

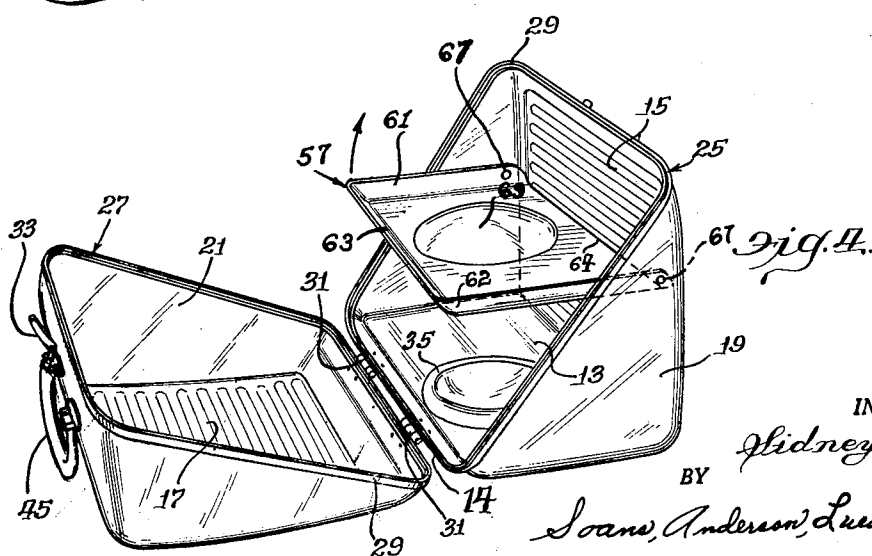
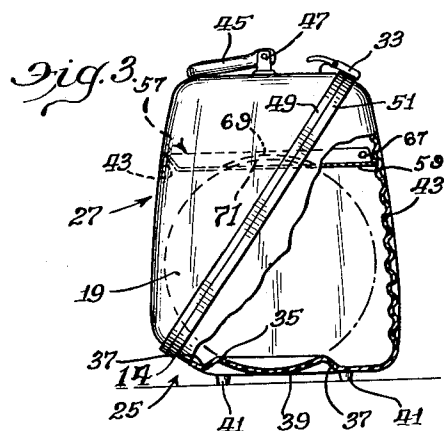
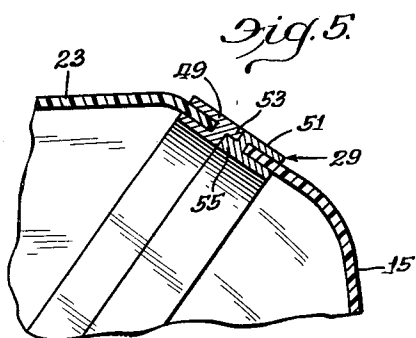
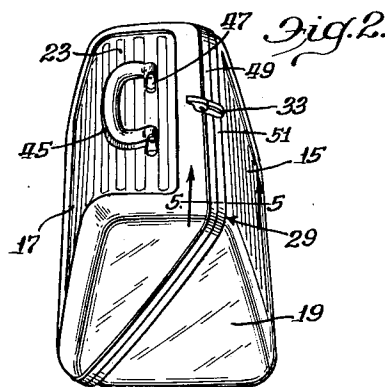
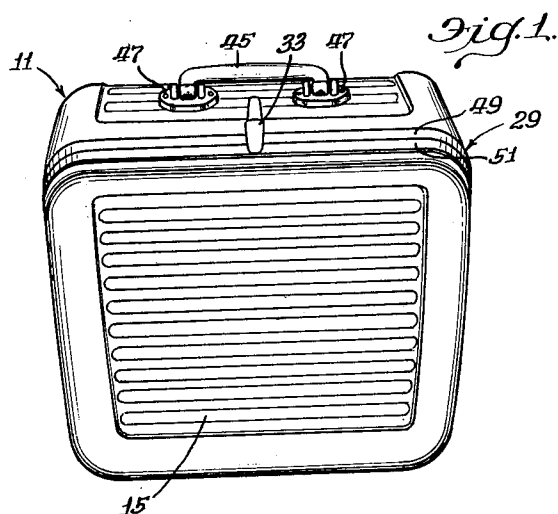
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CARRYING CASE

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3,136,398 CARRYING CASE

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This invention relates generally to carrying cases for sporting equipment, and more specifically, to a case particularly adapted to facilitate the carrying of a bowling ball and other bowling accessories.

Various means have been provided for transporting individual bowling balls, bowling shoes, and other related accessories. Flexible bowling ball bags, fabricated of cloth or plastic, are now well-known, but bags of this type provide little protection for the ball.

