April 1, 1952 B. D. SPENCER 2,591,211

ADJUSTABLE SHOE

Filed Aug. 17, 1951 2 SHEETS—SHEET 1

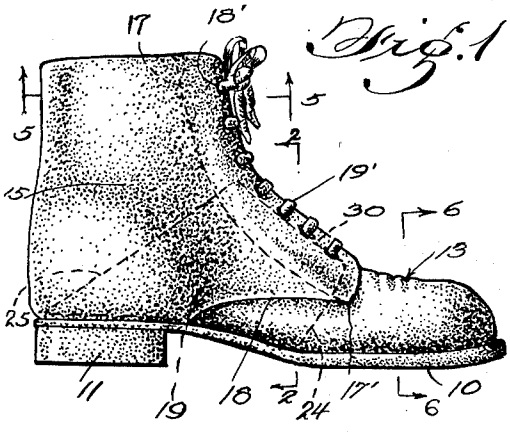


Fig. 1

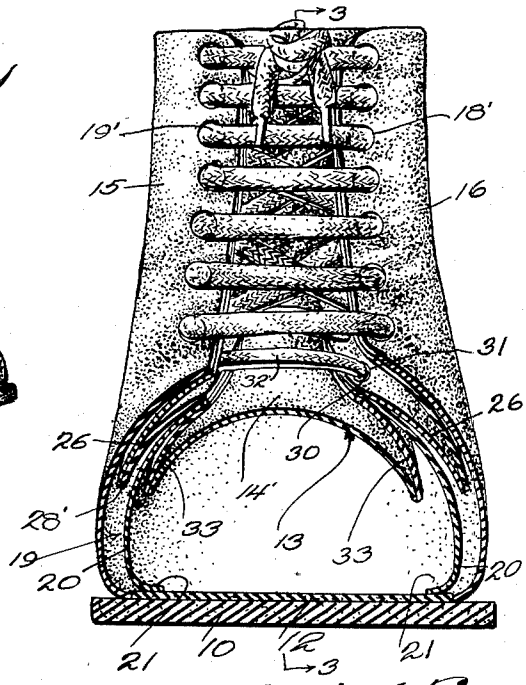


Fig. 2

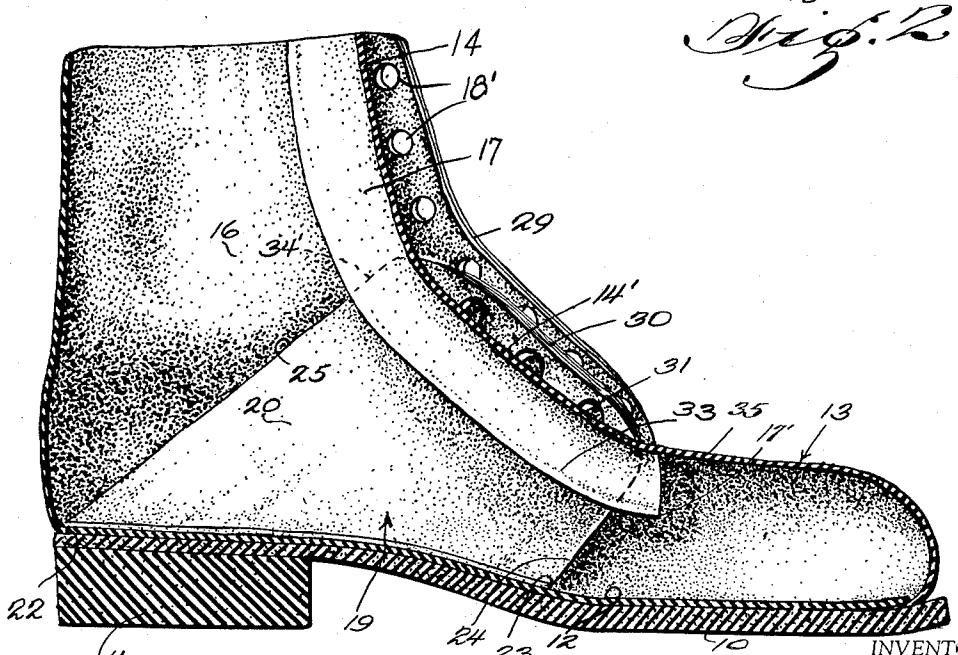


Fig. 3

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Fig. 4

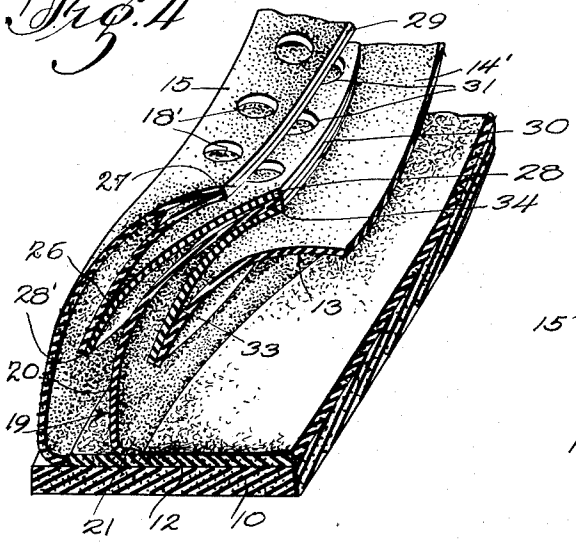
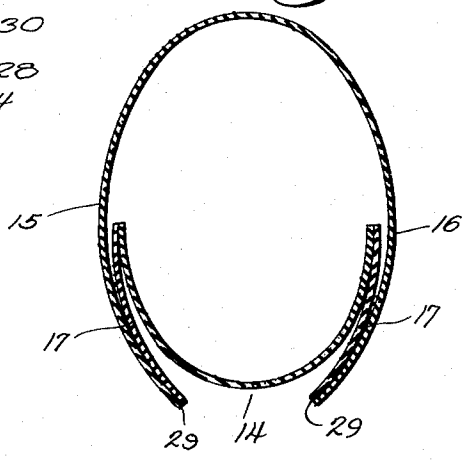


Fig. 5



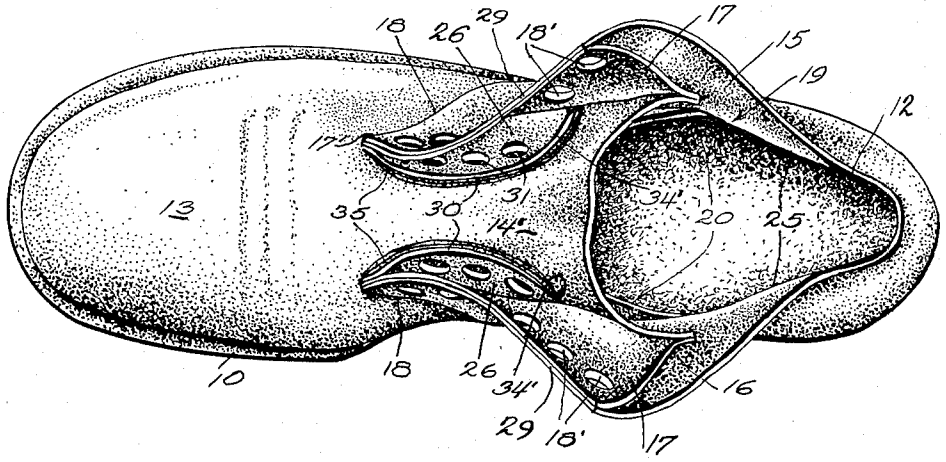
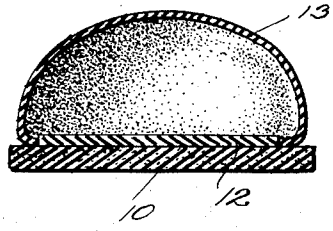


Fig. 7

Fig. 6



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ADJUSTABLE SHOE

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Application August 17, 1951, Serial No. 242,399

4 Claims. (Cl. 36—2.5)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

My invention relates to a boot or shoe.

The primary object of the invention is to provide means whereby footwear of the loose-fitting type can be adjusted to provide a proper fit for a wide range of foot sizes.

A further object of the invention is to provide a boot or shoe, having a built-in adjustable band or girdle which surrounds the foot and holds the same rearwardly in the boot, and downwardly against the sole of the same.

A further object is to provide a boot or shoe of the above-mentioned character which is watertight, and well adapted to be constructed from rubber or the like, although not restricted to this material.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are employed to designate like parts throughout the same:

Figure 1 is a side elevation of a shoe embodying my invention,

Figure 2 is a transverse vertical section taken on line 2—2 of Figure 1,

Figure 3 is a central vertical longitudinal section taken on line 3—3 of Figure 2,

Figure 4 is a fragmentary perspective view of a double gusset construction embodied in the shoe,

Figure 5 is a horizontal section taken on line 5—5 of Figure 1,

Figure 6 is a transverse vertical section taken on line 6—6 of Figure 1, and

Figure 7 is a fragmentary plan view of the shoe with the main lace closure open, to show the construction of the built-in band and associated elements.

