ABSTRACT OF THE DISCLOSURE

A bowling ball support stand for use in a bowling accessory bag wherein the ball is held by a ring shaped frame member. The stand possesses a high strength to weight ratio and is economical and simple to fabricate by standard metal working techniques. Various embodiments provide for either permanent or removable installation in a bag.

BACKGROUND OF THE INVENTION

This invention relates to a bowling accessory and more particularly is concerned with a novel stand for supporting a bowling ball in a bag of configuration as ordinarily employed for storing and carrying a bowling ball and other bowling accessories.

It is a principal object of the present invention to provide a stand for supporting and holding a bowling ball in a bowling bag of the type usually employed for carrying and storing a bowling ball as well as other accessories used in bowling.

It is another object of the present invention to provide a stand for use in a bowling bag which serves not only to hold a ball and other accessories but which simultaneously cooperates with a rigid bottom panel member of the bag to give structural stability and strength to the complete bag assembly.

It is another object of the present invention to provide a frame-type stand for holding a bowling ball in a bowling ball bag wherein the high strength structural members employed for the supporting frame also serve directly as the support for the ball.

It is also an object of the present invention to provide a bowling ball stand for use in a bowling bag which readily and economically can be fabricated in large numbers by conventional metal forming and fabricating techniques and methods.

These and other objects and advantages of the present invention readily will become apparent from the detailed description presented hereinafter when read in conjunction with the appended drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of one preferred embodiment of the bowling ball stand of the present invention.

FIG. 2 is a perspective view of a bowling ball and accessory bag fitted with the bowling ball support stand shown in FIG. 1.

FIG. 3 is an enlarged fragmentary sectional view of the bowling bag assembly of FIG. 2 showing in detail the relationship of one of the support legs of the stand and the bottom of the bag.

FIG. 4 is a perspective view of another embodiment of a bowling ball support stand of the present invention.

FIG. 5 is a fragmentary perspective view of yet another embodiment of a bowling ball stand of the present invention in conjunction with a rigid bottom planar member as employed in such bags.

FIG. 6 is a cross-sectional view taken along line 6-6 of FIG. 5.

FIG. 7 is a perspective view of the ball support section of the stand of the present invention showing an alternative means of ball support for use in the present invention.

SUMMARY OF THE INVENTION

In general, the present invention comprises a stand for a bowling ball adapted for use in permanent or removable combination with a bowling accessory bag, the stand comprising a plurality of substantially vertically disposed leg supports, each being affixed at one end to a ball retaining ring of diameter less than that of a bowling ball. The other end of each of said legs is directly joined to or in connection with a substantially rigid planar member fitted in the bottom of the bowling bag. The ball retaining ring is fitted with a plurality of spaced apart cushions or pads upon which the bowling ball rests when placed on the stand within a bag.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

One preferred embodiment of the present invention as shown in FIGS. 1 to 3 inclusive comprises a stand 10 consisting of four substantially vertically disposed legs 12 affixed to a ball support ring 14. Each leg 12 has a short substantially horizontal shoulder 16 inwardly disposed near its lower vertical end portion 18. The upper segment of each leg 12 terminates in an inward arc, usually rather broad and ordinarily of an angle of from about 60 to about 90° from the vertical, and is fastened at this end to the ball supporting ring 14. Ordinarily, the terminal portion of the leg is welded or brazed to the outer side or bottom of the ring 14. Alternatively, these members can be fastened together by clamping means or by a rivet, bolt or tap assembly or the like.

As shown in the depicted embodiment of FIGS. 1–3, there are four legs 12 to the stand 10. These are of a design and fastened at spaced apart positions on the ring such that the vertical portion, which makes up a major segment of each leg, fits into the corners of the bag.

At each junction of a leg 12 and the ring 14 a cushion member 20 is positioned on the stand 10. In the embodiment of FIGS. 1 and 3, this cushion 20 is a flexible planar member bent so as to pass around the ring 14. The folded ends are held by a securing means 22 such as flat headed rivets on either side of the leg 12. The cushion members 20 can be of any flexible material which will not scratch the surface of a bowling ball. Preferably this cushion also provides sufficient frictional engagement with the ball such that the ball does not slip or slide around when on the stand. Natural or synthetic rubber, leather, plastic or canvas cloths or strips are exemplary materials suitable for use in fabricating the cushions 20. In the depicted embodiment of FIGS. 1 and 3, the cushions 20 are of a corrugated rubber strip.

The stand 10 is of a maximum height such that it can fit within a bowling accessory bag 24 while still providing room for a ball positioned on the ring 14 to be held within the bag 24. Ordinarily, the leg members 12 are of a height such that the frame is raised sufficiently from the bottom of the bag 24 to permit bowling shoes or other accessories simultaneously to be stored or carried therein.

