

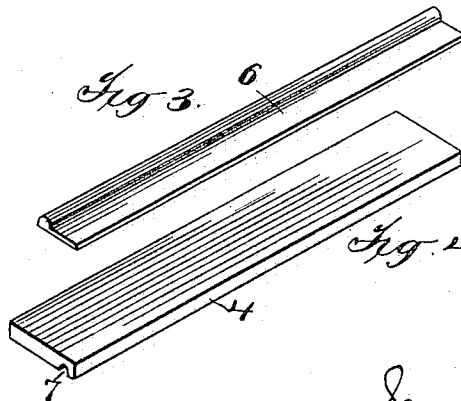
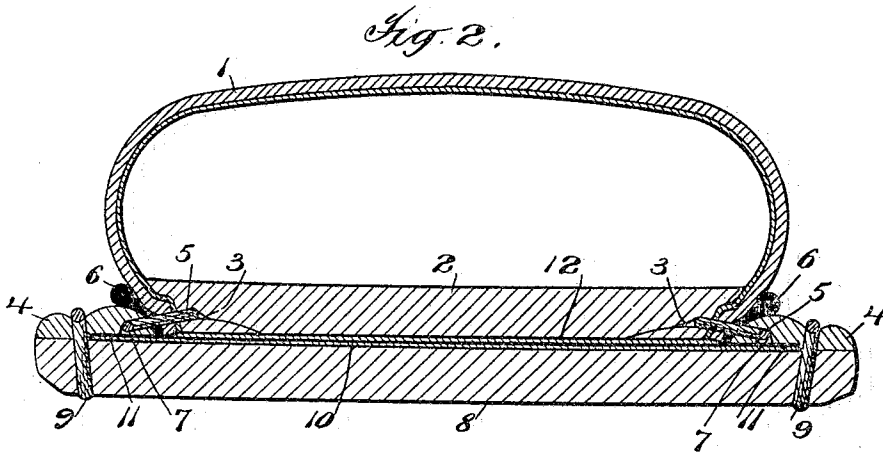
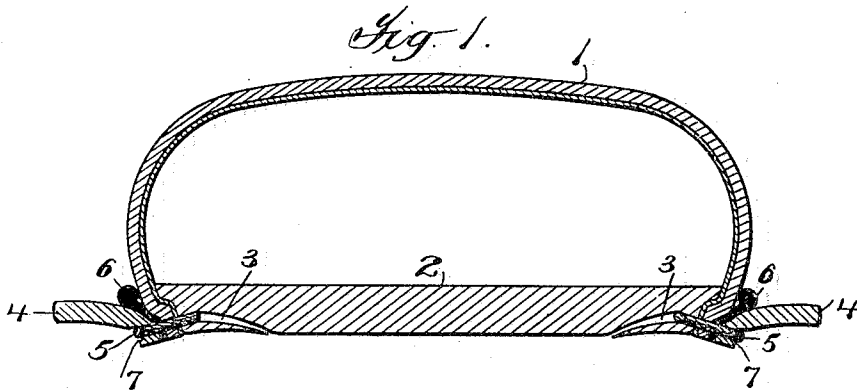
No. 809,622.

PATENTED JAN. 9, 1906.

J. N. MOULTON.

SHOE.

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SHOE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES N. MOULTON, a citizen of the United States, residing at Haverhill, county of Essex, and State of Massachusetts, have invented certain new and useful Improvements in Shoes, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention relates to certain improvements in shoes, and more particularly to that type of shoes known as "welted" shoes.

In welted shoes as now ordinarily made the welt is secured to the upper and to the inner sole by a row of stitches, and great difficulty is experienced in making the shoe water-tight for the reason that water enters the shoe through the perforations through which the thread passes. A further difficulty in making such shoes water-tight results from the fact that water permeates through the sole of the shoe. An attempt has been made to obviate this latter difficulty by introducing a waterproof filling, such as cork, between the soles; but this construction did not produce a waterproof shoe unless the waterproof filling was carried out so that its edges lay between the welt and the outer sole. Shoes, however, in which the cork filling extends out between the welt and the sole have thick and ungainly soles and are cumbersome in appearance and are also expensive to manufacture.

One of the objects of this invention is to produce a shoe in which danger of leakage between the welt and the upper and inner sole is avoided.

Another object of the invention is to produce a shoe in which danger of leakage between the upper and inner sole and the welt is avoided and in which danger of leakage through the soles is also avoided.

A further object of the invention is to produce a waterproof shoe which will be neat in appearance, simple in construction, and cheap to manufacture.

With these and other objects not specifically referred to in view the invention consists in a shoe having the novel features of construction hereinafter described.

50 In the drawings, Figure 1 illustrates in cross-section a partially-completed shoe embodying the invention. Fig. 2 illustrates in cross-section a completed shoe embodying the inven-

tion. Fig. 3 is a perspective view of the strip of filling material used. Fig. 4 represents in perspective view the ordinary welt.

In a shoe constructed in accordance with the invention the upper, inner sole, welt, and outer sole are or may be of usual construction. The upper is represented at 1, Fig. 1, and the inner sole at 2. The inner sole is shown as provided with the ordinary channels 3 commonly employed for welt sewing, and the welt (indicated at 4) is secured to the upper and the inner sole by a row of stitches, the row of stitches being indicated at 5.

