April 18, 1944. W. GROSSMAN 2,346,960

SHOE

Filed July 14, 1942

Fig. 1

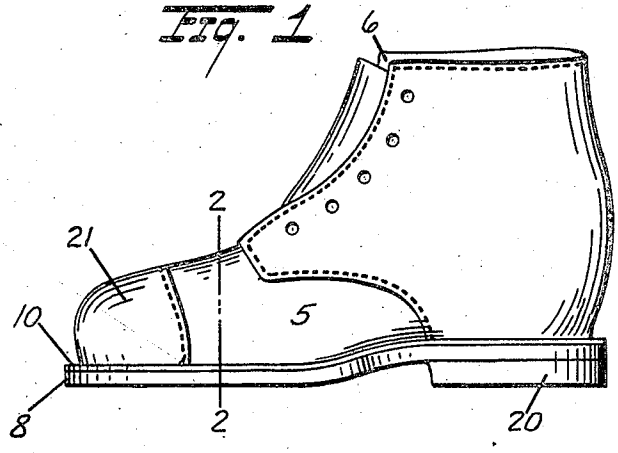


Fig. 2

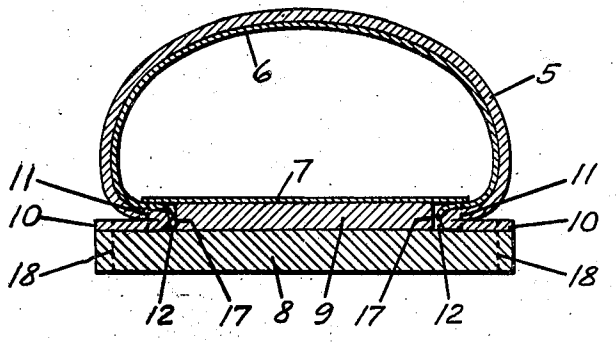


Fig. 3

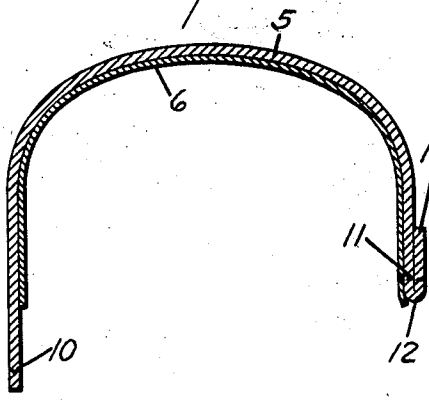
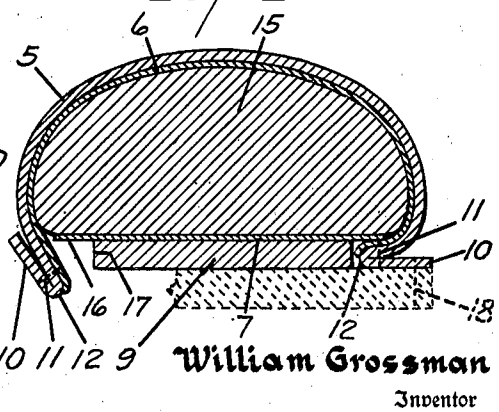


Fig. 4



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SHOE

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Application July 14, 1942, Serial No. 450,897

1 Claim. (Cl. 36—16)

My invention relates to shoes, and more particularly to a novel construction and simplified method of uniting the soles to the uppers, my main objects being to produce a better and longer wearing connection by a simplified and expense saving operation.

Heretofore common practice has been to unite the sole to the upper by means of a separate welt strip first secured to the upper and then secured to the sole, involving added material, trouble and labor costs. Moreover such separate welt connection is liable to water leakage tending to weaken its connection to the upper, and any tearing apart of such connection, due to defects in material, workmanship, or wearing strains, makes repairing of the shoe impossible, though it otherwise may show little wear.

In my new means and method for uniting the sole to the upper, I eliminate the costs and avoid the inherent defects of such separate welt, by directly attaching the sole to an integral extension of the upper in a new and improved manner and by a simplified method as more fully described hereinafter in connection with the accompanying drawing, the novel features of which are set forth in the appended claim.

Referring to the accompanying drawing:

Fig. 1 shows a side view of a completed shoe embodying my invention.

Fig. 2 is an enlarged scale cross sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a cross sectional view corresponding to Fig. 2, but showing the upper alone and indicating preliminary steps in the making of my improved shoe connecting construction.

Fig. 4 is a cross sectional view corresponding to Fig. 2, but showing the upper of Fig. 3 as lasted on a shoe form and indicating further steps in the making of my improved sole connecting construction.

My improved shoe, as shown in Fig. 1 is made up, as heretofore, of an upper 5, ordinarily having a fabric lining 6, an inner sole 7, an outer sole 8, and a filler or cushion sole 9 between said inner and outer soles. These parts are commonly employed in all shoe constructions of this nature, but in Figs. 2, 3 and 4 I have indicated the special construction and simplified method of making my improved shoe and particularly my manner of attaching the sole to the upper which will now be fully described.

