



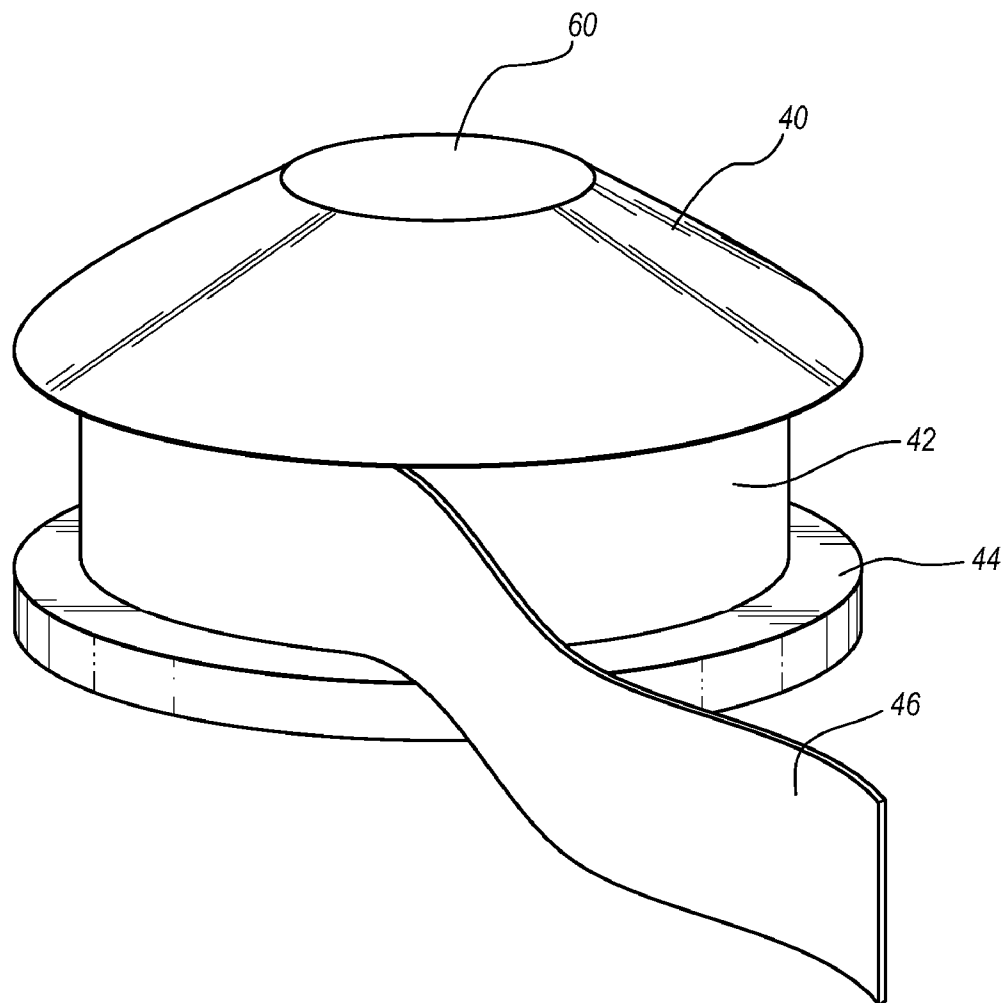
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(19) **United States**(12) **Patent Application Publication****Winn et al.**(10) **Pub. No.: US 2007/0298913 A1**(43) **Pub. Date: Dec. 27, 2007**(54) **PORTABLE ADJUSTABLE ATHLETIC FIELD
BOUNDARY****Publication Classification**(51) **Int. Cl.***A63C 19/06* (2006.01)(52) **U.S. Cl.** **473/490**(76) Inventors: **Travis J. Winn**, Provo, UT (US); **Scott
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KIRTON AND MCCONKIE**60 EAST SOUTH TEMPLE,****SUITE 1800****SALT LAKE CITY, UT 84111 (US)**(21) Appl. No.: **11/766,750**(22) Filed: **Jun. 21, 2007****Related U.S. Application Data**(60) Provisional application No. 60/816,298, filed on Jun.
23, 2006.**ABSTRACT**

A self-contained portable adjustable boundary marking system capable of use in a variety of athletic settings where a boundary, line, or demarcation is desirable is disclosed. The system is adapted for use indoors or outdoors, on hard surfaces or soft. The system is modifiable and adaptable, and capable of rapid setup and takedown, and the system is thus suited for use in a variety of athletic play and training situations. The system includes boundary markers which contain at least one extensible element such as a tape, string, cord, or cable that may be extended to any desirable length up to the maximum length of the extensible element and attached to other markers of the system or to the playing surface itself to delineate the boundaries of a playing surface or to mark some other meaningful line on the playing surface.



