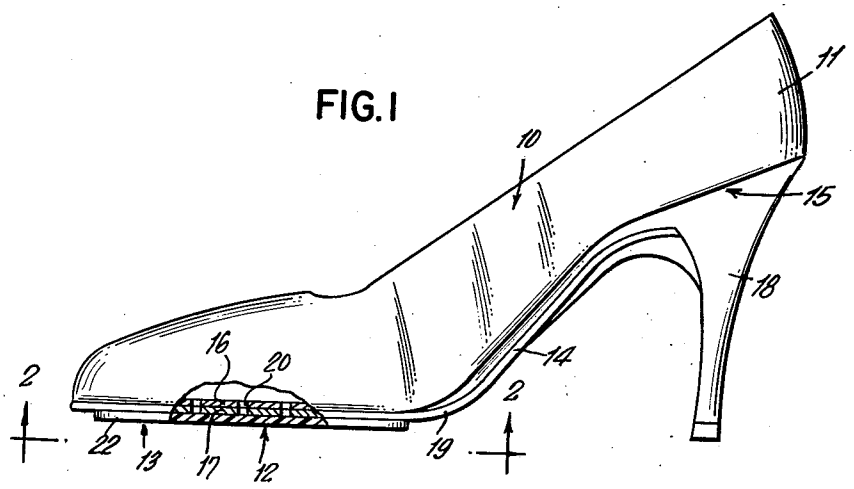
Nov. 6, 1962 B. LEVINE 3,061,950

VENTILATED SHOE

Filed March 8, 1960

FIG. 1



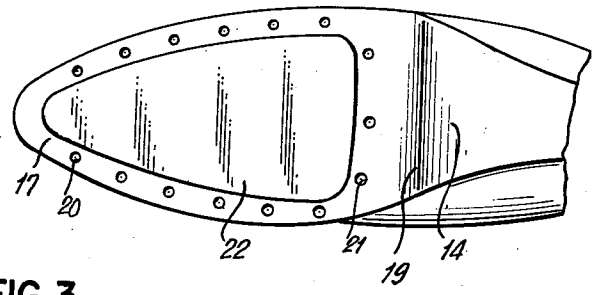
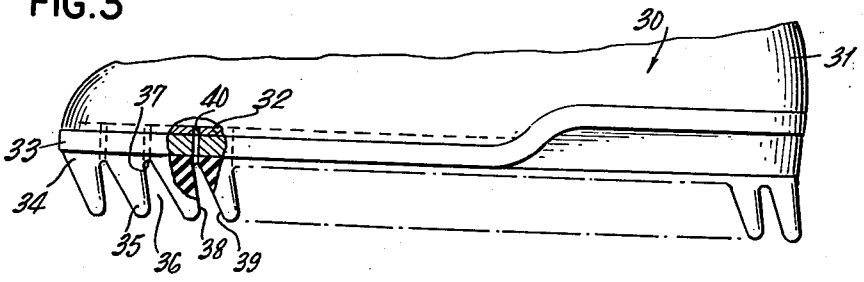


FIG. 2

FIG. 3



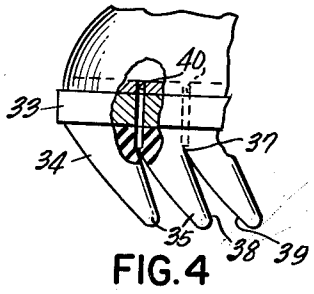


FIG. 4

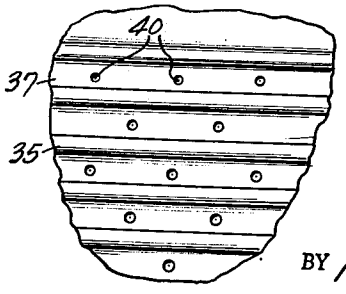


FIG. 5

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VENTILATED SHOE

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Filed Mar. 8, 1960, Ser. No. 13,465
2 Claims. (Cl. 36—3)

This invention relates to a shoe construction, and more particularly to the sole construction thereof.

It is an object of this invention to provide a shoe construction with a sole arrangement, wherein ventilating openings are provided in the sole of the shoe for communication between the interior thereof and the external atmosphere and wherein means are provided for preventing the entry of moisture or other foreign matter into the interior of the shoe while maintaining it in ventilating condition.

