March 4, 1969 J. F. DEE, JR 3,430,365

LOW CUT SPORTS SHOE

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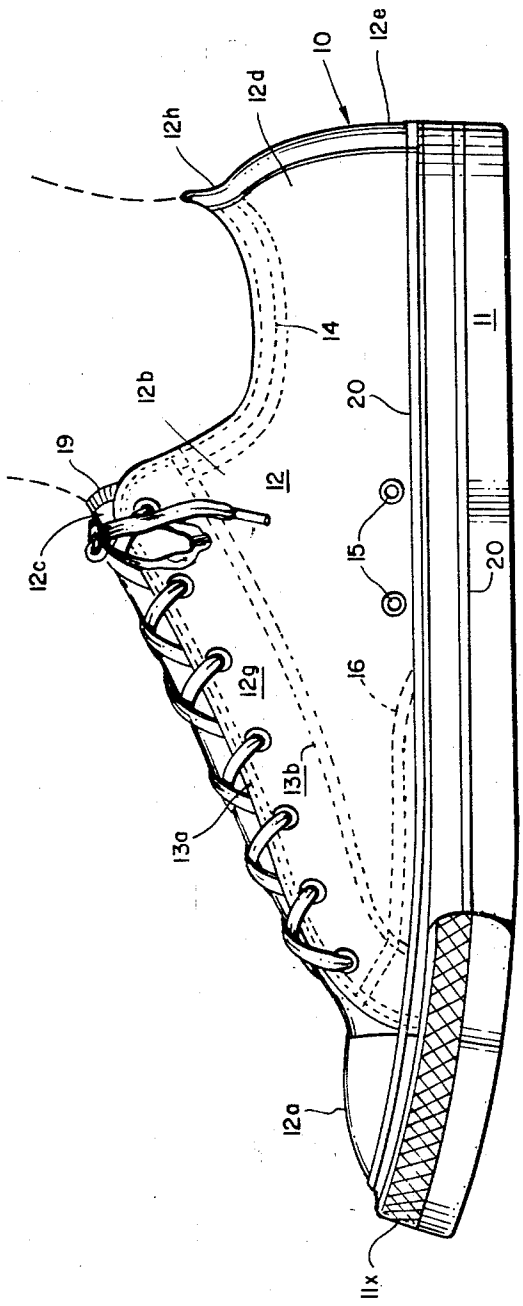


FIG. 1

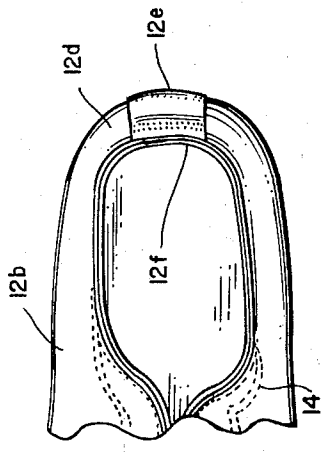


FIG. 3

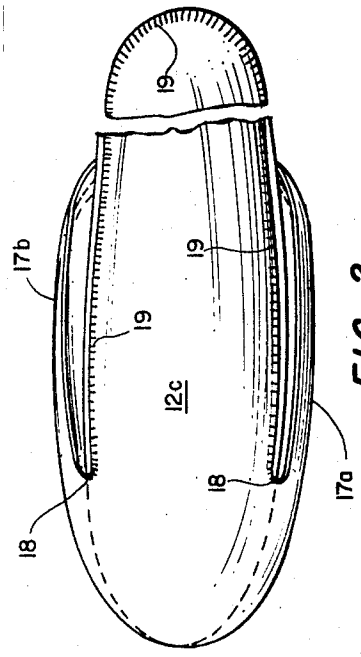


FIG. 2

INVENTOR.
JOHN F. DEE, JR
BY
McGrew & Edwards
ATTORNEYS

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LOW CUT SPORTS SHOE

John F. Dee, Jr., Notre Dame, Ind.
(52540 Brooktrails, South Bend, Ind. 46637)