The upper 5, shown in the drawing, is merely indicative, as my improvements are applicable to either high or low shoes, and to uppers of any usual construction, the essential requirement for my present purpose being that such upper 5 be cut with a bottom integral extension 10, as shown to the left in Fig. 3. Heretofore, where a lining 6 was employed, the upper and lining were coequal in extent and had secured to them in known manner the separate welt for attaching the sole. In my improved construction I prefer to extend only the upper a substantial distance below the usual bottom edge of the lining as clearly indicated at 10 in Fig. 3.

The portion 10 thus described forms an integral extension beyond the bottom edge of the upper as heretofore cut, and to prepare this extension for direct attachment thereto of the sole of the shoe, this portion 10 is folded up against the outer face of the upper and fixedly secured thereto, preferably by sewed stitches 11, as indicated at the right in Fig. 3. The bend 12 of this fold is located adjacent the bottom edge of the lining 6, which defines the bottom edge of the upper as heretofore made, so that said lining, when employed, may be seamed to the bend 12 by the stitches 11, as performed by any usual sewing machine, but preferably one provided with a special foot to measure the depth of the folded extension 10. The lining, when employed, is thus secured at the same time the bend 12 is fixedly formed and secured in the extension 10, so as to stretch said lining free of wrinkles and retain it against displacement.

The upper 5, as thus prepared with its bottom extension 10 folded up and its bend 12 fixedly secured as above described, is ready to be lasted on a usual form or block 15 as indicated in Fig. 4. Preparatory to, or during the lasting operation, the inner sole 7 is laid face down on the form 15, and the filler or cushion sole 9 laid on top thereof. The inner sole 7 is substantially the full width of the form 15, so as to leave its edge 16 projecting beyond the side wall 17 of the narrower filler 9, which latter is preferably spot cemented to said upper 7 so as to prevent its displacement during the lasting operation.

The lasting operation, which may be performed as heretofore by a known wire system and suitable clamps, consists in drawing inwardly, over the bottom of the form 15, the bend 12 of the upper extension 10, until said bend 12 underlies the edge 16 of the inner sole 7, and abuts the wall 17 of the filler 9, this operation directing the free end of the extension 10 outwardly from the bend 12 so as to project horizontally and overlie the outer sole 8 to be placed thereon and directly attached thereto.

I have at times found it desirable, either pre-

liminary to, or during the lasting operation, to apply cement to the lower face of extension 10, so that when the outer sole 8 is hammered down in position thereon, it will be retained against displacement while removing the form 15, and even effectively, in certain cases, acting alone to fixedly attach the sole to said extension; but I ordinarily prefer to supplement such cemented attachment by sewing together the edges of said sole 8 and extension 10, as shown by stitches 13 indicated in Fig. 2.

This Fig. 2 indicates in cross section, a shoe made in accordance with my invention as above fully described, and it will be particularly noted that the infolded fixed bend 12 of the upper 5 forms a supporting ledge for the edge 16 of the inner sole 7, which otherwise is free and unattached for removal and replacement when needed, either with or without a new filler 9, which latter is ordinarily only lightly attached to said upper so as to prevent its displacement during the lasting operation. The inner sole 7 is preferably of a size to extend across the full inside width of the shoe so as to protectingly cover the stitches 11 for comfort of the wearer. Moreover such fixed bend 12 is integral with the upper 5 and extension 10, and even in the event that the stitches 11 fixedly retaining said bend should be torn apart or prove defective, the extension 10 will still remain an integral part of the upper and firmly hold the sole affixed thereto, and this integral connection will at all times insure a water tight junction.

In Fig. 1, my outwardly directed integral upper extension 10 is shown as entirely encircling the shoe upper for attachment of a full length sole, but in certain cases this may not be necessary, or undesirable, in which case such extension may terminate on each side adjacent the heel 20 shown, and this heel part of the shoe finished in other known manner. And where a box toe 21 is employed, and/or a counter, not shown, I prefer to place their bottom edges even with the lining, as shown defining the usual and heretofore bottom edge of the upper, and to secure them to the upper and lining by the stitches 11 and in the same sewing operation.

My improved shoe and the method of making it as above fully described, eliminates the costs and defects of a separate welt construction, and produces an improved shoe with a water tight and improved direct connection of the sole to an integral extension of the upper which is of sturdy long-lasting resistance against wear and rough usage. While my improved sole-attaching construction is particularly intended for and adapted for making children's shoes, it is not to be considered as limited to this use, but may be employed in a great variety and sizes of shoes made for adult use. It will be evident that certain of the specific details herein set forth may be modified and changed within the scope of my invention as specifically set forth in the following claim.

What I claim is:

In a shoe comprising an upper, inner and outer soles, and a filler between said soles, a through-and-through seamed-together outer fold in said upper marginally-spaced from its bottom edge and extending inwardly between said inner and outer soles into abutted contact with said filler so as to support the overlying portion of said inner sole, and the bottom marginal portion of said upper, beyond its seamed-together fold, extending outwardly to overlie the edge portion of said outer sole, and through-and-through seaming uniting said overlying marginal portion of said upper to said outer sole as the only securing means for the latter.

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