A portable deck adapted for outdoor use includes a base forming a floor with retaining rails attached by hinges to a side and an end of the base pivotable between a use position extending upwardly and a storage position folded toward the floor. The deck may be supported on a plurality of extendable-retractable wheels. A foldably supported shelf may be attached to the top of at least one of the rails. Brace members with pivoting central joints may be angularly disposed between the deck floor and a post that forms the rail assembly to support it in an upright position and between a post and a shelf to hold it in a level position. Alternatively, a locking rod is positioned in brackets attached to the deck perimeter to entrap the rails between the rod and the deck to releasably retain them in an upright position.
PORTABLE BAR-B-Q PLATFORM

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to a provisional patent application Ser. No. 60/572,326 titled, “Portable Bar-B-Q Platform,” filed May 19, 2004. The entire disclosure of Ser. No. 60/572,326 is incorporated by reference in its entirety.

FIELD OF INVENTION

[0002] The present invention generally relates to portable platforms and particularly to a portable platform configured for barbeque (BBQ) applications.

BACKGROUND ART

[0003] There exist in the art several types of decks and even portable and/or collapsible deck-like structures. Unfortunately, these structures are either too bulky or too large for specific seasonal uses such as food grilling or power tool use. Examples of collapsible structures are shown in U.S. Pat. No. 3,808,787 to Greenwood, U.S. Pat. No. 4,747,243 to Anstead and Patent Application 2003/0167701 to Rich that include structures such as porches. Other proposals require the removal of parts such as legs or rails to allow for the collapse of the structure. U.S. Pat. No. 4,691,484 to Wilson includes a portable deck that has a fixedly assembled wooden platform with parts secured by bolts.

[0004] U.S. Pat. Nos. 5,822,930 and 5,784,837 to Klein disclose a portable deck structure that employs the use of wheels for transport. The patent includes various ways to collapse the structure including a vertically collapsed position. In one embodiment of this invention there is a fold out feature that doesn’t provide for the removal of parts.

[0005] Nevertheless, there are deficiencies in the prior art in that often the collapsible parts must be removed or are too bulky for portability and storage such as winter storage in a garage.

SUMMARY OF INVENTION

[0006] An important aspect of the present invention is the provision of a deck that creates a sturdy secure environment under and around devices such as barbeque grills and accessories, power tools and recreational equipment. The present invention can include several additional features for organizing accessory items on the deck.

[0007] Specifically, the present invention provides a portable collapsible platform for use with items such as barbeque (BBQ) grills that may include wheels to facilitate transport and may also include storage aids for accessories, for example, shelves and hooks. The present invention may also provide features such as utensil hangers, apron hangers, shelves, posts, deck space, grill area and a sturdy yet transportable base. In one embodiment, wheels are added to make the unit transportable and storable. The invention provides a streamlined design in that the rails and shelves can be collapsed without having to remove them from the structure.

[0008] A related aspect of the invention is the provision of a structure that can be folded together with the side rails leaved or nested together into a compact configuration for storage or transport.

[0009] A further related aspect is an assembly that includes appropriate hinges and cooperating pivotable support braces to achieve the objectives of the invention.

[0010] Briefly, the invention provides a portable deck adapted for outdoor use that includes a base structure forming a floor. A retaining rail is attached by hinges to a side of the base structure, the side rail being pivotable from and upright position to a collapsed position folded toward the deck floor. In the use position, each rail extends upwardly from the side or rear edge of the deck and is supported by means such as a retaining device attached to the perimeter of the deck or, alternatively, foldable brace members positioned between the rails and the deck floor. In the storage position, each rail is collapsed into a position folded toward the floor. In a preferred embodiment, one retaining rail is attached by hinges to an end of the base structure, and a second retaining rail, also pivotable between a use position extending upwardly from a side of the deck is similarly pivotable between an upright use position and a storage position wherein it is collapsed into a position folded toward the floor.

[0011] The deck may be supported on a plurality of removable or extendable-retractable wheels. A foldably supported shelf may be pivotally attached to the top of at least one of the rails.

[0012] In one embodiment, brace members with pivoting central joints are angularly disposed between the deck floor and a post that forms each rail assembly to support it in an upright position. Similar pivoting brace members are positioned between one or more posts and each shelf to hold it in a level position.

