March 14, 1967 J. H. STEVENS ET AL 3,308,911

END LOADING AND UNLOADING BOWLING BALL CARRIER

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Fig. 1

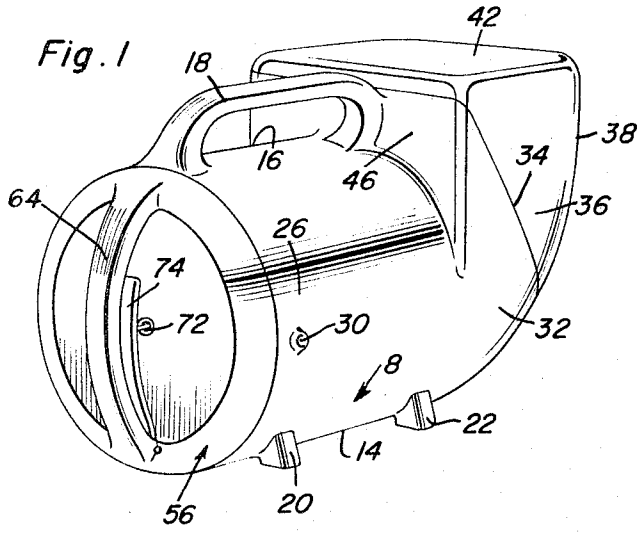


Fig. 2

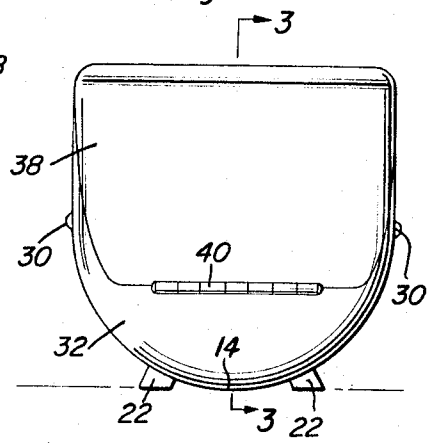
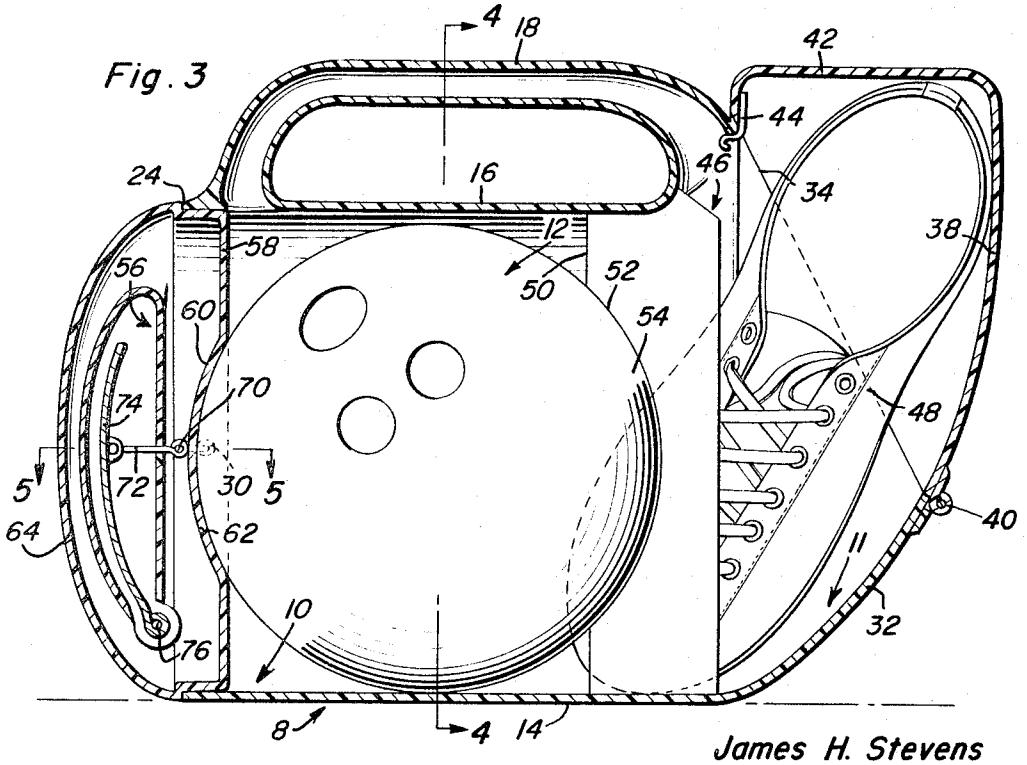


