April 2, 1929. C. FERRETTIE 1,707,390

SELF CLOSING SHOE

Filed Jan. 3, 1927

Fig. 1.

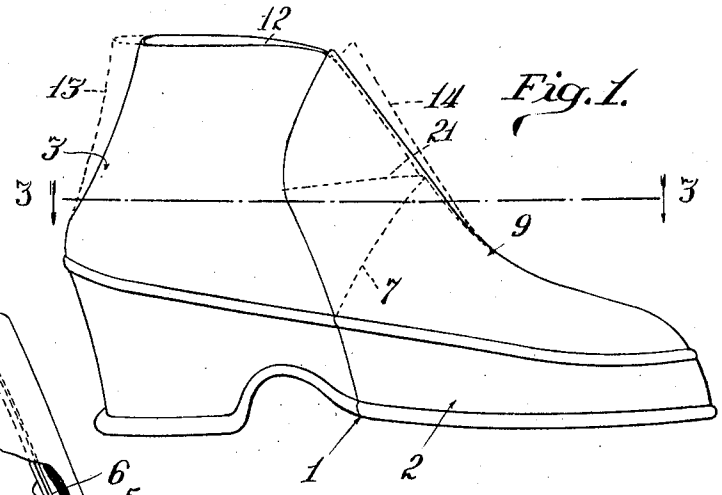


Fig. 2.

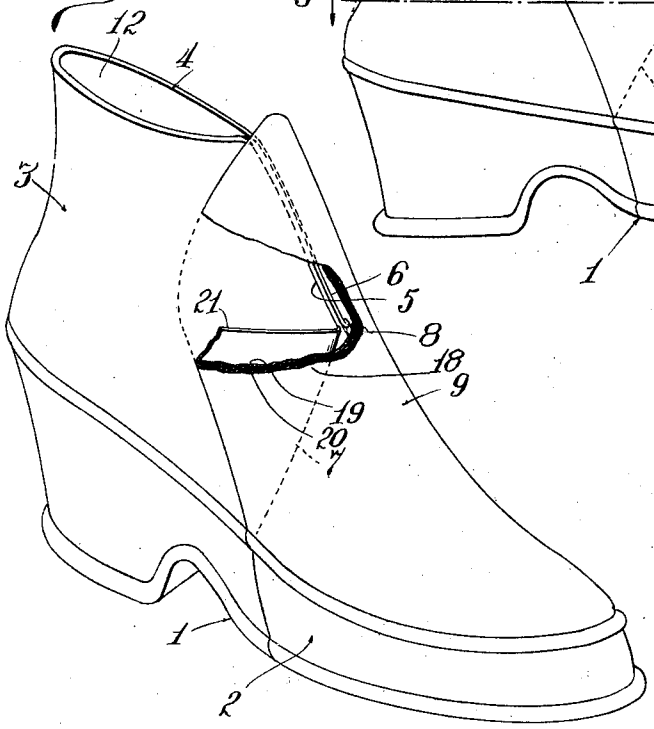


Fig. 4.

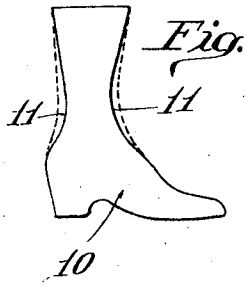
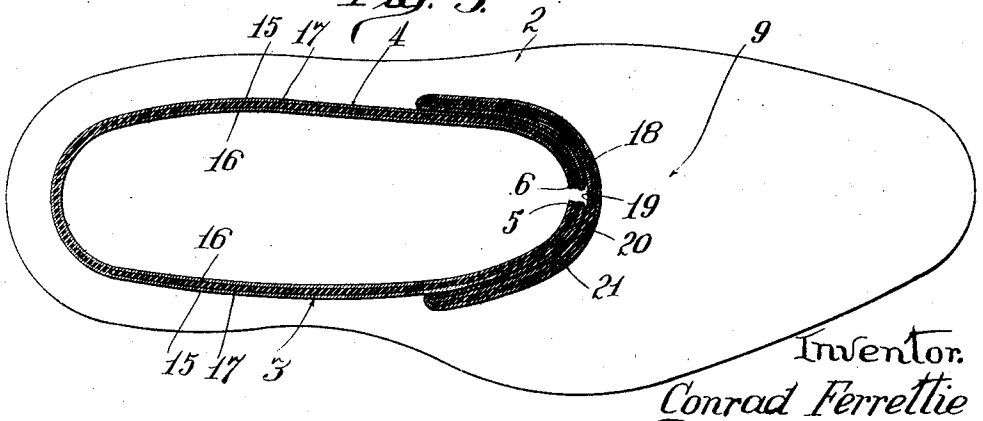


Fig. 3.



