June 28, 1966 J. H. STEVENS 3,258,091

AUTOMATIC BOTTOM-LOADING BOWLING BAG

Filed Nov. 22, 1963 2 Sheets-Sheet 1

Fig. 1

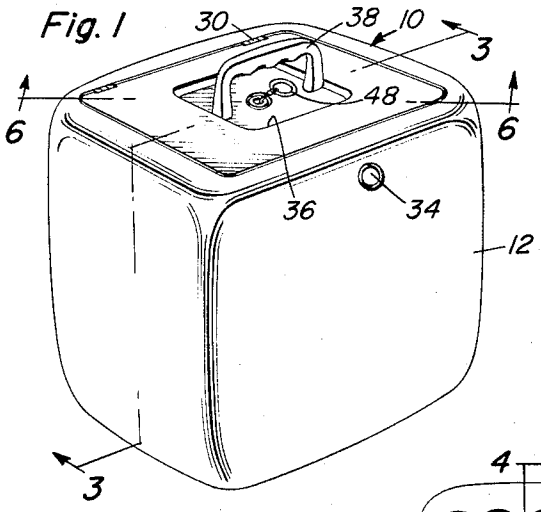


Fig. 2

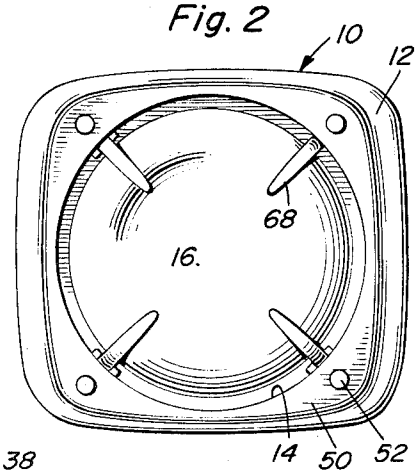


Fig. 3

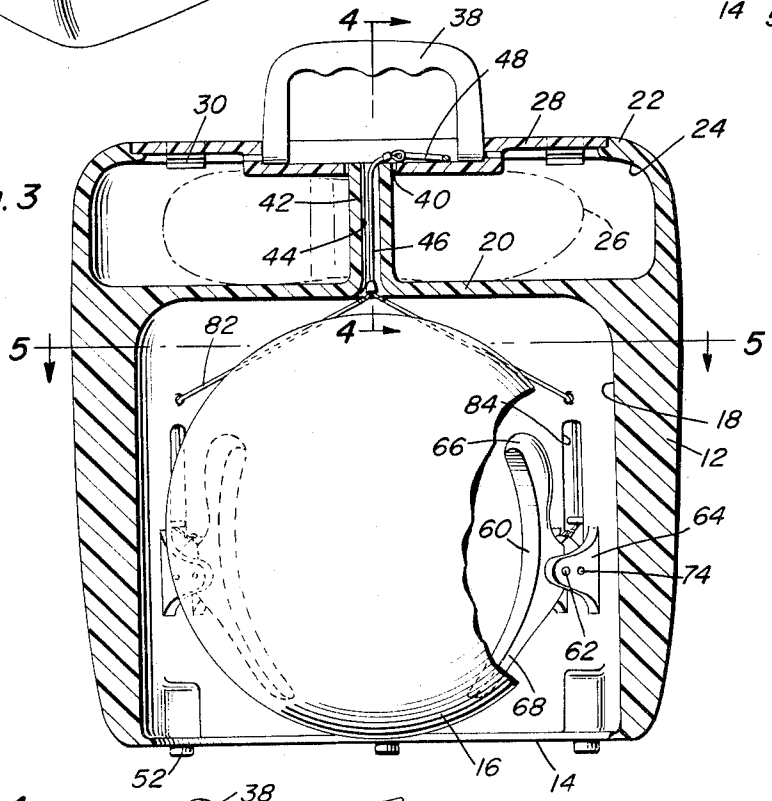
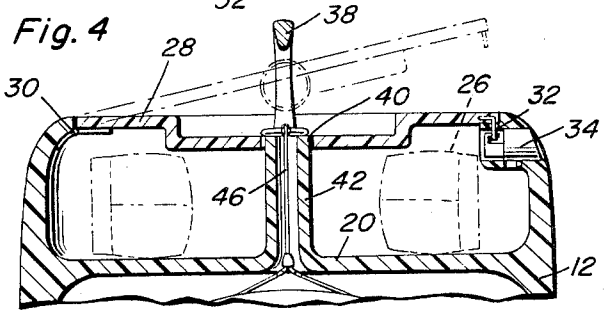


Fig. 4



James H. Stevens

INVENTOR.

