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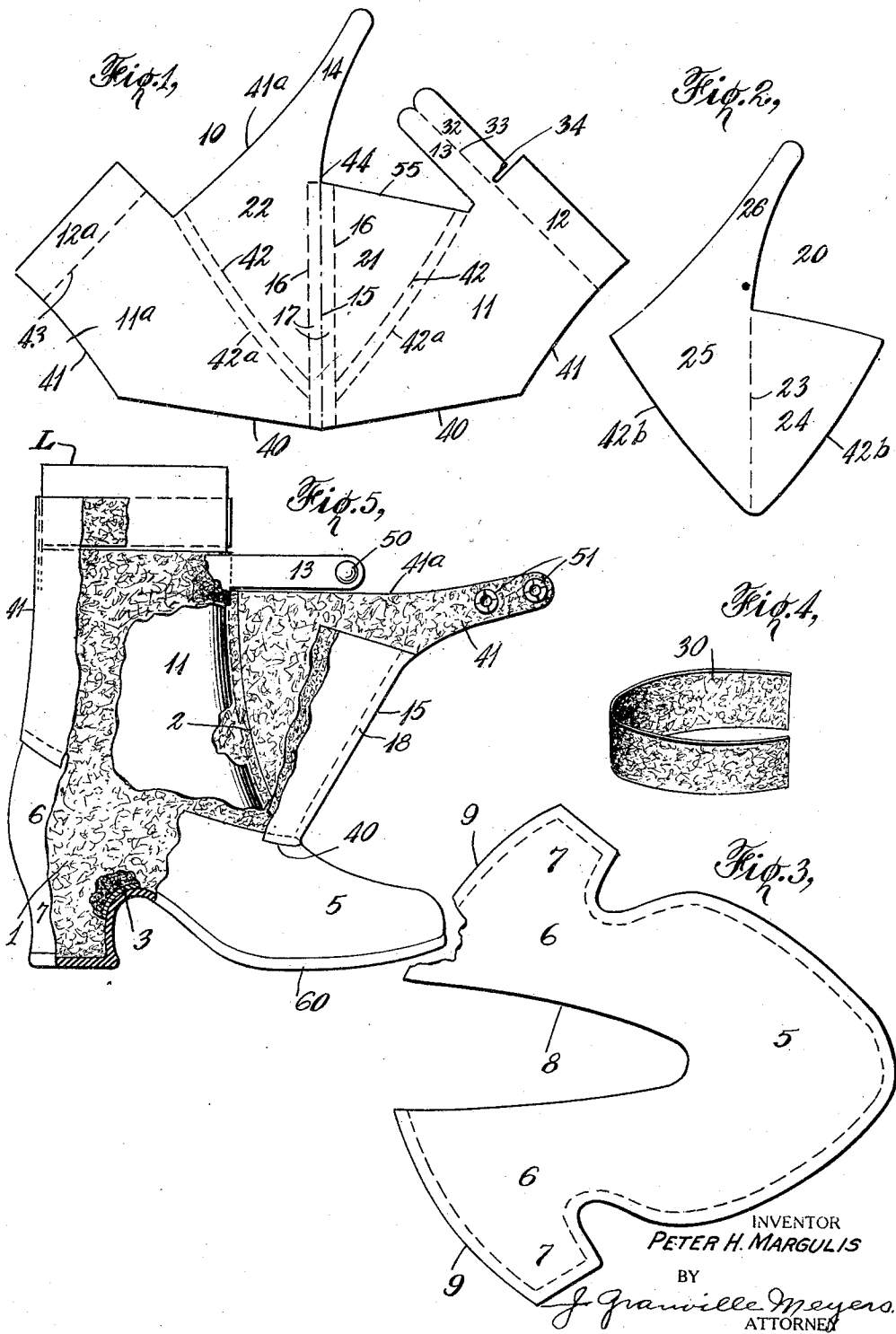
P. H. MARGULIS

1,821,471

ARCTIC, SHOE, OR OVERSHOE

Filed Oct. 28, 1926

2 Sheets-Sheet 1



Sept. 1, 1931.

