

C. S. HILL.
 SPLICED SOLE AND OTHER ARTICLE.
 APPLICATION FILED MAR. 17, 1919.

1,326,264.

Patented Dec. 30, 1919.

FIG. 1.

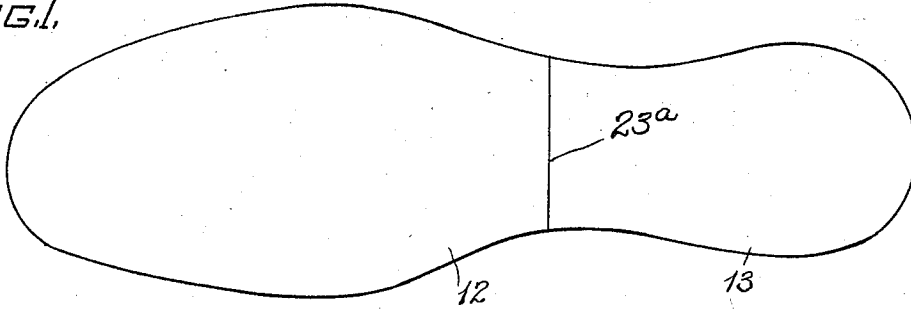


FIG. 2.

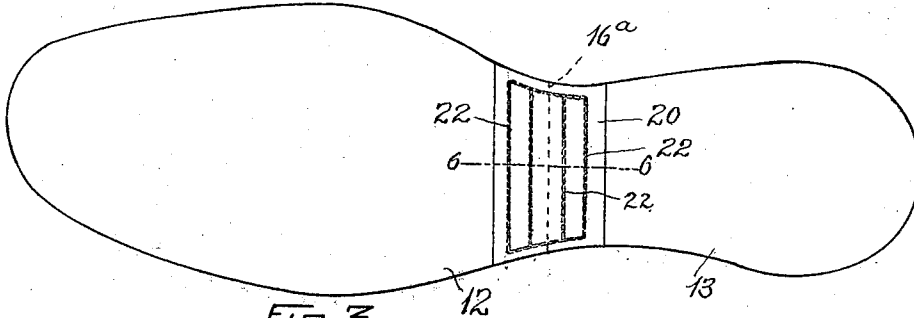


FIG. 3.

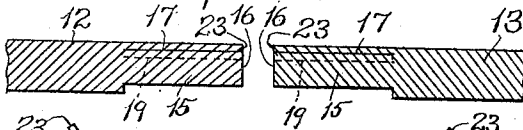


FIG. 4.

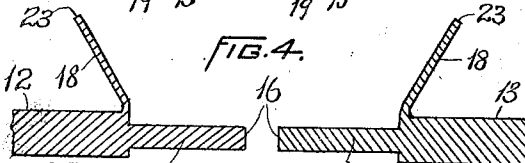


FIG. 5.

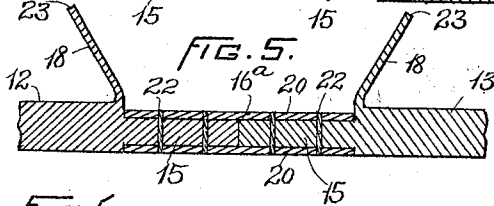
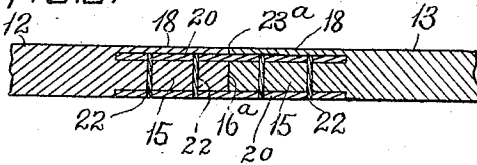


FIG. 6.



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SPLICED SOLE AND OTHER ARTICLE.

1,326,264.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES S. HILL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Spliced Soles and other Articles, of which the following is a specification.

This invention has for its object to enable two portions of a shoe sole or other article, such as a belt, to be spliced together to form a strong and durable union, which may be produced without objectionable waste or loss of material, the invention when embodied in a leather sole, enabling the shank portion to be made of a less expensive quality of leather than the fore portion, which sustains the chief wear to which the sole is subjected.