Fig. 3



James H. Stevens
Naomi J. Stevens
INVENTORS

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

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Fig. 4

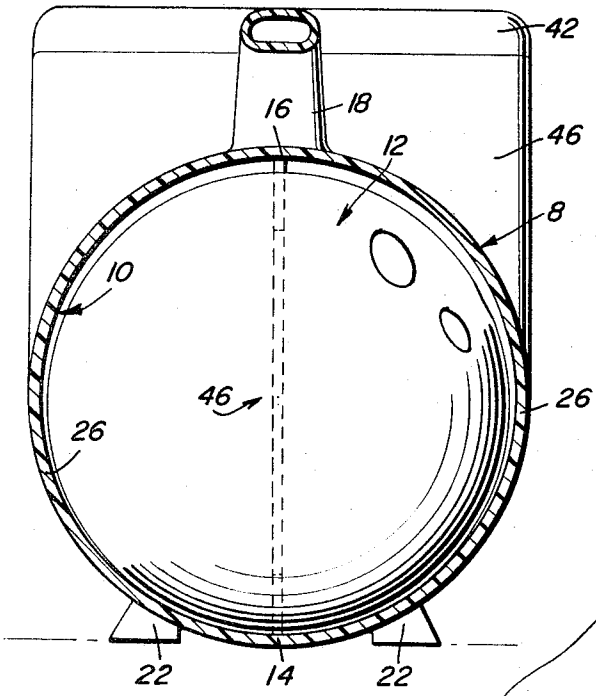


Fig. 5

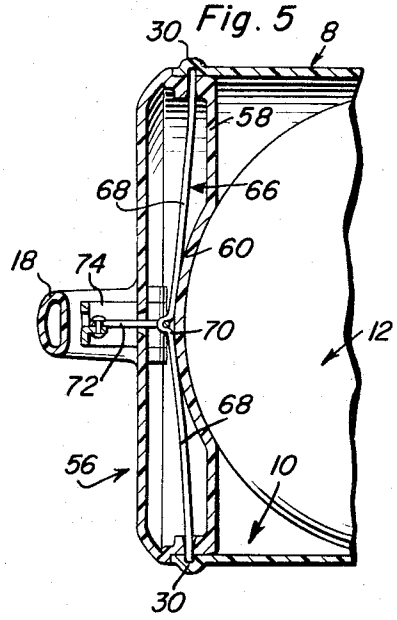
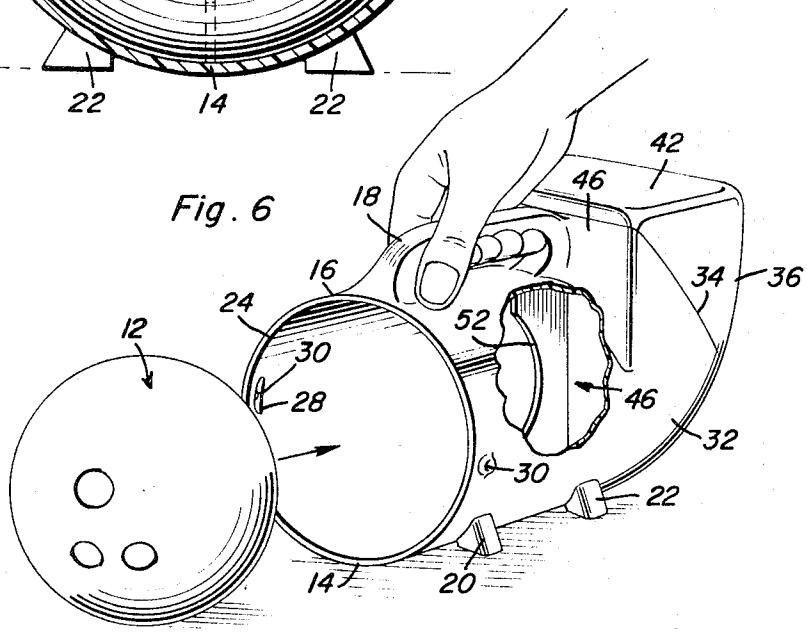