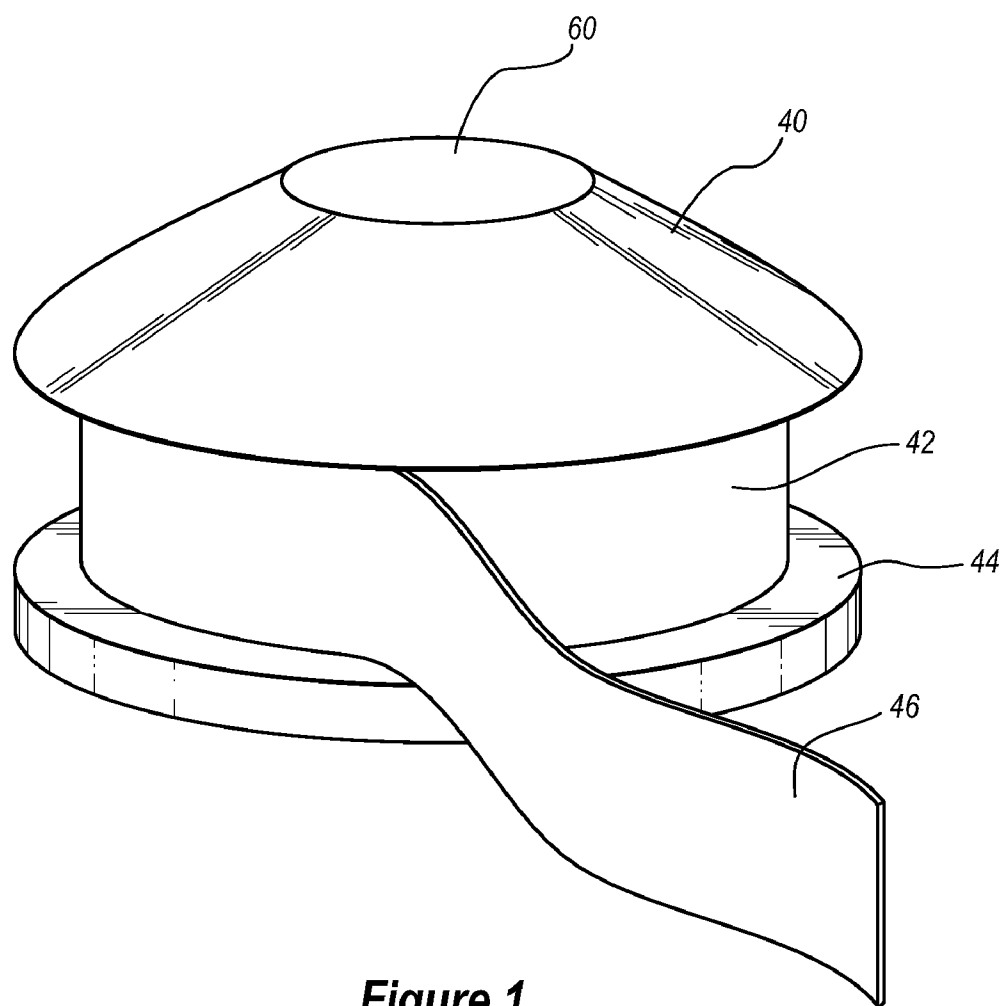


Figure 1

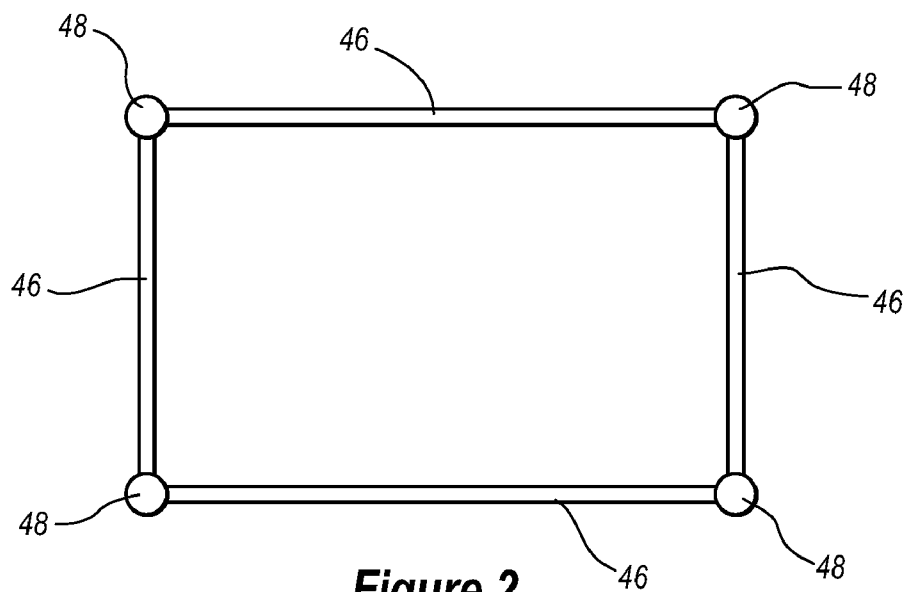


Figure 2

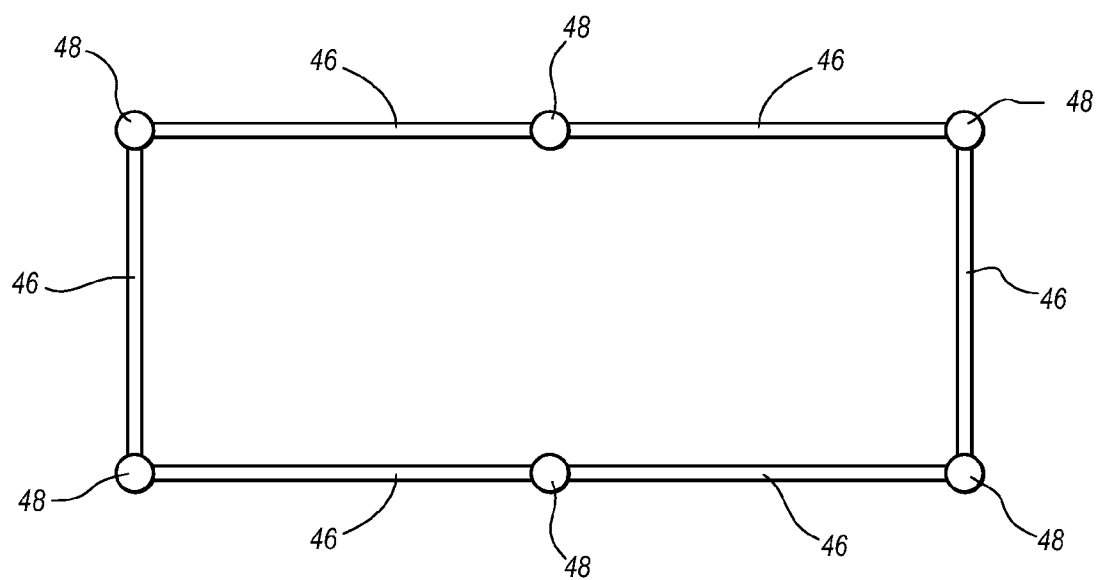


Figure 3

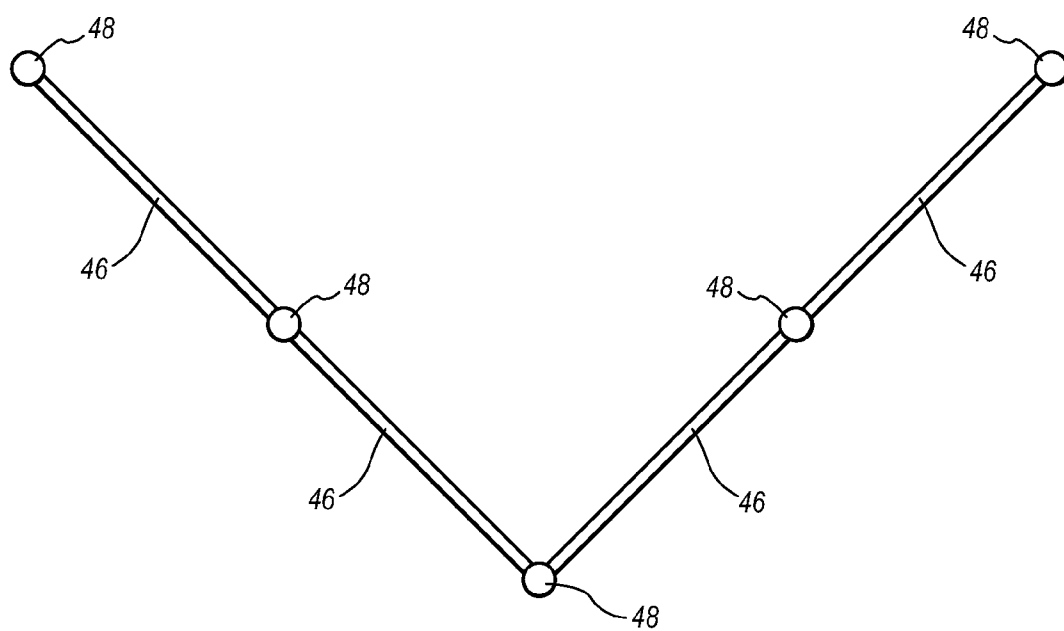


Figure 4

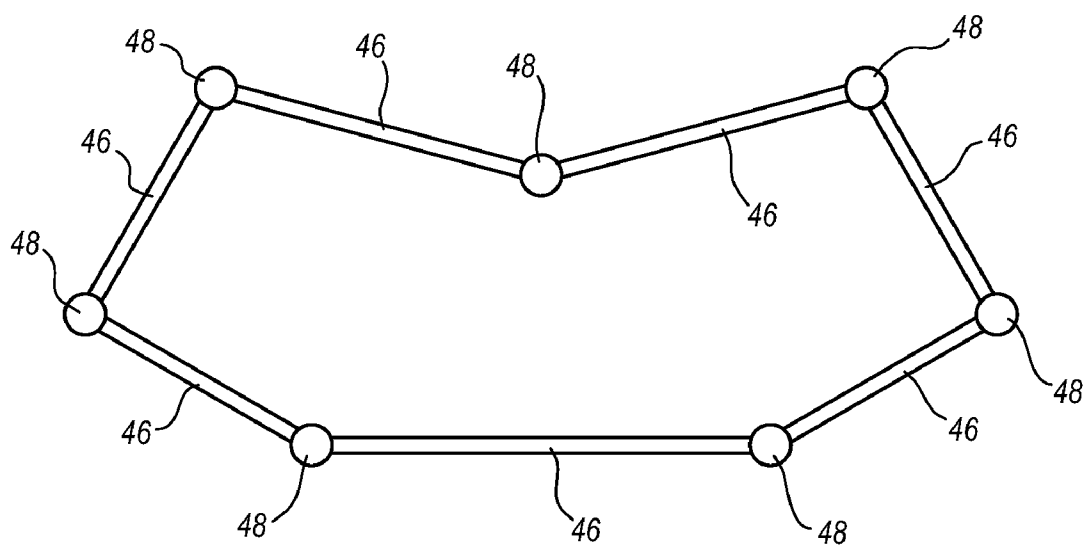


Figure 5

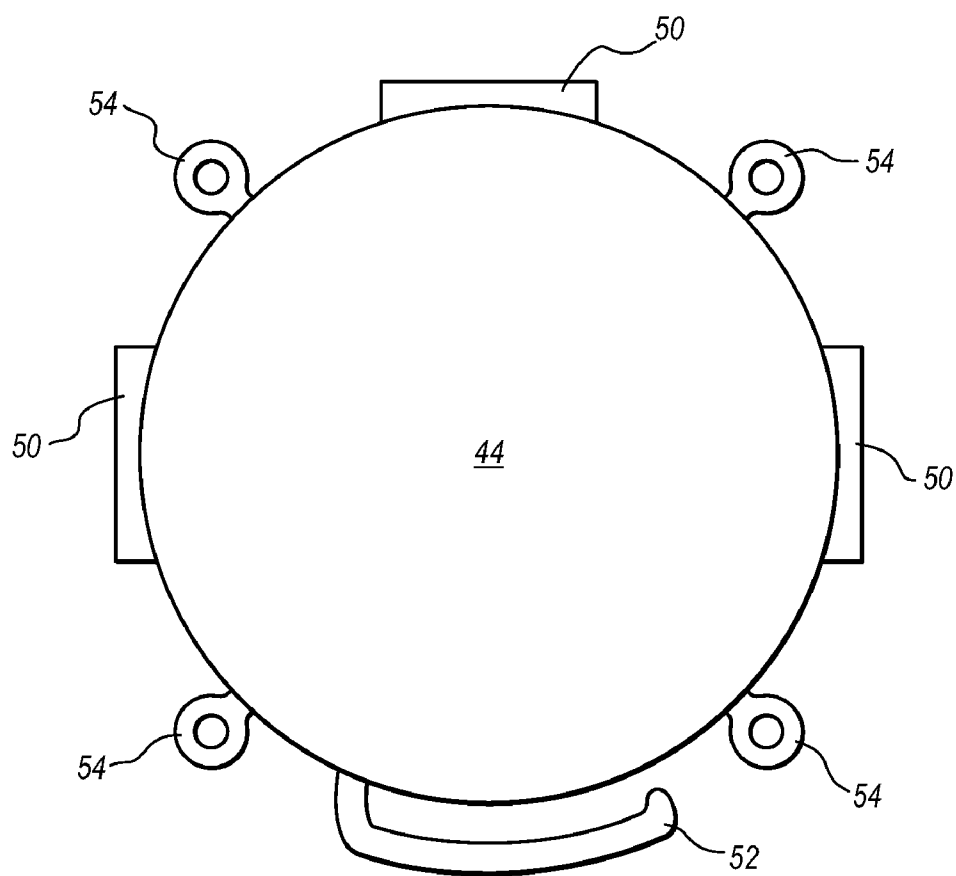


Figure 6

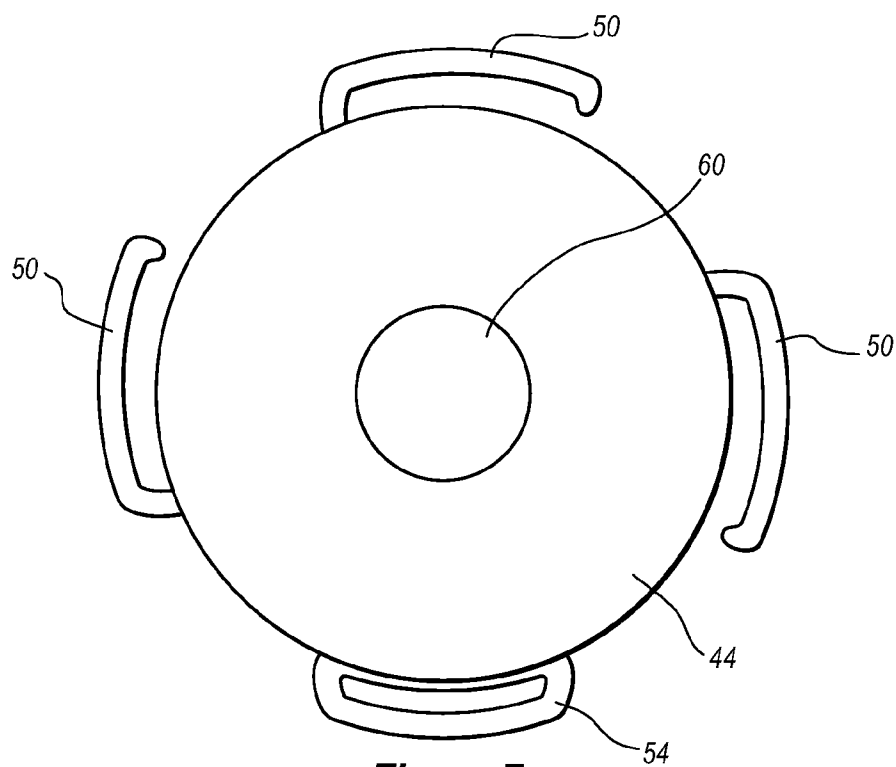


Figure 7

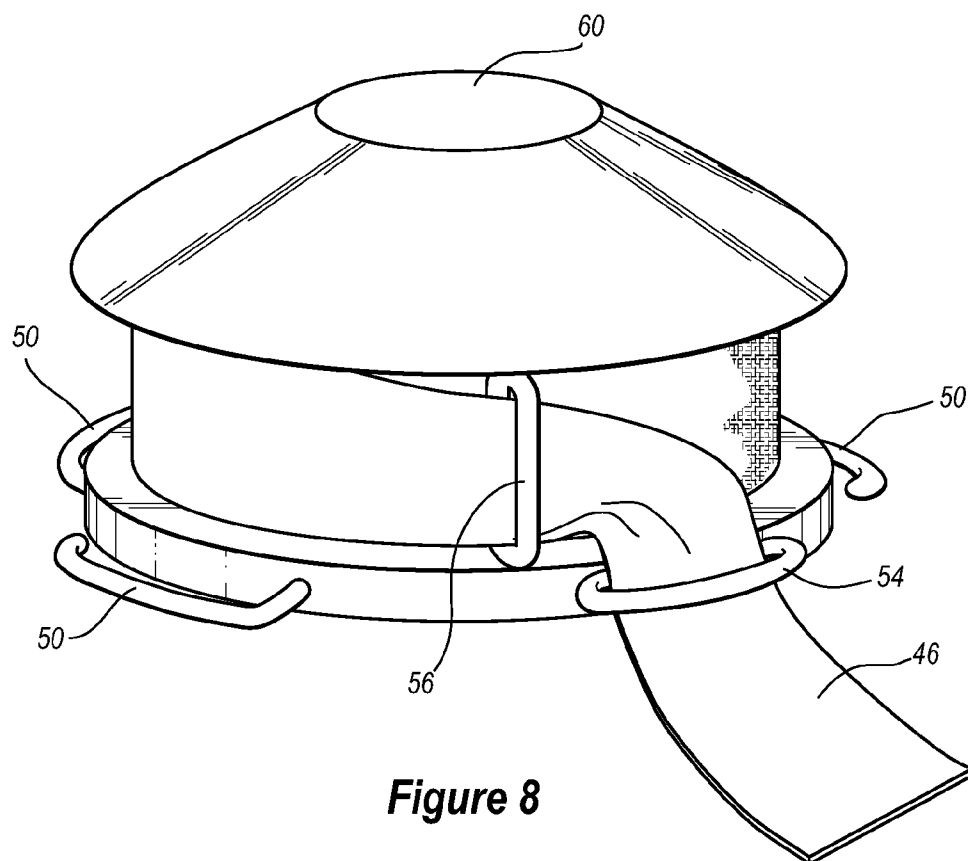


Figure 8

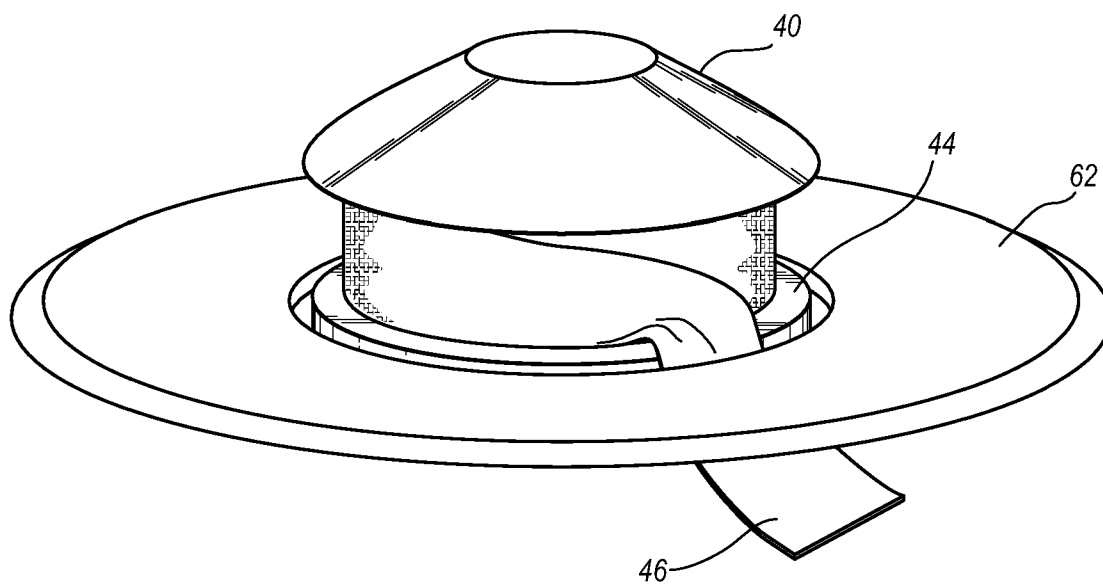


Figure 9

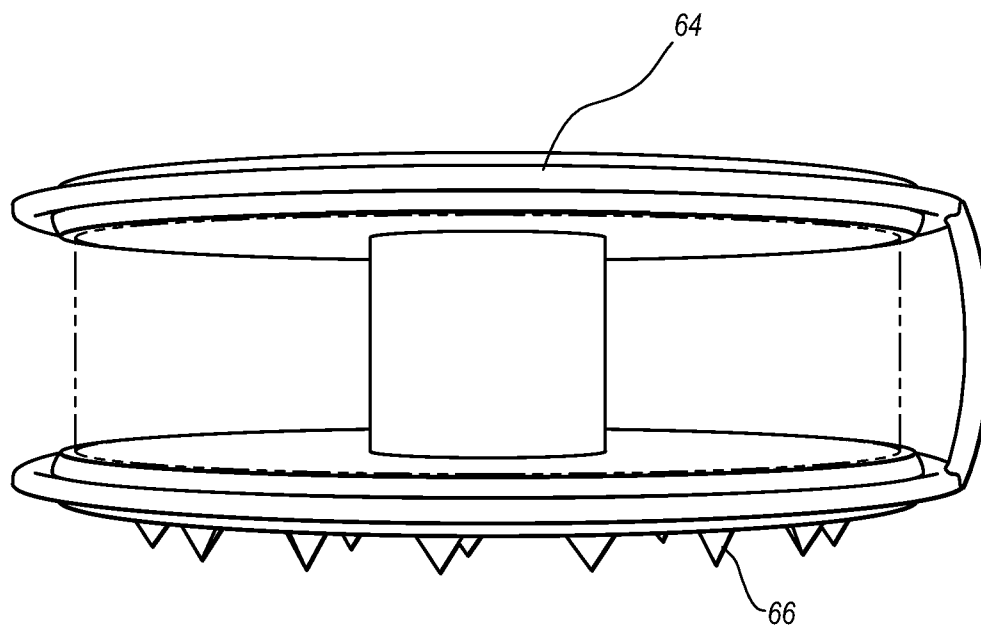


Figure 10

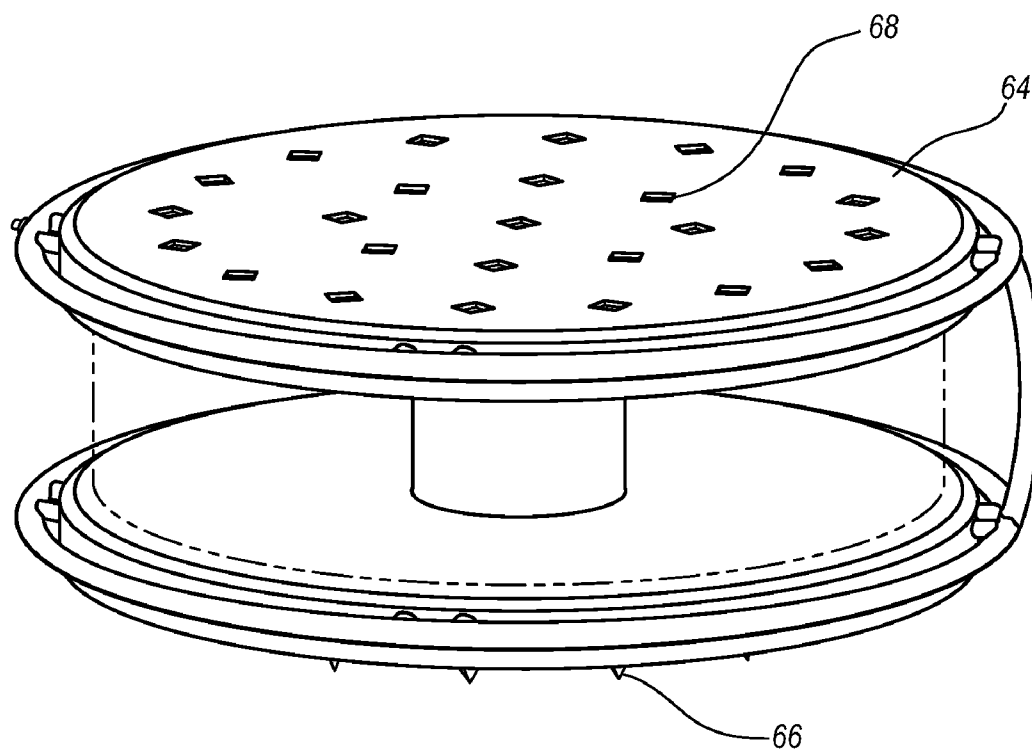


Figure 11

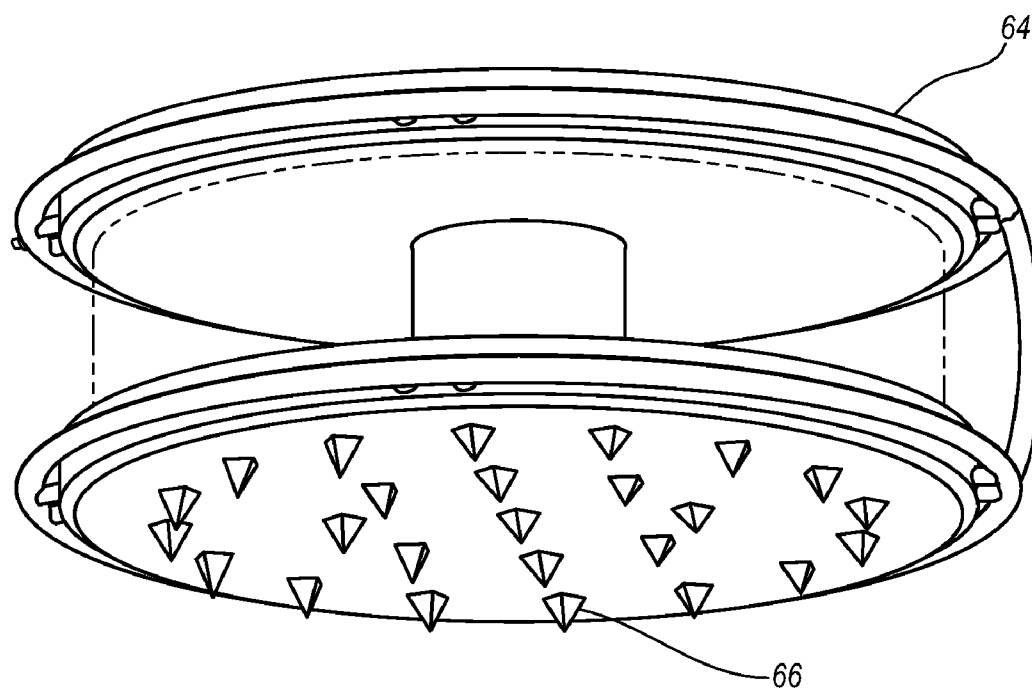


Figure 12

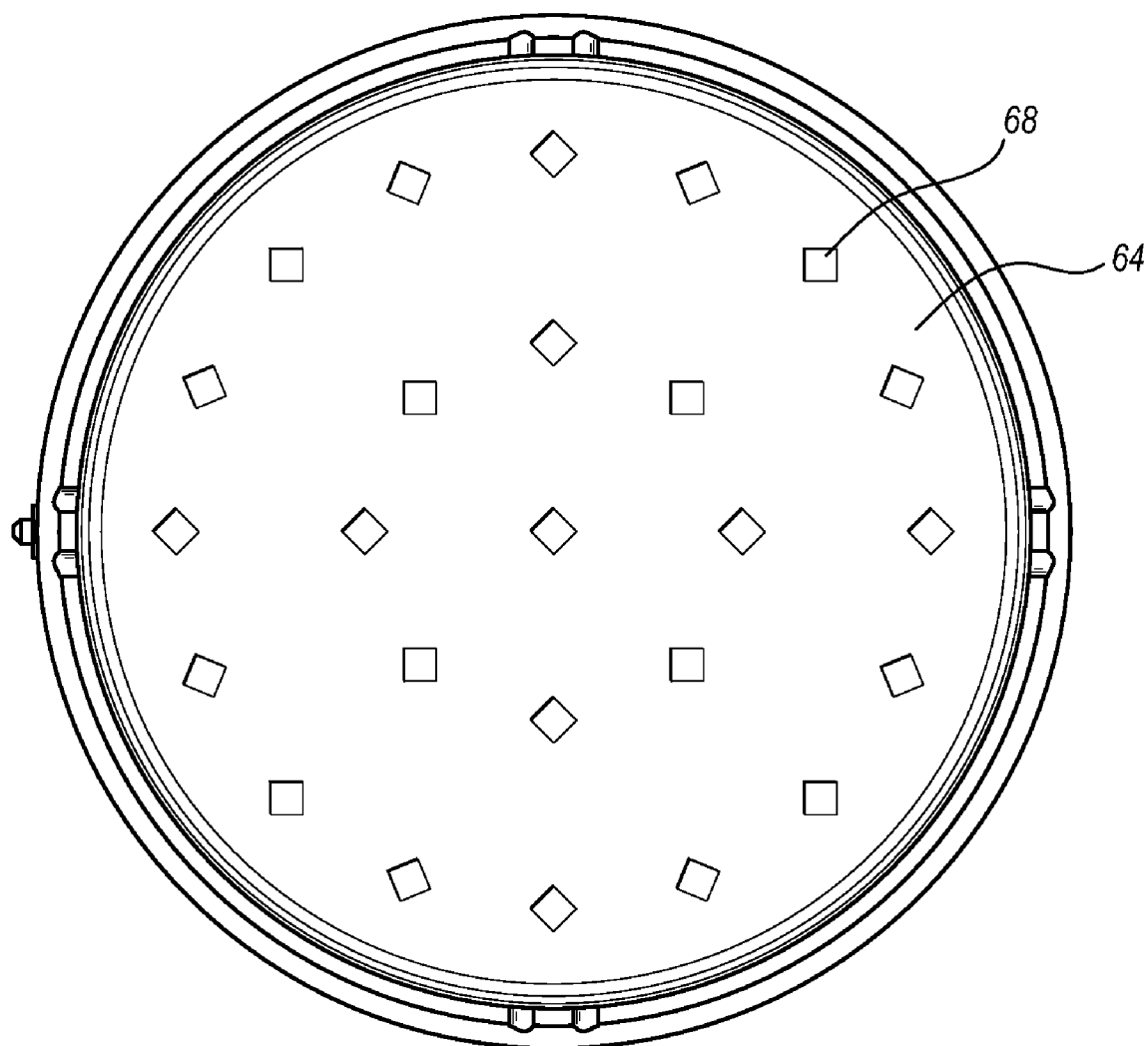


Figure 13

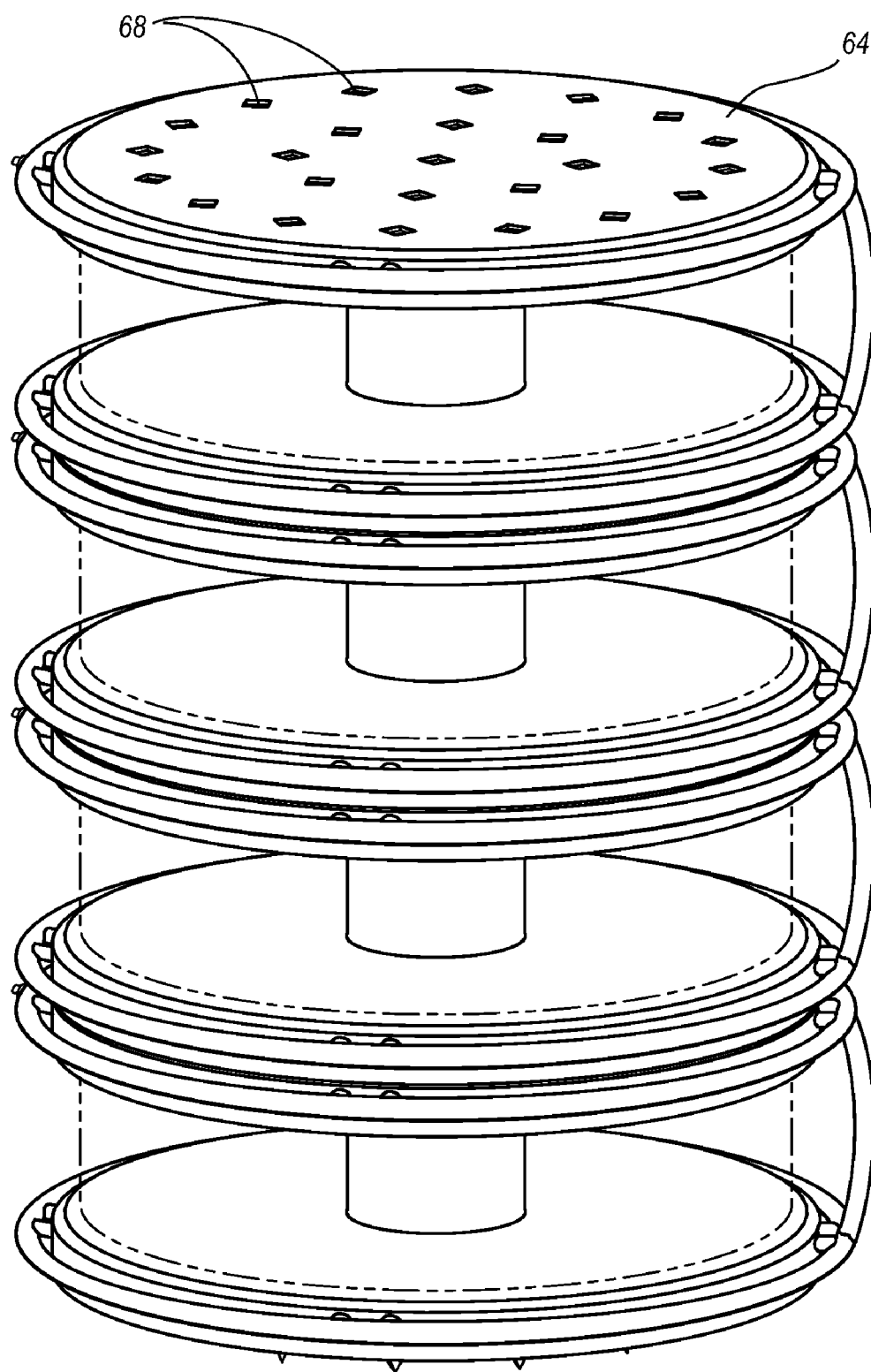


Figure 14

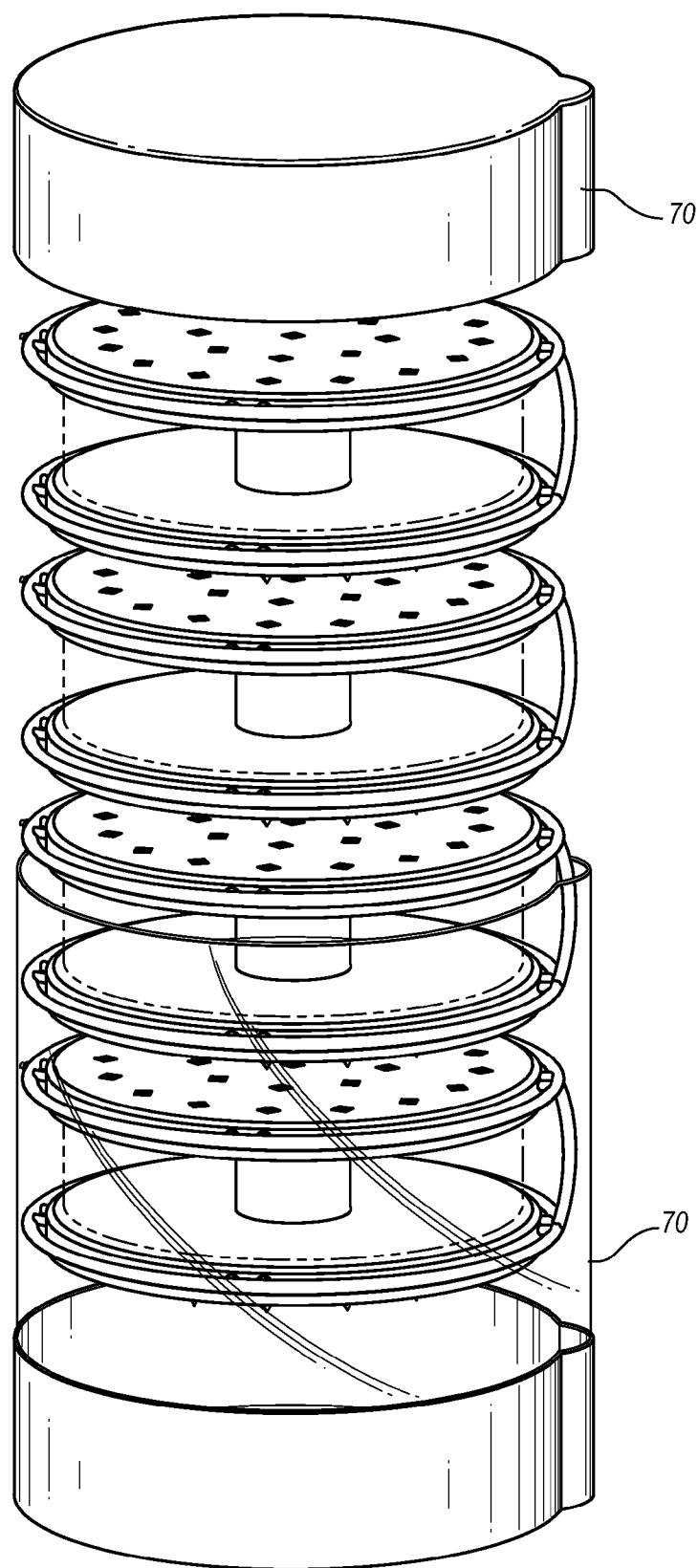


Figure 15

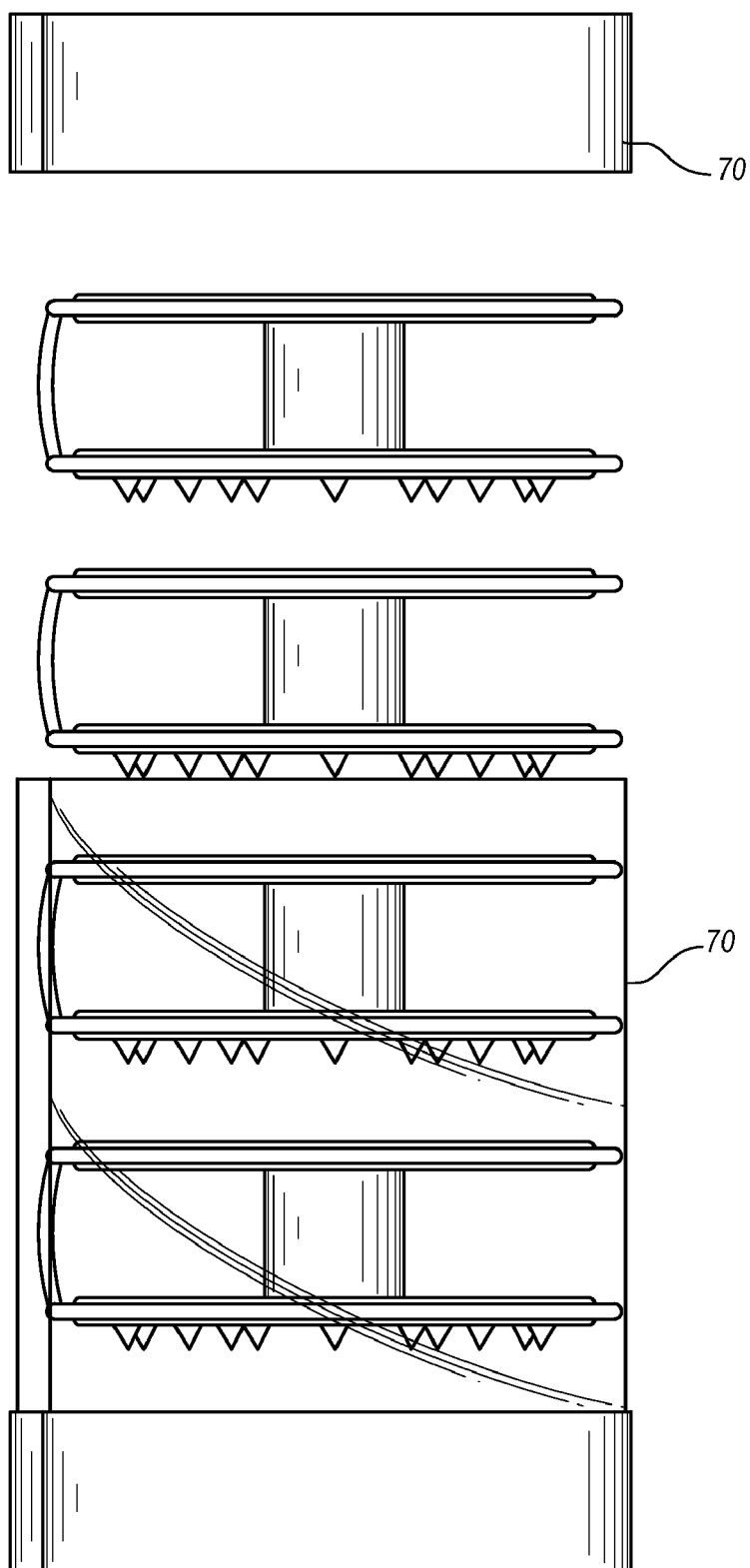


Figure 16

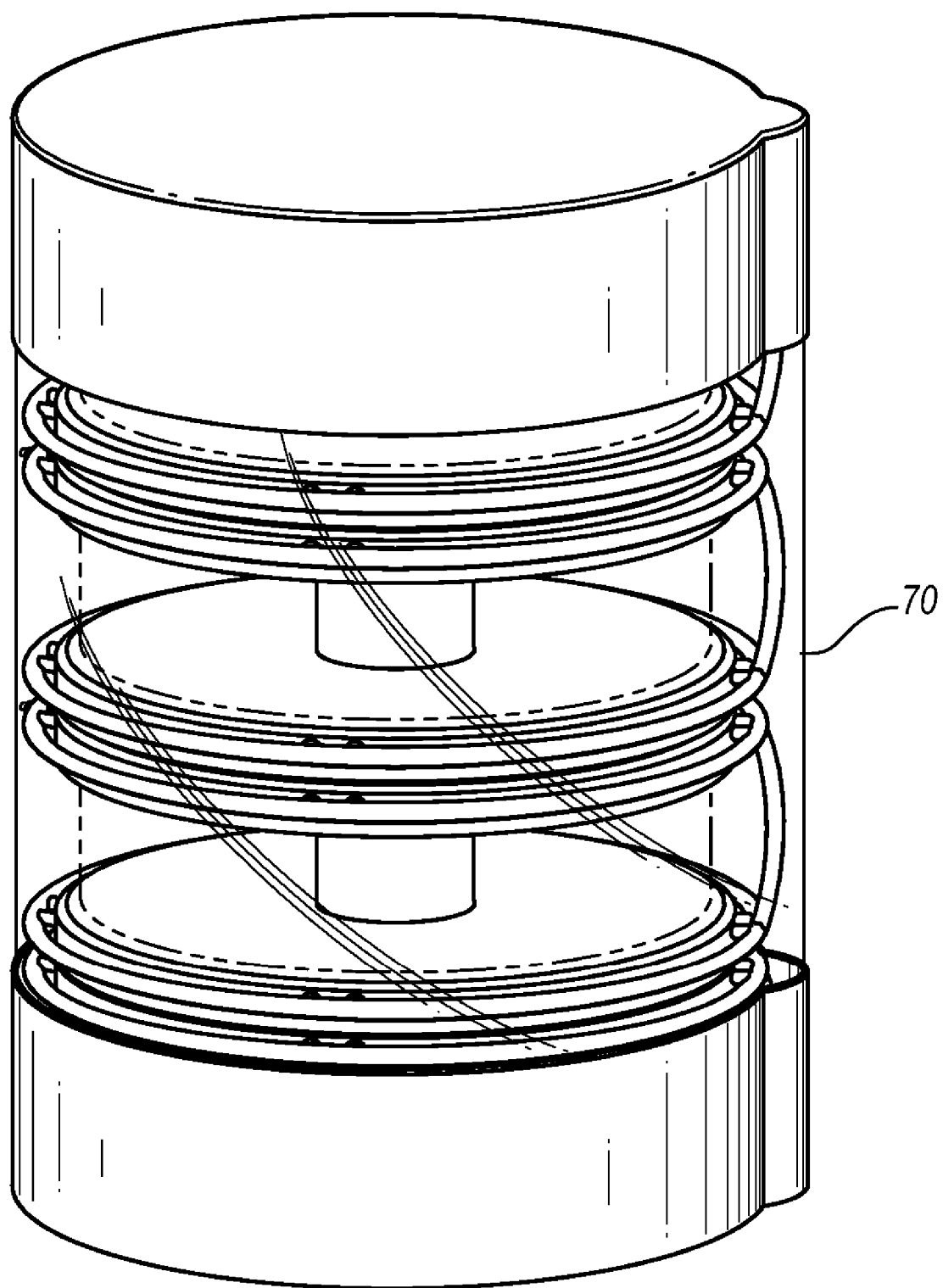


Figure 17

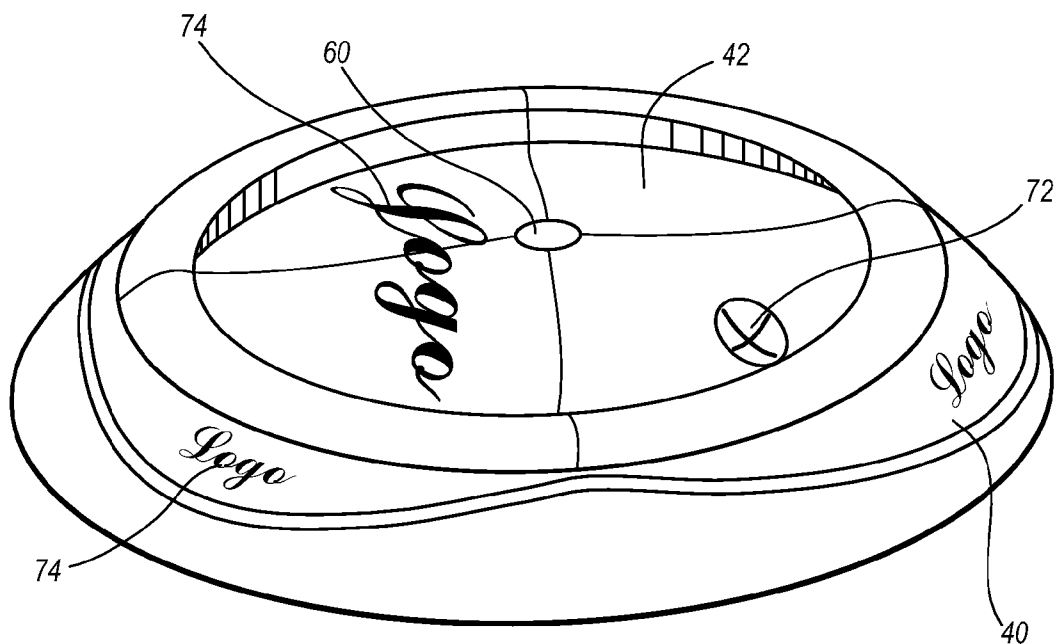


Figure 18

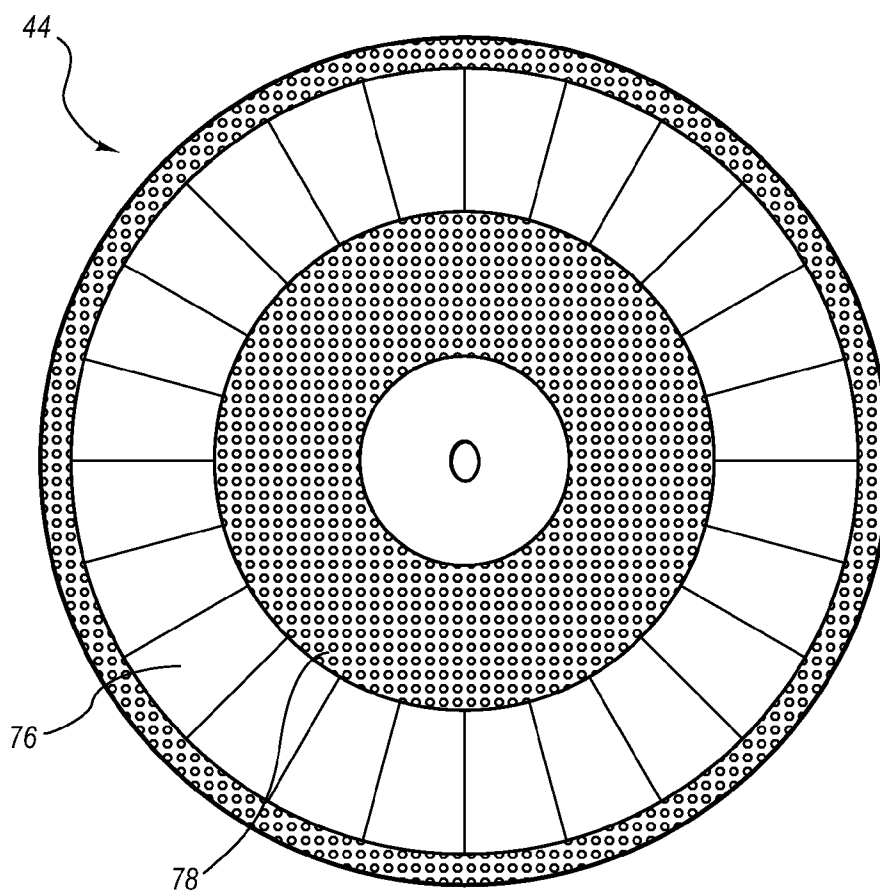


Figure 19

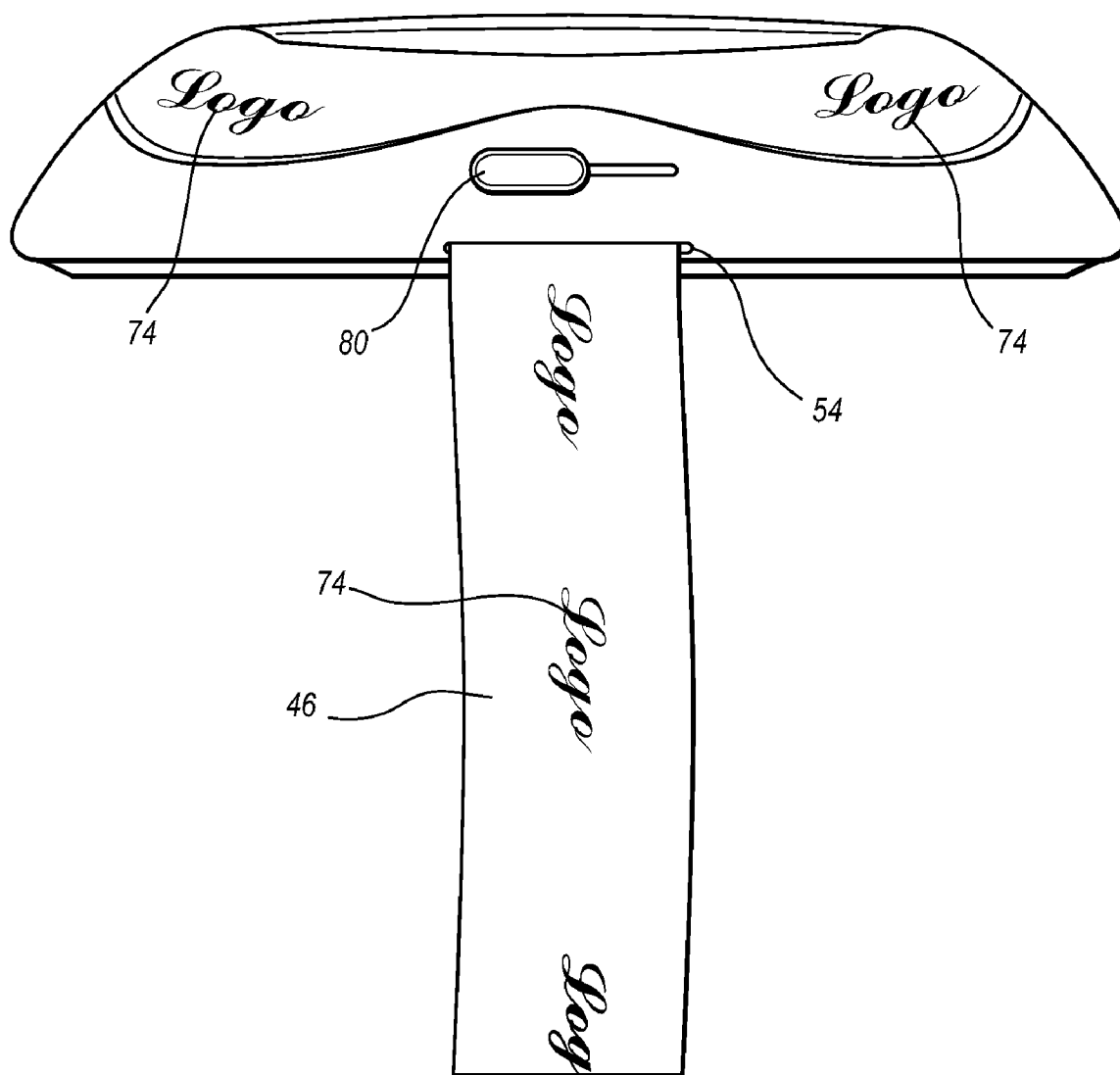


Figure 20

PORTABLE ADJUSTABLE ATHLETIC FIELD BOUNDARY

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Application No. 60/816,298, filed Jun. 23, 2006.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to athletic field boundaries, and more particularly to a portable and adjustable field boundary that includes markers and retractable boundary marking tape or cord and that allows almost infinite adjustment and configuration of the adjustable field boundary.

[0004] 2. Background and Related Art

[0005] Many sports use a playing field or surface on which a large part of the action of the sport occurs. Often, the field or surface has defined boundaries, where certain events must take place within the boundaries, or certain events that take place outside the boundaries require certain effects. For example, in basketball and soccer, the ball must stay within the boundaries of the court or field, or if the ball crosses outside the court or field control of the ball is turned over to the team which was not the last team to touch the ball. In volleyball, the server must strike the ball from behind the back boundary, while whether a point is earned or the serve changes is usually determined by whether the ball touches the ground inside or outside the boundary in conjunction with which team last touched the ball.