Further, the handles of such bags are normally secured by rivets or fasteners, and the flexible material frequently weakens at the area of attachment, resulting in eventual tearing and necessitating either extensive repair or replacement.

In addition, with the use of a flexible material, the shape of the bag when carried conforms rather closely to the shape of the ball. Hence, even when the bag is opened, as by a zipper, the removal of the ball is often difficult because of the tendency of the bag to cling to the ball while the ball is being lifted out of the bag. Frequently, therefore, the bag must be held with one hand while the ball is lifted out with the other.

Moreover, when shoes and other equipment are carried in the bag and are shoved into the space between the walls of the bag and the ball, they are not readily accessible and in addition, the storage and carrying of the shoes in that manner causes the soles of the shoes to assume a curved shape as a result of being pressed into intimate contact with the ball, making them uncomfortable and of relatively shorter life.

Attempts have been made to provide carrying cases of rigid material so as to overcome some of the objectionable features inherent in the flexible bag, but none of the rigid cases now available is openable in a manner providing ready and complete access to its contents while standing in a stabilized upright or carrying position on the floor.

Furthermore, whereas the side walls of bowling ball cases formed of flexible material tend to grip the ball to a certain extent when the case is being carried and thereby prevent movement of the ball within the case, no such feature is present in known cases formed of a rigid material, and repeated contact between the ball and the walls of the case, if the ball becomes dislodged and moves therein, eventually mars the surface of the ball, thus making the use of such cases less desirable.

The principal object of the present invention, therefore, is to provide an improved rigid, carrying case for a bowling ball which will permit easy insertion and removal of the ball while the case stands on the floor. A further object of the invention is to provide a case for a bowling ball in which bowling shoes can also be stored without deformation because of the contact with the ball.

A still further object of the invention is to provide a rigid case for a bowling ball which includes means for fixing the ball in place within the case.

Other objects and advantages of the invention will become apparent with reference to the following description and accompanying drawings.

In the drawings:

FIGURE 1 is a perspective side view of a case in accordance with the present invention;

FIGURE 2 is a perspective end view of the case of FIGURE 1;

FIGURE 3 is a partially sectioned end view of the

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case of FIGURE 1, showing an outline of a bowling ball as it would appear supported within the case;

FIGURE 4 is a perspective view of the case of FIGURE 1 with the case in an open position; and

FIGURE 5 is an enlarged partially broken away sectional view taken along line 5—5 of FIGURE 2.

Referring to the drawings, and in particular to FIGURES 2 and 3, the present invention comprises a hollow case 11 having a base member 13, side walls 15 and 17, end walls 19 and 21, and a top wall 23. The case 11 has a generally trapezoidal cross section as viewed from one end (FIGURE 3), with the side walls tapering inwardly slightly toward the top and the top wall 23 being thereby somewhat narrower than the base 13. The walls are rounded where they meet with one another to provide an attractive appearance, and also to eliminate sharp edges or corners which would make carrying of the case uncomfortable, as well as subject it to excessive local wear.

The case 11 is divided into two parts along a plane which passes diagonally through the end walls 19 and 21 so as to provide a lower or bottom shell 25 and an upper or closure shell 27 each of which is open on one side. Both of the resulting upper and lower shells are of a generally triangular cross-section and mate with each other along a rim 29, which defines their open side, in a manner which will be described in detail shortly.

The upper and lower shells 25 and 27 open to the position shown in FIGURE 4, in which the entire contents of the case are completely visible and accessible, and from which the ball can be easily lifted without interference from the side or end walls, but more important, without any necessity for further re-orientation of the case on any surface where it may conveniently have been put down.

The upper shell swings between the open and closed positions on a pair of hinges 31 which interconnects a side edge 14 of the base 13 with a lower side edge of the closure shell 27. As shown in FIGURE 3, the side edge 14 is turned upwardly somewhat adjacent the hinge 31 so as to elevate the hinge above the plane of the base. Thus, when the case is opened, the upper shell may lie flat on the floor without exerting any lifting leverage tending to rock or upset the base shell 25. Further, placing of the closure shell 27 in the open position shown in FIGURE 4 does not upset the stability or balance of the bottom shell 25 so as to cause it to tip or become otherwise displaced from its normal position.

The upper and lower shells of the case 11 are maintained in a closed condition by a releasable clasp 33 provided at the top of the case, as shown most clearly in FIGURES 2 and 3. The clasp is of the type commonly used for luggage and similar cases and, because it is relatively well-known in the art, will not be described herein in further detail.

