

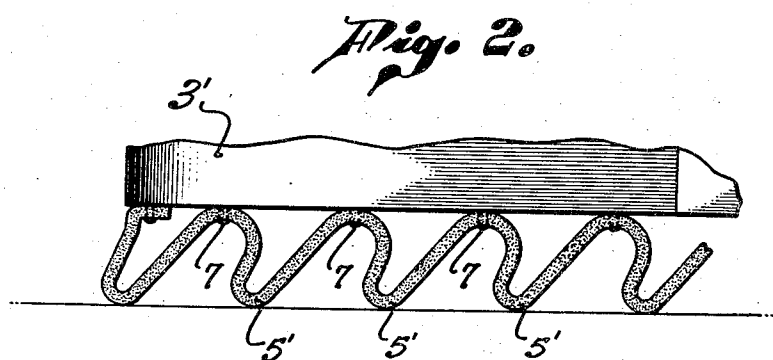
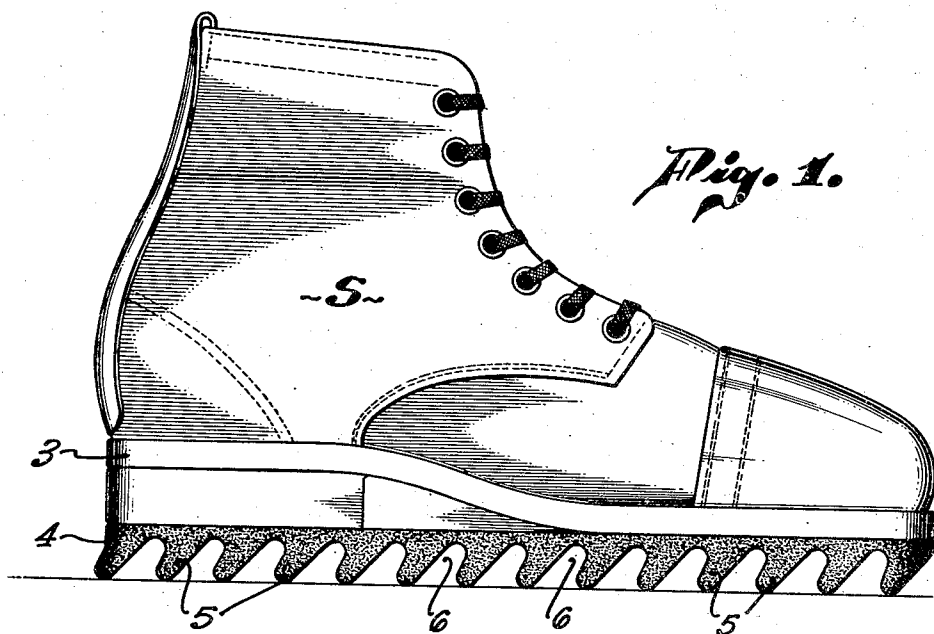
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RESILIENT SHOE SOLES

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RESILIENT SHOE SOLES

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3 Claims. (Cl. 36—28)

This invention relates to resilient shoe soles, and more particularly to certain improvements in the type of resilient shoe soles having undulations or corrugations whereby a certain amount of propulsive action results without increased materials or expense in the manufacture thereof.

There are many types of shoe soles designed to give a springing action as the shoe moves down on to the supporting surface, and this applicant has experimented with many different types and kinds, but has never been fully satisfied with the results.

As a result of these experiments, he has discovered that if the undulations or corrugations formed in the shoe sole, instead of being in a straight vertical position and in which the border members of each corrugation flex in opposite directions, are inclined rearwardly from the sole of the shoe, that a certain forward movement is imparted to the foot and that the resiliency is increased, for the reason that the inclined position of the undulations are off center and any weight placed thereon causes both border members of each corrugation to move forwardly under such weight and downwardly. In other words, the forwardly and rearwardly inclined members of each corrugation flexes forwardly and downwardly together, which is not the case if the undulations or corrugations are straight on vertical centers.

In order to more fully explain my invention, I have illustrated the same on the accompanying sheet of drawings, in which:

Figure 1 is a side elevation of a shoe having my improved resilient sole member in place thereunder; and

Figure 2 is a fragmentary view showing a modified form of the invention.

Referring now in detail to the drawings, the shoe, which can be any type of shoe, for men or women, light walking shoes or heavy landing shoes for parachute jumpers, is designated S.

The sole 3 of said shoe has cemented thereto, or secured in any other practical manner, a resilient member 4, formed or moulded with its body portion having the rearwardly and forwardly inclined toes or elements, 5, 5, providing the inclined spaces or areas therebetween, designated 6. It will be noted that these spaces are wider at their lower sides than at their upper portions, thus making it possible to mould said sole members and withdraw from the mould without any difficulty.

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It will also be noted that the normal form and position of these toes or elements 5, 5, is such that as soon as they touch the floor any movement must necessarily be forwardly and downwardly, as the toes or elements are bodily formed in the parallel, inclined positions as shown.

In Fig. 2, we have shown how the same resilient elements can be formed out of a heavy sheet of material suitable for the purpose, and attached to the regular sole of the shoe, as by nailing, or otherwise, as at 7, 7, the bends or undulations being of the same general form as are the integral toes or elements 5, 5, in Fig. 1. The forwardly and rearwardly inclined, parallel positions of said elements function in the same manner as the same elements in Fig. 1.

In operation, as the shoe engages the floor, each of the toes or elements, at its lower or small end, fulcrums on the floor and the upper part thereof moves downwardly and forwardly under the weight of the foot, thus furnishing a slight forward propulsion to the foot as it moves down onto the floor or surface. The action is the same in both forms of the invention illustrated.

I am aware that changes in the details of the invention as here shown for explanatory purposes can be made, and that the resilient soles can be secured to the regular sole of a shoe in different ways, as by cementing, sewing or nailing, and I do not, therefore, limit the invention to the details here shown, except as we may be limited by the hereto appended claims forming a part of this application.

I claim:

1. A resilient shoe sole formed with a series of spaced parallel resilient projections extending transversely of said shoe sole and at right angles to the length thereof, said projections being inclined rearwardly, whereby weight thereon causes a straight forward movement of the sole as said projections yield under weight.

2. A shoe sole having formed on its under side a series of downwardly and rearwardly inclined resilient projecting members extending transversely of said sole at right angles to its length, said members having tapering and rounded ends, whereby weight on the sole causes a downward and forward movement thereof.

3. A shoe sole formed of resilient material with a series of rearwardly inclined projecting members extending transversely of said sole and inclined in parallel relationship from the top toward the rear, the lower ends of said members being rounded, and the sides of the members diverging upwardly to a rounded juncture with the body of said sole.

References Cited in the file of this patent

UNITED STATES PATENTS

322,224	Watkinson	July 14, 1885
1,765,155	Heady	June 17, 1930
2,408,214	Husted	Sept. 24, 1946

FOREIGN PATENTS

1069/84	Great Britain	Jan. 9, 1884
574,429	Great Britain	Jan. 4, 1946