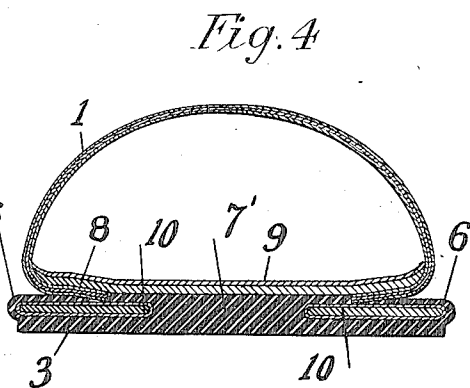
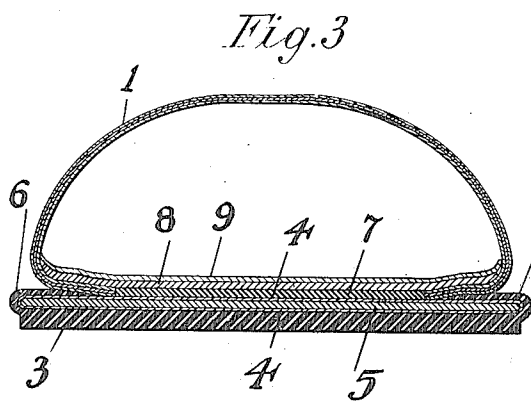
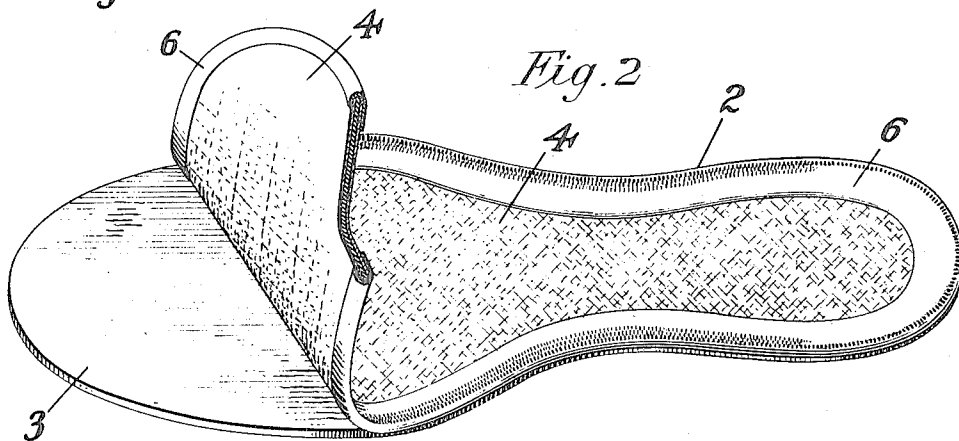
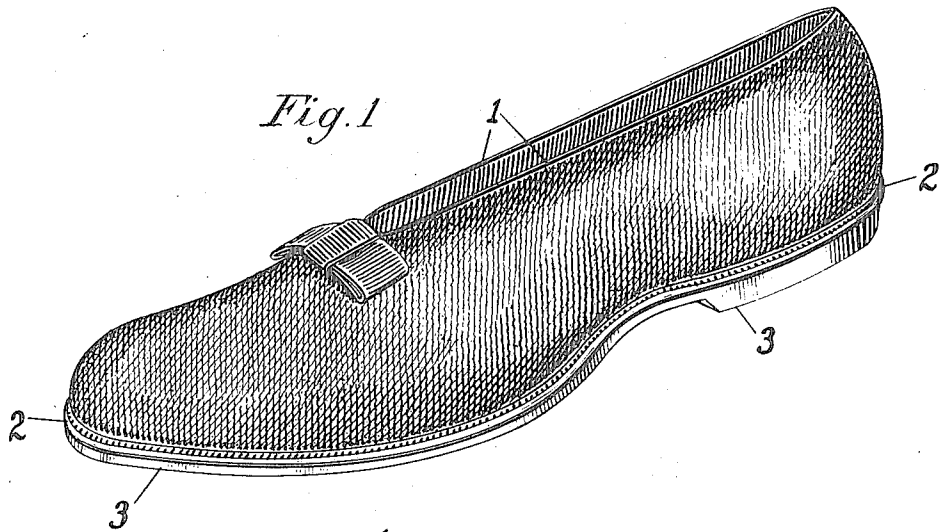


LE BARON C. COLT.
SOLE FOR FOOTWEAR.
APPLICATION FILED APR. 6, 1915.

1,197,911.

Patented Sept. 12, 1916.



Witness:

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Le Baron C. Colt, Inventor

By his Attorney
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UNITED STATES PATENT OFFICE.

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SOLE FOR FOOTWEAR.

1,197,911.

Specification of Letters Patent. Patented Sept. 12, 1916.

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To all whom it may concern:

Be it known that I, LE BARON C. COLT, a citizen of the United States, residing at Bristol, in the county of Bristol, State of Rhode Island, have invented certain new and useful Improvements in Soles for Footwear, of which the following is a full, clear, and exact description.

My invention relates to that class of footwear that is made of rubber or of rubber combined with fabric or other fibrous materials such as rubber boots and overshoes, rubber sole canvas shoes, tennis shoes, dancing shoes, etc.

The object of my invention is to provide a sole for such an article of footwear, which will have all the advantages as to comfort, pleasing shape and durability that pertain to the soles of shoes made of leather or canvas, without the disadvantages incident to rubber shoes or rubber sole canvas shoes as heretofore manufactured.