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ABSTRACT OF THE DISCLOSURE

Low cut basketball shoe having resilient sole with friction tread surface, multi-ply fabric cover for toe, instep and heel portions of foot secured to sole, tongue formed as extension of toe covering enclosed by lacing structure drawing covering into close fitting relation to foot. Reinforced rear portion of heel covering generally S-shape in elevation with upper end nearer toe covering than end adjoining sole and at elevation about midway between sole and extended end of tongue. Edges of covering between top of rear heel portion and top of lacing structure S-shaped in elevation, oval in plan and when drawn by lacing in circumferential close-gripping contact prevent foot withdrawal by exteriorly applied forces. Tongue extension of inner toe covering secured to instep covering with filleted interconnection.

My invention relates to basketball shoes and the like, particularly of the low cut type.

Basketball shoes formerly were a high upper type requiring an extensive amount of lacing and the extended upper portion frequently caused a considerable amount of discomfort and sometimes injury to the wearer's skin and tissue because of rubbing, chafing and other causes. More recently, players have acquired a decided preferance for the low cut type and in general such shoes have been quite satisfactory. However, in the play of basketball, a player's heel is frequently stepped on and with the forces so applied the upper edges of the shoe are incapable of confining the foot within the shoe. With the shoe removed, the player lacks proper foot traction, cannot maneuver adequately and risks injury in trying to do so.

While existing rules in professional basketball permit calling a "time-out" for replacing a shoe so removed, the high school and college basketball rules do not, and when a player loses his shoe in the college game he has to retrieve and replace it whole play continues, placing his team at a considerable disadvantage. In any event, the injury risk is substantial whenever a shoe is removed accidentally during play, as by stepping on the heel.

Another difficulty with basketball shoes heretofore available is the manner in which the tongue is formed and secured on the inner surface of the shoe. The stitching and reinforcing of the tongue and adjoining inner surfaces of the shoe frequently produce wrinkles and other surface irregularities immediately over the toes and lower instep which cause considerable irritation and sometimes blisters in the continuous foot flexing movements required in the play.

Accordingly, it is an object of my invention to provide a simple, efficient and durable sports shoe particularly adapted for use in basketball games, which is of the low-cut type and when secured on a foot of the user by drawing the top surfaces into circumferential close-fitting contact with the top of the foot, accidental removal by externally applied forces is effectively prevented.

Another object of my invention is to provide a novel tongue extension of an inner ply of the sports shoe upper of generally T-shape with a filleted interconnection with adjoining inner ply surfaces so constructed as to permit use of a reinforced stitching attachment and arranged for essentially wrinkle-free positioning after lacing.

A further object of my invention is to provide a simple, durable and efficient sports shoe of the low-cut type having a novel shaping of its top foot-enclosing portions and suitable reinforcing thereof to maintain the foot of the wearer in close-fitting contact, and which is comfortable at all times during vigorous foot movements and effective to prevent accidental shoe removal by externally applied forces.

Other objects reside in novel details of construction and novel combinations and arrangements of parts, all of which will be set forth in the course of the following description.

The practice of my invention will be described with reference to the accompanying drawings illustrating a typical sports shoe construction embodying features of my invention and which is a preferred embodiment of such a shoe used as a basketball shoe. In the drawings, in the several views of which like parts bear similar reference numerals,

FIG. 1 is a side elevation of a sports shoe embodying features of my invention with stitching reinforcement and a portion of user's foot shown in dash lines;

FIG. 2 is a top plan view of the T-tongue assembly included in the sports shoe shown in FIG. 1 and viewed as if the external covering plies or layers of the shoe upper had been removed; and

FIG. 3 is a fragmentary top plan view of the heel and upper foot-contacting portions of the shoe shown in FIG. 1.

