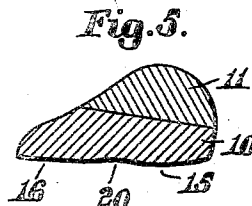
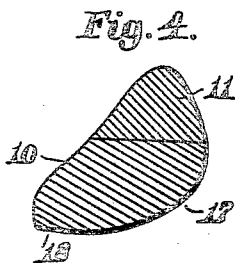
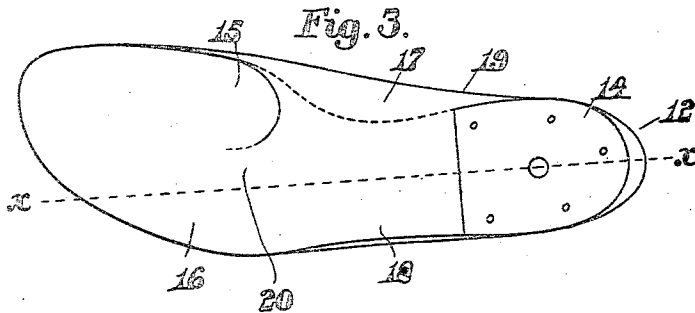
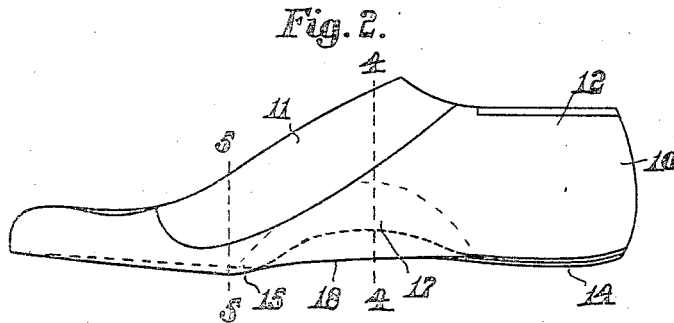
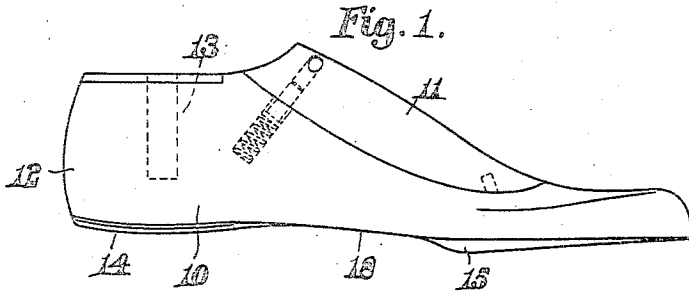


W. J. MacFARLAND.
 LAST:
 APPLICATION FILED NOV. 18, 1913.

1,159,693.

Patented Nov. 9, 1915.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM J. MACFARLAND, OF BOSTON, MASSACHUSETTS.

LAST.

1,159,693.

Specification of Letters Patent.

Patented Nov. 9, 1915.

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To all whom it may concern:

Be it known that I, WILLIAM J. MACFARLAND, a citizen of the United States of America, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Lasts, of which the following is a specification.

This invention relates to lasts for boots and shoes and has for its object the production of an article of this kind which will be made on scientific principles and is adapted for use in the manufacture of shoes having flexible shanks.

The invention consists in a last having certain peculiarities in shape and construction whereby it may be utilized to better advantage for the purposes for which it is designed to be used.

The invention further consists in certain novel features of construction and arrangement of parts which will be fully understood by reference to the description of the drawings and to the claims hereinafter given.

Of the drawings: Figure 1 represents an elevation of the outer side of a last embodying the principles of the present invention. Fig. 2 represents an elevation of the inner side of the same. Fig. 3 represents an inverted plan of the same. Fig. 4 represents a transverse section through the shank portion, the cutting plane being on line 4-4 on Fig. 2, and Fig. 5 represents a transverse section through the fore part, the cutting plane being on line 5-5 on Fig. 2.

Similar characters designate like parts throughout the several figures of the drawings.

In the drawings, 10 is the body of the last extending from the toe to the heel and provided with the detachable instep member 11 which may be attached to the body 10 in any well-known manner.

The heel portion 12 is provided with the usual socket 13 to receive a supporting pin when the last is in use. The bottom of the heel is reinforced by a metal plate 14 of usual construction. The bottom of the body 10 is so shaped to conform to the foot that when a shoe has been manufactured thereon the weight of the wearer will be sustained upon the flesh pads and bones of the foot intended by nature to serve as support

therefor and on which it was intended that all walking and running should be done. To this end the last is shaped in accordance with the anatomy of the foot in every particular. The outside shank is low down so that in the shoe made thereon ample room is given for the bones and cushions of the foot while the bottom of the last is provided with curved projections 15 and 16 which will form depressions in the inner sole of the manufactured shoe designed to receive the inside and outside cushions of the fore part of the foot.

On the inside of the last the shank is hollowed out to a greater degree than is customary in lasts thereby forming a high arch 17 gradually curving upwardly and inwardly from the outer shank 18 which is practically in alignment with the heel and the fore part.

When a shoe has been constructed on a last thus formed a flexible arch on the inside of the shank will be created that will properly distribute the weight of the body from the heel along the outside of the foot where the bones and cushions lie and then across the balls of the foot to the big toe. To accomplish this object a wider tread at the bottom of the last is required over that found in the ordinary lasts now in use.

It will be observed that the heel of the last is so positioned relative to the fore part thereof that the center line *xx* of the former extends through the fore part well outside of the ball portion 15 thereof and all of the bottom outside of this center line is comparatively in the same plane with the extreme toe end somewhat elevated therefrom. It is also apparent from an inspection of the drawings that the inside of the last from the heel to the base portion 15 is comparatively straight and the arch of the shank is gradually curved inwardly and upwardly from the central line *xx* to the straight line 19 on the inside of the last.

Between the projections 15 and 16 the fore part of the last is provided with a shallow depression as shown at 20 so that the weight of the body will not be sustained by the central part of the foot.

The last as shown and described is particularly designed for use in the manufacture of a new and improved shoe forming

the subject matter of another application of mine of even date herewith.

It is believed that the many advantages of the last will be fully apparent without further description.

Having thus described my invention, I claim:

1. A last having the outer side of its bottom substantially flat from toe to heel and the instep provided with a high arch gradually curved upwardly from said flat portion to the inner side of said last.

2. A last having the outer side of its bottom substantially flat from toe to heel and the inner side of the last substantially straight from the inner side of the heel part to the inner side of the toe and its shank

gradually arched from the outer edge of the bottom to said straight portion.

3. A last having the outer side of its bottom substantially flat from toe to heel with the medials of its heel and fore parts angularly disposed to each other, said heel and toe parts on the inner side of the last being connected by a substantially straight portion which at the shank gradually curves downwardly and outwardly to said flat bottom portion at the outside of the last.

Signed by me at 4 Post Office Sq., Boston, Mass., this 13th day of November, 1913.

WILLIAM J. MACFARLAND.

Witnesses:

WALTER E. LOMBARD,
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