

Nov. 8, 1955

G. A. ECCLESINE
CLEATED SHOE SOLE

2,722,756

Filed Nov. 13, 1951

2 Sheets-Sheet 1

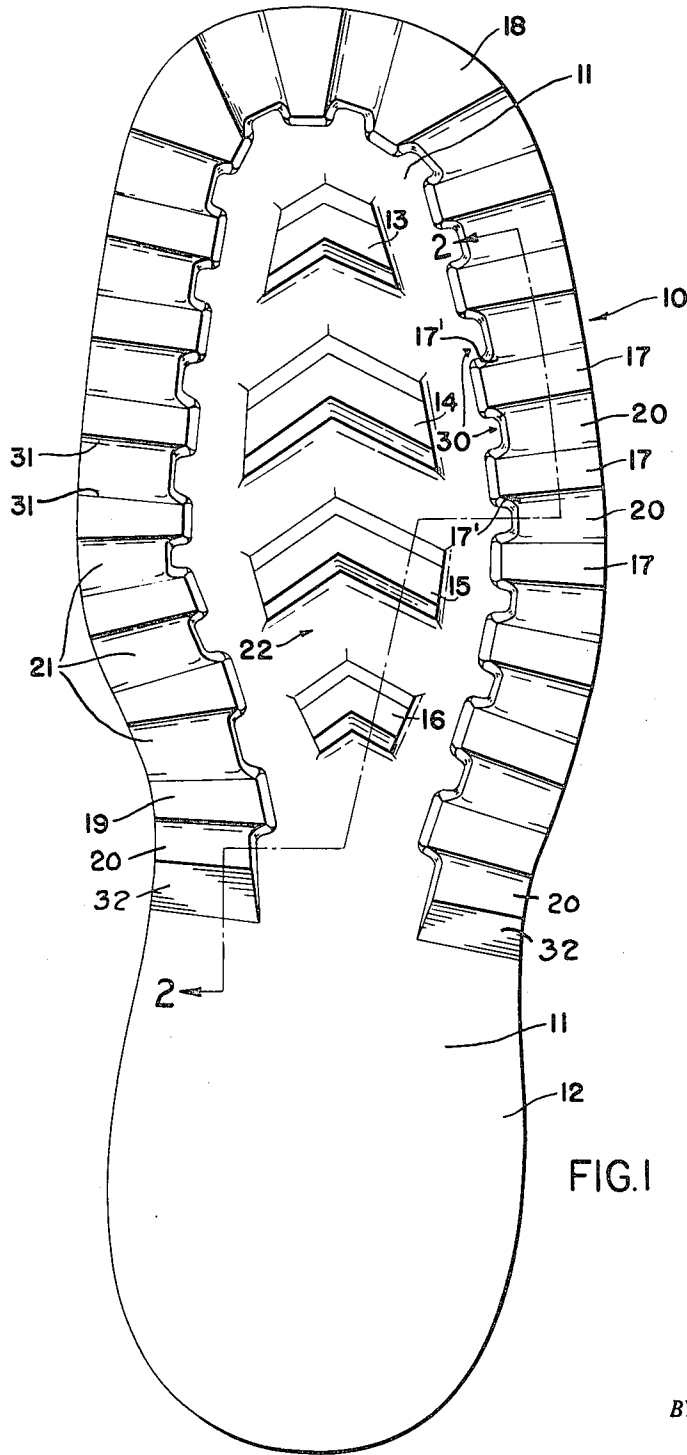


FIG. 2

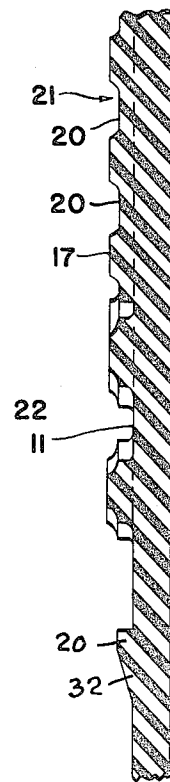


FIG. 1

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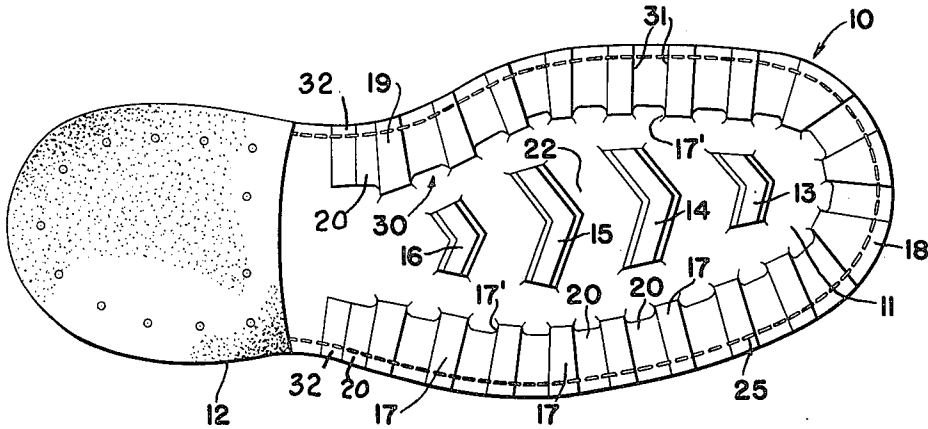


FIG. 4

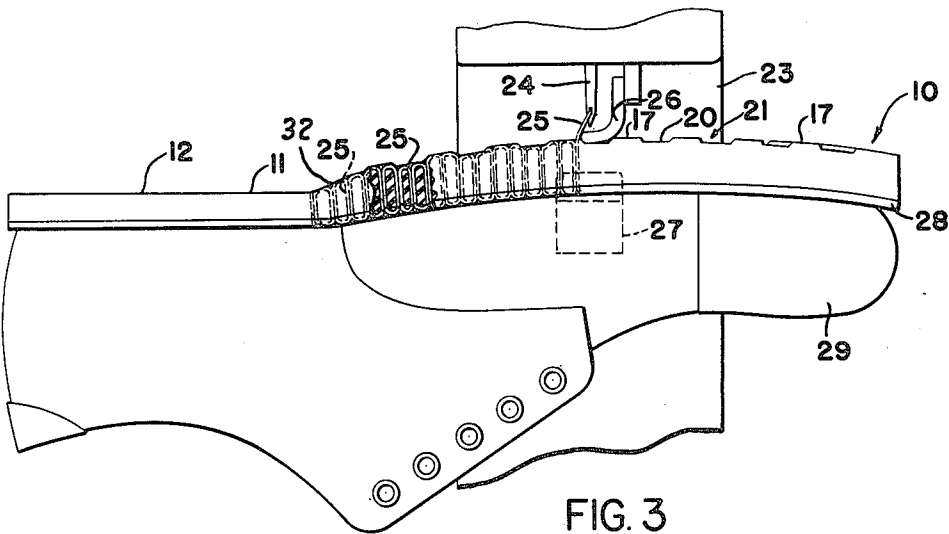


FIG. 3

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2,722,756

CLEATED SHOE SOLE

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2 Claims. (Cl. 36-59)

This invention relates to a cleated shoe in which the sole is attached to the shoe by stitching directly through cleats.

In the manufacture of shoes having soles of rubber-like material with cleats, the attachment of the sole to the shoe by stitching has presented a prime difficulty because it is desirable to have a series of cleats around the peripheral margin of the sole, and it has been found impossible to apply a sewing machine along this line of cleats. On the other hand, cementing of the cleated rubber sole to a leather bottom on the shoe is impracticable.

Several proposals have been advanced in the past to overcome this difficulty. In one case, a thin rubber sole is stitched to the shoe and the cleated rubber sole is then cemented to the thin rubber sole. This involves considerable extra manufacturing effort and undue cost. According to another proposal, the outer peripheral row of cleats is arranged sufficiently inwardly of the periphery of the sole to leave a flat margin along which the sewing implements may be applied. Such soles are unsatisfactory since the effective area of dwell of the sole is reduced, and walking becomes difficult, especially on rough terrain and in climbing, for which cleated soles are particularly intended.

According to still another proposal, a margin of valley form is provided between the row of peripheral cleats and the center cluster of cleats, this margin being dimensioned to receive the presser foot of a sewing machine. This form is less than desirable since it leaves a considerable area of unattached sole around the periphery, and the width of the peripheral cleats is unduly limited.

I have found that the aforementioned difficulties may be obviated in a simple and economical manner by forming the outer row of cleats in such manner that the grooves separating the respective cleats are sufficiently shallow that the presser foot of a sewing machine may operate along the said outer row of cleats.