As shown in FIG. 1, the sports or basketball shoe generally designated **10** comprises a sole portion **11** formed of a suitable flexible or resilient material, such as rubber, which is secured to a fabric upper portion **12**, preferably a multi-ply material, to form an integral assembly. The sole portion **11** as shown is a rocker-type having a convex sole and a suitable tread surface (not shown). It is intended that in the practice of my invention, the sole portion will conform to the standards preference of the users. The material of the upper portion also may be any suitable composition, preferably conforming to user's standards, and usually is a durable grade of canvas. If desired, a scuff-resistant reinforcement **11***x* may be formed or secured on the forward toe portion of sole **11**. If desired, color ornamentation such as stripes **20** may be provided.

The upper portion **12** as shown is of the low-cut type having special shaping and construction features which will now be described. For functional reference, it comprises a toe covering portion or cap **12***a*, an instep covering portion **12***b* (vamp and top), tongue **12***c* formed as an extension of toe covering portion **12***a*, heel covering portion **12***d* which includes a counter **12***e* and backstay **12***f* (FIG. 3), and lacing structure **12***g* having stitching reinforcement **13***a* and **13***b*. The counter **12***e* of heel covering portion **12***d* includes an extra layer of fabric secured on the fabric of covering **12***d* by stitching or in any other suitable manner, and is stiffened to maintain a general S-shape in elevation by stiff but flexible reinforcing material (not shown) secured between counter **12***e* and back-

stay **12***f*. The upper terminal portion of the S-shaped contour has a substantial concavity **12***h* which assists in providing the desired confining contact with the gripped portion of the wearer's foot.

The top of the S-shaped contour is substantially nearer the toe covering or cap **12***a* than its lower end adjoining sole **11** and is at an elevation approximating one-half the vertical distance between the sole and the extended end of the tongue in its foot-covering position. In the scale shown in FIG. 1, the proportioning is about as 7:10. The top surfaces or edges of instep covering portion **12***b* have an S-shape between the top of counter **12***e* and the top of lacing structure **12***g* as viewed in elevation in FIG. 1, and said edges are in substantially oval arrangement when viewed in plan as in FIG. 3. This shaping provides a circumferential close-gripping contact with the wearer's ankle adjacent the top of the heel, and the spacing of the edges when drawn into such contact by the lacing effectively creates a "heel lock" which prevents foot withdrawal when the heel is stepped on. As shown in FIG. 1, suitable reinforcing such as stitching **14** keeps the upper contact surfaces relatively stiff although they possess sufficient flexibility to be comfortable to the wearer. If desired, ventilation may be provided for the shoe interior by locating one or a plurality of eyelet vents **15** on each side of instep covering portion **12***b* as shown in FIG. 1.

The sports shoe of the present invention which may be used in playing basketball, volley ball, badminton, etc. has a novel tongue and fastening assembly referred to hereinbefore as the T-tongue construction, which will now be described with reference to FIGS. 1 and 2. The tongue **12***c* is a rearward extension of toe covering portion **12***a* and other elongated, rearward extension portions **17***a* and **17***b* at opposite sides of tongue **12***c* have a filleted interconnection therewith as shown at **18** in FIG. 2 and are secured to an inner ply or surface of the instep-covering portion by stitching reinforcement **16** as shown in FIG. 1. Preferably, tongue **12***c* has a bordering stitching reinforcement **19** extending around its outer end and throughout the length of its sides including the filleted interconnections **18**. This shaping and fastening arrangement effectively avoids formation of wrinkles or other irregular surfaces on the inner shoe surface over the toes and lower instep after lacing, thereby preventing foot irritation and blistering under conditions of almost continuous foot flexure. Although not shown, the interior of the shoe will preferably have a slip sole and cushioned inner sole.

A shoe construction as shown and described permits free and full foot and ankle action during the play of the basketball game with a positive fastening which prevents accidental shoe removal and provides good foot support. The shoe is comfortable to wear, provides ample cushioning and ventilation of the foot, and possesses sufficient durability to maintain the structural requisites of its intended functioning over long periods of use. The special shaping and fastening requirements of the assembly do not add appreciably to manufacturing cost.