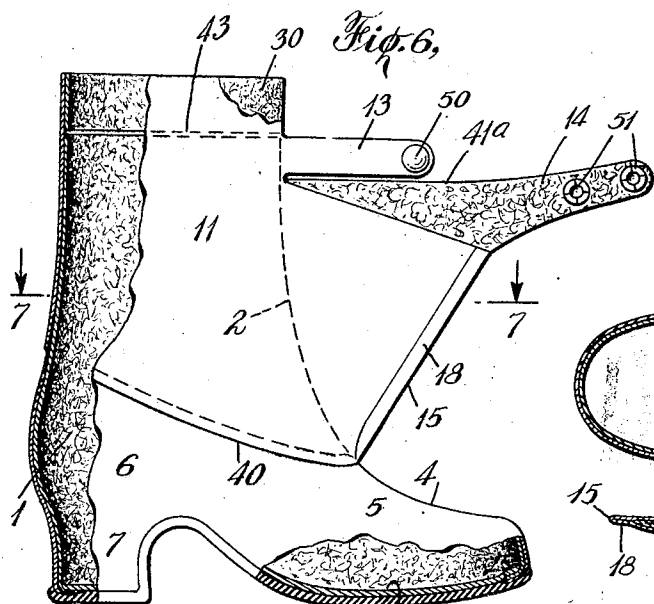
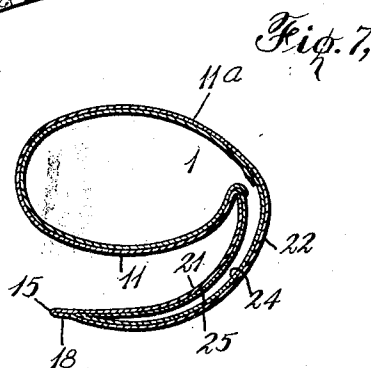
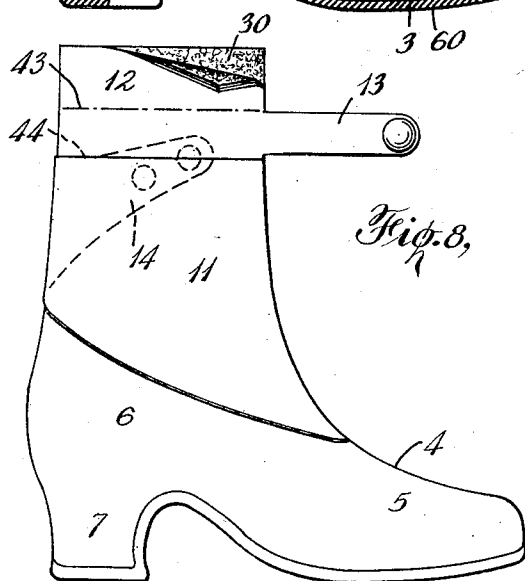
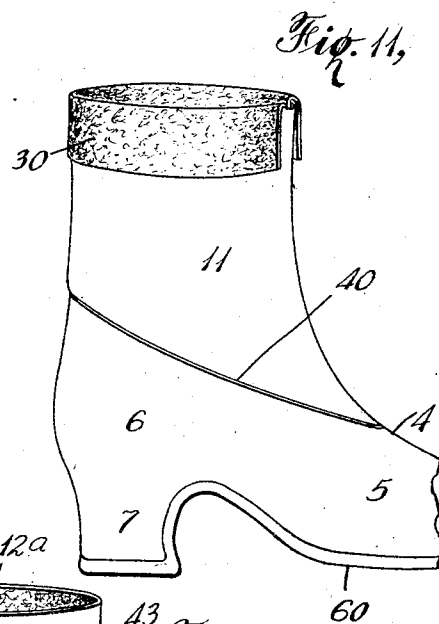
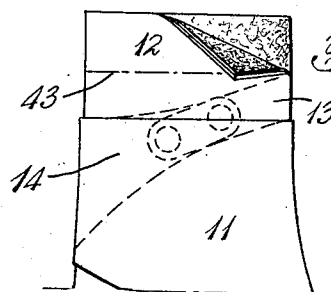
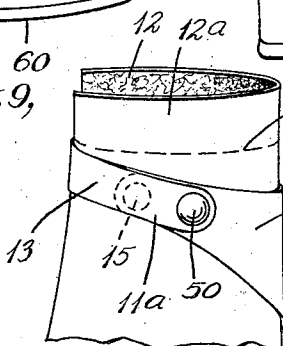
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2 Sheets-Sheet 2



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ARCTIC SHOE OR OVERSHOE

Application filed October 28, 1926; Serial No. 144,709.

