March 5, 1968 P. J. ROSONKE 3,371,795

BALL RACK

Filed Jan. 28, 1966 2 Sheets-Sheet 1

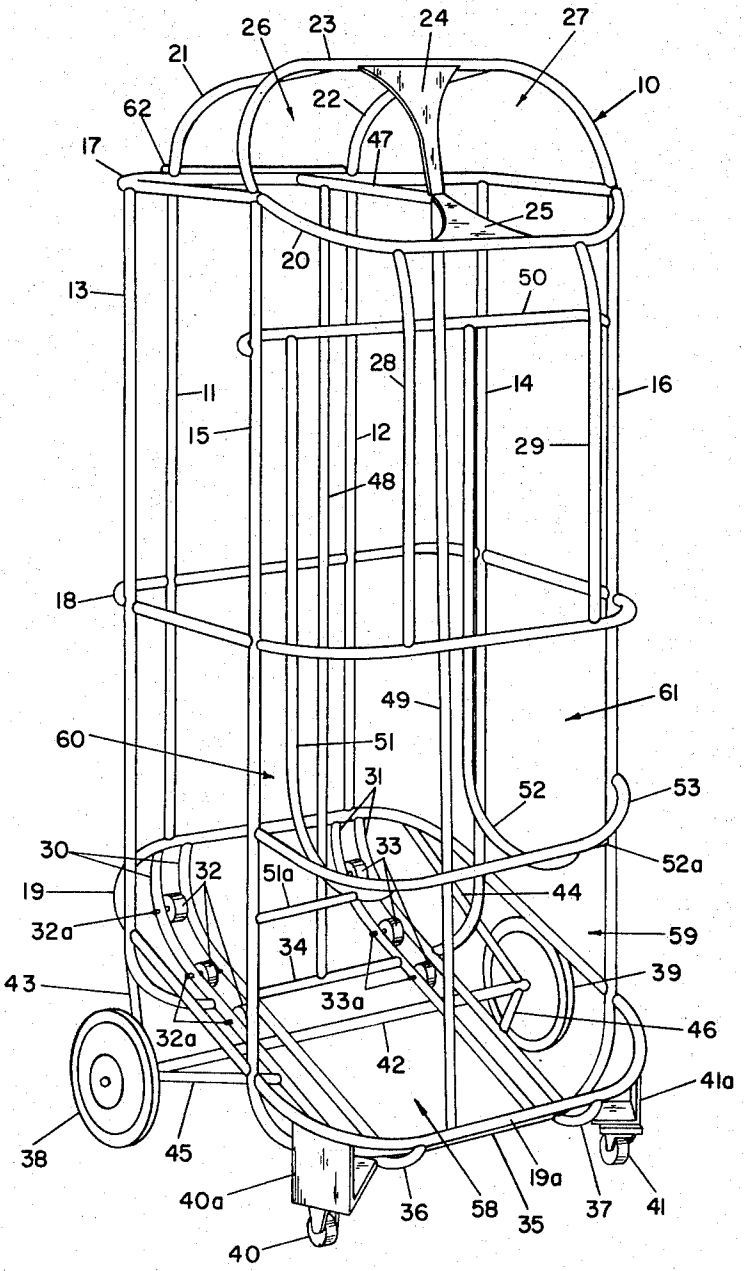


Fig. 1

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Fig. 3

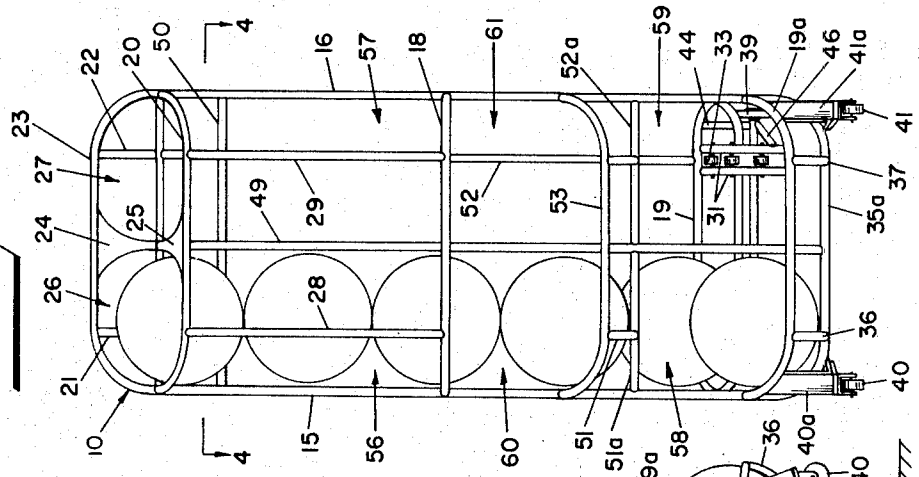


Fig. 2

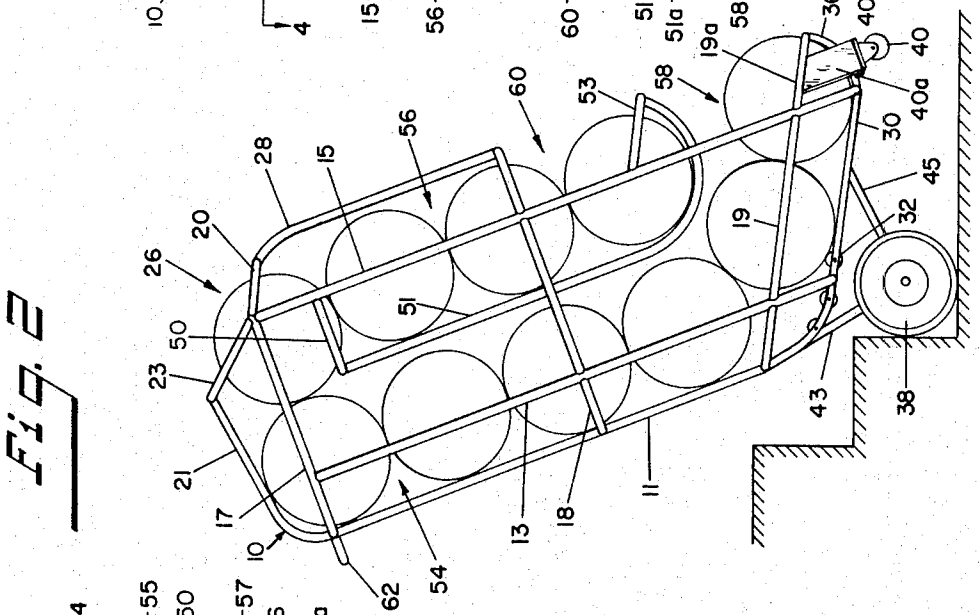
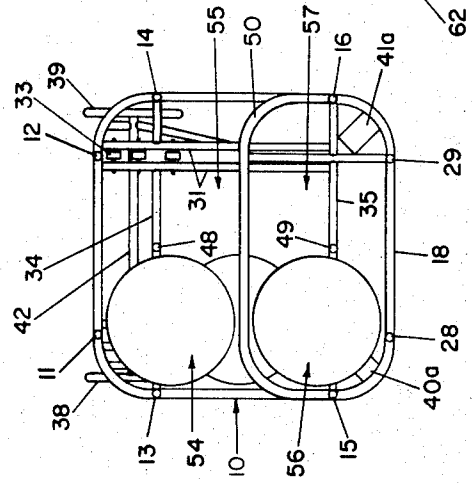


Fig. 4



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BALL RACK

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ABSTRACT OF THE DISCLOSURE

A portable, wheeled storage and dispensing rack for basketballs and the like, including an upright frame having four upright chutes and a pair of upper openings for inserting balls into the four chutes. Four lower openings are provided for withdrawing the balls from the chutes. Guide bars and rollers are provided for directing the ball toward the lower openings. The frame has top members extending over the chutes for retaining the balls in the chutes when the rack is tilted backwardly on its wheels when traversing stairs or when it is placed in a substantially horizontal position.