[0013] In an alternate embodiment, a removable rod is used in combination with cooperating retaining loops in the form of brackets attached to the deck perimeter and provided with an aperture sized to receive the removable rod to thereby lock each rail assembly in its upright position.

BRIEF DESCRIPTION OF FIGURES

[0014] The foregoing features, as well as other features, will become apparent with reference to the description, claims and accompanying drawing figures, in which like numerals represent like elements, and in which:

[0015] FIG. 1 is front perspective view of a portable deck assembly in accordance with an embodiment of the present invention;

[0016] FIG. 2 is a perspective view of a retractable wheel useful in the practice of the invention;

[0017] FIG. 2A is a side view showing the wheel of FIG. 2 in the extended position;

[0018] FIG. 2B is a side view showing the wheel of FIG. 2 in the retracted position;

[0019] FIG. 3 is a top view of a portable deck embodiment of the present invention and shows and alternative shelf design;

[0020] FIG. 4 is a bottom view of the portable deck of FIG. 1;

[0021] FIG. 5 is a side elevational view of the portable deck of FIG. 1 with wheels omitted;
FIG. 6 is top view of the deck of FIG. 5;

FIG. 7 is a bottom view of the deck of FIG. 5;

FIGS. 8 and 9 are perspective views of interlocking structural members which may be used to construct the base portion of a deck in accordance with the invention;

FIG. 10 is a fragmentary side elevational view showing a different embodiment of a wheel suitable for use in the practice of the invention; and,

FIG. 11 is a fragmentary perspective view showing an alternate embodiment of an arrangement for locking a rail on a deck in a vertical position.

DETAILED DESCRIPTION

Referring now to the drawing figures, FIG. 1 shows the deck assembly of the present invention generally at 20. A deck floor 28 is integrally formed with base 22 which forms a lower perimeter supporting deck floor 28. Base 22 can be constructed of structural lumber, or constructed using materials known in the art, such as plywood, recycled plastics or composites. Base 22 includes a pair of end face members 25 and a pair of side face members 23. Preferably the structure includes a framework of a beam 24 and cross-members 26 as shown in FIGS. 4 and 7. Alternatively, as shown in FIG. 7, several lengthwise beams 27 can be used. Members 24 and 26 may be of an interfitting configuration, for example, as illustrated as 24A and 26A in FIGS. 8 and 9.

Deck floor 28 provides a surface to support users and such items as grills, tools and recreational equipment. Floor surface 28 may be plywood or other sturdy materials and may be treated with flame retardants to reduce the risk of fires as well as preservatives to prolong the useful life of the structure. An end rail 16 and a side rail 18 are hingedly attached to an end and a side of deck floor 28, respectively. As shown, side rail 18 is preferably of a length less than the full length of the deck assembly in order to allow for easy access to the deck surface and for purposes of allowing adequate clearance around grill 14 as best seen in FIG. 3.

Useful features to increase the functionality, efficiency, and enjoyment of deck assembly 20 may include at least one side shelf 30, and preferably also an end shelf 31 supported by posts 32 and angled braces 36. The portability and ease of storage of deck assembly 20 is enhanced by making shelves 30 and 31 foldable and collapsible. This may be accomplished through the use of post hinges 34 and shelf hinges 35 to hingedly attach shelves 30 and 31 to posts 32. To retain the level position of shelves 30 and 31 relative to vertical posts 32, lockable and foldable brace support members 36 are added as illustrated in FIG. 1. Hinges 34 and 35 may be of conventional design of the type used on various doors and thus are not illustrated in detail. Other devices known in the art are also possible within the scope of this invention to provide a lockable means to hold shelves 30 and 31 and posts 32 in place while allowing them to be released to fold toward floor 28 for storage or transport.

To increase the transportability of platform 20, the present invention further provides wheels 38 that may be slidably attached to a track (not shown) that has means such as a thumb screw to lock the wheel in a retracted position for use of deck assembly 20 in a stationary position and an extended position, for rolling transport of assembly 20. Arrows 44 generally illustrate extension and retraction of the wheels 38. As seen in FIGS. 2, 2A and 2B, the wheels 38 and be attached to a yoke 45 which is pivotable about shafts 47. A lever 43 can be provided on each end of the shafts 47 for manual rotation of the shafts. By use of eccentric placement of the yokes 45 and springs 49, the wheels 38 are locked in a retracted position as shown in FIG. 2B when the deck 20 is placed in a stationary position for use.

