The present invention generally relates to a bowling bag or carrier and more particularly to a device to pick up and carry and disagree the bowling ball in a convenient manner without requiring that the bowling ball be lifted directly by hand during the pick up or discharge thereof.

Bowlers quite often have a bag in which their bowling ball, bowling shoes and the like may be carried. However, present day bowling balls require that the ball actually be lifted when it is placed in the bag and when it is removed therefrom which is rather tiring and for some bowlers, it is rather difficult to hold the ball in one hand while holding the bag open with the other. Therefore, it is the primary object of the present invention to provide an automatic bottom load bowling bag which will either pick up or discharge the ball without requiring that the ball be lifted directly by hand away from its supporting surface thereby enabling the ball to be carried directly to the bowling alley and placed on the ball rack without having to lift the ball out of the bag by hand. Moreover, the ball may be picked up directly from the ball rack without lifting the ball at all by hand or the ball may be placed on a flat supporting surface and picked up therefrom if desired.

An object of the present invention is to provide a bowling bag having an open bottom for reception of a bowling ball together with fingers pivotally mounted in the bag for gripping and locking the bowling ball within the bag together with means for releasing the fingers when desired thereby enabling the bowling bag to discharge the ball from the bottom thereof so that it is not necessary to lift the ball out of the bag by hand when discharging it from the bag.

Another important object of the present invention is to provide a bowling bag having recess means in the top thereof for receiving a pair of bowling shoes, towel or the like together with a substantially flat or smooth upper surface forming a stool on which a bowler may recline while placing on his bowling shoes or removing his bowling shoes or otherwise forming a stool on which the bowler may sit.

A still further object of the present invention is to provide an automatic bottom load bowling bag in accordance with the preceding objects having spring loaded latch mechanisms for retaining the ball within the bag with the latch mechanism being releasable by pulling on a central ring thereby releasing the ball.

Still another object of the present invention is to provide a bowling bag which is quite simple in construction, well adapted for the purposes for which the same is intended, simple in operation, easy to manipulate and relatively inexpensive to manufacture.

These objects 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:

FIGURE 1 is a perspective view of the bowling bag of the present invention;
FIGURE 2 is a bottom plan view of the bag;
FIGURE 3 is a transverse, sectional view taken substantially upon a plane passing along section line 3—3 of FIGURE 1 illustrating the construction of the bowling bag;
FIGURE 4 is a detailed sectional view taken substantially upon a plane passing along section line 4—4 of FIGURE 3 illustrating the manner in which the closure for the recess means at the top of the bag is retained in closed position;
FIGURE 5 is a horizontal sectional view taken substantially upon a plane passing along section line 5—5 of FIGURE 3 illustrating further structural details of the invention;
FIGURE 6 is a diagonal sectional view taken substantially upon a plane passing along section line 6—6 of FIGURE 1 illustrating the construction of the bowling bag retaining fingers; and
FIGURE 7 is a fragmentary elevational view of one finger assembly with a portion of the bag shown in section for illustrating the fingers when in their released position.

Referring now specifically to the drawings, the number 10 generally designates the bowling bag of the present invention which may take any suitable configuration and shape although it has been found that a substantially square or rectangular rigid frame is adequate. The rigid frame may be molded of plastic material throughout or it may be constructed of rigid rod-like frame members covered with a fabric. For purpose of illustration, the bowling bag includes a peripheral rigid wall 12 forming a wall having an enlarged bottom opening 14 therein for receiving a conventional bowling ball 16. The opening 14 communicates with an enlarged hollow area or compartment 18 for receiving the ball 16 and the compartment 19 is defined by a top partition wall 20 which is spaced below an internal peripheral flange 22 at the upper edge of the peripheral wall 12.

The inturnd flange 22 defines recesses 24 in the top of the bag for receiving bowling shoes 26, towels, score keeping equipment or the like. The recesses 24 are closed by a closure plate 28 hingedly attached by hinge means 30 at one edge of the opening and having a keeper element 32 at the other edge engaged with a thumb operated latch member 34 as illustrated in FIGURE 4 for retaining the closure plate 28 releasably in place. Centraliy of the closure plate 28, there is provided a recess 36 receiving a generally U-shaped pivoted handle 38 so that the handle may be disposed flat within the recess 36 or upstanding therefrom for use as a carrying handle as illustrated in FIGURE 1. Also, the center of the recess portion 36 is provided with an opening 40 receiving the upper end of an upstanding tubular guide 42 that is integral with the partition 20 thereby forming a vertical passageway 44 for an operating line 46 having a pull ring 48 at the upper end thereof. The pull ring 48 has a diameter less than the diameter of the opening 40 so that the pull ring may pass therethrough when the closure plate or lid 28 is moved to its open position thereby enabling access to the contents of the recesses 24 and enabling the closure lid 28 to move between an open and a closed position. When the closure lid 28 is closed and the handle 38 folded down the top surface of the bag 10 is substantially smooth and flush thereby providing a stoop on which a person may sit while putting on or removing the bowling shoes or otherwise resting as may be desired.

The periphery of the opening 14 is defined by a relative narrow inturnd flange 50 and adjacent the corners of the bag 12, there is provided a movable foot 52 slidably received within a recess 54 and having a spring 56 disposed therebehind for enabling the feet 52 to retract when downward force is exerted on the bowling bag. Thus, when the bowling ball is resting on a supporting surface, by forcing the bag 10 downwards, the feet 52 will be moved upwardly into the socket formed therefor as designated by reference numeral 58 thus enabling
the bowling ball 16 to be moved to a position completely within the confines of the compartment 18 in a manner described hereinafter.