The invention is embodied in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings forming a part of this specification,—

Figure 1 is a view of the bottom or tread side of a sole embodying the invention.

Fig. 2 is a view of the opposite side of the sole.

Fig. 3 is a fragmentary sectional view, showing parts of the two sole sections shown by the preceding figures, and illustrating a part of the operation of forming the splice.

Figs. 4 and 5 are views similar to Fig. 3, showing additional steps in the splice-forming operation.

Fig. 6 is a section on line 6—6 of Fig. 2, showing the completed splice.

The same reference characters indicate the same parts in all of the figures.

In the drawings, 12 and 13 represent two sections, which, in this case are of leather, and are formed to collectively constitute a sole which includes a shank portion and a fore portion. Said sections are provided at their meeting ends with tongues 15 of lesser thickness than the body portions of the sections. Said tongues have end faces 16 which meet in the completed sole and form a butt joint at 16^a, the width of said end faces being less than the thickness of the sections. The tongues are preferably formed by rabbeting the opposite sides of the sections to form recesses extending across the joint, the sides of the tongues 15 being offset inwardly from the opposite sides of the sections 12 and 13. As shown by Figs.

3 and 4, the sections are provided with slits 17 extending from the end faces 16 parallel with the grain or outer surfaces of the sections. The slits partially detach flaps 18 from the sections, and these flaps are turned outward, as shown by Fig. 4, thus partially reducing the thickness of the tongues 15. After the flaps 18 are turned outwardly, the tongues may be further reduced in thickness by cutting away material to the dotted line 19 (Fig. 3), thus reducing the tongues to the desired thickness. The end faces 16 are then abutted together, and in the said recesses are inserted connecting pieces or layers 20, which may be made from waste scraps or pieces of leather. The connecting pieces bridge the butt joint 16^a, and are secured to the sections at opposite sides of said joint by suitable means such as cement and fastenings such as through-and-through stitches 22, which may be arranged in rows, as shown by Fig. 2. The connecting pieces and tongues are now united at opposite sides of the joint 16^a.

After the described operations have been performed, the flaps 18 are turned down as shown by Fig. 6, to cover one of the connecting pieces 20 and the portions of the fastenings thereon, the flaps being preferably secured in place by cement. The flaps have end faces 23, which meet to form a butt joint 23^a at the outer side of the sole.

As shown by Fig. 1, none of the above described construction is visible at the outer side of the sole, excepting the butt joint 23^a, this being located at the junction of the shank and fore portions of the sole.

It will be seen that the tongues 15, the connecting pieces 20, and the flaps 18 form layers which are united at opposite sides of the butt joint 16^a, so that the sections are securely united.

The sections 12 and 13 may be the end portions of a belt. When said end portions are united, as described, the belt is endless or continuous.

As shown by Fig. 1, the appearance of the outer or tread side of a spliced or sectional sole embodying the invention is not impaired by the single butt joint 23^a extending across the sole, there being no other visible evidence that the sole is composed of sections, and the construction being such that the joint 23^a is not liable to grin or be widened by flexure of the sole. The joint 23^a may be rendered

less conspicuous by wheeling the outer surface of the sole to form lines of ornamental indentations intersecting the joint.

I do not limit myself to the formation of the described recesses and the reduction of the thickness of the tongues by cutting away parts of the material of the sections, as the same result may be produced by compression, without the removal of material, while the sections are in a moist condition or in temper.

The faces 16 and 23 of each sole section may be called respectively, an inner end face, and an outer end face. The butt joints 16^a and 23^a may be called respectively, the inner and the outer butt joint. Owing to the fact that the end faces of each section are in the same plane, said plane being perpendicular to the sides of the section, no material is wasted by skiving to form an overlapping or scarfed joint. This is an important advantage when sole leather is employed.

