A basketball goal having a goal rim locking structure. The goal rim locking structure has an open goal position to allow use of the goal rim and a closed position that prevents use of the goal rim.
BASKETBALL GOAL RIM LOCK

This application claims priority to U.S. Provisional Patent Application Ser. No. 60/740,662, filed Nov. 30, 2005, the complete disclosure of which is incorporated herein by reference.

FIELD OF THE INVENTION

The invention relates to a basketball goal rim lock and a method of locking a basketball goal rim.

BACKGROUND OF THE INVENTION

Basketball is one of the most popular sports in the world. It is played in backyards, local parks, schools, and at a countless variety of other facilities. As is well known, basketball requires a backboard mounted on a pole, wall or other structure, and goal rim (also referred to as a “hoop” or merely as a “goal”) mounted on the backboard. The goal rim is set 10 feet from the court surface. For purposes herein, use of the term “basketball goal” refers generally to at least the goal rim and backboard and may also include a pole and other structure associated with the basketball goal.

Most basketball courts are not located in gyms or within the confines of other enclosures that allow an owner or other supervisor to regulate who may use a court or at what times of the day play is permitted.

The vast majority of courts located outside are not surrounded by a fence with a locking gate. Courts that have been fenced in an effort to control use, are usually located in urban areas. The fences around courts that are located in high demand areas are usually vandalized by cutting the mesh fabric, breaking gate locks or removing gates altogether, pulling the fence bottom up with jacks, all to allow access to the court by persons who are not authorized to use the court or by persons authorized to use the courts but not at a given time.

Any fence and gate structure that is erected in an attempt to prohibit unauthorized court use is expensive. A single court would require approximately three hundred and eighteen feet of fence that must be a minimum of 8 feet high. Such fences are extremely expensive to install and equally difficult to maintain due to the many ways a fence can be vandalized to provide an opening for unauthorized players.

Any gate system used with a perimeter fence must include a locking mechanism that will allow authorized use through the gate but prohibit unauthorized use. Such access control devices to courts are extremely problematic because locking gate systems are not easy to install or maintain.

The simplest method of locking the gate is with a chain and padlock. Usually, this is not practical because duplicate keys can be distributed by authorized key recipients to unauthorized users or the lock itself is often stolen.

A chain link fence gate opening is not rigid like a normal door opening. The inherent flex of the vertical fence posts to which a gate attaches makes it virtually impossible to fit the court gate with a keyed lock assembly or magnetic card entry lock system that could be used in other access control applications. Likewise, the gate itself also flexes like the fence posts, adversely effecting the lock mechanism alignment preventing the lock from either opening or closing as intended. Moreover, one can simply block open the gate so it will not close, thus defeating the point of the gate altogether. Any such lock mechanism can be easily jammed in the open position by vandals. Managing the constant repair of gate locking mechanisms, not to mention the expense is a constant chore to management.

There is a great need for an effective method of preventing unauthorized use of basketball courts.

SUMMARY OF THE INVENTION

An objective of the invention is to provide a rim lock that is easy to install on new or existing basketball goals.

Another objective of the invention is to provide a rim lock that is resistant to harsh climate conditions and is tamper proof.

A further objective of the invention is to provide a rim lock that can be implemented manually by an attendant or authorized player.

Another objective of the invention is to provide a rim lock that can be electrically operated at courtside or from a remote switch location.

A further objective of the invention is to provide a rim lock that can be coin operated, magnetic card operated, and/or key activated to allow authorized users.

A further objective of the invention is to provide a rim lock that can be automated by use of a photo cell and/or timer.

These objectives and other objectives are obtained by a basketball goal rim locking structure having an open goal position to allow use of a goal rim and a closed position that prevents use of the goal rim.

The objectives are further met by a basketball goal comprising a backboard, a goal rim operatively associated with the backboard, and a goal rim locking structure constructed and arranged such that an open goal position of the goal rim locking structure allows use of the goal rim and a closed position of the goal rim structure prevents use of the goal rim.

