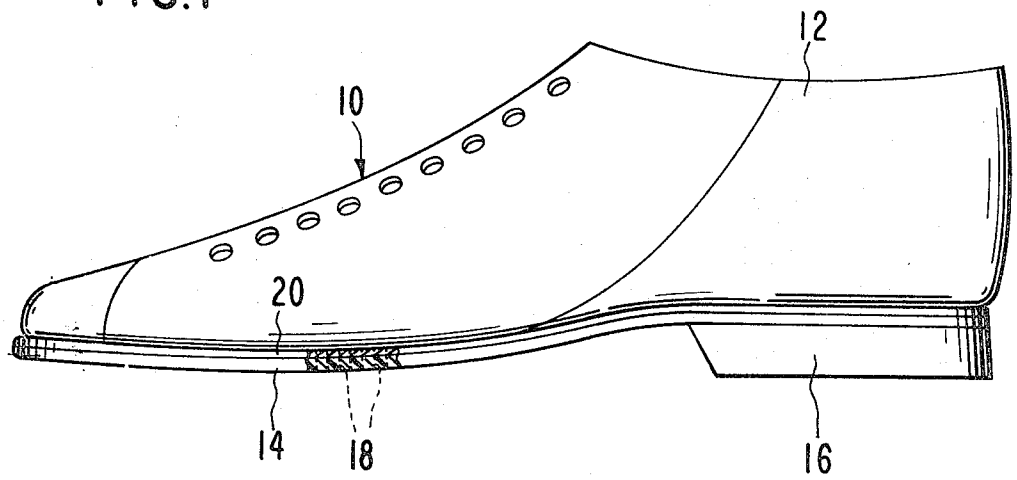
Jan. 5, 1971 L. B. WELCO ETAL 3,552,040

BOWLING SHOE

Filed Oct. 9, 1968

FIG. 1



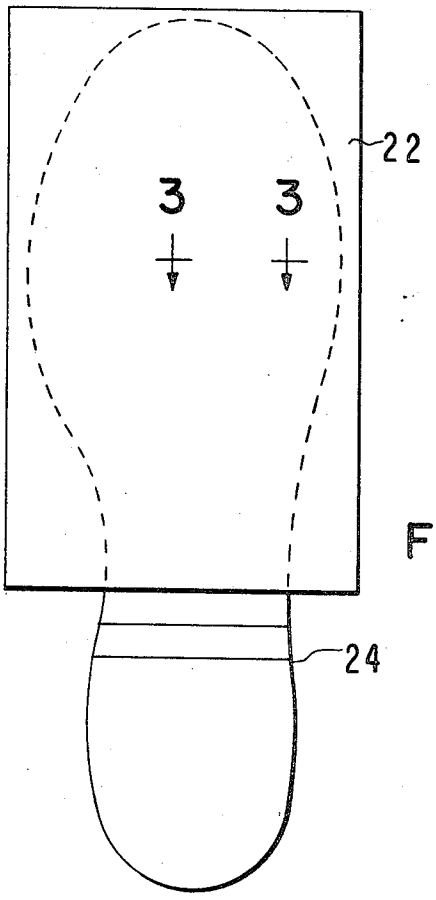
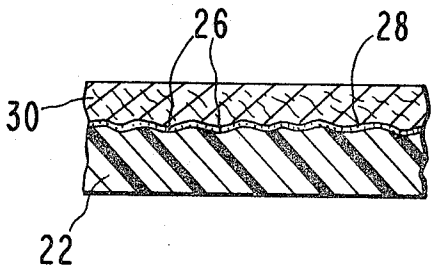


FIG. 2

FIG. 3



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BOWLING SHOE

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U.S. Cl. 36—30 1 Claim

ABSTRACT OF THE DISCLOSURE

A bowling shoe having an improved sole of fluorocarbon material permitting the wearer to approach the foul line of a bowling lane properly notwithstanding the presence of foreign matter on the sole or the approach. The sole may be put on the shoe when it is being made or can be applied to the sole of an existing shoe. The sole is of a size and at a location such that it will provide the foot support at the sole portion of the shoe.

This invention relates to improvements in bowling shoes, and, more particularly, to a bowling shoe having an improved sole.

