May 8, 1934. B. A. CHIAPPETTA 1,957,695

ARCH SUPPORT

Filed April 11, 1933 2 Sheets-Sheet 1

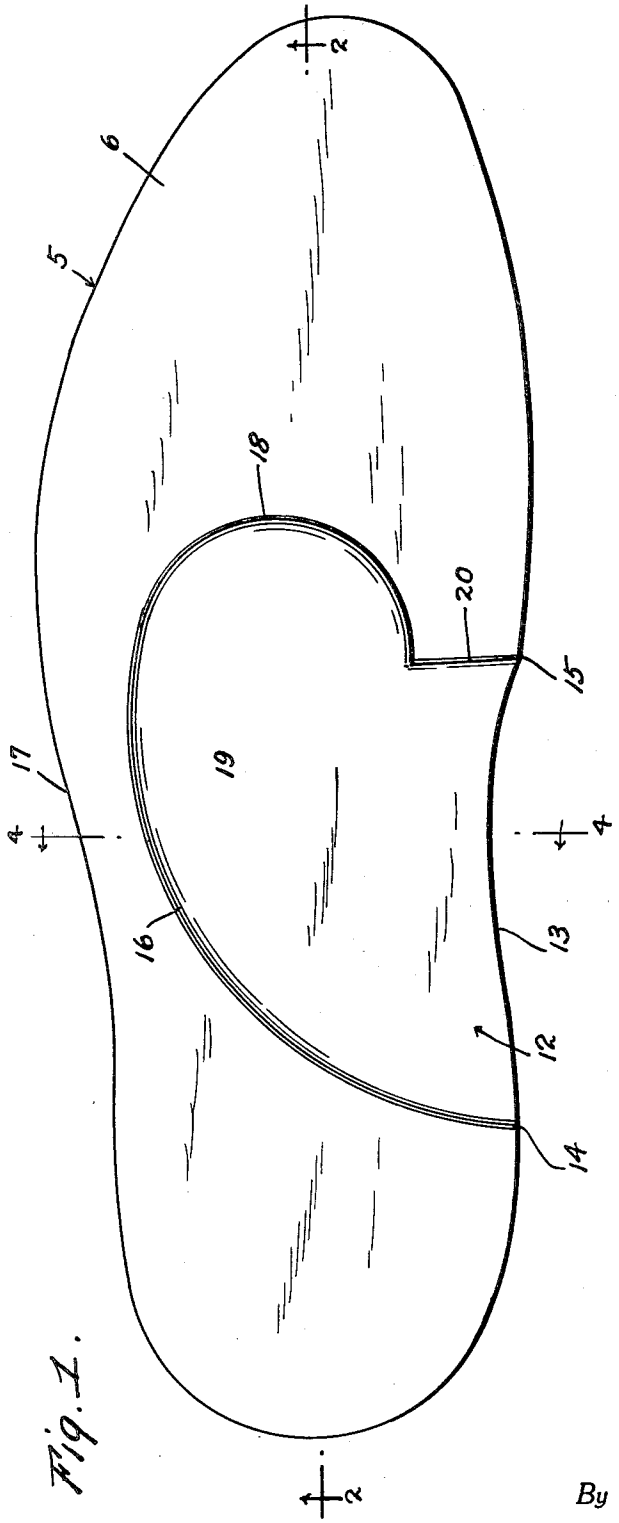

Fig. 1.

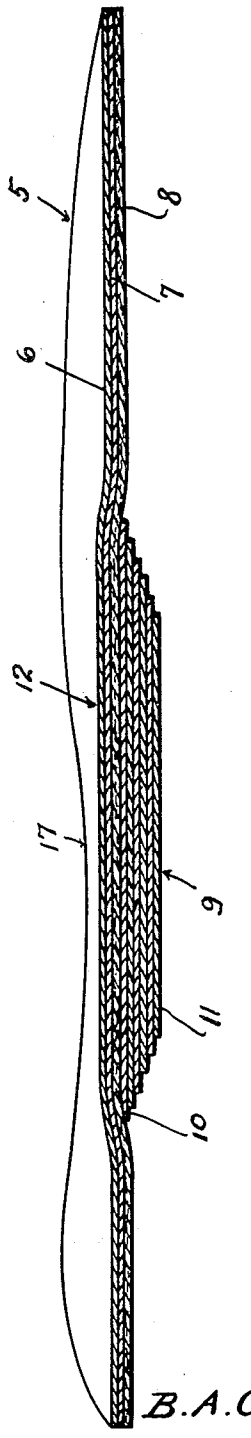

Fig. 2.