It is an additional object of this invention to provide a sole construction for a shoe, wherein a thickened tread portion is provided which is so arranged as to maintain the aesthetic appearance of a relatively thin shoe sole.

Other and further objects, benefits and advantages of this invention will become apparent from the description thereof contained in the annexed specification or will otherwise become obvious. It will be understood that the invention here disclosed may be employed for other purposes to which the structure and arrangement are adapted.

In the accompanying drawings:

FIGURE 1 is a side elevational view of a shoe in accordance with the present invention, partly broken away to show the sole arrangement;

FIGURE 2 is a fragmentary bottom view of the shoe sole of FIGURE 1, as viewed from line 2—2 thereof;

FIGURE 3 is a fragmentary side elevational view of a modified form of shoe sole construction, partly broken away;

FIGURE 4 is a fragmentary view of the shoe construction shown in FIGURE 3, partly broken away to show the closure of the ventilating openings as the weight of the wearer is applied to the shoe; and

FIGURE 5 is a fragmentary bottom view of the modified form of shoe sole construction shown in FIGURE 3.

FIGURES 1 and 2 illustrate one form of the invention as applied to the conventional form of high-heeled women's shoes. The shoe, designated generally by the numeral **10**, consists of an upper **11** and a sole structure **12**, having a forward or ball portion **13**, a shank portion **14** and a heel portion **15**. Sole structure **12** includes an inner sole **16**, an outer sole **17** and a heel member **18**. The sole structure is flexible at the breakline **19** at the juncture of the forward or ball portion **13** with the shank portion **14**.

The forward or ball portion of the outer sole **17** is provided with vent openings **20** disposed in spaced relation along the opposing marginal side edges thereof and similar vent openings **21** disposed forward of the breakline **19**. Vent openings **20** and **21** extend through the inner and outer sole and provide communication between the interior of the shoe and the external atmosphere.

Sole structure **12** is additionally provided with tread portion **22**, which is secured to the undersurface of the ball portion of outer sole **17** by any suitable means. In the form of the invention illustrated, the tread portion **22** is of the same general configuration or outline as the ball portion of the sole to which it is attached. However, said tread portion is of reduced size, so that the marginal portion of the shoe outer sole is left exposed. Consequently, the vents **20** and **21** are left unobstructed. By the provision of tread portion **22**, the marginal portion of the sole structure through which the vent openings **20** and **21** extend, is elevated and maintained out of

contact with the ground, as appears more clearly from FIGURE 1. The tread surfaces of platform **22** and heel member **18** are in a common plane as when in actual engagement with the ground.

It is thus apparent that by reason of the shoe construction herein provided, shoe **10**, when in use by a wearer, as for standing, walking, running, etc., is at all times air-conditioned by the entry of air from the external atmosphere through vent openings **20** and **21**. Additionally, since tread portion **22** elevates the outer sole **17** and its vent openings **20** and **21** from contact with the ground at all times, moisture and foreign matter are prevented from and are unable to enter into the interior of the shoe through vent openings **20** and **21**. It is thus possible to wear the shoes even under adverse weather conditions without discomfort. Furthermore, the provision of the tread portion of reduced dimensions so as to form a marginal step or indentation on the lower surface of the outer sole permits the use of an additional layer of sole material without losing the effect of the appearance of a thin-soled shoe which constitutes a very important consideration in shoes of this type. The provision of an increased thickness of sole material prevents the irregularities of the ground from being communicated to the sole of the foot of the wearer, thereby increasing the wearing comfort characteristics of the shoe, as well as providing for additional shock absorption. The additional sole material provided by the tread portion extends the useful side of the sole structure. These benefits are accomplished while maintaining the desired aesthetic appearance of the shoe sole as heretofore indicated. The ventilation of the shoe sole structure in the manner indicated provides for a considerable improvement in wearing comfort. The tread portion of the shoe sole structure may comprise an appropriately secured layer of sole material or may be formed by cutting away or indenting the marginal edge of the outer sole, in which event said tread portion comprises an integral part of the sole structure. It may also be desirable to provide for a gradual rather than a sharply defined transition from the tread portion to the periphery of the sole structure, as by the marginal edge thereof. In any event, the structure is such as to maintain the apertured portions of the shoe sole in elevated condition while the remainder of the sole is in ground engagement, so as to provide for proper ventilation while preventing the entry of foreign matter or water into the shoe interior. The arrangement also permits the use of materials which do not have the breathing characteristics of leather for the outer sole, since the ventilation provided by the vents more than offsets the otherwise impermeable character of the sole and tread portion material. Thus, rubber and synthetic sole or tread materials may be employed to advantage. The provision of an independently secured tread portion also facilitates the repair of the shoe, since it may be replaced when worn without adverse effects upon the appearance and character of the marginal edges and other portions of the shoe sole. It is also to be noted that since the tread portion is confined to the area forward of the breakline, the flexibility of the shoe is not reduced, although the benefits of a substantially thicker sole are provided by the tread portion of the shoe.