Bowling shoes in the past have generally been made with leather soles to provide the requisite sliding action of the shoe over the approach area of a bowling lane when the sole is clean and dry. Thus, a bowler, in following through with a bowling shot, will slide forwardly on one foot a short distance toward the foul line of the bowling lane so as to dissipate his forward momentum while executing a smooth delivery of the bowling ball. The leather of conventional bowling shoes allows this sliding action if there is no foreign matter on the sole or on the approach itself. Such foreign matter including water, soft drinks, scoring crayon, paper, dirt and the like. Both the leather sole and the approach must, therefore, be essentially free of such foreign matter; otherwise, the bowler may stop abruptly during the follow-through and delivery of the ball and such stopping generally disrupts the smoothness of the delivery, the most important factor in achieving the proper placement of the ball on the bowling lane.

Oftentimes, the bowler does not realize that foreign matter is on his shoe sole or on the lane approach and it is during the delivery of the ball that this is found out. By that time it is too late to abort the delivery and the pin count suffers as a result. Such an occurrence can sufficiently unnerve a bowler that he will bowl poorly for the remainder of a game.

The present invention provides an improvement for bowling shoes wherein the aforesaid problem is completely eliminated. To this end, the invention is directed to a bowling shoe whose sole is made from a fluorocarbon material, such as Teflon or the like, so that, regardless of the foreign matter on the shoe sole or on the lane approach, the proper sliding action of the bowler's shoe over the approach will result at all times so as to assure an effective delivery of the bowling ball.

The sole of the bowling shoe of this invention provides the foot support at the sole portion of the shoe and may cover substantially the entire wear area of the sole portion although it need not do so. It is only necessary that the fluorocarbon material of the sole be at the only part of the sole portion of the shoe in contact with the lane approach.

Another feature of the invention is that the sole provides for a generally uniform sliding action for the front foot of the bowler. Regardless of the foreign matter in the alley approach or on the sole of the shoe, the bowler

will approach the foul line in a normal manner and without fear of an abrupt stop. Since the sole in contact with the lane approach is of the fluorocarbon material, the friction between the sole and the approach will remain substantially constant at all times notwithstanding the presence of foreign matter on the approach or on the sole of the shoe. The bowler is thus assured of the proper foot sliding action at all times so that he will not be required to test the lane approach or to anticipate an abrupt stoppage as is oftentimes the case with the use of conventional bowling shoes.

The primary object of this invention is, therefore, to provide a bowling shot having a sole formed of fluorocarbon material to permit a bowler to slide smoothly and uniformly over the approach to the foul line of a bowling lane at all times regardless of the presence of foreign matter on the shoe sole or on the approach itself.

Another object of this invention is to provide a bowling shoe of the type described wherein the sole can be put on the shoe when the shoe is made or can be attached to the sole of an existing shoe.

Still another object of this invention is to provide an accessory for a bowling shoe wherein a sheet of fluorocarbon material is provided for attachment to an existing bowling shoe to thereby allow the invention to be used at a minimum cost to the bowler and without having to buy new bowling shoes.

Other objects of this invention will become apparent as the following specification progresses, reference being had to the accompanying drawing for an illustration of the invention.

In the drawing:

FIG. 1 is a side elevational view of a bowling shoe having a fluorocarbon sole stitched to the upper of the shoe;

FIG. 2 is a bottom plan view of the shoe and an oversized sheet of fluorocarbon material positioned adjacent to the sole of the shoe and capable of being trimmed to the size of the sole; and

FIG. 3 is an enlarged cross-sectional view of the sole taken along line **3**—**3** of FIG. 2.

To illustrate the teachings of the present invention, a bowling shoe **10** is shown in FIG. 1 and includes an upper **12** for receiving the foot of the bowler. A sole **14** and a heel **16** are secured to the lower portion of upper **12**. For purposes of illustration, sole **14** is secured by stitches **18** to a strip **20** forming the lower portion of upper **12**. Heel **16** is secured in any suitable manner, such as by tacks or by an adhesive, to the rear part of sole **14**.

Sole **14** is formed from a fluorocarbon material, such as Teflon or the like, such material allows a bowler to slide easily over an approach to the foul line of a bowling lane regardless of foreign matter between the sole and the approach itself.

