 is an exaggerated cross-sectional view taken substantially along the line 2—2 of Figure 1, showing the composite structure;

Figure 3 is a preliminary assembly of shoe upper and insole, constituting a first step in constructing a shoe in accordance with the present invention;

Figure 4 is a cross-sectional view taken substantially along the line 4—4 of Figure 3;

Figure 5 is a perspective view of the assembly of Figure 3 associated with a heel counter of the character shown in Figures 1 and 2;

Figure 6 is a perspective view of a reinforcing and filler strip;

Figure 7 is a perspective view showing the shoe assembly on a last just prior to completion;

Figure 8 is an enlarged cross-sectional view taken substantially along the line 8—8 of Figure 7, after the structure has been removed from the last;

Figure 9 is a view of a modified preliminary assembly similar to that of Figure 3;

Figure 10 is a view of a subsequent step in the process, employing the modified construction of Figure 9; and

Figure 11 is a perspective view of a shoe resulting from the process of Figures 9 and 10.

In Figures 1 and 2 I have illustrated a typical pressure-covered molded heel counter. It consists of a reinforcement 30 sandwiched in bonded relationship between an outer covering ply 31 and a lining ply 32. The resultant integrated assembly is designated in Figure 1, and in subsequent figures, by the reference numeral 33. For the sake of simplicity of illustration, the individual plies have not been shown in any of the figures except Figure 2.

The reinforcement element 30 is composed of a material which is either soft to start with or which can be softened to a pliable state by wetting or otherwise treating it. In forming the heel counter, the inner and outer covering plies 31 and 32 are first cut to the proper shapes and stitched together along one set of edges, as at 34; the reinforcement element 30 in softened state is then inserted in sandwiched relation,

with adhesive on its opposite faces; and the entire assembly is then subjected to the action of heat and pressure in a suitably-configured mold or press. The material of which the element 30 is composed is such that this treatment imparts rigidity and form-retaining qualities to the reinforcement 30, and thus produces an integrated assembly of rigid character adapted to form the heel portion of a shoe. The contour is usually of the character shown in Figure 1, whereby the heel counter is provided with a marginal U-shaped base 35 lying substantially at right angles to an upstanding curved wall portion. The inner and outer plies are adhesively and permanently bonded to the enclosed reinforcement, the outer covering constituting the heel region of the upper of the ultimate shoe, the inner covering constituting a lining. Depending upon the nature of the shoe to be constructed, the inner and outer plies are composed of suitable material, usually fabric or leather of selected ornamentation and color. Both the outer covering and the lining lie taut and smooth, and thus impart an attractive appearance to the heel portion of the shoe.

A first step lies in assembling a vamp portion 36 of a shoe upper, and an insole member 37, as shown in Figures 3 and 4. It will be observed that the insole 37 is co-extensive in area with that of the shoe to be constructed, but that the element 36 is merely the vamp portion of the upper. The insole 37 has its forward region stitched along its edge to the interior of the upper 36, as indicated at 38 in Figure 4, the line of stitching 38 lying substantially parallel to the free edge of the upper 36 but offset inwardly therefrom. This forms a margin 39 which defines an anchoring extension by means of which the upper is ultimately secured in place between the insole and the outer sole of the shoe.

Before the assembly is lasted, the heel counter 33 is connected to the vamp portion of the shoe by positioning the forward ends of the U-shaped base 35 over the rear ends of the extension 39, as shown in Figure 5, and connecting these parts together in some suitable fashion, for example, by means of staples or equivalent fastening elements 40.

This assembly is then applied to a last 41 (Figure 7), and a reinforcement filler strip or element 42 is inserted edgewise beneath the marginal base 35 of the heel counter. The reinforcement 42 may be constructed as shown in Figure 6, having a relatively wide and thin portion 43 conforming in shape and area to the heel of the shoe, and having a medial portion 44 of slightly thicker character conforming in shape to the space within the confines of the counter base 35. The portion 44 may extend forwardly into the shank region of the shoe, if desired; and a shank stiffener, composed of steel or other similar material, may be provided although I have not shown such a shank stiffener in the present drawings.

The next step consists in turning the extension 39 of the upper 36 inwardly, and fastening it down by adhesive means.

The assembly is then ready for the application of such sole and heel elements as may be desired, with or without a platform pad. I have illustratively shown in Figure 7 how the assembly may be completed by employing a platform pad 45, a heel 46 and an outer sole. I have shown the platform pad 45 of substantially uniform thickness throughout, and co-extensive in shape and area with the finished shoe, but it will be understood that these details are not essential.

In completing the shoe, as shown in Figure 7, the platform pad 45 is first adhesively secured down onto the lasted assembly, the heel 46 is then similarly secured in position, and finally the outer sole 47 is adhesively secured, this element conforming itself to the wedge-shaped contours of the heel 46.

After this assembly is removed from the last 41, the final step lies in lifting the rear unattached heel portion of the insole 37, as indicated in Figure 13, driving nails 50 downwardly through the filler element 42 and into the body of the heel 46, and finally restoring the rear portion of the insole 37 to a flat-lying condition, and securing it in this position by adhesive means.