To strengthen the structure of the bottom shell 25, and also to provide a means for maintaining a ball in place within the case, the base 13 is formed so as to include a ball-retaining ring 35. As shown in FIGURE 3, the ring 35 is integral with the base 13 and includes an outer side wall 37 and an inner dish 39 which has a shape corresponding to that of the surface of the ball so as to enable it to distribute the weight of the ball over a larger area. The side wall 37 of the ring is inclined inwardly and upwardly slightly and, although the base is constructed of a relatively rigid material, the ring 35 will flex slightly in response to the weight of the ball and cushion the ball from shock during handling of the case.

The lower surface of the base is raised from the supporting surface by pads or feet 41 to permit flexing of the base for a cushioning effect when the ball is placed in the case. The pads 41 are preferably formed of rubber or other resilient material and are located so that the hinge

31 overhangs somewhat a pair of the pads so as to thereby further facilitate the opening and closing of the case.

The side wall 15 of the bottom shell 25 and the side wall 17 of the closure shell 27 are preferably stiffened, as by ribs or corrugations 43 as seen in FIGURE 3.

The closure or upper shell 27 of the case comprises generally the top wall 23, the side wall 17, and the upper sections of the end walls 19 and 21. The closure 27 is provided with a carrying handle 45 which is pivotally mounted on the top wall 23 by means of a pair of brackets 47.

In order that the case may be closed in such a manner that it will protect the contents from the weather, dust, etc., the rim 29 of each of the upper and lower shells is provided with a metal border 49 and 51 respectively, as shown in FIGURE 5. The borders 49 and 51 mate with one another so that they overlap slightly and thereby provide a generally weather-tight seal. In this regard, the border 49 includes an upper flange 53 and the border 51 includes a lower flange 55, with the flange 53 overlying the flange 55 when the case is in a closed position.

Support for various bowling accessories, as well as a means for preventing dislodgement of the ball from the ring 35 is provided by a shelf 57 pivotally mounted within the case 11 in overlying relation to the ball and engageable with the upper surface thereof so as to fix the ball in place. The shelf 57 comprises a flat generally rectangular plate 59 which is curved upwardly at its side edges so as to provide end walls 61 and 62 and a side wall 63 which serves to retain items on the upper surface of the shelf. A fourth edge 64 of the plate 59 remains relatively flat.

The shelf 57 is sufficiently wide to accommodate a pair of shoes (not shown) and, of course, various smaller items if desired.

The shelf is pivotally mounted within the case 11 so that it can be moved from a ball-engaging horizontal or first position to an out of the way upwardly inclined or second position (not shown) which will facilitate insertion and removal of the ball. The pivotal mounting is accomplished by means of rivets 67 which secure the curved end walls 61 and 62 to the uppermost corner of the end walls 19 and 21 respectively of the base shell 25, with the flat edge 64 of the shelf being adjacent the side wall 15 of the base shell. Downward pivotal movement of the shelf past the horizontal position is limited by engagement with the ball and by the engagement of the rearward edge 64 of the shelf with the side wall 15 of the base shell 25.

To facilitate the engagement between the shelf 57 and the upper surface of the ball, the plate 59 is formed with an upwardly projecting dome 69 having a concave lower surface 71 which is positioned so as to contact the upper surface of the ball and provide a substantial area of engagement therewith. The concave surface 71 is preferably of the same radius as the ball.

The ball can be secured within the case 11 by raising the shelf 57, positioning the ball on the ring 35 of the base 13, and then lowering the shelf 57 so that the concave surface 71 engages the ball. Cooperation of the ring 35 and the surface 71 then serve to maintain the ball securely in place.

Once the shelf 57 has been lowered to a position overlying and engaging the ball and the case 11 is closed, subsequent upward pivotal movement of the shelf as would permit dislodgement of the ball is prevented by interengagement of the lip of the side wall 63 and the side wall 17 of the closure shell 27, which engagement is facilitated by the inward tapering of the side walls of the case. Also, as can be seen in FIGURE 3, when the case is in the closed position, the lip of the side wall 63 becomes positioned between a pair of the ribs or corrugations 43 of the side wall and the shelf is thus further prevented from upward movement.

Closing of the case 11 therefore serves to lock the shelf 57 in the horizontal position and prevent dislodgement of the ball from the ring 35. The ball is thus secured and will not roll or otherwise move about within

the case while the case is being transported. In addition, the shelf 57 serves as a convenient storage rack for shoes or other bowling accessories.

The bowling case thus provided is advantageous over those previously available in several other respects. Although formed of a relatively rigid material such as a molded plastic and thus providing substantial protection to the ball, the case can be opened to a position in which the ball and contents are readily accessible and easily visible. The case itself is of a sturdy construction, with the weight of the ball distributed throughout the shell of the case, and with the load-bearing base effectively supported by the side and end walls. The contents of the case are protected from the weather, and dust, etc., by the cooperation of border flanges on each half of the case, and means are provided for supporting in a protected condition various accessories which might be used by the bowler.