In the ordinary rubber sole tennis shoe or sneaker it will be appreciated that the sole does not project beyond the upper and that the sole is joined to the upper by means of what is known in the art as "foxing", which is a thin strip of rubber extending from a line on the side of the shoe above the sole down to the point of juncture with the sole where it unites with a similar strip extending upwardly from the sole, so that the sole has no projecting welt portion to receive and support the lateral expansion of the upper during the tread, the edge of the sole being flush with the sides of the upper. This construction also results in a shoe which is more or less crude and unsightly in appearance and one that is not adapted for use where more formal dress is required than a mere negligée costume.

Although the invention may find its widest application as applied to rubber sole shoes, it may also be applied to an overshoe or a rubber boot, and it will be understood that although the invention is particularly described and illustrated in the drawings as embodied in a rubber sole shoe, it is not designed to be restricted thereto but may be embodied in an overshoe or rubber boot, or in fact any article of footwear provided with a rubber sole.

Briefly stated, my invention comprises providing a shoe sole made of rubber with a

stiffening member in the form of a welt or welt sole which may be easily and securely attached to the upper and which may have applied to it a tap sole of rubber or similar material. This is accomplished in my invention without the use of foxing and without the necessity of buffing or otherwise trimming the edges of the sole which in any event is impracticable because a rough raw edge is given to the finished article.

For a detailed description of two forms of my invention reference may be had to the following specification and to the accompanying drawing forming a part thereof, in which—

Figure 1 is a perspective view of a shoe or "pump" made in accordance with my invention; Fig. 2 is a perspective view of the sole portion thereof, detached; and Figs. 3 and 4 are transverse sectional views through the ball or toe portion of a shoe illustrating two modifications in construction.

Referring to the drawing the numeral 1 indicates the usual upper of a shoe composed of canvas, fabric coated with rubber or even leather. The numeral 2 indicates the welt or stiffening sole and 3 the tap sole.

The stiffening sole may be composed of layers of "frictioned" fabric 4 on each side of a central layer or member 5 of hard curing rubber compound, such as vulcanizable rubber and fiber or fiber board, preferably consisting of what is known in the art as "rag stock" such as that resulting from macerated frictioned fabric or rubber shoe clippings or trimmings. This element is then cut by a die to the final shape of the sole and a strip 6 of unvulcanized rubber is applied all around the edge of the stiffening element, thus forming a rounded welt. This welt sole thus being made independently of the other parts of the shoe is then coated with cement along its margin and is applied to the upper while the latter is in position on the last, the edges of the upper being turned inwardly and also being coated with cement if necessary. Where the upper consists of several plies of canvas or other material, the plies may be also united along their edges by cement. A layer of rubber compound 7 is also preferably applied to the stiffening member 5 between the margins of the upper and a layer of friction fabric 8 applied between the layer 7 and the insole 9. The tap sole 3 is

then cemented to the welt sole 2 and the shoe thus assembled is placed in the heater or vulcanizer and vulcanized or cured.

In Fig. 4 I have illustrated a modified form of construction of the welt sole. Instead of continuing the stiffening element 5 and its fabric coverings 4 entirely across the sole as in Fig. 3, the central portion is cut out making the stiffening element in the form of a frame whose edges are covered with a strip of rubber 6 and which is applied to the upper in the same manner as before described, except that the intermediate layer of rubber before indicated by the numeral 7 is made somewhat thicker to fill up the space made by cutting away the welt sole between the margins 10 as at 7'. Of course it will be understood that the stiffening element may be made of any suitable material.

The constructions above described result in a shoe that is not only pleasing in appearance, comfortable to the wearer, but which is also very durable, as it has been found that the upper is very firmly united to the welt sole by the method employed as above described; and moreover, the construction provides a welt extension of relatively rigid character, protecting the upper and forming a support to receive the pressure of the tread during wear.

An important advantage incident to the constructions above described results in the improved appearance when the same is used in the manufacture of shoes having white rubber soles. As is well known, it is difficult to vulcanize white rubber stock to the same degree of stiffness that can be obtained with dark or black rubber stock, unless a large amount of sulfur is used which causes the white rubber to turn yellow or have a stained appearance.

When the constructions above described are employed the stiffening member may be made of dark rubber stock capable of being

vulcanized to a high degree of hardness, and when the edges thereof are covered with soft white rubber stock, the welt as it appears in the finished shoe will be perfectly white and clean. This advantage is in addition to the increased binding effect of the soft rubber strip or welt. The method of binding the stiffening member also produces a rounded welt which is highly ornamental to the edge of the sole.

It is obvious that in a shoe designed for unusually rough use the welt sole may be stitched to the upper internally if desired.

I believe that I am the first one to have produced shoes of the type shown in the drawing with projecting soles which can be made entirely of rubber or rubber and canvas or which have all the outward appearance and surface characteristics of leather soled shoes with all the advantages of rigidity along the welt portion comprising increased wearing qualities and incomparably more sightly.

Having described my invention what I claim and desire to protect by Letters Patent is:

1. A welt sole for a rubber sole shoe, comprising a layer of relatively hard rubber compound, and a strip of soft rubber covering the margins thereof and forming a rounded welt.

2. A welt sole for a rubber sole shoe, comprising a layer of relatively hard rubber composition covered with fabric, and a strip of soft rubber covering the margins thereof and forming a rounded welt.

3. A welt sole for a rubber sole shoe, comprising a layer of relatively hard rubber composition consisting of mixed fibers and rubber compound, and a strip of soft rubber covering the margins thereof and forming a rounded welt.

Signed at Bristol, Rhode Island, April 3rd, 1915.

LE BARON C. COLT.