Fig. 6



James H. Stevens
Naomi J. Stevens
INVENTORS

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

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Fig. 7

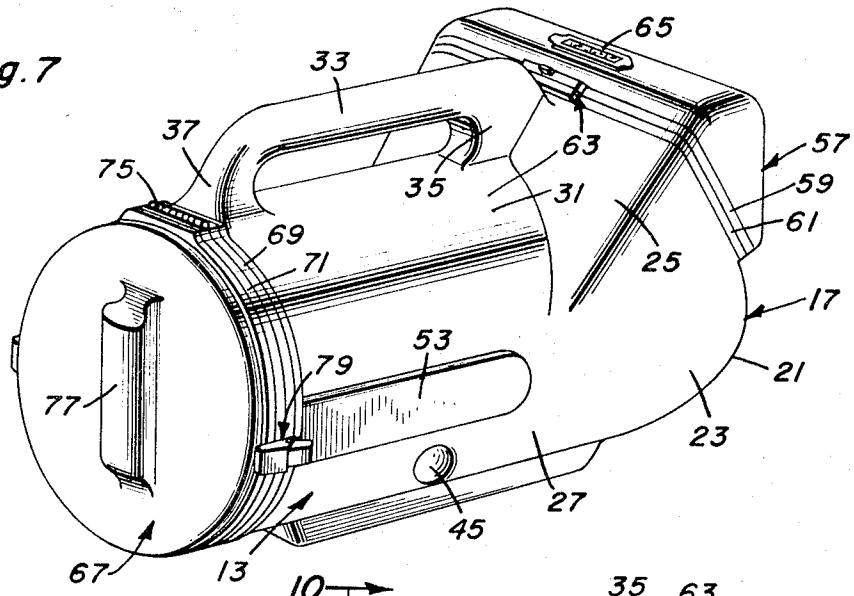


Fig. 9

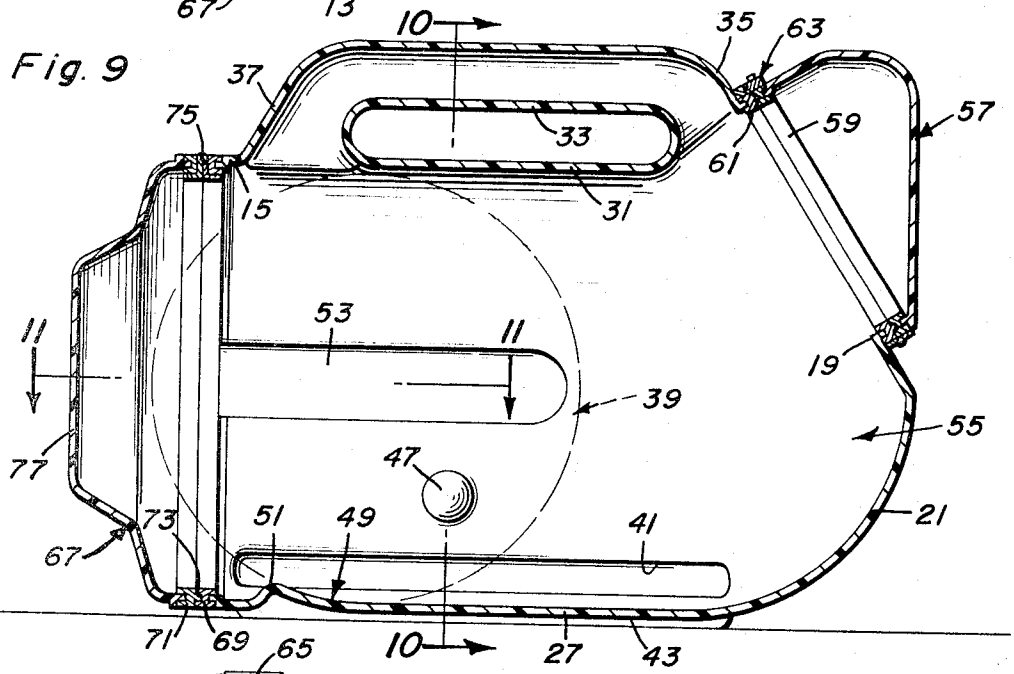
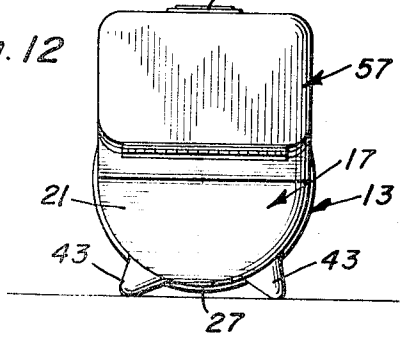