In the complete assembly of the stand 10 and bag 24 of this preferred embodiment, a rigid planar member 26, of configuration to substantially conform with the bottom 28 of bag 24 is placed therein. The bottom member 26 contains through passages 30 near each corner. These passages 30 are of a diameter and positioned in the planar base 26 so as to accommodate the end portion 18 of each leg 12 of the stand 10. The stand 10 is fitted
into a bag 24 by passing the end portion of legs 12 through passages 30 in the rigid member 26 and out through slits or passages 32 in the bottom 28 of the bag 24. A frictional engaging locking member 34, such as for example, a spring lock clip, tubular or cup-shaped tip cover or other frictional or spring type securing means is passed over the end portion of each of the legs 12 and these pressed firmly against the outside of the bottom 28 of the bag 24 thereby securely holding the stand 10 and bag 24 together.

The securing means 34 can be designed to provide for fixed permanent placement of the stand 10 in the bag 24 or such that the stand 10 can be removed and replaced in the bag 24 as desired. One preferred means 34 for holding the frame 10 in place as shown are cup-like rubber tips 34. These tips 34 are of a length to at least accommodate the end portion 18 of the legs 12. The internal diameter of the tips 34 is slightly less than the diameter of the portion 18 of legs 12 such that these provide a relatively tight frictional fit with the legs 12. By use of such securing members, the utility of the bag 24 is increased since by removing the tips 34 from the legs 12 the bag can be removed temporarily from the bag 24 and the bag 24 can be used for a variety of purposes. When desired, the stand 10 can again be replaced in the bag 24. Also with this rubber tip securing means 34, the tips themselves act as a protective non-scratching pad between the stand and the surface on which the bag is standing.

In another embodiment of this frame configuration, the horizontal shoulder 16 of legs 12 can be omitted. In these cases, a washer, or like flat member can be rigidly held as by welding or by providing a flat crimp in the leg 12 near the lower end, the flat member being positioned so as to be fit against the upper side of the rigid planar member 26 in a bag 24. A rubber tip, or other securing means 34, is then placed over the end portion 18 of each leg 12 as set forth directly hereinbefore. Other means of providing for positioning of the legs 12 within a bag 24 such that the lower end 18 extends a predetermined distance below the bag 24 also are suitable for use in the stand of the present invention.

In an alternative embodiment, as shown in FIG. 4, the stand 10 consists of four legs 36a–36d attached to ball support ring 14. The upper portion of each of the legs 36a–36d is generally of the same configuration as legs 12 of the embodiment shown in FIGS. 1 and 2. However, the lower portion of each set of two legs 36a–36b and 36c–36d which fit in the two ends of a bag 24 form integral cross members 38a and 38b respectively extending across the lower width of the stand 10 at each end. In turn the cross members 38a and 38b are connected to a support 40 extending therebetween at about the midpoint of the cross members 38a–38b.

The embodiment of stand 10 depicted in FIG. 4 shows another type of ball cushion means 42 suitable for use with the ball support ring 14 of the present invention. This ball cushion 42 consists of a short length of a tubular member of inside diameter such that it can fit over the ring 14. This is slit along its length and placed over the ball supply ring 14 usually at the junction of the legs 36a–36d and the ring 16. It is to be understood that the cushions 42 can be placed at other positions around the ring. Natural or synthetic rubbers, polymeric materials such as styrene, and the like are illustrative of suitable materials for making the tubular cushions 42.

This embodiment of stand 10 can be fastened to a bottom planar member 26 by passing rivets or other securing means through spaced apart passages in the support member 40 and/or cross members 38a and 38b. In such an assembly, the resulting unit of the planar member 26 and stand 10 can be removed as a unit from the bag 24. Alternatively, the stand can be firmly attached to the planar bottom member 26 and bag bottom 28 by securing means as set forth directly hereinbefore to provide a permanent installation.

FIGS. 5 and 6 depict an alternative means for holding a stand 12 of the present invention in a bag 24 such that it is readily removable therefrom. The stand 12 generally is of the same design as shown in FIG. 4 except that it is provided with a cross member 44 connecting the pair of legs at each end of the stand, for example legs 46a–46b as shown in the fragmentary view of FIG. 5. This cross member 44 has an indented section 48 extending on both sides of its midpoint. Each indented section 48 is held down by a clamp 50 affixed to the end of a rigid base member 26. The clamp 50 usually is fastened by rivets, screws or other securing means 52 passing through an arm 54 extending beneath the bottom side of the planar member 26. This clamp means 50 is meant to be illustrative and not limiting of this embodiment of the invention as other conventional clamp or detachable securing means can be employed. Alternatively, the cross member 44 can be straight and have spaced apart flattened and/or raised sections on both sides of the clamp 50. Either the indented section 48 or deformed section serves to hold the stand in a relatively stationary position and eliminates sliding or movement of the stand within the bag 24.

To remove the stand 10 from the bag 24 using the embodiment shown in FIGS. 5 and 6, the clamp 50 at each end of the planar member 26 is sprung outward or the legs are bent inwardly to free the cross member 44 thereby permitting the stand 10 to be lifted out. If the planar member 26 is not attached to the bottom 28 of the bag 24, the entire unit of this rigid member 26 and stand 10 can be removed without detaching the stand 10 from the planar base member 26 if desired.