FIGURES 3, 4 and 5 illustrate another embodiment of the invention as applied to a man's shoe, designated generally by the numeral **30**. Shoe **30** is comprised of a shoe upper **31**, inner sole **32**, outer sole **33** having a tread portion **34** co-extensive therewith. The tread portion **34** of the outer sole is preferably made of a suitable resilient material, such as rubber, and is provided with a plurality of corrugations or indentations **35** along the ground engaging face thereof. These corrugations may be slightly angularly inclined towards the rear of the

shoe and are disposed along the width thereof forming channels **36** between successive corrugations **35**, each channel **36** being denfied by base **37** and sides **38** and **39**. Base **37** of each said channels **36** is provided with a plurality of vent openings **40**, which extend upwardly through the outer sole **33** and inner sole **32** for communication with the interior of the shoe and thus providing for the entry therein of air from the external atmosphere. As appears from FIGURE 4, when the weight of the wearer is borne by the shoe, the angular inclination of corrugations **35** toward the rear of the shoe becomes greater due to the compressive force applied and as a result thereof, side walls **38** and **39** in the area of base **37** approach each other and constrict or close off vent openings **40** so that no moisture or foreign matter can enter therethrough. It is evident that the corrugated portions of the shoe tread borne by the outer sole maintain the openings of the vents in elevated condition with respect to the ground surface and automatically act to reduce or close these openings as ground engagement occurs, assuring against the entry of foreign matter and moisture. Thus, a rubber soled shoe is well ventilated and comfortable to wear. The constriction of the lower portion of the vents also tends to force some air upwardly into the shoe interior and an air pumping action is thus achieved during walking which enhances the comfort characteristics of the shoe.

While I have here shown and described a preferred embodiment of my invention, it will be apparent however that this invention is not limited to this embodiment and that many changes, additions and modifications can be made in connection therewith without departing from the spirit and scope of the invention as herein disclosed and hereinafter claimed. Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a shoe,

a sole structure having ball, shank and heel portions, said sole structure comprising an inner sole, an outer sole and a tread portion carried by the undersurface of the ball portion of the outer sole,

said tread portion having a peripheral edge which is laterally inwardly offset from the peripheral edge of the ball portion of the outer sole to define a continuous unobstructed marginal strip on the undersurface of said outer sole ball portion between said peripheral edges,

said tread portion completely covering the undersurface of the outer sole ball portion within said strip,

the under surface of said strip being vertically upwardly offset from the undersurface of said tread portion,

and vent openings defined in said strip at the undersurface thereof,

said vent openings being in communication with the interior of the shoe.

2. A sole structure as in claim 1, said tread portion being spaced in the direction of the toe of the shoe from the juncture of the ball portion and shank portion of said outer sole to define a transverse portion of said continuous strip, and said vent openings being defined also in said transverse strip portion.

References Cited in the file of this patent

UNITED STATES PATENTS

D. 144,460	Kowal	Apr. 16, 1946
429,429	Eckhardt	June 3, 1890
2,030,545	Schulze	Feb. 11, 1936
2,146,888	Fisch	Feb. 14, 1939
2,185,762	Cox	Jan. 2, 1940
2,760,279	Jones et al.	Aug. 28, 1956

FOREIGN PATENTS

1,161	Great Britain	Apr. 6, 1868
17,140	Great Britain	1887
175,743	Germany	Oct. 10, 1906
168,712	Switzerland	July 2, 1934