[0006] Unfortunately, while many people enjoy playing sports, many sports are often limited in where they can conveniently be played. For example, in the United States, soccer is most often played by large teams on large dedicated fields of grass with defined boundaries painted or cut into the grass. If a smaller group of players desires to play, they often find themselves using a large field without a properly-defined boundary, or they just play in an area without boundaries at all. Similarly, people often go to the beach and set up a volleyball, badminton, or similar net, but just dig marks in the sand for boundaries that are quickly obliterated during the game, or the people do not even try to establish clear boundaries of what is out and in. This kind of informal play can lead to tension between the players such as when a dispute occurs as to whether a ball was in or out.

[0007] Furthermore, even if people have some sort of boundary system that they can take with them to set up a smaller field for soccer or to more clearly define the boundaries of their playing surface, different sports often use fields of different sizes and shapes; the boundary that works for one sport typically does not work for another. Thus the recreational sport player, the one who tends to have the least amount of money to spend on properly defining boundaries, is forced into buying multiple costly setups for each of the sports in which he or she desires to participate. Even assuming the player has the means to purchase multiple different boundary systems, the player must also have the space to store all the different systems, which can quickly grow burdensome.

[0008] Coaches of teams have related problems. For example, in football, a coach often desires a defined area or delineated space in which the players in training should run their routes, a so-called football lane. Also, in soccer, it is not uncommon for a coach to divide the team up into several mini games in areas smaller than the whole field so that several players at once can practice their skills. In such cases, a coach might instruct a set of players to go make a twenty yard by twenty yard box and practice passing or shooting in that defined area. Confused players do their best but don't often end up with a well-defined area that satisfies the coach's intended wishes.

BRIEF SUMMARY OF THE INVENTION

[0009] The following description is provided so that the features and advantages of the invention may be readily understood. The description should not be deemed limiting of the scope of the invention, but the scope should be determined by reference solely to the appended claims.

[0010] The embodiments of the present invention provide a modular portable adjustable boundary system. A low-profile and portable marker contains a flexible extendible boundary marking tape or cord that may be extended whatever distance is desired, up to the end of the tape or cord, and attached to another marker or even to the ground. If attached to another marker, the tape or cord of that marker may then be extended as desired and attached to another marker, and so on, until the tape or cord of a subsequent marker returns and is attached to the first marker, thus enclosing and defining the boundary of an athletic field or surface. As used herein, the word "field" means an athletic field, court, surface, or other athletic area where it is advantageous to have a boundary or other line marked.

[0011] The marker may be designed so that the tape or cord rests close to the ground so as not to interfere with the playing of a sport in the bounded area. Also, the marker may be designed to provide frictional attachment to the ground or surface of the area bounded and to be played upon, or may be staked into the surface if the surface allows. If staking is not possible and/or additional friction is desired to hold the marker in place, a skirt may be attached to provide additional support.