Although shown and described with reference to a particular structure, it is apparent that various modifications and changes might be made in the above described embodiment without departing from the principles of the invention.

Various of the features of the invention are set forth in the following claims.

What is claimed is:

1. A carrying case for a bowling ball comprising a pair of separable sections movable relative to one another between a closed position in which they define an inner compartment larger than a bowling ball and an open position permitting access to the inner compartment and removal of the ball therefrom, one of said sections defining a flat base portion provided with a seating means for receiving the ball, and a shelf within said case adapted to overlie the ball so as to limit the movement of the ball and maintain the ball on the seating means when said case is in said closed position but being selectively movable independently of the relative movement of the sections to an out-of-the-way position to facilitate removal of the ball after said case has been opened, said shelf being engageable with a portion of a wall of said case when said case is closed so as to become locked in said overlying position.

2. A carrying case for a bowling ball comprising a substantially rigid, hollow shell enclosing a space larger than the ball, said shell including a flat base having an upstanding annular ring on which the ball is positioned, means within said case defining a supporting surface extending in overlying relation to said ball, said means being engageable with the upper surface of the ball so as to limit movement thereof and maintain the ball on said ring, said surface-defining means being supported within said case so as to occupy said overlying position when said case is opened, said surface-defining means being engageable with a portion of said shell when said case is closed so as to become locked in said overlying position but being selectively movable to an out-of-the-way position when said case is open to facilitate removal of the ball from the case, said shell being divided into two mating portions along a plane extending diagonally from one side of the base to the opposite upper side of the shell, said two shell portions being hinged together at said side edge of the base, fastening means for maintaining said two shell portions in closed relationship, and a carrying handle at the top of the case.

3. A carrying case for a bowling ball comprising a substantially rigid, hollow shell enclosing a space larger than the ball, said shell including a base having an upstanding annular ring on which the ball is positioned, a shelf pivotally mounted within the case in vertically spaced relation to said base and movable between a first position wherein said shelf is disposed to limit movement of the ball and prevent dislodgement thereof from said ring, and a second position wherein said shelf permits insertion and removal of the ball from a seated position on said ring,

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said shell being divided into two mating portions along a plane extending diagonally from one side of the base to the opposite upper side of the shell, said two shell portions being hinged together at the side edge of the base, a wall of said case including means engageable with the free edge of said pivoted shelf to maintain said shelf in said first position when said case is closed, fastening means for maintaining said two shell portions in closed relationship, and a carrying handle at the top of the case.

4. A carrying case for a bowling ball comprising a substantially rigid, hollow shell enclosing a space larger than the ball, said shell including a base having an upstanding annular ring on which the ball is positioned, a shelf pivotally mounted within said case in overlying relation to said annular ring and including a downwardly facing concave surface positioned thereon in position for engagement with the upper surface of the ball, said shelf being movable between a first position wherein said concave surface is disposed to engage the ball and limit movement thereof so as to prevent dislodgement of the ball from said ring, and a second position wherein said shelf permits insertion and removal of the ball from a seated position on said ring, said shell being dimensioned so as to provide space above said shelf for disposition of bowling accessories thereon and being divided into two mating portions along a plane extending diagonally from one side of the base to the opposite upper side of the shell, said two shell portions being hinged together at said side edge of the base, fastening means for maintaining said two shell portions in closed relationship, means extending inwardly from a wall of said case for engaging said shelf and maintaining it in said first position when said case is closed, and a carrying handle at the top of the case.

5. A carrying case for a bowling ball comprising a substantially rigid, hollow shell having a base, side walls, end walls, and a top wall enclosing a space larger than the

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ball, said base having an upstanding annular ring on which the ball is positioned, a shelf pivotally mounted within said case in overlying relation to said annular ring and including a downwardly facing concave surface positioned thereon in position for engagement with the upper surface of the ball and an upwardly projecting edge wall at opposite ends thereof, each of said edge walls being pivotally connected adjacent its upper edge to an end wall of said case so as to be movable in an arc between a first position wherein said concave surface engages the ball and limits movement thereof so as to prevent dislodgement of the ball from said ring and a second position wherein said shelf permits insertion and removal of the ball from the case, said shell being dimensioned so as to provide space above said shelf for disposition of bowling accessories thereon and being divided into two mating portions along a plane extending diagonally from one side of the base to the opposite upper side of the shell, said two shell portions being hinged together at said side edge of the base, fastening means for maintaining said two shell portions in closed relationship, means extending inwardly from a wall of said case for engaging said shelf and maintaining it in said first position when said case is closed, and a carrying handle at the top of the case.

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