Fig. 12



James H. Stevens
Naomi J. Stevens
INVENTORS

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

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END LOADING AND UNLOADING BOWLING BALL CARRIER

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Fig. 8

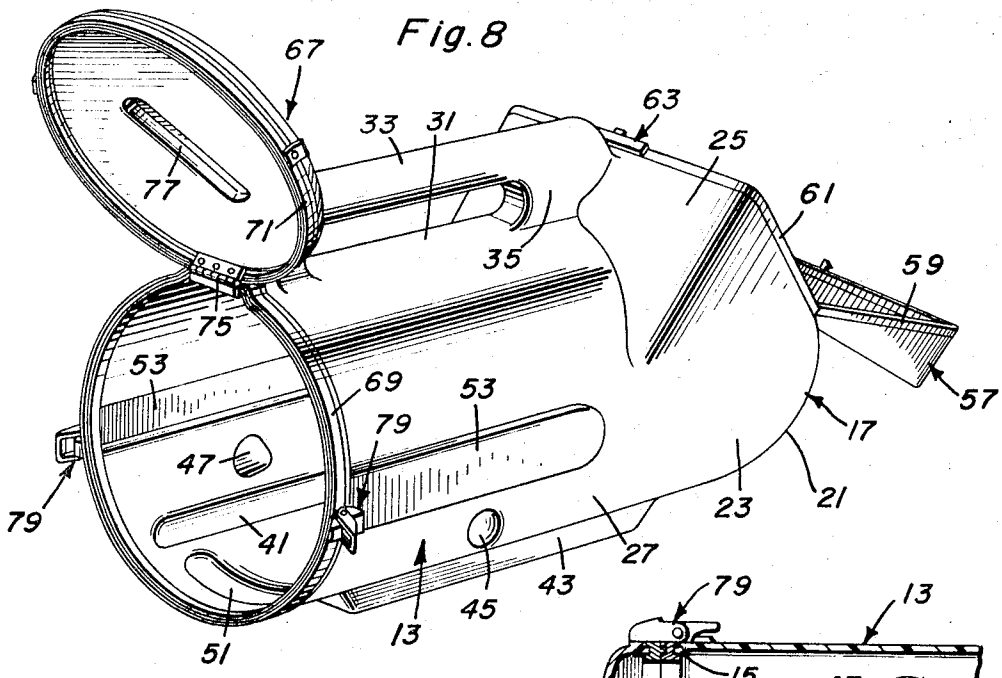


Fig. 11

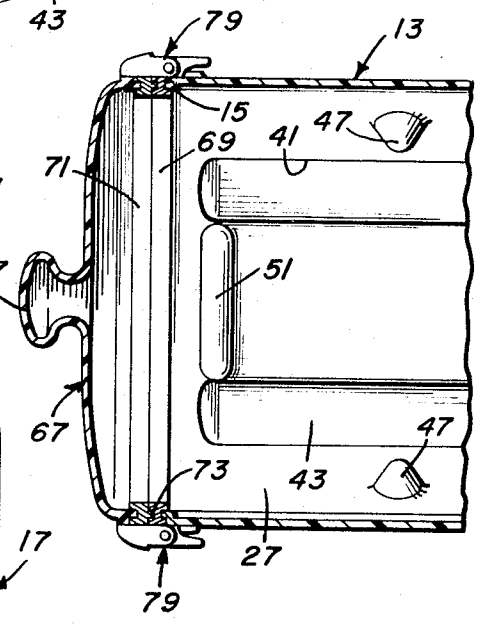
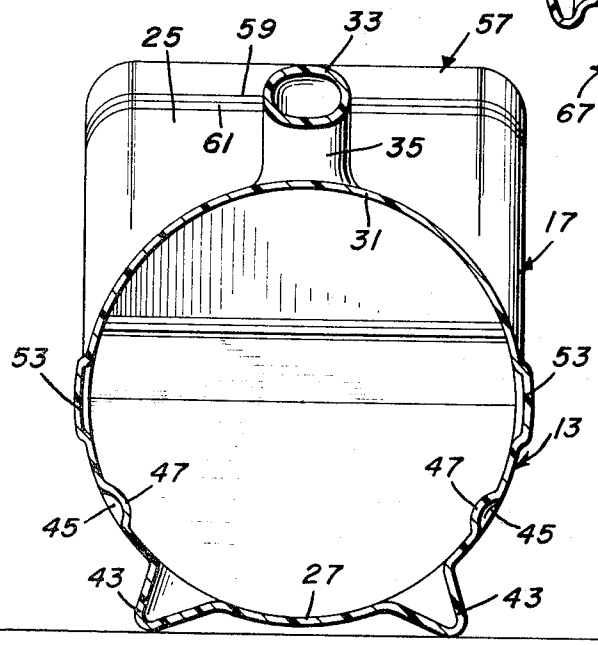


Fig. 10



James H. Stevens
Naomi J. Stevens
INVENTORS

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

United States Patent Office 3,308,911
Patented Mar. 14, 1967

3,308,911

END LOADING AND UNLOADING BOWLING BALL CARRIER

James H. Stevens and Naomi J. Stevens, both of Russell, Ky., assignors to Dumpy Company, Inc., a corporation of Kentucky

Filed Aug. 24, 1966, Ser. No. 579,475
10 Claims. (Cl. 190—51)

This application is a continuation-in-part of our copending application for patent identified as Ser. No. 405,183, filed Oct. 20, 1964, and now abandoned.

The herein disclosed invention relates, generically speaking, to a bag-type carrier for a bowling ball, shoes and accessories, and has to do, more particularly, with an adaptation which is functionally designed and structurally adapted to (1) load and (2) unload the ball in a practical and convenient manner, that is, without having to bodily lift and handle the ball by hand during the loading and unloading steps.

Bowling ball bags and carriers are of many and varied types and forms, some rigid and others flexible. They differ in size, shape and materials, but are usually substantially rectangular, and embody separate compartments for the ball and shoes, as shown for example in Patent 2,580,958. Ordinarily, however, the heavy unwieldy ball, which is often difficult and troublesome to handle, has to be inconveniently lifted by hand when it is inserted or loaded in the bag and also when it is unloaded for use.

A significant objective in the instant matter is to provide a bag or carrier which constitutes an innovation in that it will enable the user to better cope with and solve the over-all ball carrying and handling problem. This improved result can be and is effectually achieved with a handle-equipped cylindrical bag or case, the rear end or compartment of which is designed to adeptly accommodate the owner's shoes and the companion front compartment of which functions is to protectively stow and carry the bowling ball.

The main body component comprises a horizontally elongated cylindrical case defining a conformable compartment in which the ball fits with requisite nicety, stays put, and is accordingly well protected. Suitable rests (such as feet or ribs) are properly paired and secured in coplanar relation to the curvate or semi-circular bottom portion and are interrelated and aptly oriented so that the case is self-standing when set in a ball unloading or loading position on the floor or, alternatively, atop a conventional-type ball channelling and return rack or track. Accordingly, the case stays put and, when properly handled, will not overturn when in use.