At each corner of the bowling bag or container 12, there is provided a gripping finger 60 generally of arcuate configuration and being pivotally supported by a pivot pin 62 to a pair of outstanding lugs 64 formed on or attached to the peripheral wall 12.

Each finger 60 has an upper enlarged or rounded end 66 by virtue of which the fingers are over-balanced so that they are in their released position they will normally assume the position illustrated in FIGURE 7 so that the lower or tapered ends 68 thereof are spaced adjacent the periphery of the compartment 18 for receiving the bowling ball 16. Above the pivot point 62, the outer radial edge of each finger 60 is provided with a notch 70 in the form of a keeper notch for receiving a latch member 72 that is pivotally mounted on a pivot pin 74 also carried by the mounting lugs 64. A coil compression spring 76 has one end thereof received in a recess 78 and the other end thereof engages the latch 72 for urging the latch 72 towards the fingers 60. The latch 72 includes a pointed end portion 80 for reception in the notch 70 thereby securing the fingers 60 in the latched position as illustrated in FIGURE 6. Connected with the outer end of each latch 72 is a flexible line 82 extending up through a guide passage 84 and then inwardly for connection with a further passage 86 at the bottom end of the flexible line 46 so that when the ring 48 is given an upwardly, the flexible line 46 will pull each of the lines 82 for simultaneously releasing all of the latches 72 thereby simultaneously releasing all of the fingers 60.

The structure of the framework may be varied and the shape and configuration as well as the thicknesses and strength requirements of the various components may vary. The fingers may be constructed of plastic material having a certain degree of resiliency and the arcuate configuration thereof may have a radius slightly less than the radius of the ball so that the fingers will actually frictionally grip the ball when pushed upwardly into the bag. Due to the lower ends of the fingers being longer and the particular arcuate configuration thereof, the ball actually will have a slight snapping up action as the ball is placed in the bag; but, however, when the ball is to be removed, the bag may be snapped or jerked upwardly to cause the fingers snapping up action. When the ring is given an upwardly, the inertia or weight of the ball will allow the ball to be discharged from the fingers. Moreover, the side walls or end walls or both the side walls and end walls could have recessed areas therein for facilitating the movement of the bag downwardly over the ball storage rack to facilitate the placement of the ball on the storage rack when discharged from the bag and also to facilitate the picking up of the ball from the ball storage rack alongside of the approach area of a bowling alley.

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. A bottom loading bowling bag comprising a rigid framework having an opening defined in the bottom thereof capable of receiving a bowling ball, a plurality of ball engaging fingers pivotally supported on said bag for movement to a discharge position when the ball is discharged from the bag, and to a ball retaining position when the ball is inserted in the bag by lowering the bag downwardly over the ball, latch means retaining the fingers in ball retaining position, and release means attached to the latch means and being operable from the upper end of the bag thereby enabling the fingers to be released for movement from the ball retaining position to the ball discharging position, said fingers being arcuate in configuration with the upper end thereof being weighted and having the major portion of their weight inwardly of the pivot points thereof and the outer surface thereof, said latch means including a pivoting latch member having a projection engaged with the notch, spring means urging the latch member toward engagement with the notch whereby the latch member will engage the notch on the finger when the bowling ball is forced into the bag and the fingers pivoted upwardly to their ball retaining position, the bottom end of said bag being provided with spring biased means for normally supporting the bottom edge of the bag slightly above a supporting surface and enabling the bag to be pushed downwardly upon application of pressure when receiving the ball for enabling the ball to move the fingers to the ball retaining position, said spring biased supporting means serving to elevate the bag and the ball therein above the supporting surface when pressure is removed from the bag.

2. The structure as defined in claim 1 together with a compartment in the upper end of said bag for receiving bowling shoes and the like, a pivoting lid for said compartment, handle means for the bag, said lid and handle means being receivable in the upper surface of the bag including a portion of the lid being rigid and relatively smooth thereby forming a seat on which a person may sit while changing his bowling shoes and the like.

3. The structure as defined in claim 2 wherein said bag includes a continuous peripheral wall of rigid material of polygonal configuration, said fingers being mounted in the corners thereof thereby enabling the over-all dimensional characteristics of the bag to be retained as small as possible for receiving a ball of a predetermined diameter.

4. A bottom loading bowling bag comprising a rigid peripheral wall of polygonal configuration and having an opening defined in the bottom thereof capable of receiving a bowling ball, a plurality of ball engaging fingers pivotally supported on said wall in the corners thereof for movement to a discharge position. When the ball is discharged from the bag, and to a ball retaining position when the ball is inserted in the bag by lowering the bag downwardly over the ball, latch means retaining the fingers in ball retaining position, and release means attached to the latch means and being operable from the upper end of the bag thereby enabling the fingers to be released for movement from the ball retaining position to the ball discharging position, said fingers being arcuate in configuration with the upper end thereof being weighted and having the major portion of their weight inwardly of the pivot points thereof and the outer surface thereof, said latch means including a pivoting latch member having a projection engaged with the notch, spring means urging the latch member toward engagement with the notch whereby the latch member will engage the notch on the finger when the bowling ball is forced into the bag and the fingers pivoted upwardly to their ball retaining position, said bag including a compartment in the upper end portion thereof at a point above the upper end of the fingers, a closure lid for said compartment, a handle for the bag attached to said closure lid, said release means for the pivoting latch members including a finger ring disposed adjacent the handle whereby the ring may be easily operated by a person supporting the bag by grasping the handle.

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