While the shoe construction features illustrated in the drawings and described hereinbefore have particular advantage in "low-cut" sports shoes, the "T-tongue" assembly and the "heel lock" feature also are advantageous in "high cut" sports shoes, as the available types now on the market are not effective at all times, in preventing shoe removal when a player steps on another's heel. Also, the T-tongue assembly is effective in preventing foot blistering which frequently occurs to players wearing available "high cut" shoes.

Another innovation in the shoe construction illustrated and described is the provision of what was referred to hereinbefore as the rocker which is illustrated in FIG. 1. As shown, the sole portion **11** includes a slightly elevated position of the tread surface at the forward end when the wearer is in a standing position. The heel portion is relatively flat and is connected with another relatively flat tread surface which merges in a slight curvature with the elevated forward tread surface.

Because of this shaping, the player distributes his weight on the intermediate and rearward portions of the sole in such a way that he obtains a heel lift effect tending to assume an "on the toes" position during movement which tends to give him better traction in such movement and a feeling of confidence that he has such traction when moving over the polished floor surface.

The utilization of the features of my invention is particularly advantageous in the low-cut shoe, in that such shoe affords as much ankle protection to the player as available high-cut shoes and has the advantages of comfort and freedom of movement which the high cuts do not possess. It will be understood that the "T-tongue," "heel lock" and "rocker last" construction features of my invention may be embodied in shoes other than those shown and described herein.

I claim:

1. A sports shoe having a sole portion formed of a resilient material including a friction tread surface, a multi-ply fabric upper portion secured to the sole portion as an integral assembly and covering the toe, instep and heel of a wearer, an elongated extension of an inner ply of the upper portion disposed rearwardly from the toe covering with its sides and rear end separated from the fabric upper portion and forming the tongue of said shoe, a reinforced rear portion of the heel covering of generally S shape in elevation with the upper end thereof substantially nearer the toe covering than its end adjoining the shoe sole and at an elevation approximately one-half the vertical distance between the sole and the extended end of the tongue in its foot covering position, the edges of the covering portion between the top of the reinforced rear heel portion and the top of the lacing structure being S shaped in elevation and substantially oval in plan so as to be held in circumferential close gripping contact with the wearer's ankle adjacent the top of the heel, and the spacing of said top edges when drawn into close gripping contact by the lacing preventing foot withdrawal by exteriorly applied forces directed against the heel of the shoe.

2. A sports shoe having a sole portion formed of a resilient material including a friction tread surface, a multi-ply fabric upper portion secured to the sole portion as an integral assembly and covering the toe, instep and heel of a wearer, an elongated extension of an inner ply of the upper portion disposed rearwardly from the toe covering with its sides and rear end separated from the fabric upper portion and forming the tongue of said shoe, and rearward extensions of an inner ply of the toe covering portion fitted against and secured to interior surfaces of the instep covering portion laterally of and in spaced relation to the forward end of the tongue.

3. A sports shoe as defined in claim **2**, in which said tongue has a filleted interconnection with said inner ply.

4. A sports shoe as defined in claim **2**, in which the separated sides and rear end have stitching reinforcement.

5. A sports shoe having a sole portion formed of a resilient material including a friction tread surface, a multi-ply fabric upper portion secured to the sole portion as an integral assembly and covering the toe, instep and heel of a wearer, an extension of the upper portion disposed rearwardly from the toe covering and forming the tongue of said shoe, a reinforced rear portion of the heel covering of generally S shape in elevation with the upper end thereof substantially nearer the toe covering than its end adjoining the shoe sole and at an elevation approximately one-half the vertical distance between the sole and the extended end of the tongue in its foot covering position, the edges of the covering portion between the top of the reinforced rear heel portion and the top of the lacing structure being S shaped in elevation and substantially oval in plan so as to be held in circumferential close gripping contact with the wearer's ankle adjacent the

top of the heel, the S-shape in elevation including a lower intermediate portion and ascending forward and rear curved portions, and the spacing of said top edges when drawn into close gripping contact by the lacing preventing foot withdrawal by exteriorly applied forces directed against the heel of the shoe.