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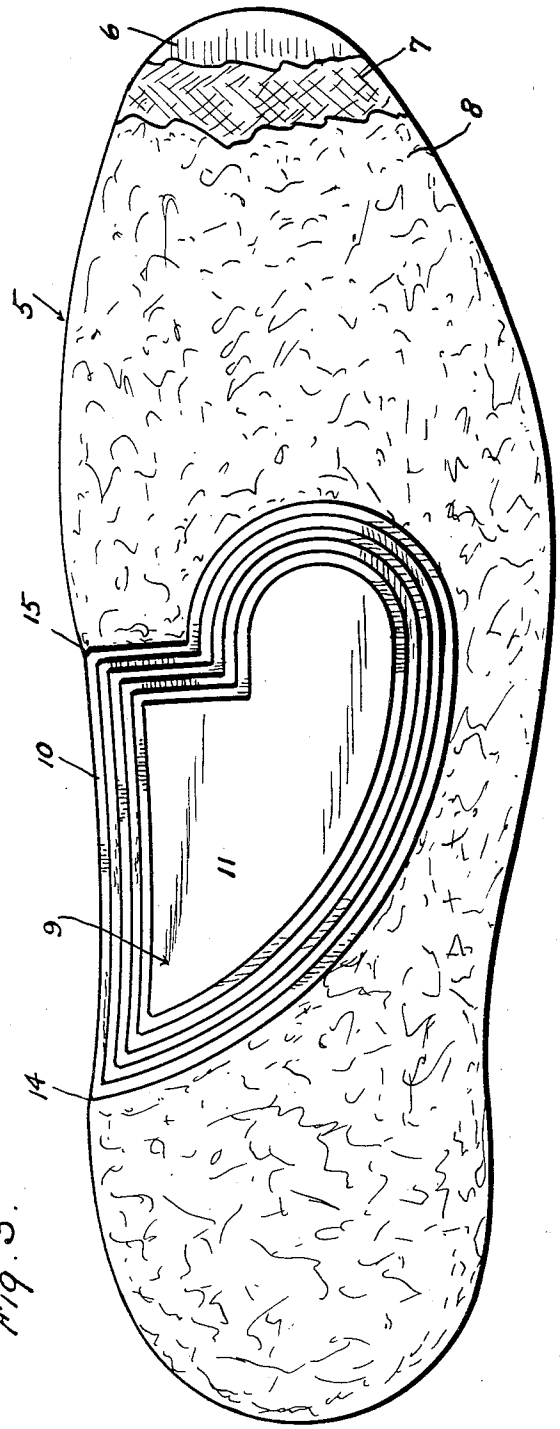

Fig. 3.

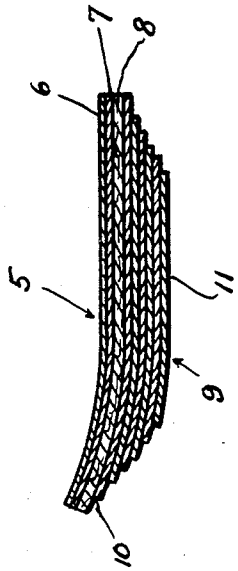

Fig. 4.

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ARCH SUPPORT

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Application April 11, 1933, Serial No. 665,698

3 Claims. (Cl. 36—71)

This invention relates to an improved arch support in the form of a removable and renewable insert for boots, shoes and the like.

Needless to say, I am well aware of the present state of development of the prior art to which the invention relates and acquainted with the many diversified styles and types of arch supports. Notwithstanding this I have evolved and produced a simple and economical device calculated to better fulfill the requirements of an accessory of this classification due to its intimate adaptability to the human foot and because of the gratifying result following its use.

Stated otherwise it is my principal aim to generally improve upon known and prior patented arch supports by providing one which is characterized by strength and durability, intimate conformation and adaptation to the foot, one which is made to order and explicitly constructed along different structural lines qualifying it as an innovation and gratifying contribution to the trade.

As a result of painstaking and elaborate experimentation at research work I have produced this light weight serviceable arch support which in configuration and specific construction enters a wholly new and uncultivated field in the theory of affording proper facilities and cushioning qualities and properties not heretofore achieved by prior art constructions now known to me.

The device constituting the novelty of the claims hereinafter defined embodies structural features producing perfect coordination of purpose and function, the same being scientifically designed, practical and modern and otherwise satisfactorily conditioned to embody certain indispensable features of comfort and reliability instrumental in affording the user individual satisfaction.

Other features and advantages will become more readily apparent from the following description and drawings.

In the accompanying illustrative drawings:

Figure 1 is a top plan view of an arch support constructed in accordance with the principles of the present inventive conception.

Figure 2 is a longitudinal sectional view thereof

Figure 3 is a bottom plan view with portions broken away.

Figure 4 is a transverse or cross sectional view taken approximately on the plane of the line 4—4 of Figure 1.

In the drawings the numeral 5 designates the composite supplementary insole. This is of a shape and dimension to correspond with the permanent insole of the shoe or boot in which it is placed for use. This is designed to prevent shifting or dislocation of the supporter as a unit. As shown in Figures 2 and 3 this part 5 comprises a top or facing ply or layer of relatively soft leather or kid 6, then an underlying or intermediate layer of appropriate moisture proofed cloth 7 and a bottom layer of felt 8 where special cushioning properties are desired.