The ball discharge and return end of the case or cylinder can be effectually employed to gently roll and dump the ball when it is to be put into use. Then, when the game is over the user can scoop in the ball simply by lining it up and shoving it back into its stowing and transporting compartment.

The function of the end loading and unloading feature is significantly enhanced (in one embodiment of the invention) by using a novel pull-out and plug-in circular lid type cover; that is, a cover which has a plug-like component which can be plugged in, latched and fastened in place. Then, too, a desired result is achieved by providing the lid or cover with (1) a rigid vertically elongated hand-grip for the left hand and (2) a coordinating and balanced hand-grip for the right hand, the latter being fixed atop the case or cylinder in a plane at right angles to the vertical hand-grip. It follows that the case can be set on a relatively stationary support surface, held down with the right hand, the lid unlatched and opened with the left hand, the case lifted and tilted forwardly

whereby the ball can be rolled out and dumped gently on the ball return track, floor, or other surface.

The above form or embodiment also features an internal divider (panel-like or strip member) fixed at the juncture of the forward and rearward compartments and providing a ball abutment or limit stop and, in addition, serving as a divider separating the pouch-like shoe compartment into individual shoe pockets.

In the other form or embodiment of the invention the above named divider is dispensed with and opposed side wall portions of the semi-circular bottom half-portion are provided (just inwardly of the openable and closable left hand end) with a pair of diametrically opposite inwardly projecting suitably sized and shaped embossments which constitute and provide inwardly projecting teat-like ball engaging stops or dentents. In addition, the central or median part of the concave bottoming wall is indented and formed with an upstanding suitably elongated rib-like embossment providing a third stop or detent. These several detents are oriented in circumferentially spaced relationship and, as practice has shown, they coordinate in properly nesting and lodging the bowling ball in its intended stay-put carrying position, that is, after the hinged cover is closed and latched in place.

It should be noted that, generically construed, both embodiments of the invention are characterized by a hollow cylindrical shell or body portion which is open at forward and rearward ends and that openable and closable covers or lids are provided at the respective ends. Also, the cylindrical body portion has integral coplanar rests (paired feet parallel ribs or the like) on its underneath side and an elongated rigid hand-grip atop its diametrically opposite upper half portion. It follows that the case or carrier will stay put when desired and can be held down firmly on a support surface with the aid of the bottoming rests and top hand-grip. Then, too, both top and front-end handles or hand-grips come into play simultaneously and greatly assist the user in handling and opening and closing the latched lid or cover at the front ball loading and unloading end. Moreover, individual selectively usable front and rear cover means is available for convenient use at the respectively distinct ball and shoe accommodating ends of the case.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 is a view in perspective of a bag-type end loading and unloading bowling ball carrier constructed in accordance with the invention with the ball (not shown) but encased for carrying.

FIG. 2 is an end elevation of the carrier shown in FIG. 1 observing the same in a direction from right to left.

FIG. 3 is an enlarged view primarily in section but with parts in elevation, taken on the plane of the vertical section line 3—3 of FIG. 2.

FIG. 4 is a view at right angles taken on the plane of the section line 4—4 of FIG. 3.

FIG. 5 is a fragmentary detail section taken on the plane of the section line 5—5 of FIG. 3.

FIG. 6 is a view in perspective with a wall portion broken away, with the lid-type cover omitted and illustrating approximately how one goes about scooping up and loading the ball for storage and carrying.

FIG. 7 is a view in perspective (comparable with FIG. 1) of a modified form or embodiment of the unique end-loading-and-unloading bag or carrier with the cover or lid closed and latched in place.

FIG. 8 is a view, also in perspective, of the same but with both covers open and the bag empty.

FIG. 9 is a central longitudinal sectional view based on FIG. 7 and showing the bowling ball in phantom lines.

FIG. 10 is a section taken on the plane of the section line 10—10 of FIG. 9.

FIG. 11 is a fragmentary view in section and elevation taken on the line 11—11 of FIG. 9.

FIG. 12 is an end elevation (on a small scale) looking at FIG. 7, for example, from right to left.

By way of introduction to the description of the details it is to be pointed out that the invention (both forms) is of a suitable compact and convenient size and is made from appropriate lightweight material, preferably a suitable grade of colorful commercial plastics which lends itself to molding and rigidity in the manner shown.