The advantages of this construction arise from the fact that the finished shoe has an insole which is securely and neatly held in position, its periphery in the forward region of the shoe being stitched-in; the upper of the shoe is firmly anchored into association with the other elements by virtue of the anchoring extension 39 securely sandwiched between the insole 37 and the outer sole 47; and the heel portion of the shoe is defined by a pressure-covered counter. Thus, the advantages of a pressure-covered heel counter and of a stitched-in insole are simultaneously achieved. All the parts are securely held together, and the shoe has an over-all appearance which is neat and attractive, and a staunchness of unusually desirable character.

In Figures 9–10 I have illustrated a slight modification which may be resorted to when the vamp portion and the heel portion of the shoe upper are to be arranged in spaced relationship. The vamp portion 51 of an upper is stitched as at 52 to the edge of the forward region of an insole 53, the stitching 52 lying parallel to the free edge of the upper but offset inwardly therefrom so as to form a marginal extension 54. In the shank region of the insole, it is provided with laterally projecting wings 55. These wings afford a convenient point of attachment for the pressure-covered heel counter 56, staples 57 or the like (or equivalent fastening means) being employed to hold the forward portions of the marginal edges 58 of the counter to the in-turned wings 55, as shown in Figure 10.

The stapling or attachment procedure is preferably performed before the assembly is placed on a last 59, but it may be desirable, under certain circumstances, to apply the staples 57 or the like after the parts have been fitted on the last.

A flat stiffening element 60 is inserted beneath the base 58 of the heel counter, and is of such shape that it may also be fitted beneath the in-turned wings 55.

The completion of the shoe is achieved in the manner hereinbefore described, the anchoring extension 54 being turned down over the insole 53 and held in position by adhesive means; and the outer parts of the shoe being then applied. In Figure 11 I have illustratively shown a shoe which is constructed in this way, employing a marginally-covered platform pad 61, a covered heel 62, and an outer sole 63. It will be understood, however, that the procedure readily permits variations in these final steps of assembly.

Where the heel 62 is of the general character hereinbefore described, the final step in the creation of the shoe may reside in the application of nails as indicated in Figure 8, the rear portion of the insole 53 being temporarily lifted to permit the nails to be driven, and being thereupon ad-

hesively held down to cover these nails and the structure beneath.

The shoe of Figure 11 differs from that of Figure 7 in that the upper has a recess or gap in the shank region, i. e., the heel and vamp portions of the upper are spaced from each other. Notwithstanding this gap, the shoe is unusually staunch and attractive. The insole is securely stitched into association with the vamp portion 51, and the heel portion of the upper is rigid, form-retaining, and provided with an outer covering which lies taut and smooth.

The staples 57 of Figure 10, and the staples 40 of Figure 5, constitute convenient means for connecting the covered heel counter to the forward portion of the shoe independently of the outer sole.

It will be understood that the invention lends itself readily to numerous modifications without impairing the basic concept of simultaneously employing a pressure-covered heel counter and a stitched-in insole. For example, it will be understood that a platform pad is not necessarily employed.

The shoe will always employ some sort of outer sole, but it is not absolutely essential that the shoe be provided with a heel.

In general, it will be understood that those skilled in the art may readily modify the details of the procedure in the various ways herein described and suggested, possibly in other ways as well, without necessarily departing from the spirit and scope of the invention as expressed in the appended claims.

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

1. In a shoe, an upper having a vamp portion and a heel portion, a lining for said heel portion, an outer sole, an insole having its edge stitched to said upper, said vamp portion having an anchoring extension projecting beyond the stitched edge of said insole and turned under to lie between the insole and the outer sole, a counter molded into sandwiched and bonded relation to said heel portion and lining, and means independent of said outer sole for connecting said covered counter to the forward portion of the shoe, said counter having a base, said insole having lateral wings in the shank region of the shoe, and said connecting means securing said counter base to said wings.

2. In a shoe, an upper having spaced vamp and heel portions, a lining for said heel portion, an outer sole, a full-length insole having the edge of its forward portion stitched to the vamp portion of the upper and having lateral wings in its shank region, said vamp portion having an anchoring extension projecting beyond the stitched edge of said insole, said extension and said wings being turned under to lie between the insole and the outer sole, and a counter molded into sandwiched and bonded relation to said heel portion and lining, said counter having a base secured to said wings.

JACK MELTZER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
437,316	Siegenthaler	Sept. 30, 1890
1,861,844	Dodge et al.	June 7, 1932
2,126,276	Page	Aug. 9, 1938
2,135,170	Cavanagh	Nov. 1, 1938
2,266,775	Lawson	Dec. 23, 1941
2,379,681	Cohen	July 3, 1945
2,386,786	Framolare	Oct. 16, 1945
2,392,815	Gleason	Jan. 15, 1946
2,392,816	Gleason	Jan. 15, 1946

Certificate of Correction

Patent No. 2,447,590. August 24, 1948.

JACK MELTZER

It is hereby certified that errors appear in the above numbered patent requiring correction as follows:

In the drawings, strike out Sheet 2, containing Figures 12 and 13; in the heading to the drawings, Sheet 1, line 4, for "3 Sheets—Sheet 1" read *2 Sheets—Sheet 1*; and present Sheet 3, line 4, for "3 Sheets—Sheet 3" read *2 Sheets—Sheet 2*;

and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 7th day of December, A. D. 1948.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.

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Signed and sealed this 7th day of December, A. D. 1948.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.