[0012] The tape or cord may be automatically retractable or may be manually wound and unwound as desired, and a means for locking the position of the tape or cord may be provided. The tape or cord may also be provided with markings showing the distance the tape or cord has been extended or showing the location of placement of additional game elements, such as a soccer goal, midline, net, or basketball standard.

[0013] The marker is self-contained, inexpensive to produce and own, and almost infinitely expandable. The marker is small and light enough that several may be carried by a single person in a bag or backpack, providing ready portability. Additionally, the marker may be manufactured in a stackable format and multiple markers carried in a dedicated carrier. Setup and takedown of an athletic boundary using the marker system is rapid and simple, lending itself to use in a variety of situations, such as training situations, informal spontaneous games, and formal team sports.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0014] The objects and features of the present invention will become more fully apparent from the following description and appended claims, taken in conjunction with the accompanying drawings. Understanding that these drawings depict only typical embodiments of the invention and are, therefore, not to be considered limiting of its scope, the invention will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

[0015] FIG. 1 shows a perspective view of one embodiment of a portable field marker;

[0016] FIG. 2 shows a plan view of a sample bounded athletic field layout bounded by an adjustable boundary;

[0017] FIG. 3 shows a plan view of a different sample bounded athletic field layout bounded by an adjustable boundary;

[0018] FIG. 4 shows a plan view of a sample athletic field layout bounded on two sides by an adjustable boundary;

[0019] FIG. 5 shows a plan view of another sample bounded athletic field layout bounded by an adjustable boundary;

[0020] FIG. 6 shows a perspective view of a base of one embodiment of a portable field marker;

[0021] FIG. 7 shows a perspective view of a base of another embodiment of a portable field marker;

[0022] FIG. 8 shows a perspective view of an embodiment of a portable field marker;

[0023] FIG. 9 shows a perspective view of an embodiment of a portable field marker with a skirt extension;