This invention relates generally to ball handling apparatus and more particularly to a ball storing, transporting and dispensing rack.

A primary object of my invention is to provide a new and improved rack for storing, transporting and dispensing balls such as basketballs, volleyballs, baseballs, softballs, and the like in an orderly and convenient manner.

Another object of my invention is to provide a new and improved rack having a substantially upright tubular frame defining a number of chutes for stacking and storing a plurality of balls in columns to facilitate quick counting of balls in the rack.

Another object of my invention is to provide a ball storage, transporting and dispensing rack comprising a substantially upright, wheel-supported frame having at least one top opening for receiving the balls to be stored and at least two lower openings for removing the balls.

Another object of my invention is to provide a ball storage and dispensing rack comprising an upright wheel-supported frame having forwardly disposed openings for receiving and dispensing balls and a pair of rear wheels which extend rearwardly beyond the back of the frame to facilitate maneuvering of said rack up and down stairways when the rack is tilted backwardly on its rear wheels.

Further objects, features, and advantages of my invention will be apparent from the following detailed description, taken in conjunction with the accompanying drawings wherein a preferred embodiment of the principles of the invention has been selected for exemplification.

In the drawings:

FIG. 1 is a perspective view of a ball rack embodying my invention.

FIG. 2 is a side elevation view of the ball rack of FIG. 1 filled with balls and tilted rearwardly on its rear wheels for pushing or pulling.

FIG. 3 is a front elevation view of the ball rack of FIG. 1 with balls in one side thereof.

FIG. 4 is a sectional view taken along line 4—4 of FIG. 3.

Referring now more particularly to the drawings wherein like numerals refer to like parts throughout the several views, the ball rack comprises a substantially upright tubular frame generally shown at **10**.

Preferably, the cake-like frame **10** may be made of any substantially rigid, light-weight metal tubing, such as aluminum or the like, or it may be made from fiberglass, plastic or the like.

The frame **10** comprises a pair of vertical back members **11** and **12**, a pair of vertical rear side members **13** and **14** and a pair of vertical front side members **15** and **16**. These vertical members are held in fixed relation by upper, middle and lower bracing members **17**, **18** and **19**, respectively.

As best seen in FIGS. 1–3, the top portion of the frame **10** is formed by member **20** which extends across the front of the frame **10** and members **21**, **22** and **23** which extend over the top. Members **20** and **23** and plate members **24** and **25** define the upper ball receiving openings **26** and **27**. As best seen in FIGS. 1 and 2, member **20** descends forwardly from the front end of upper bracing member **17**, and member **23** is inclined rearwardly from the same junction, thus, forming upwardly and forwardly facing ball receiving openings **26** and **27**.

The front portion of the frame **10** is formed by a pair of upright members **28** and **29** connected at their top end to member **20** and at their lower end to the front portion of middle bracing member **18**.

The bottom portion of frame **10** is formed by two sets of guide bars, **30** and **31**, which support guide rollers **32** and **33** on pins **32***a* and **33***a*, respectively. Rear side member **13** curves downwardly and inwardly and is fixedly attached to the outer one of guide bars **30** as best seen in FIG. 1. Likewise, rear side member **14** curves downwardly and inwardly and is fixedly attached to the outer one of guide bars **31**. A brace member **34** is fixedly attached to the inner guide bars **30** and **31** substantially in line with the lower curved ends of rear side members **13** and **14**. Front side members **15** and **16** which extend downwardly somewhat further than rear side members **13** and **14** curve downwardly and inwardly and have a portion **35** which extends across the front ends of guide bars **30** and **31**. The guide bars **30** and **31** are fixedly attached at their rear ends to the back portion of lower bracing member **19** and extend downwardly and forwardly to the transverse portion **35** of front and side members **15** and **16**. Short brace members **36** and **37** curve upwardly from transverse portion **35** to the front portion **19***a* of lower bracing member **19**.