In the drawings, where for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 10 designates the outsole of a boot or shoe, which is provided with a suitable heel 11. An insole 12 is fixedly mounted upon the outsole 10 in a conventional manner and covers substantially the entire area of the same. The shoe shown in the drawings is a high lace shoe, and includes a vamp 13, having its marginal edge secured to the sole in a conventional manner. The vamp 13 includes an integral tongue section or web 14, extending to the tops

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of the quarters 15 and 16 of the shoe. The tongue section 14 is permanently connected with the quarters 15 and 16 by long adjusting gussets or pleats 17, which likewise extend from the top of the shoe downwardly to points 17', where the quarters 15 and 16 are connected to the vamp 13 and form the usual Bloucher construction, shown at 18. If desired, the tongue section 14 may be a separate piece or section, secured to the vamp 13 and gussets 17 in a conventional manner.

It should be pointed out here that the shoe embodying the invention is well adapted to be formed entirely from rubber or the like, in which case the gussets 17 may be formed integral with the tongue section 14 and quarters 15 and 16. When an all rubber construction is used for the shoe, the quarters 15 and 16 and the vamp 13 are vulcanized or otherwise integrally secured to the sole of the shoe. It should be understood, however, that it is not intended to restrict the invention to the all rubber construction, and it is entirely feasible to construct the shoe from leather or some flexible sheet plastics material, or the like.

Lacing eyelets 18' are provided near the free longitudinal edges of the quarters 15 and 16, and these eyelets also extend through the gussets 17 to form a lace closure for the shoe, which extends from the top thereof to the lower end of the instep area, as shown. The gussets 17 permit wide range adjustment of the ankle and instep portions of the shoe. A shoelace 19' is provided for lacing up the closure of the shoe, as shown. If desired, a suitable slide fastener, or any other conventional type of closure fastener may be employed instead of the lace closure including the shoelace 19', shown in the drawings.

My built-in adjustable band or girdle 19 is preferably formed in separate companion sections 20 having their lower longitudinal edge portions 21 joined to the insole 12 by vulcanizing, or the like. If desired, the band 19 may be formed unitary and extended transversely across the top of the insole 12, and secured thereto by vulcanizing or the like. The band sections 20 are preferably formed of rubber, like the remainder of the shoe, although other suitable materials such as leather, plastic or fabric may be employed. The lower edge portions 21 of the band sections preferably extend from the rear end of the heel, as at 22, to points 23 near the ball of the foot, Figure 3. The forward and rear edges 24 and 25 of the band sections 20 are substantially normal to the inclined portion 14'

of the tongue section 14, so that when the band sections 20 are tightened about the foot, the foot is drawn downwardly against the sole and rearwardly within the shoe. The band sections 20 are spaced laterally inwardly of the quarters 15 and 16, and free from direct lateral connection therewith, Figure 2. The band sections 20 extend upwardly between the quarters 15 and 16 and tongue portion 14' and are likewise spaced from the tongue portion 14' and free from direct lateral connection therewith.

I provide a double gusset construction for connecting each band section 20 with the adjacent side of the tongue section 14' and the adjacent quarter. An outer V-shaped gusset 26 is disposed between each band section 20 and the adjacent quarter 15 or 16, and the upper longitudinal edges of this gusset are secured to the adjacent quarter and band section 20 by vulcanizing, or the like, as indicated at 27 and 28, Figure 4. The lower longitudinal edge 26' of each V-shaped outer gusset 26 is free from connection with the adjacent quarter and band section 20, as shown. The upper longitudinal edges of each gusset 26 are connected with the adjacent quarter and band section 20 along the free longitudinal edges 29 and 30 of the latter, and the lacing eyelets 18 may extend through the outer wall of each gusset 26, as shown.

An additional set of lacing eyelets 31 is provided near and along the free longitudinal edges 30 of the band sections 20, and the band sections thus form a separately adjustable lace closure having a separate shoelace 32. The free longitudinal edges 30 preferably extend for the entire length of the inclined tongue portion 14', as shown. The lacing eyelets 31 extend through the band sections 20 and also through the inner walls of the gussets 26.

