G. L. HAMILTON.

ARCH SUPPORT AND SHOE FILLER.

APPLICATION FILED MAR. 10, 1917. RENEWED APR. 12, 1918.

**1,284,191.** Patented Nov. 5, 1918.

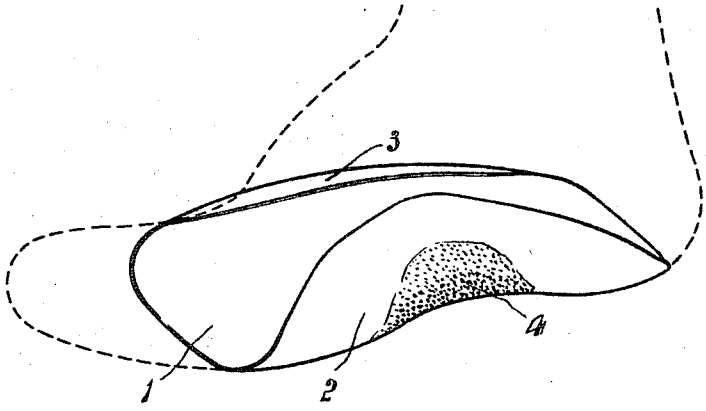



Fig. 1.

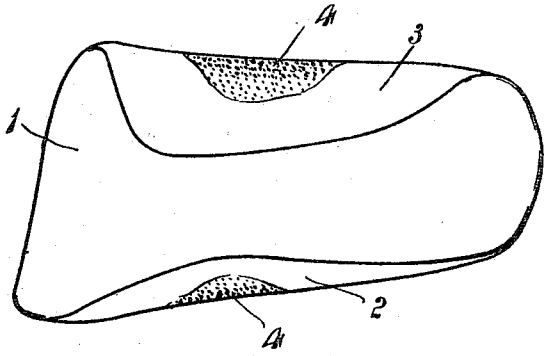



Fig. 2.

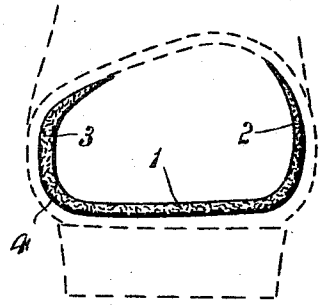



Fig. 4.

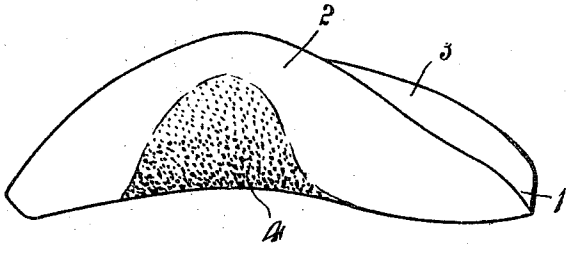



Fig. 3.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

GEORGE L. HAMILTON, OF TORONTO, ONTARIO, CANADA.

## ARCH-SUPPORT AND SHOE-FILLER.

1,284,191. Specification of Letters Patent. Patented Nov. 5, 1918.

Application filed March 10, 1917, Serial No. 154,002. Renewed April 12, 1918. Serial No. 228,284.

*To all whom it may concern:*

Be it known that I, GEORGE L. HAMILTON, of the city of Toronto, in the county of York, in the Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Arch-Supports and Shoe-Fillers, and do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to a device for the purpose of supporting the arch, or metatarsal region of the foot, and has for its objects to provide a simple form of such support which is also adaptable to act, when in use, as a shoe filler, while being more efficient and complete in its functions than is the type of arch support hitherto known, in which a more or less curved supplementary insole is provided to be used in a boot or shoe, such insole having usually a metal or other resilient reinforcing member attached to the underside thereof. With such arch supports, as hitherto known, the boot or shoe itself has been the actual means of retaining the said support in position on the foot, and incidentally, when used in different styles of boots and shoes, the position of the support would be liable to change, so that it would not at all times function properly, and, owing to the somewhat expensive nature of such supports hitherto known, it has not been commercially feasible to make them in the great variety of sizes and designs which would be necessary to overtome the above disadvantage. Furthermore, the resilient reinforcing plates used in such arch supports, preclude their use under the hose, or in light pumps, as is, upon occasion, desirable.

It is well known, that, owing to the dictates of fashion, combination lasts have been extensively used in connection with the manufacture of boots and shoes of recent years to a great extent, often resulting in lack of proportion in such shoes to the average foot, whereby difficulty is often experienced in fitting a ready-made shoe.

It is therefore an object of this invention to provide an arch support which may be actually worn on the foot, under or over the hose, and which, when in position, will act as a shoe filler to reinforce the sides of the shoe, the said support being of such simple construction that it may readily be produced in sizes corresponding to various standard shoe sizes; that is to say, that a person wearing a "4 AAA" shoe, may be provided with a "4 AAA" support, or a person wearing a "10 EE" shoe with a "10 EE" support, and so on.

Further objects subsidiary to or resulting from the above mentioned main objects, or from the construction of the invention as it may be carried into effect, will become apparent as the said invention is hereinafter further disclosed.