My invention relates to improvements which are especially applicable to the class of foot apparel commonly called arctics, which are usually worn over shoes. The improvements, may, however, be incorporated in shoes of other types such, for example, as types analogous to lumbermen's pacs, which are worn over stockings or socks without an inner shoe, or in various work or "sport" shoes. For brevity and convenience, it is sufficient hereinafter to refer to overshoes of the arctic type.

The general object of the invention is to provide an overshoe of this class, which has a relatively high leg portion or "upper" with a novel bellows formation, the front or bellows part of which projects outward and folds smoothly and compactly about the other leg portions and is easily secured, to form a smooth, close-fitting, water- and snowproof upper structure of novel and attractive appearance, and which dispenses with the ordinary bellows formation involving intumed folds which render the leg structure inconvenient, bulky and unsightly.

A further object is to provide, in connection with the features realizing the above stated object, simple and easily-operated fastening means.

A further object is to provide a leg or bellows structure of the closed type, that is, in which the leg walls are continuous and which at the same time provides, when in open position, and ample opening into which the foot is easily inserted. The folds of the bellows folds structure are relatively so shaped and proportioned that the natural tendency of the bellows fold is to automatically fall or swing rearwardly upon the adjacent part of the upper; and when it is fastened in this position, the upper and lower edges of the permanently set bellows fold are in close contact with the shoe.

A more particular object is to provide an upper or bellows structure, by which in the process of manufacture it is resiliently set in approximately, or permanently set with a folded edge, so that its upper edges may easily and automatically open up, for the insertion or withdrawal of the foot with its shoe; and

when released from its fastening means, said bellows will naturally fall or spring back, in a nearly closed position about the wearer's leg, thereby to facilitate its instant fastening into position.

The characteristics and advantages of the invention are further sufficiently explained in connection with the following detail description of the accompanying drawings, which shows one exemplifying embodiment of the invention. After considering this example, skilled persons will understand that many variations may be made, and I contemplate the employment of any structures that are properly within the scope of the appended claims.

In the drawings:

Fig. 1 is a plan view of a main top blank.

Fig. 2 is a plan view of a bellows lining.

Fig. 3 is a plan view of a rubber-upper blank.

Fig. 4 is a perspective view of a cuff lining.

Fig. 5 is a side elevation of the shoe or overshoe structure upon a last, with parts broken away, to disclose the structure and preferred method of assembly.

Fig. 6 is a side elevation of the completed structure removed from the last, with the bellows portion and fastening flaps in open or extended position, and with parts broken away and in section.

Fig. 7 is a section at 7-7, Fig. 6 showing the bellows swung inwardly to a semi-closed position.

Fig. 8 is a view similar to Fig. 6, with the bellows structure folded and secured, except for one fastening flap, which is in extended position.

Fig. 9 is a side elevation of the top portion of the top structure in completely folded and fastened position and with the cuff in unfolded or upright position.

Fig. 10 is a similar view from the opposite side of the structure.

Fig. 11 shows the complete shoe or overshoe in folded or fastened position and with the cuff turned down or folded.

The overshoe or arctic is conveniently built upon a last L. A main lining 1 of any suitable fabric is applied to the last, covering the

leg and foot portions thereof. This lining has free adjacent edges 2 extending from the instep to the top of the leg portion. Any suitable insole 3 is previously applied to the bottom of the last and is now secured by rubber cement to the lower edges of the main lining.

As a part of my novel shoe or overshoe structure I provide a rubber blank 4 which may in some cases be in two pieces, but preferably is as shown in a single piece, and when so made is conveniently designated as the "rubber upper" in distinction from the sole and other rubber portions of the overshoe. This rubber upper includes the vamp portion 5 and the rear or counter portions 6, which are extended to form heel portions 7. In this blank the edge 8 will define the foot opening and the rear edges 9 are shaped so that when they are brought together and secured by any known method, the rubber upper or foot portion of the structure is completed in proper shape, as shown in Figs. 5 or 8. The rubber upper may be applied to the foot part of the last either before or after the top or leg portion is applied, and then secured to the latter, as referred to hereafter.