The device may be described as a bag, case or carrier for storing and transporting a bowling ball and shoes or, as herein set forth, a front loading and unloading bowling ball carrier. The main component or body portion (see FIGS. 1 to 6 inclusive) is preferably, though not necessarily, of horizontal elongated cylindrical form. This cylindrical body or component is denoted by the numeral **8** and defines the main storage, protecting, and carrying compartment **10** (FIG. 3) for the insertable and removable bowling ball **12**. The semi-circular bottom half is denoted at **14** and the diametrically opposite semi-circular top half at **16**. This top portion is exteriorly provided with a horizontally elongated tubular handle or hand-grip **18** coextensive in length with the cylindrical body **8** and rigidly mounted at the precise longitudinal median area of the top half **16** for effective balance, carrying, and handling. The bottom half portion **14** is provided with stabilizing rests, for example, oppositely paired fore and aft supporting legs or feet, the forward ones denoted at **20** and the rearward ones at **22**. These feet are spaced apart a requisite distance for good balance when the device is set on a floor, ball return track, or other relatively stationary support surface as illustrated, for example, in FIGURE 6. It will be noted that the bottoms of the feet are in a common plane (FIG. 4) and are accordingly substantially coplanar or flush with the intervening bottom portion. Thus oriented and coordinating, these feet **20** and **22**, transform the carrier into a self-supporting stand. The circular end or mouth portion **24**, when uncovered, facilitates unloading by gently dumping the ball of the floor, ball return track or other support surface, and, alternatively, scooping up and loading the ball (FIG. 6) in a self-evident manner. The diametrically opposite longitudinal side portions **26** are porvided with slots **28** (FIG. 6) and cooperating outstanding protuberances **30** which constitute keepers and which serve in a manner to be described. The rearward open end of the body of the body portion is fashioned into an annexed part which is herein described as a concavo-convex extension **32**. The side or vertical marginal edges **34** of the extension are suitably mitered to accommodate matching edge portions on the end walls **36** of an openable and closable rear end cover **38**. The bottom marginal edge of the cover is hinged in place as at **40** (FIG. 2). The upper or top horizontal part **42** is provided with a suitable catch **44** (FIG. 3) which cooperates with an edge of an upstanding vertical wall portion **46** and fastens the cover in a normally closed position. On the interior of the over-all compartment there is a panel-like member **46** (FIG. 3) which is centrally positioned, anchored in place, and constitutes a vertically disposed separator or divider. Since the divider is located at the juncture of the main ball compartment **10** and the auxiliary or secondary shoe compartment **11**, it will be evident that the shoe compartment is accordingly divided into individual pockets for the user's bowling shoes **48**. The forward vertical edge **50** of this divider is provided with a substantially semi-circular notch or cut-out **52** which provides a seat for a segmental portion **54** of the ball, that is, when the latter is stowed for carrying in the main compartment or chamber **10**.

Attention is now directed to the circular bodily applicable and removable front cover or lid **56**. This lid is fashioned so that the inward portion thereof provides a disk-like diaphragm **58** (FIG. 3) which is telescopingly plugged into the mouth or open end **24**. The central portion of the diaphragm is fashioned into a part-spherical depression or seat **60** to accommodate the conformingly fitted segmental portion **62** of the ball. The exterior side of this lid or cover is provided with a vertical suitably arching hand-grip **64** which spans the lid, is suitably spaced and has its end portions anchored so that the hand-grip **64** is in a plane with the hand-grip **18** but at right angles thereto. There is a rod-like latch **66** provided and this latch, as shown in FIGURE 5, comprises latch members **68** having resilient properties and with their end portions adapted to pass through openings in the rim portion of the cover so as to project into the keeper seats **30**. This latch has a U-bend **70** at the center with which a link **72** is connected, said link in turn being pivotally connected to a trip **74** hingedly mounted at **76** and cooperable with the hand-grip **64**. Normally, the latch is closed and the lid is detachably fastened in place.

In use, it will be obvious that the auxiliary shoe compartment **11** while in communication with the main ball compartment **10** is somewhat isolated therefrom by reason of the fact that the divider or separator **46** defines separate pockets for the individual shoes **48**. The space of the pocket is available by simply opening and closing the catch-equipped cover **38**. Access is had to the main ball compartment **10** by way of the ball discharging and loading end or exit **24**. Normally, this end or mouth **24** is closed by the readily applicable and removably telescoping plug-type cover or closure **56**. The manner in which the latch means serves to retain the lid or cover is clearly shown in FIG. 5. It will be evident that by catching hold of the hand-grip **64** and exerting a slight pull on the pivoted trip **74**, the latter operates the link **72** which in turn retracts the latches and unfastens the lid. A feature to be noted is the fact that the cylindrical shape of the body portion holds the ball with requisite snug-fitting nicety. In addition, the notch **52** in the divider **46** and the depression **60** both perform as forward and rearward seats for the ball. Accordingly the ball is securely retained in the compartment **10** for safe carrying and transporting.

By unlatching and removing the lid or cover **56** the ball **12** is then free to be rolled out and lightly dumped on the floor or other surface. The fact that the device is equipped with supporting feet **20** and **22** makes it possible for the user to catch hold of the upper hand-grip **18** with the right hand and hold the case or carrier down firmly and then with the left hand catch hold of the grip **64**, release the latch and pull out the plug portion **58** of the lid. With the exit **24** then open the device can be lifted up and slightly tilted and the ball rolled out and dumped on the floor or, if preferred, on the ball return rack (not shown) in the bowling alley. The orientation of the two hand-grips, one, **18**, on the body **8** and the other, **64**, on the attachable and detachable lid **56** constitutes a highly novel aspect of the concept, as can be appreciated. Then, too, the ball **12** can be scooped up and again loaded in the compartment **10**, in the manner illustrated in FIG. 6.