In carrying the said invention into effect, I may provide a simple one piece leather or other somewhat resilient support, shaped to fit under the heel and arch of the foot, and to extend upwardly more or less around the metatarsal region of the foot, and so embrace the foot, the said support being desirably constructed or formed from leather in a wet condition, subsequently dried after shaping, whereby resiliency will be obtained in the base and sides of the said support; and a reinforcing agent such as a layer of wood fiber, may also be made use of to retain the support in its required shape, where it is liable to be subject to excessive perspiration; all of which is more particularly described and ascertained in and by the following specification, having reference to the accompanying drawings, in which

Figure 1 is a perspective view of the arch support, as in use, the foot being indicated in dotted lines.

Fig. 2 is a plan view of the said arch support.

Fig. 3 is an elevation of the same, and

Fig. 4 is a cross section of the support, a shoe being indicated in dotted lines to show the function of the said support as a shoe filler.

Similar characters of reference indicate similar parts of the several figures of the drawing.

1 is the base, or sole, of the arch support, having a required curvature to provide the necessary vertical support for the metatarsal bones of the foot, and 2 is an upwardly turning lateral extension of the said base, or sole, curved to conform to the shape of the inner side of the instep of the foot, while 3 is a similar upwardly turned lateral extension of the said base or sole, 1 of the support, although of a somewhat different configuration to the said extension 2, to conform to the shape of the outer side of the instep of the foot; the upper extremities of the said parts 2 and 3 extending one

toward the other, as is clearly indicated in Fig. 2 of the drawing.

The device may be applied to the foot by passing it forwardly over the heel and the parts 2 and 3 will naturally accommodate themselves to the width of the foot, under or over the hose as the case may be, and will also, by reason of their more or less resilient nature, effectively secure the said arch support in its position as applied. In its preferred form, the rear part of the device extends substantially beneath the entire heel of the foot, while the forward extremity of the same is in proximity to the ball of the foot, although it may be extended further forward and shaped accordingly if so desired.

It will be obvious that the self-securing nature of the device, will permit the wearer to change the shoes, say, from a heavy walking shoe to a light shoe or pump, without interference with the support, and it will also be seen that the wearer, having secured a support conforming to the shape of his or her foot, such support will have a tendency when worn, to rectify the deficiencies and discomfort so often experienced when badly proportioned boots or shoes are worn.

The nature of the support, as described, permits of the same being manufactured from leather or other suitable material, which is, or has been reduced to a state in which it may be readily molded, or shaped, as desired, such leather or material being so molded or shaped upon a last similar to the actual lasts, and of equal variety, to those upon which the boots and shoes themselves are shaped; or upon lasts which may have a shape designed to produce a support of the greatest efficiency. Thus, it is quite possible to produce a device of this nature, which may conform to, and be identified by, the various shoe sizes and fittings usually known.

Where thought necessary or desirable, reinforcement may be afforded by the addition to, or incorporation in, the support of a layer of material 4, say for example, wood fiber molded thereon, with the object of preventing the breaking down of the support where the same is liable to be subjected to excessive perspiration, or to other agencies of a detrimental nature to the leather or other material from which the device may be formed.

When in use, the lateral parts of the device extending between the sides of the foot and the corresponding sides of the shoe, the said device will act as a shoe filler, whereby while affording all protection to the foot, it will also give shape to the sides of the shoe, which in many of the cheaper forms of shoe so commonly in use, is lacking to a great extent, especially after the shoe has been worn somewhat. The said device has, therefore, a tendency to improve the appearance of the said shoe, in contra-distinction to the effect produced in many cases by the edges of arch supports as heretofore known.

From the foregoing specification, it will be seen that while this invention is of a substantially simple nature, many advantages are provided both from a manufacturing standpoint, and from the standpoint of both comfort and appearance.

This invention may be developed within the scope of the following claims without departing from the essential features of the said invention and it is desired that the specification and drawing be read as being merely illustrative and not in a limiting sense, except as necessitated by the prior art.

What I claim as my invention is:

1. An arch support and shoe filler having an internal configuration approximate to the configuration of the sole and sides of the human foot, in proximity to the instep, the sides and sole of said support being reinforced by means applied thereto in a plastic state and allowed to set thereon.

2. An arch support and shoe filler having an internal configuration approximate to the configuration of the sole and sides of the human foot, in proximity to the instep, and a layer of wood fiber applied to the sides and sole of said support as a reinforcement.

3. A device for the supporting of the metatarsal region of the human foot, said device having a configuration adapting the same to support such metatarsal region, both vertically and laterally, said device having lateral members adapted to retain the same in position upon the foot when being worn, and a layer of wood fiber secured to and extending up the lateral members of the said support as a reinforcement.

4. A device for the supporting of the metatarsal region of the human foot, said device having a configuration adapting the same to support such metatarsal region, both vertically and laterally, said device having lateral members adapted to retain the same in position upon the foot by substantially embracing the sides and sole of the said foot when being worn, said support being reinforced by means applied thereto in a plastic state and allowed to set thereon.

Signed at the city of Toronto, in the county of York, in the Province of Ontario, in the Dominion of Canada, this 7th day of March, 1917.

GEORGE L. HAMILTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."