Frame **10** is supported in a substantially upright position by a pair of rear wheels **38** and **39** and by a pair of pivotable casters **40** and **41**. Casters **13** are mounted on brackets **40***a* and **41***a* which are fixedly secured to the front portion **19***a* of lower bracing member **19** and to the transverse portion **35** of front side members **15** and **16**. The rear wheels **38** and **39** are mounted on an axle **42** which is fixedly attached to wheel support members **43**, **44**, **45** and **46**. Support members **43** and **44** are secured to the back portion of lower bracing member **19** and support members **45** and **46** are connected to the outer guide bars **30** and **31**, respectively. As best seen in FIGS. 2 and 4, the rear wheels **38** and **39** extend rearwardly somewhat beyond the back of the frame **10** to facilitate rolling of the rear wheels **38** and **39** up and down steps, as shown in FIG. 2, without bumping the frame members against the edges of the steps.

As best seen in FIGS. 3 and 4, the rear wheels **38** and **39** and casters **40** and **41** do not extend outwardly beyond the side members **16–19** of the frame **10** so that the overall width of the rack is kept to a minimum.

The frame **10** has a substantially horizontal member **47** extending from the back of upper bracing member **17** to the junction of plates **24** and **25**. The frame **10** is divided into a left side and a right side by vertically disposed members **48** and **49** which depend from horizontal member **47**. Member **48** is connected at its lower end to member **34** and member **49** is connected at its lower end to the transverse portion **35**.

The frame **10** is provided with a cross member **50**

which has forwardly curved ends attached to front side members 15 and 16. A pair of substantially J-shaped members 51 and 52 extend downwardly from cross member 50 and then curve upwardly to a transverse retaining member 53 having rearwardly curved ends fixedly attached to front side members 15 and 16 below middle bracing member 18 and above front portion 19*a* of lower bracing member 19. The vertical distances between middle bracing member 18 and retaining member 53 and between retaining member 53 and front portion 19*a* of lower bracing member 19 are greater than the diameter of the balls to be stored in the rack to permit the balls to be withdrawn from the rack when desired. J-shaped members 51 and 52 are braced by members 51*a* and 52*a* which extend inwardly from side members 15 and 16 to vertical member 49.

The particular framing described above defines four substantially upright ball chutes 54, 55, 56 and 57, the two ball receiving openings 26 and 27, and four ball withdrawal openings 58, 59, 60 and 61.

Rear chute 54 is defined by back member 11, side member 13, member 51 and vertical divider member 48. Rear chute 55 is defined by back member 12, side member 14, member 52 and vertical divider member 48. The bottom portion of rear chutes 54 and 55 are defined by guide bars 30 and 31, respectively, and bracing member 19. Front chute 56 is defined by J-shaped member 51, front side member 15, front member 28, and front divider member 49. Front chute 57 is defined by J-shaped member 52, front side member 16, front member 29, and front divider member 49.

The opening 60 for withdrawing balls from front chute 57 is defined by side member 15, retaining member 53, front divider member 49, and middle bracing member 18. Opening 61 for withdrawing balls from front chute 57 is defined by side member 16, retaining member 53, divider member 49, and middle bracing member 18. Opening 58 for withdrawing balls from rear chute 54 is defined by side member 15, front portion 19*a*, front divider 49, and retainer member 53. Opening 59 for withdrawing balls from the rear chute 55 is defined by side member 15, front portion 19*a*, front divider member 49, and retainer member 53.

The particular form of rack shown in the drawings holds a total of twenty regulation size basketballs. As best seen in FIGS. 2–4, ten balls are stored in each side of the rack, six balls being held in each of the rear chutes 54 and 55 and four balls being held in each of the forward chutes 56 and 57.

Basketballs may be put into the rack through the upper ball receiving openings 26 and 27. Balls put in through opening 26 may go into either front chute 54 or rear chute 56. The first ball dropped into chute 56 falls by gravity until it comes to rest in the bottom of J-shaped member 51. Retainer member 53 will prevent the ball from falling out of the rack. Two more balls may be stacked on top of the first ball in chute 56. Next, balls may be dropped into chute 54. These balls are moved backwardly beyond member 50 and they then drop toward the bottom of chute 54. The first ball placed in chute 54 will strike the rollers 32 and by gravity will move downwardly and forwardly along guide bars 30 until it comes to rest against front portion 19*a* of the lower bracing member 19 as seen in FIGS. 2 and 3. Five more balls may then be stacked in chute 54. The rollers 32 will prevent any balls from getting stuck in chute 54. Finally, a last ball may be placed in chute 56 through opening 26 and it will be held therein by front member 20 as best shown in FIG. 3. The left side of the rack will then be filled with ten balls as shown in FIG. 2. The right side of the rack, that is, chutes 55 and 57, may be filled with ten balls through opening 27 in a like manner.