It is, therefore, an object of the invention to provide a sole having peripherally arranged cleats, said sole being adapted for attachment to a shoe by stitching through the said cleats. A still further object is to provide a shoe-sole combination in which a cleated sole has stitches along a line which includes both cleats and grooves. Another object is to provide a cleated sole which readily dislodges foreign matter picked up by the cleats.

The invention, in its best form known to me, is described in the specification to follow, but it will be understood that the invention may be practiced in other forms, and is not to be deemed as limited except insofar as shall appear from the spirit or scope of the appended claims.

In the drawings,

Fig. 1 is a bottom plan view of a sole, according to the invention,

Fig. 2 is a sectional view taken along the line 2-2 of Fig. 1,

Fig. 3 is a side elevational view of a shoe to which the sole of Fig. 1 is being stitched on a sewing machine, and

Fig. 4 is a bottom plan view of the sole of Fig. 1, attached by stitching to a shoe.

Referring to the drawings by characters of reference, there is shown in Fig. 1 a sole 10 having a plane, base area 11, extending into heel portion 12. From the base area 11 extend integral cleats comprising central, isolated cleats 13-16 of any suitable form, and a line of cleats having co-planar ground-engaging surfaces arranged about the periphery of the sole with their outer edges coincident with said periphery. Certain of these outer cleats are designated by the numeral 17, but they partake of various forms, as indicated at 18 and 19, for instance, consistent with the outline of the sole. The cleats have downwardly diverging side walls 17'.

It will be noted in Fig. 2 that the height of cleats 17 above base plane 11 is considerable, as is the case in conventional cleated soles, amounting to about half the total thickness of the sole. It is this condition which has heretofore defied conventional stitching methods.

As an important feature of the present invention, there is provided, between the outer lugs, such as 17, a raised area 20 with its outer boundary coincident with or closely adjacent to the outer periphery of the sole. This provides grooves 21 of considerably less depth than the normal grooves such as 22, which permits the presser foot of a stitching machine to proceed along the line of the outer cleats without malfunctioning, to provide continuous and tight stitching. This is illustrated in Fig. 3 wherein are indicated generally a conventional sewing machine 23, having a needle 24 applying a thread 25 to sole 10, employing a presser foot 26 and a bobbin (not shown) contained in unit 27, to affix the sole to a thin leather sole 28 or welt on a shoe 29. With the grooves 21 shallow as shown, the presser foot 26 negotiates the line of outer cleats in an entirely satisfactory manner, and the stitching is accomplished as effectively as in the case where it is performed along a plane surface. It will be seen in Fig. 4 that the line of stitching is arranged at a distance from the outer periphery of the sole, which is the same as in the ordinary, uncleated shoe sole.

Since the raised portions 20 are necessary only to enable stitching across the cleats, such portion 20 need extend inwardly of the periphery of the sole only so far as reasonably necessary to accomplish this purpose. Thus, as shown, the groove bottoms 20 terminate short of the inner termini of the cleats, leaving recesses such as 30. This preserves a considerable amount of the cleat area having normal depth, and obviously the recesses 30 may be extended outwardly further than the amount illustrated.

The smooth functioning of the stitcher is enhanced by the sloping walls 17' and by providing a rounded corner 31 between the sloping walls 17' and the surfaces 20 of the grooves. This rounded effect has been found to also be of material aid in ejecting adhered dirt or other foreign matter, and is included throughout the cleat structure, as indicated by the lines and shading. Adjacent to the heel portion 12, the shallow raised portions 20 at each end of the row of cleats 17 are connected to the base surface 11 by sloping surfaces indicated at 32 in the drawings.

What is claimed is:

1. A shoe sole comprising a base surface on its under side, a row of cleats extending from said base surface having co-planar ground-engaging surfaces along the peripheral margin of the sole, said sole having shallow recessed portions joining adjacent cleats, each portion having a lower surface intermediate said base surface and said ground-engaging surfaces, said cleats being joined to the recessed portions by downwardly diverging side walls,

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and the ends of said row of cleats being connected to said base surface by sloping surfaces, whereby a line of machine stitching may be applied along and through said cleats.

2. In combination, a shoe upper, a sole having a base surface on its under side, a row of cleats extending from said base surface along the peripheral margin of the sole and having co-planar ground-engaging surfaces, said sole having shallow recessed portions joining adjacent cleats, each portion having a lower surface intermediate the base surface and said ground-engaging surfaces, said cleats

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being joined to the recessed portions by downwardly diverging side walls, and a line of machine stitching uniting the sole to the upper and passing through said cleats and said recessed portions.

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