[0024] FIGS. 10-13 show perspective views of an alternate embodiment of a portable field marker;

[0025] FIG. 14 shows a perspective view of the stacking of four examples of the embodiment of the portable field marker depicted in FIGS. 10-13;

[0026] FIGS. 15-17 show perspective views of a case for use with the embodiment of the portable field marker depicted in FIGS. 10-13 with four examples of the embodiment; and

[0027] FIGS. 18-29 show perspective views of an alternate embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0028] A description of the embodiments of the present invention will be given with reference to the Figures. It is expected that the present invention may take many other forms and shapes, hence the following disclosure is intended to be illustrative and not limiting, and the scope of the invention should be determined by reference to the appended claims.

[0029] Referring now to FIG. 1, the Figure shows a perspective view of one embodiment of the inventive portable boundary marker system. As shown, this embodiment of the marker has three main components, an upper cone 40

portion or top affixed atop a central body 42 and a base 44 attached to the bottom of the central body 42. The upper cone 40 or top may be flat or may be designed to be of a similar shape to low-profile cones commonly used in sports such as soccer, and this shape provides many of the same benefits of those cones. The base 44 may be designed so that its lower surface provides optimal frictional contact with a particular surface on which the marker will be placed, such as asphalt, concrete, grass, dirt, or wood, or it may be designed so that its lower surface will provide a reasonably secure contact with a large number of such surfaces, such as by providing rubber gripping studs or micro spikes (not shown) on the bottom surface to provide traction on smooth surfaces and nestle into irregularities of rough surfaces. Similarly, when desired to be used on a suitable smooth surface, the bottom of the marker or base 44 may be provided with a suction cup or group of suction cups or other such devices to removably adhere to the surface.