It has been practically impossible heretofore to produce water-tight shoes when the parts have been secured together in the manner described for the reason that the perforations through which the thread passes would permit water to enter the shoe, this being particularly true of machine-made shoes, for the reason that the perforations made by the awl must be sufficiently large to permit the needle to carry the thread through, and they are consequently larger than to be entirely filled by the thread.

In shoes constructed in accordance with the invention a filling material is employed, which is secured in place by the row of stitches or other securing means by which the welt is secured to the upper and inner sole. In the best constructions this filling material (marked 6) will be located between the welt and the upper, the position of this strip, which is an integral or one-piece strip, in such constructions being clearly indicated in the drawings. This filling material will be waterproof material and should in the best constructions be compressible, so that when the stitches are drawn tight to secure the welt firmly to the upper and inner sole the material will be compressed closely onto and around the thread. This not only prevents any water from entering through the thread perforations, but also where, as in the best constructions the filling material is located between the welt and the upper, it makes a tight joint between these parts. While other compressible filling material may be employed, satisfactory results have been attained in practice by the use of a strip of rubber. An integral strip of rubber, furthermore, lends itself readily to the exigencies of sewing shoes by machinery. The strip of rubber is illustrated in Fig. 3, and

this strip may, if desired, be given a beaded edge which imparts a neat and attractive finish to the shoe. This beaded edge, however, is not necessary, as the strip might be constructed in such a way as to be practically invisible in the completed shoe, if desired.

The ordinary welt is illustrated in Fig. 4, this welt being provided, as is usual, with a channel 7, in which the stitches are located. If desired, the filling-strip and the welt may be cemented together or otherwise attached prior to manufacture of the shoes; but this is unnecessary, as the welt and strip can be readily secured to the shoe by the operation of sewing the welt to the shoe, if desired. After the welt, filling-strip, upper, and inner sole have been secured together in the manner described the shoe is completed by attaching the outer sole 8 to the welt by stitches (indicated at 9) or in any other suitable manner.

Shoes constructed as before described will, as has been shown by practical tests, be watertight, so far as the entry of water into the seam between the welt and the inner sole and upper is concerned. Where, however, it is desired to make a shoe water-tight with respect to the sole as well as with respect to the seam referred to, this may be accomplished by introducing between the inner sole 2 and the outer sole a sole-filling of waterproof material, (indicated at 10,) which fills the space between the two soles and the edges of which extend under the welt. In the best constructions this sole-filling 10 of waterproof material will be relatively thicker in the center, as illustrated, and will be thin at the edges to permit the welt and outer sole to be drawn closely together. In the best constructions, furthermore, the edge of this waterproof filling-strip will lie closely in contact with the waterproof sole-filling material, so as to form a dam against any water which may possibly permeate the welt. It may be here remarked that the welt is made of more porous leather than is used, for instance, in uppers, and after long-continued exposure to water the welts will sometimes become water-soaked. A practical form of this filling material is illustrated, described, and claimed in United States application for patent, Serial No. 208,515, filed May 18, 1904. The specific filling described in the application referred to consists of a thin piece of rubber cloth, the edges 11 of which extend, as illustrated, under the welt and lie between the welt and the outer sole, the central portion being composed of a piece of canvas 12, which fills the space between the soles. While the specific form of filling material is effective for the purpose, it is to be understood that other forms may be used, if desired.

Changes and variations from the specific

construction described may be made without departing from the invention. The invention is not, therefore, to be limited to the specific construction hereinbefore set forth.

What is claimed is—

1. A shoe comprising an upper, an inner sole having the usual channel in its bottom, a welt, an integral strip of yielding and elastic waterproof material lying between the welt and the upper, these parts being secured together by a row of stitches passing through the yielding and elastic strip and into the channel in the inner sole, whereby the elastic strip closes around the stitches as the shoe is sewed, thus making the structure waterproof, and an outer sole secured to the welt.

2. A shoe comprising an upper, an inner sole having the usual channel in its bottom, a welt, an integral strip of yielding and elastic waterproof material lying between the welt and the upper, these parts being secured together by a row of stitches passing through the yielding and elastic strip and into the channel in the inner sole whereby the elastic strip closes around the stitches as the shoe is sewed, thus making the structure waterproof, an outer sole secured to the welt, and a waterproof sole-filling material between the outer and the inner soles, the edge of the yielding and elastic strip lying closely in contact with the sole-filling material.

3. A shoe comprising an upper, an inner sole having the usual channel in its bottom, a welt, an integral strip of yielding and elastic waterproof material lying between the welt and the upper, these parts being secured together by a row of stitches passing through said strip and into the channel in the inner sole, whereby said strip closes around the stitches as the shoe is sewed, thus making the structure waterproof, an outer sole secured to the welt, and a waterproof sole-filling material between the inner and outer soles, the edges of said material extending underneath the welt.

4. A shoe comprising an upper, an inner sole, a welt, an integral strip of waterproof filling material lying between the welt and the upper, said parts being secured together by a row of stitches, an outer sole secured to the welt, and a filling material having a relatively thick central portion and a relatively thin edge between the soles, the thin edge lying between the welt and the outer sole.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAMES N. MOULTON.

Witnesses:

JULIA M. MOULTON,
GEORGE I. DAVIS.