6. A sports shoe as defined in claim **5**, in which the S-shaped portion of the heel covering includes a substantial concavity adjacent its top.

7. A sports shoe as defined in claim **5**, in which the sole portion is a rocker last having a substantially flat heel portion and a curved portion extending under the toe and a substantial distance under the instep covering.

8. A sports shoe as defined in claim **5**, which is a low cut type and has its oval portion at approximately the elevation of the top of the wearer's heel.

9. In a sports shoe of the low-cut type having a sole portion formed of a resilient material including a friction thread surface, a fabric upper portion secured to the sole portion as an integral assembly and covering the toe, instep and heel of a wearer, and an extension of the toe covering forming a tongue adapted to be enclosed by a lacing structure arranged for drawing upper surfaces of the instep covering in snug-fitting relation to the wearer's foot, the improvement which comprises rearward extensions of the toe covering portion fitted against and secured to interior surfaces of the instep covering portion laterally of and in spaced relation with the forward end of the tongue and having a filleted interconnection with said forward end, a reinforced rear portion of the heel covering of generally S-shape in elevation with the upper end thereof substantially nearer the toe covering than its end adjoining the shoe sole and at an elevation approximately one-half the vertical distance between the sole and the extended end of the tongue in its foot-covering position, the edges of the covering portion between the top of the reinforced rear heel portion and the top of the lacing structure being S-shaped in elevation and substantially oval in plan so as to be held in circumferential close-gripping contact with the wearer's ankle adjacent the top of the heel, and the spacing of said top edges when drawn into close-gripping contact by the lacing preventing foot withdrawal by exteriorly applied forces directed against the heel of the shoe.

10. In a sports shoe of the low-cut type having a sole portion formed of a resilient material including a friction thread surface, a fabric upper portion secured to the sole portion as an integral assembly and covering the toe, instep and heel of a wearer, and an extension of the toe covering forming a tongue adapted to be enclosed by a lacing structure arranged for drawing upper surfaces of the instep covering in snug-fitting relation to the wearer's foot, the improvement which comprises rearward extensions of the toe covering portion fitted against and secured to interior surfaces of the instep covering portion laterally of and in spaced relation with the forward end of the tongue and having a filleted interconnection with said forward end, stitching reinforcement for the outer edge of said tongue extending around said filleted portion, a reinforced rear portion of the heel covering of generally S-shape in elevation with the upper end thereof substantially nearer the toe covering than its end adjoining the shoe sole and at an elevation approximately one-half the vertical distance between the sole and the extended end of the tongue in its foot-covering position, the edges of the covering portion between the top of the reinforced rear heel portion and the top of the lacing structure being S-shaped in elevation and substantially oval in plan so as to be held in circumferential close-gripping contact with the wearer's ankle adjacent the top of the heel, and the spacing of said top edges when drawn into close-gripping contact by the lacing preventing foot withdrawal by exteriorly applied forces directed against the heel of the shoe.

11. A sports shoe as defined in claim **10**, in which the upper portion is a multi-ply fabric, and the tongue and rearward extensions are extensions of an inner ply.

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PATRICK D. LAWSON, *Primary Examiner.*

U.S. Cl. X.R.

36—54

Disclaimer

3,430,365.—*John F. Dee, Jr.*, Notre Dame, Ind. LOW CUT SPORTS SHOE. Patent dated Mar. 4, 1969. Disclaimer filed Sept. 19, 1977, by the inventor.

Hereby enters this disclaimer to claims 2, 3 and 4 of said patent.

[*Official Gazette November 29, 1977.*]