[0030] Disposed or wound about the body 42 of the illustrated embodiment of the marker is a boundary marking tape 46 that may be unwound or extended from the marker to delineate a boundary for an athletic field. Thus the body 42 may be of any size or shape that allows for disposing the boundary marking tape 46 around the body 42 in a storage position, and the top and base 44 may similarly be of any sizes or shapes that serve to contain the boundary marking tape 46 on the marker when in the storage position. Exemplary fields and courts for which the boundary marking tape 46 and marker may mark a boundary include a soccer field, football field, badminton court, basketball court, volleyball court, rugby field, or any number of other fields or courts where a visible boundary line is desirable. Other sports for which the inventive portable adjustable marker and boundary system might be desirable include baseball, softball, kickball, ultimate Frisbee, and any other number of formal and informal sports, as one skilled in the art can readily recognize.

[0031] One informal sport with which the marker and boundary marking tape 46 may be useful is street soccer, where small groups of people get together and, often spontaneously, decide to play a game of soccer in a small area, sometimes a parking lot or street. In such situations, the informal and spontaneous nature of the game dictates that the time necessary to locate a suitable grassy area with marked boundaries on which to play is not available. In such situations, the various embodiments of the present invention advantageously allow the players to rapidly set up a marked field on which to play. While children and adults worldwide engage in such games, until now they have not had the ability to rapidly set up proper boundaries for their games, and they have often been forced to play without well-defined boundaries. Embodiments of the present invention provide the ability to quickly and easily define boundaries for such games and also provides easy portability as several of the marker/tape systems can easily be thrown in a bag, backpack, or car and thus be available at any time and place.

[0032] As can be readily appreciated by reference to FIG. 1, the function of the illustrated embodiment is intuitive and straightforward. In use, one marker is set at a location intended to be a corner of the area to be encompassed by the boundary. The boundary marking tape 46 is then extended or unwound from the body 42, either fully or to a desired distance, and is then attached to the ground or to another

marker. If the boundary marking tape 46 is attached to another marker, the next marker to which the first marker's boundary marking tape 46 is attached also has a boundary marking tape 46, which is extended in similar fashion to continue the boundary line or create a new boundary line in a different direction and is attached to the ground or another marker as described above. Eventually, if an entirely-enclosed area is desired, the boundary marking tape 46 of a subsequent marker returns to and is attached to the first marker at the first corner. In this fashion, an infinite array of boundary sizes and shapes can be created by adding additional markers, as illustrated in FIGS. 2-5 (not necessarily to scale). Also in this fashion, the placement of additional boundary markers provides a modular boundary system.

[0033] FIG. 2 illustrates a simple four-marker setup that might be used in an informal game of street soccer. Four boundary markers 48 are provided, connected to one another by four extensions of boundary marking tape 46, one from each boundary marker 48. In this way a simple rectangle or square could be created as shown. Although not specifically illustrated in FIG. 2, the boundary marking tape 46 may be provided with markings representing a location of a goal or other athletic field feature, as discussed above and below. FIG. 3 illustrates a situation where a larger field is desired, such as where one side of the desired field length is longer than the boundary marking tape 46 provided with a single marker. In the fashion illustrated in FIG. 3, additional boundary markers 48 connected by boundary marking tape 46 may be added to create a field of any size.

[0034] FIG. 4 illustrates using the inventive system to provide a setup for baseball, softball, or the like. In this setup, the three boundary markers 48 nearest the vertex of the "V" shape may optionally serve as baseball/softball bases as well as marking the boundaries. Then only one additional baseball/softball base need be provided to serve as second base. In this setup, one of the two boundary markers 48 serving as the tips of the arms of the "V" would not or need not have its boundary marking tape 46 extended, or could optionally be replaced by simply attaching the end of the boundary marking tape 46 to the ground.

[0035] As can be readily appreciated, the inventive boundary marking system as provided is extremely flexible in use, as can be seen in FIG. 5. If an irregularly-shaped field is desired, any desired shape can be set up. For example, a coach who desires an odd shape to perform a special drill for training could use the system to set up a non-rectangular drill pattern as in FIG. 5 to assist those performing the drill in properly visualizing the lesson(s) desired to be taught. Similarly, because the boundary marking tape 46 is flexible to allow it to be wound on the body 42, the boundary marking tape 46 from a single marker may be curved or bent in different shapes to provide an even more-flexible boundary position. When a more-complex boundary is desired, the boundary marking tape 46 may be held in place in the non-linear position by any number of means of fixing its position, such as by placing a stone or other weight on the boundary marking tape 46, or using a wicket to hold the boundary marking tape 46 in place when the ground is soft enough to allow the use of wickets. Thus the embodiments of the present invention may be used to establish a boundary or mark a line of almost infinite shape and size.

[0036] The boundary marking tape 46 used in various embodiments of the present invention may be of a number

of different materials known in the art or later created, but it is anticipated that the boundary marking tape 46 should be relatively thin so as to allow a reasonable length to be wound about the body 42 without requiring a marker of extremely large width or weight. The boundary marking tape 46 may be of differing widths so as to suit the needs and fancies of different customers buying the marker system. The boundary marking tape 46 may be manufactured of a highly visible material to aid in demarcating the boundary, and may also be customizable with printing suited to advertise the manufacturer of the system, or even to suit the fancy of the purchaser or user.

[0037] It is also anticipated that the boundary marking tape 46 might be manufactured to include a glow-in-the-dark material so that game play may extend past dusk while the boundary marking tape 46 continues to clearly show the boundaries of the playing field. Alternatively, the boundary marking tape 46 may incorporate reflective markers attached to the tape to provide an easily-visible boundary, even in low-light or oddly-lit situations. The boundary marking tape 46 might even have woven into it small LEDs and wires so as to allow the tape to actively glow at night, allowing a heretofore unknown expansion of games such as soccer when using a lit ball, for example. The marker itself might also have battery-powered LEDs placed in it, even if the boundary marker tape 46 does not have LEDs but just a passive glow system or no lighting system, to provide lit corners for the system and extend play. As can be seen from this description, the boundary marking tape 46 may be widely varied to enhance its particular functionality as desired.

[0038] One way in which the boundary marking tape 46 may be advantageously modified is to provide special markings on the boundary marking tape 46 corresponding either to the extended length of the boundary marking tape 46 or the anticipated location of objects to be placed on the extended boundary marking tape 46, such as a goal. By marking the boundary marking tape 46 with distance markings, the system may easily be used to provide varying field sizes of desired and known side lengths. For example, if a field or area fifteen yards long and ten yards wide is desired, but each marker contains twenty yards of boundary marking tape 46, no special measurements are necessary to get a field of the proper size. Instead, rather than unwinding or extending the full length of boundary marking tape 46 for each marker, the boundary marking tape 46 of two markers may be extended or unwound to the ten yard mark on the boundary marking tape 46 to form two sides opposite one another. Meanwhile, the boundary marking tape 46 may be extended or unwound to the fifteen yard mark on two other markers to form the two orthogonal sides, and the field may thus be set at the desired size. Fields or areas of any size can be similarly provided. Marks such as this (tic marks, for example) may be provided every yard, every foot, every meter, or at any desirable distance on the boundary marking tape 46.

[0039] Various features may be added to the marker depicted in FIG. 1 to enhance the use of the marker and provide additional features. For example, it is sometimes advantageous to be sure that the angles of the field or area set up are properly squared at ninety degrees. Thus the marker may optionally be provided with a means for squaring the boundary. One such commonly-available means that

could be incorporated into the marker is a pair or more of laser projected lines projected at angles of ninety degrees (or some other known or adjustable angle) to each other to allow easy alignment of the boundary marking tape 46 along the laser projected lines to achieve a square boundary. Another system might use a laser projector directed in the direction of the extension of the boundary marking tape 46 from the marker, with each marker provided with a receiver at ninety degrees from the laser projector that signals when the marker is placed along another marker's projected line at ninety degrees. One simple cost-effective means for squaring the boundary is to provide orthogonal sights on the marker, such as small tubes, possibly with lenses and/or a cross hatch or sight line, through which a user looks during setup to see if either the next marker(s) is/are in the line of the sights and properly aligned or if the boundary marking tape 46 of the various markers are aligned with the sights. In each of these systems, the squaring means might be disposed in or attached to the upper cone 40 or top, the base 44, or as part of the body 42. The squaring means may also be removable to be used in serial fashion from one marker to the next.

[0040] Sometimes, it may be desirable to have the boundary marking tape 46 extend from the marker in the vertical orientation shown in FIG. 1. However, it is anticipated that in many instances it will be desired that the boundary marking tape 46 be placed low to the ground. Several different means might be used to achieve this. FIG. 6 shows a perspective view of one representative embodiment of a base 44 of a marker showing one simple means to horizontally orient the boundary marking tape 46 low to the ground. In the figure, the base 44 is shown, having three attachment points 50 to which the boundary marking tape 46 of a different marker may be attached as a boundary is formed. FIG. 6 also shows a hook 52, under which the extended boundary marking tape 46 may pass to force it to be low to the ground. The attachment points 50 and the hook 52 are orthogonally oriented to provide a simple visual means for squaring the boundary as discussed above.

[0041] In use, the boundary marking tape 46 of the marker may be extended to a desired length in the vertical orientation shown in FIG. 1, then the boundary marking tape 46 may be twisted horizontally and passed under the hook 52, and attached to the attachment point 50 of another marker, and the combination of the low-slung horizontal attachment point 50 of the second marker and the hook 52 of the first marker may maintain the horizontal low-slung orientation of the boundary marking tape 46 during use. The method of attaching the distal or extended end of the boundary marking tape 46 to the attachment point 50 of another marker may be any known in the art, such as snapping, clipping, a hook-and-loop or hook-and-pile system, a buckle such as those commonly used for backpacks and bags, magnets, or any other attachment system known in the art. In one system shown in FIG. 7, each of attachment points 50 is a hook similar or identical to hook 52, and the end of the boundary marking tape 46 may be provided with a loop (not shown) that may pass over the hook-shaped attachment point 50 to make the connection. The hook 52 and hook-shaped attachment points 50 shown in FIGS. 6 and 7 may optionally be provided with a spring retaining clip or other similar device (not shown) that would retain the boundary marking tape under or on the hooks 52 until depressed or otherwise

actively released, thus preventing accidental release. Such retaining clips and their equivalent are well known in the attachment art.

[0042] In a manner alternative to the hook 52 of FIG. 6, the base may be provided with a horizontal slot 54 through which the boundary marking tape 46 passes as it is extended or unwound, as shown in FIGS. 7 and 8. This provides the low-to-the-ground horizontal orientation of the boundary marking tape 46 without requiring an extra step of twisting the boundary marking tape 46 and placing it on a hook 52 after it is extended. Instead, as the boundary marking tape 46 is extended or unwound it automatically twists as it leaves the body 42 and passes through the horizontal slot 54 attached to the base 44. To ensure proper twisting of the boundary marking tape 46 during winding and unwinding on the body 42 in such a configuration, a second vertical slot 56 may be proximately provided in a vertical orientation to provide a controlled twist, as in FIG. 8. In such a configuration, the boundary marking tape 46 passes through the vertical slot 56, then twists to pass through the horizontal slot 54 at a position close to the ground.