In this embodiment of the stand 10, the ball cushions 20 are in the form of leather straps passed over the ball retaining ring 14 and held on opposite sides of the legs by the same kind of securing means 22 as described for the cushions of FIGS. 1 and 2. Another form of ball support and cushion means is shown in the embodiment of FIG. 7. In this embodiment, the upper ends 56 of the leg members of the stand extend a short distance above the ring 14. These ends 56 are bent back at an outward angle. Rubber or polymeric plastic tubular members or tips 58 are slid on the leg end 54. One advantage of this embodiment is that with the stand 10 of a design as shown in FIGS. 1–3 the same tip securing means 34 attached to the bottom of the legs 12 can also be used as the cushions 56 thereby reducing the number of different parts required and simplifying the construction of the unit.

In general, the stand of the present invention has a ball support ring of a diameter ranging from about 0.25 to about 1.5 inches less than the maximum diameter of a bowling ball. Ordinarily, the ring has a diameter of from about 0.5 to about 1 inch less than that of a bowling ball. This particular range of ring sizes provides for stable support of a ball in a bag while at the same time not making it difficult to lift the ball from the stand.

It is to be understood that I contemplate that any of the stand embodiments can be used with any of the cushioning means disclosed herein.

The stand ordinarily is fabricated from wrought iron, steel, aluminum or magnesium base metals including aluminum alloys and magnesium alloys and the like structural, workable metals. Conveniently, the units can be fabricated from readily available rod stock. Although any of a variety of geometric cross-section configuration stock can be employed to make the stand of the present invention, preferably the legs and support ring are made from a wrought material which is circular in cross section. Ordinarily, with the structural materials described directly hereinbefore, sufficient strength to maintain struc-
natural integrity is present in a circular cross-section rod for example, of at least about \( \frac{3}{4} \) inch in diameter and ordinarily from about \( \frac{3}{10} \) to about \( \frac{3}{10} \) inch in diameter. Preferably, steel base metal rod stock of about \( \frac{3}{4} \) inch diameter is employed as this gives high strength with relatively low weight.

Various modifications can be made in the present invention without departing from the spirit or scope thereof for it is understood that I limit myself only as defined in the appended claims.

I claim:

1. A bowling ball stand for use in a bowling accessory bag which comprises a plurality of substantially vertically disposed legs each having its upper end affixed to a bowling ball support ring of a diameter less than that of a bowling ball, said legs being fastened at spaced apart positions on said ball support ring such that each leg fits into a corner of a bowling accessory bag when the stand is positioned therein, a plurality of spaced apart ball cushion members attached to the ring, the lower vertical end portion of each of said legs passing through a rigid planar member in the bottom of said bag and through the bottom of said bag and extending outward therefrom, securing means passing over the end portion of each of said legs and placed adjacent the bottom of said bag thereby securely holding the stand and bag together.

2. The bowling ball stand as defined in claim 1 wherein the securing means fitted onto the lower portion of each of said legs is a rubber tip of a length to at least accommodate the end portion of said leg extending below the bottom of said bag, and, each of said rubber tips having a diameter which provides a friction fit with said leg.

3. The bowling ball stand as defined in claim 1 wherein each of said legs has a short substantially horizontal shoulder inwardly disposed near its lower end, said horizontal shoulder resting on said rigid planar member in the bottom of said bag.

4. The bowling ball stand as defined in claim 1 wherein said cushion members are positioned one each at each junction of one of said support legs and said ball support ring, each of said cushion members being a flexible planar member passing around said ring and having its ends extending back therefrom and secured on either side of said leg.

5. The bowling ball stand as defined in claim 1 wherein the leg supports and ball support ring are fabricated from metal rod having a circular cross sectional diameter ranging from about \( \frac{3}{16} \) to about \( \frac{3}{16} \) inch.

6. The bowling ball stand as defined in claim 1 wherein the leg supports and ball support ring are fabricated from a steel rod having a cross sectional diameter of about \( \frac{1}{4} \) inch.

7. The bowling ball stand as defined in claim 1 and having four vertically disposed legs,

8. A bowling ball stand for use in a bowling accessory bag which comprises four substantially vertically disposed legs each having its upper end affixed to a bowling ball support ring of a diameter less than that of a bowling ball, said legs being fastened at spaced apart positions on said ball support ring such that each leg fits into a corner of a bowling accessory bag when the stand is positioned therein, a plurality of spaced apart ball cushion members attached to the ring, the lower portion of each of said legs passing through a rigid planar member in the bottom of said bag and through the bottom of said bag and extending outward therefrom, securing means passing over the end portion of each of said legs and placed adjacent the bottom of said bag thereby securely holding the stand and bag together.

9. The bowling ball stand as defined in claim 8 wherein each of said cross members is detachably connected to said planar member fitted in the bottom of said bowling accessory bag by means of clamps affixed to each end of said planar member.

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