While the rack shown in the drawings for exemplification is two chutes wide and holds a total of twenty balls,

it is understood that a narrower, one chute wide rack for carrying a maximum of ten balls in front and rear chutes such as 54 and 56 is also within the scope of my invention, as is a rack which is more than two chutes wide. The racks can, of course, be made any height desired in order to hold more or less balls.

The rack may be maneuvered along a supporting surface either by pushing or pulling it in its upright position on the rear wheels 38 and 39 and on casters 40 and 41, or it may be tilted backwardly as shown in FIG. 2 and maneuvered by a person by means of handle 62.

As shown in FIGURE 2, because the rear wheels 38 and 39 extend rearwardly somewhat beyond the back of frame 10, the rack can easily be pulled up or pushed down a stairway without damaging the frame 10.

As is readily apparent from the drawings, the balls from the rear chutes 54 and 55 may be removed from the rack through openings 58 and 59, respectively, by lifting the balls upwardly and outwardly over front portion 19*a* of the lower bracing member 19, and the balls in front chutes 56 and 57 may be removed through openings 60 and 61, respectively, by lifting them upwardly and outwardly over the retaining member 53.

The portable wheel supported rack for holding twenty basketballs shown in the drawings may be stored in a standard double locker while a one chute wide rack for holding ten basketballs in a front chute and a rear chute may be stored in a single locker.

If desired, a rack without wheels may be mounted in a locker or against the wall of a locker room, coaches' office, or the like as a more or less permanent installation for holding balls.

Racks for any size balls may be provided. For instance, a small rack without wheels could be provided for baseballs, softballs, and the like, and could be stored in the locker room and carried onto the ball field for practice sessions and pre-game warm-ups.

It is understood that my invention is not confined to the particular construction and arrangement of parts herein illustrated and described, but embraces all such modified form thereof as come within the scope of the following claims.

I claim:

1. A ball storage and dispensing rack comprising:
   (a) a frame for holding a plurality of balls,
   (b) wheels supporting said frame in an upright position,
   (c) said frame having first and second substantially upright chutes for holding balls,
   (d) said frame having members defining an upper opening through which balls are inserted into said chutes,
   (e) said frame having members defining at least one lower opening from which balls from said chutes may be withdrawn,
   (f) said first chute having bottom guide means for directing said balls toward said lower opening for withdrawal, and
   (g) said frame having top members extending over said chutes for retaining said balls in said chutes when said rack is tilted backwardly.

2. The ball storage and dispensing rack as specified in claim 1 wherein said guide means includes descending guide bars and rollers over which said balls ride during their descent toward said lower opening.

3. A ball storage and dispensing rack comprising:
   (a) a frame for holding a plurality of balls,
   (b) wheels supporting said frame in an upright position,
   (c) said frame having first and second substantially upright chutes for holding balls,
   (d) said frame having a pair of additional substantially upright chutes for holding balls,
   (e) said frame having members defining a pair of openings through which balls are inserted into said four chutes,
   (f) said frame having members defining a pair of first

lower openings from which balls from said first and second chutes may be withdrawn and a pair of additional lower openings spaced above said first pair of lower openings through which balls from said pair of additional chutes may be withdrawn,

(g) said first and second chutes having first and second descending bottom guide means, respectively, for directing balls toward said first pair of lower openings, and

(h) said frame having top members extending over said chutes for retaining said balls in said chutes when said rack is tilted backwardly.

4. The ball storage and dispensing rack as specified in claim 3 wherein said guide means includes rollers over

which the balls ride during their movement toward said first pair of lower openings.

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