Sole **14** is of a size and is located to provide the entire foot support at the sole portion of the shoe. For purposes of illustration sole **14** is shown in the drawing as covering substantially the entire wear area of the sole portion. Thus, the sole portion has no other material, such as leather or the like, which is exposed to the lane approach. Since conventional bowling shoes are generally formed of leather, their soles absorb moisture, such as water, soft drinks or the like, and require a relatively long drying period before the bowler can safely execute a delivery of the bowling ball without fear of being stopped abruptly during his approach to the foul line.

In the alternative, sole **14** need not cover the entire wear area of the sole portion so long as the sole is constructed and located to provide the entire foot support at the sole portion of the shoe. For instance, the sole could be formed from a grid-like member of fluorocarbon material wherein certain areas of the upper of the shoe

may be visible but not capable of contacting a lane approach. Also, a number of longitudinal or transverse strips of fluorocarbon material can be used to form the sole.

Since the fluorocarbon material of sole **14** will slide over the lane approach regardless of the foreign matter on the sole or the approach, the shoe of this invention allows a bowler to properly execute a delivery without an abrupt stop. Also, there will be essentially a uniform sliding action of the shoe over a lane approach since the frictional effects between the shoe sole and the wood of the lane approach will be substantially constant.

While both shoes of a bowler may have fluorocarbon soles, only one shoe, namely, the shoe of the front foot, is required to have such a sole to assure the proper slide or approach to the foul line of a bowling lane. This will normally be the left shoe for a right-handed bowler.

FIG. 1 illustrates the way in which the sole can be attached during manufacture of the shoe. Fluorocarbon material is made and sized so that it can be stitched to strip **20** of upper **12**. Thus, bowling shoes can be made and sold with the fluorocarbon sole already on the shoes so that the shoes will immediately be ready for use.

While a sole of fluorocarbon material will eventually wear due to continued use, a bowler can resole the shoe with a sheet of fluorocarbon material in some suitable manner, such as by an adhesive in a manner to be described.

A conventional bowling shoe having a sole of leather or other material may be provided with a fluorocarbon sole by providing a sheet of fluorocarbon material and securing the same to the sole of the existing shoe in some suitable manner, such as by an adhesive. To illustrate this, reference is had to FIGS. 2 and 3 which show a sheet **22** of fluorocarbon material adjacent to the sole of an existing shoe **24**. The sheet has an upper surface provided with irregularities which define grooves or recesses **26** into which a layer **28** of adhesive can be placed. Also, the lower surface of the sole **30** of shoe **24** can be roughened to provide additional surface irregularities into which the adhesive will flow to assure a suitable bond between heel **22** and sole **30**.

While sheet **22** can be cut to specific shoe sizes and shapes, it is conveniently oversized as shown in FIG. 2 so as to be usable with bowling shoes of different sizes. For purposes of illustration, the sheet is initially rectangular and has a length and width greater than the sole portion

of shoe **24**. Sheet **22** can be trimmed either before or after it is secured to sole **30**. This trimming can be done with a knife or other suitable tool. The surface irregularities in the sheet **22** and sole **30** can be made, for instance, by sandpaper. The adhesive can be of any suitable type, one which will retain the sheet on sole **30** during normal usage.

The utilization of an oversized sheet **22** of fluorocarbon material allows the teachings of the invention to be provided for conventional bowling shoes and also allows the sheet to be sold with or without the adhesive as an accessory to a bowling shoe. The application of the sheet to an existing bowling shoe is quite simple and requires no special skills.

While the foregoing relates to applying a single sheet to the sole of a conventional bowling shoe, the same teachings can be followed in applying fluorocarbon strips to such a sole to present a sole which provides the entire foot support at the sole portion of the shoe. The strips can be placed in any suitable location sufficient to maintain the leather or other material forming the original sole of the bowling shoe out of contact with a lane approach during the delivery of a bowling ball.

The fluorocarbon material can be comprised of a combination of Teflon and glass in predetermined portions. This feature provides for a controlled slide of the sole on a lane approach yet still assures that the presence of foreign matter on the sole or the approach will not adversely affect the normal delivery of the ball. For purposes of illustration, the combination can be 50% Teflon and 50% glass.

What is claimed is:

1. In a bowling shoe having a sole: a sheet of material for attachment to the sole of the shoe, said material being a combination of Teflon and glass; and means engageable with said sheet and adapted to engage said sole for interconnecting the same, said sheet having a size substantially equal to the wear area of the sole.

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