The tops or leg portions of articles or similar articles are usually of cloth or rubberized fabric. Such material is therefore preferably used for my top or leg structure which is, however, of novel and improved construction in many important respects. The main top blank 10 of cloth or rubberized fabric may be made in two or more parts, but, desirably, for economy and convenience of manufacture it is made in a single piece, as shown in Fig. 1, including the side or leg portions 11, 11a, cuff portions 12, 12a, fastener flaps or tongues 13 and 14, and bellows portions 21 and 22. Fig. 1 shows the inside or reverse face of the top 10 and dotted lines indicate lines upon which the material is to be folded or creased in process of manufacture or in the manipulation of the completed overshoe. Details of the top 10 are further explained in describing its incorporation into the overshoe or its form in the completed article. In order to provide a thin, close-fitting bellows edge of definite and permanent form, as further explained hereafter, the blank is desirably folded along line 15 which defines this outer bellows edge, and along other parallel lines 16, which define strips 17 of the fabric which are to be secured together to form a relatively thin or permanently secured outer bellows margin 18. For this purpose the blank may be placed upon a board having a narrow slot and with a dull blade or similar implement the fabric is pressed into the slot so that the line 15 of Fig. 1 now becomes the bellows edge, as shown in Figs. 5 and 6, and the zones or strips 17 are brought together and secured by adhesive such as rubber cement to form the outer bellows margin 18, Figs. 5

and 6. Desirably, although not necessarily in all cases, I also provide a bellows lining 20, Fig. 2. This provides for proper lining of the bellows portion of the cloth top structure, the side or leg portions 11, 11a being lined by the corresponding or underlying portions of the main lining 1, previously referred to. Fig. 2 shows the inner or reverse side of the bellows lining, which is dimensioned to correspond with the outline of the bellows portions 21 and 22 of the main or fabric top 10 after it has been creased and secured to form the edge-fold formation as just described. Thus the center line of the bellows lining, indicated by the dotted line 23, corresponds to the lines 16 of the top fabric after folding in the manner above described, and the bellows lining portions 24 and 25 at either side of the center line 23 correspond respectively to the bellows portions 21 and 22 of the main top blank 10. Bellows lining portion 25 also has a projecting flap 26 to underlie and correspond in outline to fastening flap 14 of the top blank bellows portion 22. Desirably, also, a cuff lining 30, Fig. 4 is provided, which may be integral with the main lining, or separate, as shown. If separate, it is usually of the same material as to the top blank, although it may be of a different or contrasting material. The separate lining strip, such as 30, is applied to the last and the upper margins of the leg portions of the main lining, which are cut off at about the line 43, Figs. 6 or 8, are secured to the lower margin of the cuff lining. When the top blank is applied and secured, as later referred to, the cuff lining is therefore positioned ready to underlie and line the upper parts of the top side or leg members 11 and 11a. When the cuff is lined in this manner and turned down in the position shown in Fig. 11, the exposed face of the cuff will of course consist of the lining strip 30 and if the strip is of the same material as the rest of the top structure it will therefore be in harmony with the other exposed portions of the top or if, as stated, it is of a contrasting material, it will provide a novel and pleasing appearance of contrast with the rest of the cloth top. In some cases the upper portions of the sides of the main lining may constitute the cuff lining, and in such cases the main lining sides or leg portions are cut so that their upper edges are aligned with the upper edges of the top blank cuff portions 12 and 12a when the top blank is applied, as later referred to. A separate reinforcing or lining piece of the form of the blank section 32, of Fig. 1, may be applied to the fastening flap 13, or the main flap and its reinforcement may be made as shown in Fig. 1, as integral parts of the blank, these flaps being connected along the line 33 and the reinforcing flap 32 being separated from the adjacent cuff portion 12 by a cut 34. The

reinforcement is folded over and adhesively secured to the main flap.

The fabric top 10, partly lined and formed as above described, is now applied over the side or leg portions of the main lining and properly shaped about said lining upon the last and adhesively secured to the main lining. The lower edges 40 of the top structure are lapped over the upper margins of the foot openings of the rubber upper, and pressed or otherwise secured thereto. The edges 41 are brought together usually without overlap, but closely abutting to form a rear seam or line of joinder of the top or leg structure, and pressed firmly in position upon the main lining. Otherwise the rear edges 41 of the top blank may be brought together before the blank is placed upon the last or upon the main lining, and secured in a suitable way, as by stitching or cementing to a connecting strip, etc. The side or leg portions 11, 11a overlap the similar underlying portions of the main lining, and it will now be clear that the dotted lines 42, Fig. 1, indicate the position of the forward or free edges of the main lining when the top 10 is applied as above described; and the lines 42a indicate the positions of the edges 42b of the bellows lining after that has been applied to the main top blank.