The objectives are also obtained by a method of preventing unauthorized use of a basketball court comprising at least one goal rim locking structure mounted on a basketball goal having a backboard and a goal rim. The goal rim locking structure has an open goal position that allows use of the goal rim and a closed position that prevents use of the goal rim. The method comprises the steps of controlling use of the basketball court by setting the goal rim locking structure to the open position to allow use of the court and setting the goal rim locking structure to the closed position to prevent use of the court as desired.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates a view of a goal locking structure according to the present invention;

FIG. 2 illustrates a view of a goal locking structure according to the present invention; and

FIG. 3 illustrates a view of a goal locking structure according to the present invention.
The present invention provides a basketball goal rim lock that is affordable and allows any type of facility to control who uses the basketball court and when they use the court. The basketball goal rim lock comprises a goal rim locking structure that can easily be mounted on a basketball goal. The goal rim locking structure has an open goal position to allow use of the goal rim and a closed position that prevents use of the goal rim by preventing the basketball from passing through the goal rim.

When an owner can dictate when a basketball can and cannot pass through the basketball rim, the owner has complete control over basketball play on the court. When the court is "open for play" the goal rim locking structure is in an open position, which allows the basketball to pass through the goal rim unimpeded.

In addition to providing court owners the ability to regulate who can use a court and at what time, the present goal rim locking structure provides an additional benefit to court owners: When made to operate by coins or pre-purchased tokens, the goal rim locking structure can allow a court owner to collect revenue for court use. Prior to the present goal rim locking structure, collecting fees to use a court was highly impractical in most court locations. Collecting court user fees is a highly desirable asset of most court owners, whether the court is a "for-profit" endeavor or whether such user fees are merely allocated for court maintenance or resurfacing.

The novel goal rim lock will be described with reference to the attached Figs. without being limited thereto.

FIGS. 1-3 show a basketball goal 2 having a backboard 4 mounted on a pole 6. A goal rim 8 is mounted on the backboard 4. A goal rim locking structure 10 is mounted to the backboard 4 using bolts 11. The goal rim locking structure 10 includes a retractable piston 12 that passes through a hole 14 in the backboard 4 and a housing 13. The goal rim locking structure 10 can be mounted in any desired position. For example, the goal rim locking structure 10 can be mounted such that the piston 12 is about 2 to about 8 inches, preferably about 4 to about 6 inches above the goal rim 8. The piston 12 is preferably round for ease of installation, but can be any shape as desired, including square, hexagonal, etc. and can be formed from any suitable material, such as plastics, metals, and alloys. If desired, the piston 12 can be replaced with a flat plate or other suitable shape that can be extended and retracted over the goal rim 8. The piston 12 should be sufficiently sized and located such that when in an extended closed position a basketball cannot pass through the goal rim 8. In this regard, when using a standard sized goal rim the piston 12 preferably extends at least about 10 to 14 inches from the backboard in the extended closed position. The goal rim locking structure 10 includes piston moving structure to move the piston between a retracted open position and an extended closed position. The piston moving structure can be any conventional structure used for moving pistons as desired for particular application, including hydraulic, mechanical, electromechanical, screw driven, etc.

If the goal rim locking structure 10 is exposed to the outside environment, the housing 13 is preferably formed from a rust resistant material, such as aluminum, stainless steel, rust resistant alloys, and plastics, or is painted or powder coated to prevent rust.

When the court is closed to play, the piston 12 is in an extended position, extending through the backboard 4 and over a portion of the goal rim 8, preventing a basketball from passing through the goal rim 8. By deflecting a shot basketball, the goal rim lock defeats the most basic point of the game of basketball.

The goal rim locking structure 10 can be controlled using local controller 16 and/or a remote controller 18. The controllers 16 or 18 can be connected to the goal rim locking structure 10 in any suitable manner, such as by using a wire 20 or by wireless transmitters and receivers 22. The controllers 16 and 18 can be coin operated, token operated, card operated, and/or key operated as desired. The controllers 16 and 18 can also be automated using a timer and/or photo cell as desired. Controllers are well known and any suitable controller can be used in the present invention.

FIG. 2 shows the piston 12 in an extended position, which prevents a basketball from passing through the goal rim 8.

If desired, the goal locking structure can be manually set, obviating the use of a controller 16 or 18.

Another example of the goal rim locking structure includes a flap device that is mounted to the front of the backboard above the rim. When the flap is in a vertical open position against the face of the backboard, basketball play is allowed. When the flap is in a closed position, the flap is sized to cover a sufficient amount of the goal rim to prevent a basketball from passing through the goal rim. The flap can be activated in the same manner as set forth above in the piston example.

