Nov. 21, 1950 B. M. TAYLOR 2,530,637

ARCH SUPPORT

Filed March 11, 1947

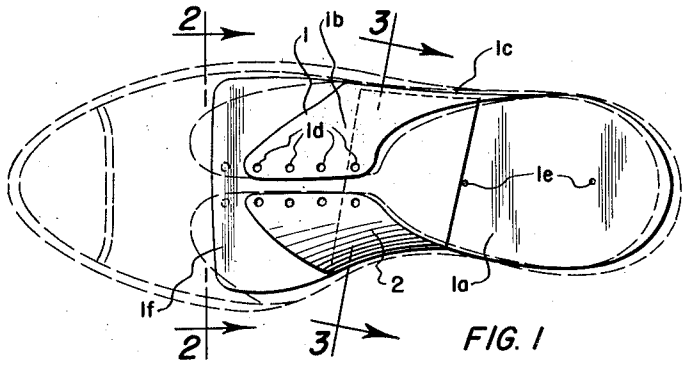


FIG. 1

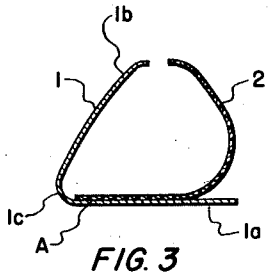


FIG. 3

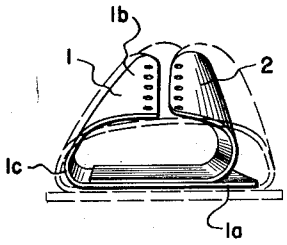


FIG. 2

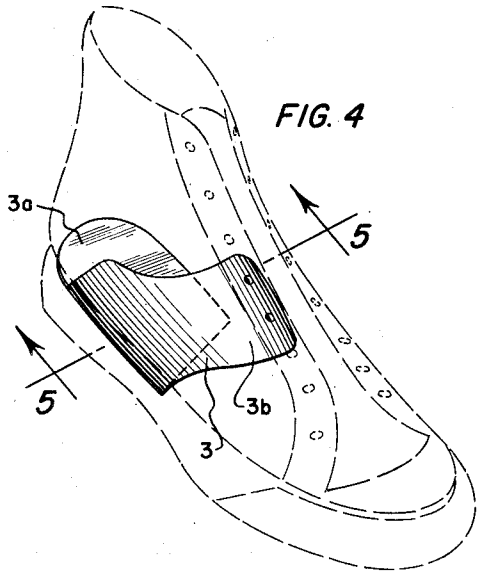


FIG. 4

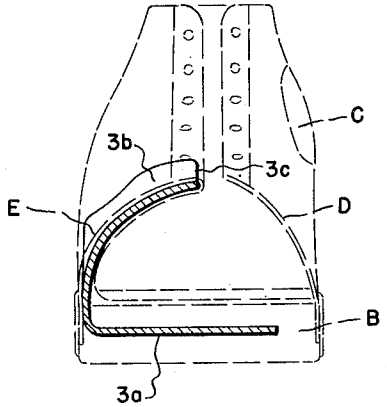


FIG. 5

INVENTOR.
BYRON M. TAYLOR
BY Wm. H. Dean
AGENT

Patented Nov. 21, 1950 2,530,637

UNITED STATES PATENT OFFICE

2,530,637

ARCH SUPPORT

Byron M. Taylor, San Diego, Calif.

Application March 11, 1947, Serial No. 733,779

1 Claim. (Cl. 36—8.5)

1

My invention relates to an arch support, more particularly to a cantilever arch support of substantially rigid resilient character and the objects of my invention are:

First, to provide an arch support of this class which supports the arch of a person's foot by maintaining the inner flexible portion of a person's shoe in supporting relationship beneath the arch thereof, when said person is standing;

Second, to provide an arch support of this class which may be readily installed in conventional shoes;

Third, to provide an arch support of this class which may be used in flexible athletic shoes commonly known as tennis shoes;

Fourth, to provide an arch support of this class which greatly increases the comfort of shoes and prevents the same from becoming loose about the arch of a person's foot;

Fifth, to provide an arch support of this class which is relatively thin and substantially rigid whereby the manufacturer of conventional shoes may readily accommodate the insertion of said arch support in the side and sole portions thereof;

Sixth, to provide an arch support of this class in which a cantilever arch support member extends over the normally upper portion of the person's arch and may be secured in connection with the opposite side of the wearer's shoe at the inner portion of his arch by the conventional shoe laces or fastening means now on the market;

Seventh, to provide a cantilever arch support of this class which may be readily inserted and fixed in conventional shoes by the wearer thereof;

Eighth, to provide a cantilever arch support of this class which employs a flexible portion of conventional shoes as an arch support; and

Ninth, to provide an arch support of this class which is very simple and economical of construction, efficient in its action and which will not readily deteriorate or get out of order.

With these and other objects in view, as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claim, reference being had to the accompanying drawing and to the characters of reference thereon forming a part of this application in which:

Fig. 1 is a top or plan view of my arch support showing by dash lines the relative position of a person's shoe with which said arch support

2

is connected, Fig. 2 is an end elevational view of my arch support taken from the line 2—2 of Fig. 1 showing by dash lines the outline of a shoe in which my arch support is positioned, Fig. 3 is a transverse sectional view of my arch support taken from the line 3—3 of Fig. 1, Fig. 4 is a perspective view of a modified form of my arch support shown in a conventional tennis shoe or the like illustrated by dash lines and Fig. 5 is a sectional view taken from the line 5—5 of Fig. 4 showing the lace eyelets of the shoe in position when laced tight.