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UNITED STATES PATENT OFFICE.

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SELF-CLOSING SHOE.

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My invention relates to a high shoe, as distinguished from a low shoe or ordinary rubber, which fits snugly and is held securely in place without necessitating the use of fasteners and has reference more particularly to the construction of the shoe with a vamp overlying separable parts of the upper and cooperating with these separable parts to improve the shedding properties and insure a close fitting shoe.

The principal objects of my invention are to provide an improved shoe structure; to arrange the vamp over the forward portions of the quarters for increasing the shedding properties of the shoe; to cause the upper to fit snugly and securely in place without the necessity of employing fasteners; to construct the shoe with overlapping parts which are shaped and suitably stiffened or reinforced so that they are necessarily sprung outwardly against their normal form retaining tendency to fit the wearer; to provide a divided upper with an overlying vamp which is transversely arched and reinforced so that the lateral portions press inwardly with sufficient tension against the separable portions of the upper to exert a closing tendency; to anchor the vamp well around the sides of the upper and thereby further the closing action of the vamp; to provide an excluder member between the overlapping portions of the upper and vamp for effectively closing the joint therebetween; to utilize a last for assembling the shoe, which said last is reduced at the position of the mouth of the shoe to be assembled thereon so that the mouth of the shoe is smaller than normal and necessarily expanded in use; and in general, to provide an improved shoe in a neat close fitting and conveniently constructed form which does not require fasteners.

On the drawings:

Fig. 1 is a side view of a shoe constructed in accordance with my invention;

Fig. 2 is a perspective view thereof with parts broken away to disclose details of the construction;

Fig. 3 is an enlarged sectional view on the line 3—3 of Fig. 1; and

Fig. 4 is a side view of a last such as I employ in making my shoe.

Referring to the drawings, which show a shoe of the overshoe type, although it is to be understood that the invention is capable of use in shoes of other types, the reference numeral 1 indicates the sole or bototm part of the shoe and 2 the foxing which is commonly used in rubber footwear around the lower portion of the upper. The upper consists of the quarters 3 and 4 and is divided down the front to afford separable edges 5 and 6 respectively, which spread apart somewhat to fit the wearer and about half way down the front, the quarters are cut away so that the lower portions 7 and 8 respectively of the forward edges recede as shown particularly in Fig. 1 and terminate substantially at the upper edge of the foxing 2 near the arch or at a point well toward the back of the shoe.

The front of the shoe comprises the vamp 9 which extends up substantially to the top of the upper 3—4 over the gap between the edges 7—8 and 5—6, said vamp being rather wide and transversely arched so that the side portions thereof overlap the front portions of the quarters 3 and 4 to a considerable extent and insure complete covering of the gap between the quarters 3 and 4 and adequate shedding effect. The lower portion of the camp extends well back along the sides of the shoe, at least to a point where the edges 7 and 8 of the upper are fully overlapped by the vamp, and is anchored to the quarters 3 and 4 or foxing 2 or both at this point so as to hold the vamp down snugly against the front of the foot and leg when the shoe is in use.

The upper 3—4 and vamp 9 are made of materials which have considerable tendency to maintain their original form and thus cause the shoe to fit properly and this is further promoted by arranging the upper and vamp so that the mouth of the shoe is smaller than normal for a shoe of the particular size and is thus necessarily expanded to fit the wearer, and this insures a snug fit and secure holding of the shoe on the foot. For example, in assembling the shoe it may be built up and shaped on a last 10 such as shown in Fig. 4, in which the dotted lines show the last of normal size and shape for making shoes. Preparatory to making my shoe the last is cut away all around as indicated at 11 at the point where the mouth of the shoe will be located, or a last is otherwise formed with such small mouth portion, and the shoe when assembled and fitted thereon will have a correspondingly small mouth as shown at 12 in Figs. 1 and 2, the upper 3—4 being swung inwardly all the way around to a greater extent than in

a normal shoe, the position of the back of the latter being shown for comparison by the dotted line 13 in Fig. 1, and the vamp 9 is also brought in to increase the snugness of the fit, the dotted line 14 for example showing the position of the vamp or front in a normal shoe.