Before the overshoe is vulcanized, the bellows folds structure has been given the permanent set, whereby to impart the bias or tendency to automatically swing rearwardly back upon the adjacent upper. This tendency or bias is due to the relative shape and proportion of the folds of the bellows folds, so that no lapping or folding operation is necessary in placing the shoe. When the foot is inserted with the dress shoe thereon, the parts naturally tend, because of their relative shape and proportion, to assume the position of Figures 8 and 11, in such position that connection or fastening is facilitated. The edge 15 lies close along the surface of the leg portion of the shoe, and the upper edge of the bellows fold is somewhat below the lower edge of the cuff fold. The upper end 44 of the edge fold 15 will then usually lie about at the rear seam of the cloth top structure, and the bellows fastening flap 14 is carried around the other side of the leg and overlies leg portion 11a substantially in the position shown in dotted lines in Fig. 8 and full lines in Fig. 10. The other fastening flap 13 is then brought down against the leg portion and overlapped upon the flap 14, and suitable fasteners, such as 50 and 51 are provided on the respective flaps to secure them together. When the fasteners are, as shown, of the ball and socket type, commonly known as "snap fasteners", a plurality of the ball or stud members 51 are desirably provided on flap 14 in spaced relation, and a single one of the socket members 50 may

then be provided near the end of the other flap 13 to co-operate with a selected one of the studs and so to provide a substantial range of adjustment to fit different leg dimensions, or to provide the desired snug or loose fit around the leg.

It is now apparent that the different formations of the upper portions of the bellows sections 21 and 22 are of substantial importance. The portion 21 desirably is cut with its upper edge 55 considerably below the upper edge 41a of the portion 22 which is extended to form the upper edge contour of the fastening flap 14. When the bellows automatically drops into position about the leg, as above described, the upper portion of the bellows part 22 extends above the edge 55 of the other bellows section, or in other words, this upper portion of the folded bellows structures is of single thickness, to avoid undue thickness or bulkiness of the bellows formation adjacent the cuff. This arrangement also leaves a single thin top edge 41a, which will fit snugly and tightly about the leg portions, in direct contact with one of them, and aid materially in excluding dirt and moisture.

At any time after the rubber upper 4 is applied to the foot portion of the last, the rubber outer sole 60 is applied and secured over the intumed lower margins of the rubber upper. The complete overshoe with the bellows structure folded and secured in the described manner, is then vulcanized, and in this operation all the parts are permanently secured together.

By the described procedure when the bellows fastening is released, and the last is removed, the bellows structure has a permanent flexible set in its folded position, or in other words, as best shown in the section view, Fig. 7, the bellows parts naturally tend to fall or spring into the approximate position shown in that figure, that is, to approximately closed position. This is because the parts have been originally folded and fastened and vulcanized in that position, which is the position that they will have when fastened upon the leg of the wearer. Therefore when the bellows formation is extended substantially as shown in Fig. 6, to provide a very wide and free opening into which the foot is easily inserted, the bellows structure will, upon release, immediately spring or fall back into the approximately closed position of Fig. 7 and fall in direct contact with the adjacent upper when said arctic or overshoe is free from the hands of the wearer. The final closing and fastening of the bellows in correct position is thus greatly facilitated and also the permanent formation of the top structure in its closed position provides a very smooth, tight, glove-like fit of the entire leg or top structure.

Evidently the cuff structure is such that the overshoe may be worn with the cuff turned up or down, and when turned down it partly or entirely covers and conceals the fasteners and adjacent portions of the fastening flaps.