Similar characters of reference refer to similar parts and portions throughout the several views of the drawing.

The cantilever arch support member 1 and strap 2 constitute the principal parts and portions of my arch support.

As shown in Figs. 1 and 3 of the drawing, the cantilever arch support member 1 is provided with a shoe sole engaging portion 1*a* and an upwardly extending overhanging cantilever portion 1*b*. It will be noted that the transition of the sole engaging portion 1*a* with the cantilever portion 1*b*, designated 1*c* is near the edge of the shoe sole when positioned in the shoe as shown in Fig. 1 of the drawing. The upwardly and inwardly extending cantilever portion 1*b* is arranged to extend over a person's foot in the shoe worn thereon substantially at the middle portion of the person's foot corresponding to the normally laced portion of the shoe at the instep of a person's foot. This cantilever portion 1*b* is provided with lace openings 1*d* therein through which the conventional laces may be placed when lacing the shoe tightly upon the wearer's foot. It will be noted that the cantilever arch support member 1 at its sole engaging portion 1*a* is provided with openings 1*e* through which small nails may be driven for securing my arch support on the inner upper surface of the conventional shoe sole of the shoe as shown in Fig. 1 of the drawing. It will be here noted that the lace eyelets of a conventional shoe may be laced over the upper side of the cantilever portion 1*b* without passing the laces through the openings 1*d* in the cantilever portion 1*b*. Thus, it is not necessary in all cases to apply the lace receiving openings 1*d* as shown in Fig. 1 of the drawing. The strap 2 is cemented or otherwise fixed at a position designated A in Fig. 3 of the drawing, in connection with the sole engaging portion 1*a* of the cantilever arch support 1. This strap 2 is a flexible strap preferably made of fabric or other suit-

able material arranged to support the under side of the arch of a person's foot below the instep thereof when in laced supported relation with the cantilever arch support member 1.

The operation of my arch support is substantially as follows:

When the cantilever arch support member 1 is positioned in a conventional shoe as shown in Fig. 1 of the drawing and the conventional laces of the shoe are tightened, the leather side portion of the shoe is maintained in tension by means of the cantilever support provided by the cantilever portion 1*b* of the support member 1 acting upon the laced portions of the shoe over the wearer's instep. When the strap 2 is employed in combination with the support member 1, inwardly of the shoe and separately from the shoe structure, the arch of a person's foot is supported beneath the instep thereof to any desired degree by adjustment of said strap 2 in accordance with its laced relationship with the support member 1. The cantilever arch support member 1 is preferably substantially rigid and maintains either the leather at the side of the shoe in tension beneath the instep of a person's foot when standing or operates in substantially a similar manner by means of the strap 2 which provides additional support if desired.

In the modification as shown in Figs. 4 and 5 of the drawing, the cantilever arch support 3 is provided with the shoe sole engaging portion 3*a* which is embedded in a conventional cast rubber sole B of a conventional tennis shoe C. Integral with the shoe sole engaging portion 3*a* is an upwardly and inwardly extending cantilever portion 3*b* provided with an extending edge portion 3*c* adapted to be positioned near the laced portions of the shoe C. This cantilever support member 3 is substantially the same as the member 1 hereinbefore described in connection with Figs. 1 to 3 of the drawing with the exception that the shoe sole engaging portions thereof are cast within the shoe sole and the cantilever portion 3*b* is embodied in the side wall structure E of the shoe C. Thus, the conventional tennis shoe has the outward appearance of any other conventional shoe and incorporates the arch supporting member 3 all as shown best in Fig. 5 of the drawing. In operation the modified structure as shown in Figs. 4 and 5 of the drawing, is similar to that as hereinbefore described in connection with the structure disclosed in Figs. 1 to 3 of the drawing. Thus, the substantially rigid resilient character of the cantilever arch support member 3 maintains the inner side of the shoe in supporting relation providing a support for the arch of a person's foot at the under side of the instep thereof. The slight resilience of the cantilever supporting member together with the flexible character of the under-arch side of the shoe provides a conforming support to the arch of the foot as a step is taken or when the person is standing. It will be here noted that the lower forward portion 1*f* of the support member 1 may provide support for the metatarsal arch.

Though I have shown and described a particular construction, combination and arrangement of parts and portions and a certain modification, I do not wish to be limited to this particular construction, combination and arrangement nor to the modification, but desire to include in the scope of my invention the construction, combination and arrangement substantially as set forth in the appended claim.

I claim:

In an arch support of the class described, the combination of a cantilever arch supporting member having a portion arranged to be connected to the sole of a conventional shoe and having an integral portion in connection with said portion adapted to engage the sole of a conventional shoe extending upwardly and adapted to be positioned adjacent the side of said shoe and extend into close proximity to the laced portion of said shoe and a strap adapted to be connected to the inner side of a conventional shoe in opposed relation to said cantilever portion of said cantilever supporting member and arranged to be secured in connection therewith whereby said cantilever portion maintains said strap in tension beneath the instep of a person's foot.

BYRON M. TAYLOR.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,285,426	Shaw	Nov. 19, 1918
1,972,899	Odell	Sept. 11, 1934
2,068,251	Ullrich	Jan. 19, 1937