A further example of the goal rim locking structure includes a disc plate device, which is mounted to the rear of the backboard. Preferably the disc plate device is mounted in a weatherproof housing. A slot is cut in the backboard to allow the disc to be activated so that it protrudes through the backboard to cover a sufficient portion of the goal rim to prevent a basketball from passing through the goal rim. The disc plate can be activated in the same manner as set forth above in the piston example.

The goal rim locking structure according to the present invention provides the following advantages:

The goal rim lock eliminates the expense and unsightly look of fences, gates and gate locks.

The goal rim lock is affordable and can easily be made virtually indestructible.

The goal rim lock is easy to install on new or existing basketball goals.

The goal rim lock can easily be made resistant to harsh climate conditions.

The goal rim lock can be implemented manually by an attendant or authorized players.

The goal rim lock can be electrically operated at courtside or from a remote switch location.
The goal rim lock can be coin operated, magnetic card operated, and/or key activated.

The goal rim lock can be automated by use of a photo cell and/or timer.

While the claimed invention has been described in detail and with reference to specific embodiments thereof, it will be apparent to one of ordinary skill in the art that various changes and modifications can be made to the claimed invention without departing from the spirit and scope thereof.

I claim:

1. A basketball goal comprising:
   a backboard;
   a goal rim operatively associated with the backboard; and
   a goal rim locking structure constructed and arranged such that an open goal position of the goal rim locking structure allows use of the goal rim and a closed position of the goal rim structure prevents use of the goal rim.

2. The basketball goal according to claim 1, wherein the goal rim locking structure comprises a retractable piston that when in the closed position extends from the backboard a sufficient distance to prevent a basketball from passing through the goal rim and when in the open position is retracted such that a basketball ball can pass through the goal rim unimpeded.

3. The basketball goal according to claim 2, wherein the goal rim locking structure is mounted to the backboard, goal rim, or support structure.

4. The basketball goal according to claim 2, wherein the retractable piston extends at least about 10 to 14 inches from the backboard when in the closed position.

5. The basketball goal according to claim 1, further comprising a controller for controlling the goal rim locking structure.

6. The basketball goal according to claim 5, wherein the controller and goal rim locking structure are connected using a wireless transmitter and a wireless receiver.

7. The basketball goal according to claim 5, wherein the controller is operated by at least one according to the group consisting of coin operated, token operated, card operated and key operated.

8. The basketball goal according to claim 5, wherein the controller is automated using a timer and/or a photo-cell.

9. The basketball goal according to claim 1, wherein the goal rim locking structure comprises a flap device having a vertical open position that allows a basketball to pass through the goal rim and a closed position that prevents a basketball from passing through the goal rim.

10. The basketball goal according to claim 1, wherein the goal rim locking structure comprises a disc plate device having an open position in which the disk is retracted into and behind the backboard and a closed position in which the disk protrudes from the backboard and prevents a basketball from passing through the goal rim.

11. A basketball court comprising:

   at least one court;
   a basketball goal having a backboard and goal rim operatively associated with the backboard; and
   a goal rim locking structure mounted on the basketball goal, the goal rim locking structure having an open goal position to allow use of the goal rim and a closed position that prevents use of the goal rim.

12. The basketball court according to claim 11, further comprising a plurality of courts and basketball goals and associated goal rim locking structures.

13. The basketball court according to claim 12, wherein the goal rim locking structures are controlled by a central controller.

14. A method of preventing unauthorized use of a basketball court having at least one goal rim locking structure mounted on a basketball goal having a backboard and a goal rim, the goal rim locking structure having an open goal position that allows use of the goal rim and a closed position that prevents use of the goal rim, the method comprising the steps of:

   controlling use of the basketball court by setting the goal rim locking structure to the open position to allow use of the court and setting the goal rim locking structure to the closed position to prevent use of the court as desired.

15. The method according to claim 14, further comprising collecting fees for use of the basketball court.

16. The method according to claim 15, wherein the step of collecting fees includes using a coin, token, or card operated controller for controlling the goal rim locking structure.

17. A goal rim lock comprising:

   a goal rim locking structure having an open goal position of the goal rim locking structure allows use of a goal rim and a closed position of the goal rim structure prevents use of the goal rim, and a mount for mounting the goal rim locking structure on a goal rim.

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