As will be evident from the description thus far given and also from the following description of a second embodiment (FIGS. 7–12) the over-all carrier is compact, light in weight and when at rest will not capsize. The top carrying handle is amply long and such and so located that the loaded bag is balanced and easy to handle and carry. By simply tilting the carrier with the right hand, the ball can be "dumped" out and onto the floor or the ball return rack as the case may be. To load the ball again it is only necessary to shove the ball in the manner shown in FIG. 6.

With reference now to the embodiment of the invention

illustrated in FIGS. 7 to 12 it will be seen that the hollow generally cylindrical molded plastic shell or body component is denoted generally by the numeral **13**, the same being annular and open as at **15** (FIG. 9) the left hand end. The opposite or right hand end portion is enlarged to assume a so-called box-like shape as denoted generally at **17**, this end portion being open as at **19**, having a concavo-convex dished end **21**, generally flat parallel side portions **23** and an upwardly sloping inclined forward wall portion **25** which is at an oblique angle to the longitudinal axis of the cylindrical body component **13**. Returning to the body component it will be noted that it has a generally semi-circular lower half portion **27** and a semi-circular upper half portion **31** atop which the elongated horizontal handle or hand-grip **33** is perched. In fact one end portion **35** is joined with a median part of the oblique angled wall **25** and the outer forward lateral end portion **37** is connected with the open forward end, that is the ball loading and unloading end of the body component. This body component including the box-like end portion **17** provides a compartment, the forward half portion of which is intended to house and contain the bowling ball shown in phantom lines at **39** in FIG. 9. The concave longitudinal bottom part is provided to the left and right of its center with a pair of elongated spaced parallel indentations **41** which define depending surface rests or ribs as at **43**. These ribs serve in place of the aforementioned feet and serve to support the carrier or bag in a self-standing position as illustrated for example in FIG. 12. Just above the ribs and on diametrically opposite sides dimple-like indentations **45** are provided and these in turn define inwardly projecting teat-like projections **47** which constitute detents or limit stops and assist in engaging diametrically opposite sides of a lower segment of the ball when the ball is in place, that is, lodged for storage in the compartment area **49**. It will be further noted in this connection that an additional indentation at right angles to the forward end portions of the ribs **43** serves to define a cross-rib **51** which constitutes and provides the third detent. Thus, the two teat-like detents or projections **47** cooperate with the rib **51** thus providing a three-point contact with the ball **39** so as to hold the ball in its stored position. Incidentally, the diametrically opposite outstanding raised portions **53** are simply flat-faced surfaces which may carry a trade mark or the name of the manufacturer (not shown).

That part to the right of the ball compartment space **49** and which is denoted at **55** provides an auxiliary receiver or compartment for the shoes or other accessories (not shown). The entrance opening to this compartment is at **19** as is evident in FIG. 9.

With further reference to the open end compartment **55** it will be seen that the suitable cap-like cover is provided as at **57** and the marginal left-hand portion of this cover is provided with an attached metal reinforcing band or frame **59** of general rectangular shape which abuts a cooperating frame **61** molded on and providing a part of the intake opening **19**. Coacting faces of the frames are provided with tongue and groove means which interlock in providing a satisfactory weather seal. Also, as at **63** a suitable catch or fastener means is provided and is not necessarily detailed. Then, too, a name plate is provided as at **65**, these being incidental structural details and requiring no specific description, it is believed.

With reference now to the cover or closure means for the ball unloading and loading end **15** it will be evident that the cover here is of disk-like shape and is also in the form of a cap, the same being denoted generally by the numeral **67**. The marginal edge of the opening **15** is provided with a ring-like metal frame **69** cooperating with a companion frame **71** on the marginal edge of the cap-like cover **67**. Here again the frames are provided with tongue and groove interlocking means as denoted generally at **73** (FIG. 9) to provide a satisfactory seal. An appropriate hinge **75** is provided and series to hingedly join the cover to the upper end portion **15** as shown in FIGS. 7 and 9. The central portion of the cover is provided with an integral suitably shaped vertical handle or hand-grip **77** and it will be noticed that these two hand-grips are lined up with each and at right angles to one another as shown in FIGS. 7 and 9 for the purposes described. Finally, suitable catches or fasteners which are generally denoted at **79** are provided on diametrically opposite sides and are carried by the body and are separably connectable with intended portions of the cap-like cover to hold the same in a closed position when it is swung down from the open position shown in FIG. 8 to the closed position shown in the other views.