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

Attorneys

June 28, 1966 J. H. STEVENS 3,258,091

AUTOMATIC BOTTOM-LOADING BOWLING BAG

Filed Nov. 22, 1963 2 Sheets-Sheet 2

Fig. 5

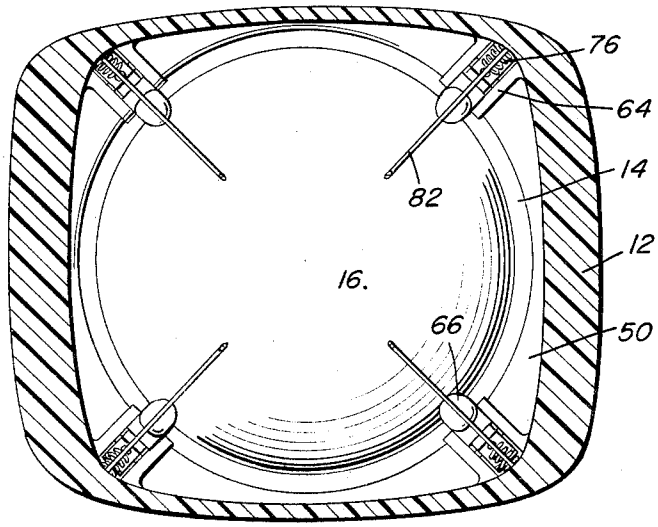


Fig. 6

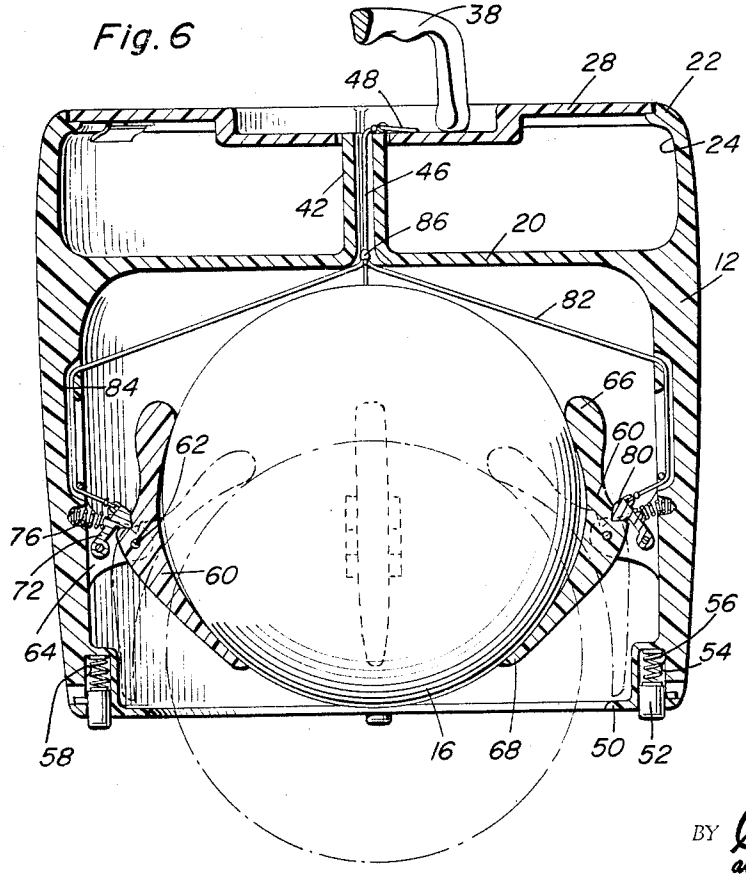
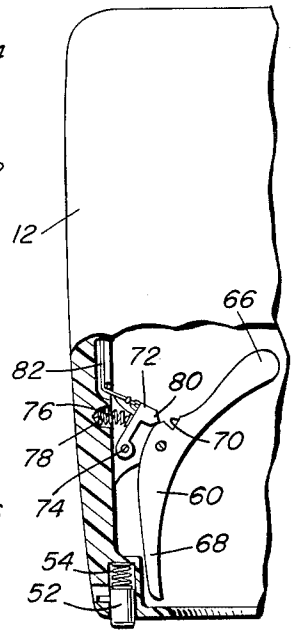


Fig. 7



James H. Stevens
INVENTOR.

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

United States Patent Office

3,258,091

Patented June 28, 1966

1

3,258,091

AUTOMATIC BOTTOM-LOADING BOWLING BAG

James H. Stevens, Morehead, Ky., assignor to
E-Z Bag, Inc., Morehead, Ky.

Filed Nov. 22, 1963, Ser. No. 325,589
4 Claims. (Cl. 190—42)

The present invention generally relates to a bowling bag or carrier and more particularly to a device to pick up and carry and discharge 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 tiresome 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 wtihout 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 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;

2

FIGURE 4 is a detailed sectional view taken substantantially 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 ball retaining fingers; and

FIGURE 7 is a fragementary 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 numeral 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 bag 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 18 is defined by a top partition wall 20 which is spaced below an inturned peripheral flange 22 at the upper edge of the peripheral wall 12.

The inturned 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 latching member 34 as illustrated in FIGURE 4 for retaining the closure plate 28 releasably in place. Centrally 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 stool 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 inturned 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 downwardly, 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 when they are in their released or tripped 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 an adapter **86** at the bottom end of the flexible line **46** so that when the ring **48** is pulled 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 overcome this snapping up action. When the bag is jerked 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 thereby employing the force of gravity to retain the fingers normally in their ball discharging position when the latch means is released, each of said fingers including a notch in the outer surface thereof, said latch means including a pivotal latch member having a projection engageable 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 pivotal lid for said compartment, handle means for the bag, said lid and handle means being recessed into the upper end of the bag, 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 thereby employing the force of gravity to retain the fingers normally in their ball discharging position when the latch means is released, each of said fingers including a notch in the outer surface thereof, said latch means including a pivotal latch member having a projection engageable 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 ends of the fingers, a closure lid for said compartment, a handle for the bag attached to said closure lid, said release means for the pivotal 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.

(References on following page)

5

References Cited by the Examiner

UNITED STATES PATENTS

1,150,500	8/1915	Chab	294—83
2,264,744	12/1941	Dunnam	190—8 X
2,872,029	2/1959	Cart.	
2,873,995	2/1959	Turner	294—110 X
2,911,251	11/1959	Osborn	294—110
2,945,582	7/1960	Abraham et al.	
2,962,321	11/1960	Fowler et al.	294—19
3,020,078	2/1962	Ray	294—113 X

6

FOREIGN PATENTS

1,056,460	10/1953	France.
412,707	7/1934	Great Britain.
752,644	7/1956	Great Britain.

JOSEPH R. LECLAIR, *Primary Examiner.*

FRANKLIN T. GARRETT, *Examiner.*

M. L. MINSK, *Assistant Examiner.*