Thus when the shoe is applied the upper and vamp are necessarily pressed or sprung outwardly to fit the wearer, for example to the position indicated by the dotted lines 13 and 14, against the normal tendency of the upper and vamp to retain their original form, which is furthered by the anchoring of the vamp well toward the back and the quarters well toward the front of the shoe, the overlapping portions of the vamp and quarters being relatively adjusted by such outward pressing or springing of the parts but remaining well overlapped with the lateral portions of the vamp pressing in against the forward portions of the quarters so as to assist in holding the latter snugly in place. The shoe is thereby caused to maintain a snug fit and is held securely in place.

My invention may be used very advantageously in an overshoe, and in such structure the upper and vamp are composed in whole or in part of rubber composition, which is laid up on the last 10 and subsequently vulcanized. In the illustrated structure the upper 3—4 is composed of the facing 15, lining 16 and interposed layer 17 of rubber composition which when vulcanized serves to hold the upper in the form in which it was built up on the last, and the vamp 9 is likewise constructed of facing 18, lining 19 and interposed rubber composition 20, the latter of which may be thickened or reinforced if desired to more effectively retain its shape and insure ample pressure against the portions of the upper overlapped thereby.

In some shoe structures as for example in overshoes, it may be desirable to close the joint between the overlapped vamp and quarters to preclude entrance of water, etc. To this end a thin layer of waterproofed fabric 21 or other suitable material is interposed between the overlapped parts and has the forward edge connected with the edge 7 or 8 of the respective quarters 3 or 4, and the rear edge of the fabric 21 is connected to the rear edge of the vamp 9 at the corresponding side of the shoe. The excluder 21 may be continuous with the facing of the upper or of the vamp if desired and merely treated with a coating of rubber composition for waterproofing, but in any event it is preferably thin and flexible so that it will readily adapt itself to variations in adjustment of the vamp and upper and permit free adjustment thereof. This excluder may also be extended upwardly to a higher elevation if desired, but I have found that it serves effectively when constructed and arranged as shown and does not interfere with opening up of the shoe to an ample extent to admit and remove the foot from the shoe.

While I have shown and described my invention in a preferred form, I am aware that various changes and modifications may be made without departing from the principles of the invention, the scope of which is to be determined by the appended claims.

I claim as my invention:

1. The combination of a shoe having an upper divided down the front into separable side portions, and a vamp extending up over the divided front of the upper and having side portions overlapping the said separable side portions of the upper and serving solely by its form retaining property to hold said side portions closed.

2. The combination of a shoe having an upper divided down the front, and a vamp extending up over and embracing portions of the upper at opposite sides of the gap, said vamp being molded in a transversely arched form so that the lateral portions thereof resiliently engage the portions of the upper overlapped thereby.

3. The combination of a shoe having an upper divided down the front and forming a gap and a vamp extending up over and embracing portions of the upper at opposite sides of the gap, said vamp being reinforced with a molded resilient material so arranged that the lateral portions thereof resiliently press against the sides of the upper for holding the latter closed.

4. The combination of a shoe having an upper divided down the front into separable side portions with closely adjoining separable edges and a vamp extending up over the divided front of the upper and overlapping the separable side portions thereof, said vamp and upper being molded so that the overlapping parts automatically fit flat together in various positions of relative adjustment.

5. The combination of a shoe having an upper divided down the front into separable side portions with closely adjoining separable edges and a vamp extending up over the divided front of the upper and overlapping the separable side portions thereof, said vamp and upper being molded so as to form a mouth which automatically varies in size to fit the wearer.

6. The combination of a shoe having an upper divided down the front into separable side portions with closely adjoining separable edges and a vamp extending up over the divided front of the upper and overlapping the separable side portions thereof, said vamp and upper being molded to form a mouth at the top of the shoe which is sufficiently restricted to require enlargement to fit the wearer.

7. The combination of a shoe having an upper divided down the front into separable

side portions with closely adjoining separable edges and a vamp extending up over the divided front of the upper and overlapping the separable side portions thereof, said vamp and upper being of a form retaining character and sprung outwardly against the form retaining tendency thereof to fit the wearer.

8. The combination of a shoe having an upper divided down the front into separable side portions and a vamp extending up to the top of the divided front of the upper and having side portions extending back over the sides of the upper and secured to said sides at their lower ends, and loosely overlapping said sides thereabove, said vamp being molded from top to bottom in a transversely arched form and resiliently reinforced so that the sides thereof resiliently press against the portions of the upper overlapped thereby.

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