The pieces 20 are in effect connecting layers, bridging the two butt joints, and united to the sections at opposite sides of the joints, the layer 20 which is flush with the inner side of the sole being the inner layer, and the other the outer layer. These layers and the tongues 15 and 18, constitute a laminated sole portion, which has a very desirable degree of strength, especially when the inner and outer layers are united to the section portions having the end faces 16, by fastening members such as the stitches 22, and the flaps or section portions having the end faces 23 are secured independently, as by cement, to the outer connecting layer. The tensile strength of the laminated sole portion is equal to all demands upon it.

Owing to the fact that the joint 23^a exposed at the outer side of the sole, is a butt joint, it is more stable and less liable to be accidentally broken or opened than would be the case if the faces forming the joint were skived to form a scarfed joint.

I claim:

1. A sole comprising two sections, each having inner and outer end faces perpendicular to the sides of the sole and in the same plane, the end faces of each section being abutted against the end faces of the other section to form inner and outer butt joints also in the same plane, and inner and outer connecting layers bridging said joints and united to the sections at opposite sides of the joints, the inner connecting layer being flush with the inner surface of the sole, and the outer connecting layer being within the outer surface of the sole.

2. A sole comprising two sections, each having inner and outer end faces perpendicular to the sides of the sole and in the same plane, the end faces of each section being abutted against the end faces of the other section to form inner and outer butt joints

also in the same plane, inner and outer connecting layers bridging said joints and united to the sections at opposite sides of the joints, the inner connecting layer being flush with the inner surface of the sole, and the outer connecting layer being within the outer surface of the sole, and fastenings uniting said layers with the sole portions having the inner end faces, the sole portions having the outer end faces covering said fastenings and being secured independently thereof.

3. A sole comprising two sections, each having inner and outer end faces perpendicular to the sides of the sole and in the same plane, the end faces of each section being abutted against the end faces of the other section to form inner and outer butt joints also in the same plane, and inner and outer connecting layers bridging said joints and united to the sections at opposite sides of the joints, the inner connecting layer being flush with the inner surface of the sole, and the outer connecting layer being within the outer surface of the sole, said layers, and the portions of the sections which meet to form the inner butt joint, forming a laminated sole portion which is reinforced by fastening members extending through said laminated portion.

4. A sole comprising two sections having end faces which meet to form a butt joint, and rabbeted side faces forming recesses extending across said joint, connecting pieces fitting said recesses and bridging the joint, fastenings uniting the rabbeted portions of the sections and the connecting pieces at opposite sides of said joint, and flaps integral with the sections and covering one of the connecting pieces and portions of the fastenings, the said flaps being secured in place and having abutting end faces which meet to form a butt joint at the outer side of the sole.

5. A spliced article comprising two meeting portions which are rabbeted to form tongues having end faces which are abutted together to form a butt joint, and side faces forming recesses which extend across said joint, connecting pieces fitting said recesses and bridging said joint, fastenings uniting the said tongues and the connecting pieces at opposite sides of said joint, and flaps integral with said portions and covering one of the connecting pieces and portions of said fastenings, the said flaps being secured in place and having abutting end faces which meet to form a butt joint at one side of said article.

6. A pieced sole comprising a fore part section which includes the tread, and a portion of the shank, the shank end of said section having an integral tongue provided with sides which are offset inwardly from the inner and outer sides of the section, and with an inner end face perpendicular to said

sides, the section having also an integral flap which is flush with the outer side of the section and is spaced from said tongue and provided with an outer end face which is perpendicular to the sides of the section, and is in the same plane as the end face of the tongue, and a rear section which includes another portion of the shank and is provided with inner and outer end faces which meet

the inner and outer end faces of the fore part section to form inner and outer butt joints, the sole being provided with inner and outer connecting layers which bridge the said joints and form with said tongue and flap a laminated sole portion.

In testimony whereof I have affixed my signature.

CHARLES S. HILL.