The numeral 9 designates what may be unitarily referred to as a laminated lift or riser. This is composed of a plurality of step-down or properly graduated plies of pliable or bendable leather, the top one of which may be distinguished by the numeral 10 and the bottom one of which is represented by the numeral 11. These however are relatively proportioned in area to provide the requisite step down formation. The peculiarity of this laminated lift 9 is in its particular outline in top plan view and its disposition with respect to the predetermined arch lifting area of the insole or part 5. This top plan configuration may be described as a semi-heart shaped configuration. The lift when properly applied serves to bulge or elevate the arch supporting area 12 to provide a comfortable rest for the longitudinal arch of the human foot. It will be noticed in Figures 1 and 3 that the outer edge of the topmost ply 10 matches or coincides with one longitudinal edge portion 13 of the insole 5. This longitudinal dimension is such that this ply 10 extends from the point 14 to the predetermined point 15. The point 14 indicates the posterior of the astragalus bone or beginning of the longitudinal arch.

The point 15 indicates the point between the first metatarsal and internal cuneiform.

The numeral 16 designates the longitudinal curvature extending from the point 14 transversely and then longitudinally and terminating in spaced relation from the opposite longitudinal edge 17 of the sole 5 and continuing into an approximately semi-circular curved line 18 which distinctly defines what may be described as a lobe-like extension 19. The curved line 18 merges into substantially straight lines 20 extending at right angles to the edge portion 13 where it meets the point 15. These lines 16, 18 and 20 define the marginal configuration of the top ply 10 which is the same configuration possessed by the companion plies down to the bottom ply or layer 11. This lift is of course made to order according to prescription but the fundamental outline just described as being semi-heart shaped is unvariable. Thus I have evolved and produced a composite of pliable full sized insole

5 and an especially designed flexible laminated lift attached to the sole in a predetermined manner and of proper stepped proportion to form a distinct semi-heart shaped cushion 12 for the longitudinal arch.

The arch support is always made to order, and is to be used only by the individual for whom it was constructed. The measurements for the individual are secured by placing his foot on a piece of paper, tracing the outline of the foot with the pencil held in a perpendicular position, then tracing the outline of the arch by slanting the pencil along the arch and tracing it in as far as it will go under the arch without forcing it.

This support covers the entire inner-sole of the shoe from heel to toe, as it is illustrated in full view in Figures 1 and 3. It gives the individual the desired comfort because it prevents burning feet; it also acts as an insulator when the outer soles of the shoes begin to wear out; and it keeps the feet dry and comfortable because it is made of fine upper leather coated with water-proof cement, covered with muslin or canvas, recoated with water-proof cement, followed by a piece of heavy woolen cloth, it is recoated with cement and finally covered with a piece of heavy muslin. The woolen cloth is used only for those individuals who have tender feet and require a cushion innersole.

While there are other inner soles built permanently into the shoes, and also other made to measure arch supports, my idea is to construct a made to order longitudinal and metatarsal support, light in weight, of which the only suitable material to construct it is leather and cloth, glued together with water-proof cement. The support is covered with leather to avoid roughness, and is made from heel to toe to keep it from slipping from place.

This is an arch and metatarsal support combined, it is suitably covered from heel to toe, is made to order for the purchaser, and is not fastened to the shoe. It may be worn in tennis shoes, bedroom slippers, dancing slippers, heavy working shoes, rubber boots, or in wooden shoes at the hot mill.

A careful consideration of the foregoing description in conjunction with the illustrative drawings will enable the reader to obtain a clear understanding of the purpose, features and advantages, the explicit construction, and the invention as hereinafter claimed.

It is to be understood that minor changes in shape, size, relative proportions, and materials may be resorted to in practice without departing from the spirit of the invention or the scope of the invention as now claimed.

Having thus described my invention, what I claim as new is:

1. As a new article of manufacture, a full sized inner sole, and an underlying longitudinal arch support lift attached thereto, said arch support being composed of a plurality of laminations of leather, of a pliable nature fastened together in superimposed step-down relationship, the lift, as a unit being semi-heart shaped in configuration, with its lobe area centralized and projecting in the direction of the toe portion of the inner sole.

2. As a new article of manufacture, a full sized inner sole, and an underlying longitudinal arch support lift attached thereto, said arch support being composed of a plurality of laminations of leather, of a pliable nature fastened together in superimposed step-down relationship, the lift, as a unit being semi-heart shaped in configuration, with its lobe area centralized and projecting in the direction of the toe portion of the inner sole, and the extreme transverse dimension of said lift being less than the corresponding transverse dimension of the inner sole with which it is associated.

3. As a new article of manufacture, a shoe insert comprising a full sized inner sole unit of composite pliable formation, and a lift attached to a predetermined portion of the underside of said inner sole unit, said lift being of laminated step down leather construction and of general semi-heart shaped configuration in outline, the lift being attached to the inner sole to provide a support from the beginning of the longitudinal arch to the internal cuneiform bone along one longitudinal edge portion of the inner sole unit, and a centralized forwardly projecting lobe like extension being disposed to support the metatarsal arch.

BAPTIST A. CHIAPPETTA.