Alternatively, as shown in FIG. 10, the wheels may be in the form of casters having supporting shafts 40 that are each received in a socket 50 when used and removed when the deck assembly is placed in a stationary use position. Such wheels and casters are sized and selected taking into account the size and weight of the particular deck assembly. The wheels 38 may be lowered, installed or removed by raising the deck, if necessary, either by manually lifting or by use of levers or a hydraulic jack, etc., as needed. In addition to the illustrate designs for making wheels 38 extendable and retractable, other designs will be apparent to those skilled in the art.

An alternative, preferred embodiment showing a different scheme for supporting the end and side rails 16 and 18 in their upright use positions is shown in FIG. 11. In this embodiment the lower braces 36 are eliminated. Instead, brackets 60 are attached to an end perimeter face member 25 and side perimeter face member 23. Circular shaped apertures 62 are provided in each bracket 60 in alignment with each other. A rod or pole 64 of appropriate length and diameter is inserted through the aligned apertures 62, as illustrated, with the posts 32 in their vertical orientation, thereby entrapping the posts 32. As in the case of the earlier described embodiment, posts 32 are pivotally attached to deck surface 28 by means of hinges 34. The rods 64 are retained in position by cotter keys or pins 66 or other known types of mechanical fasteners.

While the invention has been described in conjunction with specific embodiments, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art in light of the foregoing description. Accordingly, the present invention attempts to embrace all such alternatives, modifications and variations that fall within the spirit and scope of the appended claims.

What is claimed is:

1. A portable deck adapted for outdoor use comprising:
a base structure forming a floor, said base structure including opposing end members and opposing side members;
a first retaining rail attached to a side member of said base structure, said first rail being pivotable between a use position extending upwardly from said side member and a storage position wherein it is collapsed into a position folded toward said floor; and

2. A second retaining rail attached to an end member of said base structure, said second rail being pivotable between a use position extending upwardly from said end member and a storage position wherein it is collapsed into a position folded toward said floor.
2. A deck according to claim 1 wherein said first and second rails are attached by means of hinges, respectively, to said side member and said end member of said base structure.

3. A deck according to claim 1 wherein said base structure is supported for transport on a plurality of wheels.

4. A deck according to claim 3 wherein said wheels are extendable to a transport position for movement of said deck and retractable to a position for use of said deck in a stationary position.

5. A deck according to claim 1 wherein a shelf is supported at the top of at least one of said first and second rails.

6. A deck according to claim 1 wherein each said rail assembly comprises a top rail and a plurality of vertical posts spaced along the length thereof, and a least one brace member is angularly disposed between the deck floor and at least one of said posts to hold said rail assembly in an upright position.

7. A deck according to claim 6 wherein a shelf is supported at the top of at least one of said first and second rail assemblies, and a least one brace member is angularly disposed between at least one of said posts and said shelf, thereby supporting said shelf in an approximately level orientation.

8. A deck according to claim 6 wherein said brace member is provided with a central pivotal joint which, when folded allows said rail to be folded against said deck into the storage position.

9. A deck according to claim 1 wherein each said rail assembly comprises a top rail and a plurality of vertical posts spaced along the length thereof, and wherein a plurality brackets are attached to a perimeter of said deck, each of said brackets being provided with an aperture, the apertures of each of said brackets being in alignment with each other, and a rod adapted to retain a rail assembly in a vertical position normal to said deck surface by entrapping said vertical posts between said deck perimeter and said rod when said rod is inserted in said aligned apertures.

10. A portable deck assembly adapted for outdoor use comprising:

a base structure forming a floor, said base structure including opposing ends and sides;

a first retaining rail attached to a side of said base structure, said side rail being connected to said side by means of a hinge whereby it is pivotable between a use position extending upwardly from said side and a storage position wherein it is collapsed toward said floor into a storage position; and

a second retaining rail attached to an end of said base structure, said end rail being pivotable between a use position extending upwardly from said end and a storage position wherein it is also collapsed toward said floor into a storage position.

11. A deck assembly according to claim 10 wherein means is provided to releasably retain each rail in an upright position and wherein, when said means is released, the associated rail can be folded against said deck into a storage position.

12. A deck assembly according to claim 10 wherein said first and second rails are attached by means of hinges, respectively, to said side member and said end member of said base structure.

13. A deck assembly according to claim 10 wherein said base structure is supported for transport on a plurality of wheels.

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