It will be evident by comparing the form of the invention shown in FIGS. 1 to 6 with that shown in FIGS. 7 to 12 that there are corresponding part-for-part and feature-for-feature components and that the aforementioned limit stop separator or partition **46** is permitted and that the detents **47** and **51** serve to lodge the ball **39** in the stored position illustrated in FIG. 9. It will also be evident that the openable and closable ball end of the bag or carrier serves in unloading or dumping the ball as well as in loading and again positioning the ball for storage.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. An end loading and unloading hand-type carrier for a bowling ball, shoes and accessories comprising: a ball encasing bag characterized by an elongated rigid but hollow body open an opposite ends and essentially cylindrical in transverse cross-section and of a length greater than the diameter of the ball and accordingly defining and providing a compartment, the ball enclosing part of said compartment having an internal diametral dimension substantially equal to he diameter of said ball and functioning to allow the ball to be (A) lined up with one open end and rollably shoved into and lodged for storage in said compartment and, alternatively, to be (B) rolled outwardly in an opposite direction and discharged and dumped from the compartment by way of said one open end, limit stop means embodied within the encompassing confines of said compartment and situated inwardly from the respective open ends and serving to check the inward movement of said ball when it is being loaded for storage in said compartment, a readily openable and closable rigid cover for said one open end, that portion of said body opposite said one open end being enlarged and transforming the adjacent end of the compartment into a pouch-like receiver for a pair of bowling shoes or the like, said receiver having an entrance opening and a rigid hingedly mounted cover therefor, said first named cover being provided exteriorly with a hand-grip, and the top surface of said body being provided exteriorly with a hand-grip complemental to said first named hand-grip.

2. The ball carrier according to claim **1**, and wherein said first named hand-grip is rigid, is secured to the central exterior of said first named cover and is vertically elongated, said second named hand-grip being horizontally elongated, rigidly attached and disposed in a plane at right angles to the plane of said first-named grip and aligned and coordinated with said first named hand-grip, whereby said hand-grips can be simultaneously gripped with left and right hands, respectively, and in a manner to (1) uncover and open said compartment (2) lift and tilt said bag and (3) gently dump the encased ball on a conventional-type ball return track or the floor of the alley, as the case may be.

3. The carrier defined in claim 2, and wherein the bottom of said bag is provided with oppositely paired support surface engaging members which when positioned on said surface serve to temporarily rest and station the bag with its bottom proximal to and approximately level with the surface, whereby the user can (1) align the ball with the ball compartment (2) shove and roll it into said ball compartment for storage and (3) and close the first named cover and the coacting end of said compartment.

4. The carrier defined in and according to claim 1, and wherein said limit stop means comprises several circumferentially spaced embossments, two of which are carried by diametrically opposite side wall portions of said body and project into the ball holding space of said compartment, and the other one of which is carried by a median interior surface portion of the bottom wall, whereby to thus provide ball-surface-engaging detents capable of lodging and temporarily checking and limiting the ball against movement inwardly beyond a predetermined position but permitting it to roll freely outwardly.

5. The carrier defined in and according to claim 4, and wherein said two detents comprise indented button-like projections arranged in a common horizontal plane, and wherein said one embossment comprises an indented elongated upstanding rib, said rib occupying a position just inwardly of the adjacent open end and said button-like projections being located inwardly of and in a vertical plane above said rib.

6. The carrier defined in and according to claim 3, and wherein said surface engaging members comprise a pair of elongated spaced parallel depending ribs which are substantially commensurate in length with the length of said body.

7. For use by a bowler, a rigid horizontally elongated bag cylindrical in cross-section and defining a bowling ball storage and carrying compartment, the front end of said comparment being open, the rear end opening into and being communicatively joined with an integrally annexed pouch-like addenda providing an auxiliary compartment for shoes, said auxiliary compartment being provided with a hingedly mounted cover, a centralized vertically mounted panel-like divider fixed in said bag at the juncture of said compartments and separating component portions of the auxiliary compartment into individual shoe

pockets, the forward vertical edge of said divider providing a limit stop for an inward surface of the bowling ball, and a lid-type cover for the open front end of said ball compartment having a plug-like attaching and retaining member telescopingly plugged into said open front end.

8. The structure defined in claim 7, and wherein said member embodies a disk-like diaphragm having an interior axial concave depression providing a conformable seat for a segmental surface portion of said ball, the forward edge of said panel-like divider having a segmental notch defining a conformable second seat for a confronting segmental surface portion of said ball.

9. The structure according to claim 8, and wherein said lid-type cover is provided on its exterior surface with a vertically elongated rigidly attached hand-grip, and a similar but horizontally elongated hand-grip rigidly mounted atop the median lengthwise surface of said cylindrical bag at right angles to and in alignment with said first named head-grip, whereby said hand-grips can be simultaneously gripped with left and right hands, respectively, and in a manner to (1) open said compartment, (2) lift and tilt the bag, and (3) gently dump the ball on a ball return rack or the floor of the alley, as the case may be.

10. The carrier defined in claim 9, and wherein the bottom of said bag is provided with fore and aft oppositely paired surface engaging legs which when positioned on the surface serve to temporarily station the bag with said bottom proximal to and approximately level with the surface, whereby the user can (1) align the ball with the ball compartment (2) roll it into the ball compartment for storage and (3) attach the cover and close said compartment.

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JOSEPH R. LECLAIR, *Primary Examiner.*

D. F. NORTON, *Assistant Examiner.*