This invention relates to shoe construction and is particularly concerned with a novel feature adapted primarily, although not exclusively, for use in sport shoes or play shoes.

One of the objects of the invention has been to provide, as an additional or auxiliary element in otherwise conventional construction, a simple, light-weight arch support adapted to hold the foot more securely in a shoe of the open heel-open toe type.

Another object has been to provide a flexible and elastic support for the inner longitudinal arch of the foot and thereby to maintain the foot in a balanced position during walking.

Another object has been to increase generally the comfort of sport or play shoes, particularly those of the open heel-open toe type.

According to the present invention, the arch support comprises a strip of elastic webbing residing transversely in the Shank portion of the shoe, having its lower edge anchored with respect to the sock lining and its top edge anchored to the upper of the shoe above the sock lining. When the shoe is placed on the foot, the elastic webbing spans the adjacent portions of the upper and sock lining generally in a diagonal plane in the area occupied by the transverse arch of the foot so as to embrace and support the inner longitudinal arch. The elastic strip thus is sprung downwardly under the weight load imposed by the arch, and by virtue of its location and elasticity, also holds the shoe more securely in place and creates a stabilizing action with respect to the foot.

Other and further objects and advantages will be apparent from the further and more detailed description of the invention when considered in conjunction with the drawings in which:

Figure 1 is a top plan view of an open heel-open toe sport shoe of the general type to which the invention is directed, showing the elastic arch support member of the invention positioned therein;

Figure 2 is a sectional view taken along line 2—2 of Figure 1; and

Figure 3 is a top plan view of the portion of the shoe of Figure 1, in which the invention is incorporated, with various portions broken away to illustrate more clearly the manner in which the arch support member is secured in position in the shoe.

Referring to the drawings for a further and more detailed description of the invention, as particularly illustrated in Figures 1 and 2, the numeral 10 indicates generally a sport shoe of the open heel-open toe type constituting the preferred embodiment of the invention. In this shoe, the forward portion of the upper is designated as 11 and the central or intermediate portion of the upper is designated as 12. As illustrated, this intermediate upper portion 12 may constitute an element separate from the forward upper portion 11 and may comprise a pair of upwardly extending portions 13—13 joined by a heel strap 14. A foot enclosing strap 15 extends forwardly and is adapted to be secured by a conventional buckle 16. The arch support member of the invention which has been designated generally as 17 extends, as particularly shown in Figure 2, from a median point on the sock lining 18 to a point on the inner side wall of one of the upwardly extending portions 13 of the upper 12.

Considering in more detail the structure particularly illustrated in Figures 2 and 3, the shoe there illustrated is representative of a type of construction with which the invention is particularly adapted to be utilized. As shown, the arch support member 17 comprises a strip of elastic webbing 19 of relatively substantial width having its lower edge 20 inserted through a slit 21 extending longitudinally of the sock lining 18 and centrally thereof. This inner end 20 may extend beneath the sock lining for some distance, as shown, and is adapted to be secured by stitching 22 to the edge of the sock lining 18 and to a sheet member 23 which may be formed from leather or any other suitable material. The sheet member 23 is positioned directly beneath the sock lining over the central area thereof, as particularly illustrated in Figure 3, and serves as an anchor for the lower end of the elastic webbing.

The upper end of the arch support 17 preferably is inserted in a slit 24 in the inner lining 25 of the upper portion 13 of upper 12, where it is secured by the stitches 26.

While all of the details of the construction of the shoe illustrated form no part of the present invention, it might be noted that, as shown in Figure 2, the shank upper portion 12 is shown stitched as at 27 to the sock lining 18 and to the cover 28 which is extended downwardly to enclose a wedge heel element 29. An insole sheet 30 is positioned on the upper surface of the wedge heel, and a filler 31, such as foam rubber, is disposed between the insole member 30 and the sock lining 18. An outsole 32, preferably of rubber or composition material, is disposed beneath the wedge heel and may complete the construction.

When the shoe is slipped upon the foot, the forward portion 11 of the upper embraces the forepart of the foot, while the shank portion 12 of the upper embraces the ankle portion of the foot. The foot-enclosing strap 15 is then buckled in place to hold the shoe to the foot. However, since the heel portion of the shoe beneath heel strap 14 is open as at 33 and the forward portion is also open as at 34, the shoe normally will tend to slip longitudinally with respect to the foot of the wearer, especially when walking. The elastic arch support of this invention holds the shoe more securely to the foot and also prevents this slippage, as explained below.

As viewed in Figure 1, the elastic webbing strip 19 extends transversely with respect to the shank in the area occupied by the transverse arch of the foot and at right angles to the inner longitudinal arch. The webbing strip 19 normally assumes the diagonal position shown in Figure 2, the fit being such that the webbing is pulled lengthwise when the shoe is drawn upon the foot and buckled in place. The webbing strip thus embraces the inner portion of the transverse arch and provides a yieldable support for the arch. Moreover, by virtue of its diagonal disposition and engagement with the inner side portion of the foot, the elastic webbing provides a cradling action with respect to the foot as an incident to its arch support function. The cradling action is of particular advantage in the open heel-open toe type of shoe, which embraces the foot primarily at the shank and forepart but normally permits slippage in the longitudinal direction. In other words, the elastic webbing, through its engagement with the arch, urges the shoe transversely relative to the foot so as to take up looseness and to hold the shoe more securely in place.

As noted earlier, the spring arch support of this inven-
tion is intended for general utility and is not limited to the particular shoe style which is illustrated herein. As applied to other shoe styles, the elastic webbing is anchored substantially in the manner disclosed in relation to the sport shoe, with minor modifications, if necessary, to adapt the support to the particular shoe structure.

Having described my invention, I claim:

1. A shoe comprising an outsole, a sock lining positioned thereon, an upper, and a flexible arch support strip, said strip extending transversely of the outsole along the shank area thereof, the inner end of said strip being secured to the sock lining along a line substantially equidistant from the side edges thereof, and the upper end of the strip being secured to an inner side surface of the upper.

2. A shoe comprising an outsole, a sock lining positioned thereon, an anchoring sheet disposed between the outsole and sock lining, an upper, and a flexible arch support strip, said strip extending transversely across the sock lining in the shank area thereof, the inner end of said strip being secured to the sock lining along a line substantially equidistant from the side edges thereof and being secured also to the anchoring sheet, the upper end of the strip being secured to an inner side surface of the upper.

3. A shoe comprising an outsole, and a sock lining positioned thereon, said sock lining having a slit formed longitudinally therein along the shank area thereof, substantially equidistant from the side edges, an anchoring sheet disposed beneath said slit and between the outsole and the sock lining, an upper, and a flexible arch support strip extending transversely across the sock lining, said strip having its inner end inserted through the slit and secured to the anchoring sheet and its outer end secured to an inner side surface of the upper, the distance between the point of attachment of the outer end of the strip and the upper surface of the sock lining being approximately equal to the distance between the slit and the nearest side edge of the sock lining.

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