I claim:

1. An overshoe having at the front thereof a bellows structure formed by integral extensions from the upper, said extensions having the edges remote from the upper secured together in face to face relation to form a thin edge and to bias the extensions to lie face to face, a permanently set crease being provided at the junction of one extension with the upper to bias the structure to normally swing to that side of the overshoe provided with the crease and against the adjacent side of the upper, said structure of a length to extend to the rear of the upper and to lap upon the opposite side, and cooperating complementary fastening means in connection with the structure and the top of the overshoe, one of said means being at the upper outer corner of the bellows structure, and the other so positioned with respect to the upper that when said means are engaged the free thin edge of the structure will be drawn and held close against the upper.
2. An article of footwear comprising a lower or foot portion and a top structure extending therefrom, said top structure including leg portions connected at the rear and separated at the front and bellows portions extending from the front edges of the leg portions, said bellows portions being connected at their outer edge which flares diagonally upward and outward when the bellows structure is open to provide a wide top opening, the bellows portions being foldable rearwardly upon and about one of the leg portions to form a snug and close fitting closure, the upper margin of one of the bellows portions projecting substantially above the upper edge of the other bellows portion, providing a bellows top of reduced thickness forming a close, tight, moisture- and dirt-excluding edge of the bellows structure when in closed position.
3. An overshoe having at the front thereof a bellows structure formed by integral extensions from the upper and a lining for the extensions, said extensions having the edges remote from the upper secured directly together in face to face abutting relation and with the lining extending across the connection to provide a thin edge and to normally hold said extensions face to face, a permanently set crease being provided at the junction of one extension with the upper to bias the structure to normally swing to that side of the overshoe provided with the crease and against the adjacent side of the upper, said structure of a length to extend to the rear of the upper and to lap upon the oppo-

site side, and cooperating complementary fastening means in connection with the structure and the top of the overshoe, one of said means being at the upper outer corner of the bellows structure, and the other so positioned with respect to the upper that when said means are engaged the free thin edge of the structure will be drawn and held close against the upper.

4. An overshoe having at the front thereof a bellows structure formed by integral extensions from the upper, said extensions having the edges remote from the upper secured together in face to face relation to form a thin edge and to normally hold said extensions face to face, a permanently set crease being provided at the junction of one extension with the upper to bias the structure to normally swing to that side of the overshoe provided with the crease and against the adjacent side of the upper, said structure of a length to extend to the rear of the upper and to lap upon the opposite side, and cooperating complementary fastening means in connection with the structure and the top of the overshoe, one of said means being at the upper outer corner of the bellows structure, the other so positioned with respect to the upper that when said means are engaged the free thin edge of the structure will be drawn and held close against the upper, and a cuff for concealing the fastening means.

5. A shoe of the class described having a bellows structure formed by integral extensions from the upper, said extensions having the edges remote from the upper secured together in face to face relation to form a thin edge and to bias the extension to lie face to face, a permanently set crease being provided at the junction of one extension with the upper to bias the structure to normally swing to that side of the shoe provided with the crease and against the adjacent side of the upper, said structure being of a length to extend to near the rear of the upper and terminating in a fastening strap, and cooperating complementary fastening means in connection with the structure and the top of the shoe, one of said means being at the upper outer corner of the bellows structure, and the other so positioned with respect to the upper that when said means are engaged the free thin edge of the structure will be drawn and held close against the upper.

6. A shoe of the class described having a bellows structure formed by integral extensions from the upper, said extensions having the edges remote from the upper secured together in face to face relation to form a thin edge and to bias the extensions to lie face to face, a permanently set crease being provided at the junction of one extension with the upper to bias the structure to normally swing to that side of the shoe pro-

vided with the crease and against the adjacent side of the upper, said structure of a length to extend in rear of the upper, and adjustable means in connection with the upper and the structure to connect said structure to the upper.

7. An article of foot wear, including a vamp and an upper having an outside bellows structure extending from the front edges of the upper and having at the outer portion thereof an integral fastening means, the lower edge of said bellows secured at its throat to the vamp, said bellows having a permanently set straight line thin edge inclining upwardly and forwardly, and terminating below the fastening means, said bellows creased to automatically drop into a semi-closed position upon the adjacent upper preparatory to securing it in place.

8. An article of footwear, including a vamp, and an upper having an outside substantially triangular bellows structure extending from one side of the upper, said structure formed of inner and outer portions, the outer portion extending above the inner portion and having an extension provided with a fastener, and a fastener on the upper for cooperating with the fastener of the extension.

Signed at New York city in the county of New York and State of New York this 20th day of October A. D. 1926.

PETER H. MARGULIS.

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