Inner pleats or gussets 33 are formed between the inclined tongue portion 14' and the adjacent band sections 20, and the upper longitudinal edges of these inner gussets are attached at 34, by vulcanizing or the like to the band sections 20, near the longitudinal edges 30 of the band sections. The lacing eyelets 31 extend through the gussets 33. The inner gussets 33 may be formed integral with the tongue portion 14', or vulcanized thereto, as desired. All of the joints formed where the gussets 26 and 33 are attached to the band sections 20, quarters 15 and 16, and tongue section are watertight, and this is true whether the boot is formed entirely of rubber, or from leather, or the like.

The outer gussets 26 are coextensive with the long gussets 17 and form continuations of the long gussets 17, for the length of the band sections 20. The inner gussets 33 extend only for the length of the band sections 20, or between the forward and rear edges 24 and 25 thereof. The rear ends 34' of the inner gussets 33 are closed by vulcanizing or the like and are watertight. The rear ends 34' of the inner gussets lie adjacent to the rear edges 25 of the bands 20, as shown. The forward ends of both the inner and outer pairs of gussets 33 and 26 blend together and are closed and watertight, as at 35, Figures 3 and 7.

In use, the foot is inserted in the shoe and passes between the band sections 20, which are then laced up to provide the desired degree of snugness. The tightened band sections force the foot rearwardly against the rear end of the shoe, and also downwardly against the sole. The gussets 26 and 33 permit a wide range of adjustment of the band sections 20, and a completely watertight construction is provided. The arrangement is such that the boot or shoe which would otherwise fit the foot very loosely has a proper fit. After the band sections 20 have been laced up, the free edges 29 of the quarters are drawn together by their shoelace 19', and the gussets 17 permit adjustment of the quarters 15 and 16 about the ankle, and form a completely watertight closure.

It is to be understood that the form of the invention, herewith shown and described is to be taken as a preferred example of the same, and that various changes in shape, size and arrangement of parts may be resorted to, without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In a shoe having a sole, quarters and a tongue section connecting the quarters, band sections connected with the sole near the opposite longitudinal edges of the sole and extending above the sole and disposed between the quarters and tongue section, outer substantially V-shaped gussets arranged between the quarters and band sections and including upper marginal portions which are secured to the band sections and quarters, inner gussets connecting the tongue and band sections and disposed laterally inwardly of the band sections, said inner gussets extending longitudinally of the shoe for the lengths of the band sections only and having their ends closed, adjustable means connected with the band sections for drawing their free ends together above the foot, and separate closure means for the quarters.

2. In a shoe having a sole, quarters and a tongue section arranged between the quarters, long adjusting gussets connecting the sides of the tongue section and free marginal portions of the quarters and extending from the tops of the quarters to points near the lower end of the instep area of the shoe, band sections connected with the sole and extending beyond the opposite sides of the sole and disposed laterally inwardly of the quarters and long gussets and having their free marginal portions connected with the long gussets, inner short adjusting gussets arranged laterally inwardly of the band sections and connecting the sides of the tongue section with the free marginal portions of the band sections, the inner short gussets being coextensive longitudinally with the band sections and having their ends closed, adjustable means for drawing the free ends of the band sections together, and separate closure means for the quarters.

3. In a shoe having a sole, quarters and a tongue section arranged between the quarters and extending from the top of the shoe to a point near the lower end of the instep portion thereof, band sections connected with the sole near the opposite sides thereof and extending upwardly within the shoe between the quarters and tongue section, the free ends of the band sections extending along the inclined instep area of the shoe, long outer gussets connecting the sides of the tongue section and quarters and extending from the tops of the quarters to points near the forward ends of the band sections, the long outer gussets also connecting the band sections and quarters along the lengths of the band sections, inner relatively short gussets connecting the sides of the tongue section and band sections and having their forward and rear ends terminating adjacent to the forward and rear ends of the band sections, the forward and rear ends of the inner gussets and the forward

ends of the long outer gussets being closed, adjustable means for drawing the free ends of the band sections together above the foot, and separate closure means for the free ends of the quarters.

4. In a shoe having a sole, quarters and a tongue section connecting the quarters, opposed band sections connected with the sole near the opposite longitudinal edges thereof and extending above the sole and between the quarters and tongue section, outer adjusting gussets arranged between the quarters and band sections and having upper marginal portions which are secured to the band sections and quarters, inner gussets connecting the tongue and band sections and arranged laterally inwardly of the band sections, the forward ends of the inner and outer gussets terminating near the forward ends of the band sections and being permanently closed, the inner gussets having rear ends arranged near the rear ends of the band sections and permanently closed,

a shoelace connected with the band sections for drawing them together about the foot, and separate fastening means for the quarters.

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