[0043] It is sometimes desirable to provide a means for further securing the placement of the marker. Such means may include providing at least one spike to secure the marker to the ground when the ground is soft, or it may include an increased surface area to provide further frictional contact with the playing surface.

[0044] Referring back to FIG. 6, this Figure also shows spike tabs 54 attached to the base 44 to secure the marker to the ground in areas where the ground is sufficiently soft to permit a spike to enter the ground. In such cases, it is often desirable to firmly attach the marker to the ground to prevent it from being kicked or knocked aside, rather than rely solely on the marker's weight and friction to keep the marker in place. The spike tabs 54 may be firmly attached to or may be an integral part of the base and spikes may pass through the holes in one or more of the spike tabs 54 and into the ground to secure the marker to the ground. Alternatively, a single larger spike may pass through a center hole 60 in the marker, as seen in FIGS. 1, 7, and 8. This center hole 60 may extend through the entire marker, allowing a spike to pass through and anchor the marker to the ground. A spike for such use may optionally have a specially-designed top to match the surface of the marker when in place. Other methods to fix the marker in place are also envisioned, such as several pass-through spike holes similar to the center hole 60 but smaller and placed in at least one of several possible radial locations on the marker.

[0045] Sometimes, such as in use on an interior floor or on a hard exterior surface such as asphalt or concrete, it is desirable to hold the marker in place more securely than may be achieved using the friction of the bottom surface of the base 44 of the marker. In such instances, a skirt 62 may be used to provide a larger frictional surface to interact with the ground and hold the marker in place. An embodiment showing a skirt 62 is shown in FIG. 9. Skirt 62 may be of any desirable diameter or width that provides the desired support and may be of any desired shape, configuration, or design. In the embodiment of FIG. 9, the base 44 of the marker is provided to be a little wider than the upper cone 40 or top of the marker so as to allow the skirt 62 to pass over the upper cone 40 or top and interact with the base 44. In the

illustration, the base is shown covering the boundary marking tape 46, thus providing a means to make the tape leave the marker in a horizontal, low-to-the-ground fashion.

[0046] In this type of use, it may be desirable to have the skirt 62 designed to be placed over the marker after the boundary marking tape 46 has been extended, while in other designs it may be desirable to allow the skirt 62 to be placed before extending the boundary marking tape 46. In other designs, it may be desirable to place the skirt 62 on the ground first and to then attach the marker. Other potential methods of providing an increased-surface-area skirt 62 to provide more stable contact with the ground are also encompassed by the embodiments of the present invention. The skirt 62 may be provided in pieces or may be foldable to provide for compact transportation and storage, and then may be assembled or unfolded around the marker when used.

[0047] It is envisioned that the embodiments of the present invention could bring about a large change in the way some sports are played in the United States and elsewhere. For example, in the United States, soccer is generally played with large teams on grassy surfaces, and teamwork is so emphasized that many players do not acquire the individual skills often acquired by international players who start as children playing soccer in the street one-on-one or in small groups. Using the embodiments of the present invention, possibly with a skirt 62, a large soccer tournament may be held in an open parking lot, similar to the street basketball tournaments commonly held now. Small teams of two to four could compete, gaining the individual one-on-one skills often had by international players. This could also help to raise the profile of soccer in the United States, as such tournaments often occur in very visible places and attract much attention.

[0048] Turning now to the manner of winding and unwinding, or extending and retracting, the boundary marking tape 46, it is envisioned that several different methods and means of providing this extension and retraction could be provided. For example, one simple way to provide for an extensible boundary marking tape 46 may be as in FIG. 1. In FIG. 1, the boundary marking tape 46 may simply be wrapped around a portion of the central body 42, as on a spindle, and can be wound and unwound by either turning the whole marker or by wrapping the boundary marking tape 46 around the body in one direction or another. This method has the advantage of being inexpensive, and may be desirable for a model of the marker aimed at a corresponding market.

[0049] Alternatively, the marker of FIGS. 1 and 6-8 could be provided with a portion of the central body 42 that is rotatably connected to the remainder of the marker to allow spooling of the boundary marking tape 46 relative to the remainder of the marker. In such an embodiment the boundary marking tape 46 may be connected to an interior tensioning device, similar to those commonly found in tape measures, retractable wall maps and movie screens, and vacuums with automatically-rewinding cords, to provide an amount of retraction tension to the boundary marking tape 46 so that when the time comes to disassemble the boundary system, the marker automatically retracts the boundary marking tape 46 into the body 42 of the marker.

[0050] In such a system, a lock may be provided to lock rotation of the rotating portion of the body 42 relative to the

rest of the marker, so as not to retract the boundary marking tape 46 when not desired. Alternatively, the upper cone 40 or top may be integrally designed with such a lock so that when the boundary marking tape 46 is extended as desired the upper cone 40 or top is pressed down and/or turned to lock the boundary marking tape 46. In this pop-up/press down configuration, the pressing down of the upper cone 40 provides an additional advantage of putting the marker in a configuration with a lower profile less likely to be in the way of game play. Alternatively, the rotating portion of the body 42 may be provided with a ratcheting system so that the rotating portion automatically locks when the boundary marking tape 46 is extended, and then releases under some other stimulus. For example, a release button may be provided on the top or bottom of the marker, or even inside the center hole 60, to prevent accidental retraction. Alternatively, the ratcheting lock may be released by a small further extension that resets the ratchet lock. Other methods commonly used to provide for locking and release as known in the art are also encompassed by the various embodiments of the invention.

[0051] Another method providing for retraction or winding of the boundary marking tape 46 could be to provide a handle or crank attached at the base 44 or upper cone 40 that rotates with the marker or with the rotating portion of the body 42. A reciprocal grip that does not rotate may optionally be placed on the base 44 or upper cone 40 so as not to interfere with the rotating of the handle and may provide a place to grip and provide stability during winding. The handle may be designed to flip out into a winding position, and flip back into a recessed position when winding is completed. Thus, when retraction is desired, the handle may flip out, the user may then grasp the handle in one hand and the grip in the other, and the user may then wind the boundary marking tape 46 back into the marker. The handle may then be flipped back into the recessed position to provide compact storage of the marker.

[0052] While the boundary marking tape 46 described above provides some advantages in visibility of the demarcated boundary, it is anticipated that the boundary marking tape 46 may be replaced with a string, cord, or cable without changing the overall functionality of the illustrated embodiments of the invention. Thus any of a variety of extensible elements may be advantageously used. In fact, a string, cord, or cable provides certain advantages in certain situations. For example, the issue with twisting from a vertical storage position to a horizontal use position encountered with a tape version of the extensible element is eliminated and the main desire to be satisfied in most circumstances is keeping the string, cord, or cable close to the ground. As another example, in some instances it may be possible to wind a longer distance of the string, cord, or cable about the body 42 of a marker than would be possible with the boundary marking tape 46 in a package of the same size since the string, cord, or cable is able to wind up and down the body 42, potentially even up inside the upper cone 40 or top.

[0053] The various embodiments of the present invention have the advantages described above as well as other advantages, and it is anticipated that one of skill in the art can readily appreciate by practicing the invention the many advantages to be obtained from the embodiments of the invention. The described embodiments of the portable adjustable boundary marking system provide advantages for

use by organized teams and informal get-togethers alike. Coaches who want drills set up, such as to practice three-on-three soccer drills, or running in certain football lanes, can use the embodiments of the present invention to clearly delineate where their players should go and be. Children at school can easily bring several markers in a backpack and set up a playing field during recess with time to spare for actually playing a game. Sports that were limited in where they could be played before may be played in almost any environment with only minimal time required for setup and takedown, by using the embodiments of the present system.

[0054] The present invention may take other forms without departing from its spirit or essential characteristics. For example, it may be desirable to provide a flag in conjunction with the marker described. To do so, a flag may be unitarily provided as a part of the center hole spike described above, securely anchoring the marker and flag. Alternatively, a flag may be provided through the center hole 60 or otherwise attached to the marker without use of a center hole spike; if the center hole 60 is not being used with a center hole spike, the center hole may be used as a receptacle to receive an inserted removable flag, for example. Similarly, if a skirt 62 is used, the skirt 62 may also be provided with a flag that passes through the center hole 60 described above. In some embodiments and situations where a flag is desired, the upper cone 40 may be removed completely, and replaced with a flag that serves as the top of the marker.

[0055] While the marker has been depicted as being round and of a low profile, in some instances the marker may desirably take other shapes, such as square or arbitrarily or decoratively fanciful shapes for certain situations. In some cases, the marker may be advantageously designed to take a much larger profile, such as when a longer boundary marking tape 46 or cord, string or cable than may be provided in a smaller, low-profile marker is desired.

[0056] It may also be advantageous in some situations to provide multiple boundary marking tapes 46 in the same marker to allow more flexibility in boundary design. For example, if two boundary marking tapes 46 are provided in a marker such as the central marker in the long boundary side in FIG. 2, one of the two boundary marking tapes 46 may be used to provide the boundary, while the other may be used to mark the center line of the area or field being used.

[0057] While it is anticipated that one of the advantages of the portable adjustable boundary marking system is its light weight and compact package, various means might be used to further secure the boundary marking tape 46 in place. For example, small weights might be provided with the boundary marking tape 46 to make it resistant to movement in the wind and help keep it close to the ground if the ground is somewhat irregular. Alternatively, wickets, securing spikes, or other anchors could be used when the playing surface is soft enough to allow their use. Thus it may be seen that the embodiments of the present invention are readily modifiable to suit a variety of situations and needs.

[0058] Referring now to FIGS. 10-17, an alternate embodiment of the present invention is shown. In these Figures, the boundary marking tape 46 or other extensible element that serves to mark a boundary has been omitted for convenience in understanding several features of the alternate embodiment. FIG. 10 highlights the low-profile nature of this embodiment of the portable boundary marker. The

upper cone 40 has been replaced with a flat top 64 to minimize the profile of the marker. Thus it can be seen that the top of the marker may be in any form that adequately serves to contain the boundary marking tape 46 or other extensible element that serves to mark a boundary with the portable marker.

[0059] In addition, the base or bottom of the marker has been provided with several microspikes 66 that enhance the stability of the marker when placed in contact with the ground, as discussed above. While the marker shown in these figures has been configured to accept a relatively broad boundary marking tape 46, one of skill in the art can readily appreciate that, in some embodiments, narrowing the boundary marking tape 46 may further enhance the low-profile nature of the shown embodiment as the corresponding height of the marker would decrease.

[0060] FIGS. 11-13 highlight an additional feature of the alternate embodiment shown. The flat top 64 may be provided with recesses 68 corresponding to the microspikes 66 provided on the bottom of the marker. This enhances the portability and stackability of this embodiment of the marker, as seen in FIGS. 14-17. When the markers that have been used or are to be used to define an athletic playing surface are to be stored or transported, they may be readily stacked or even locked together by aligning the microspikes 66 of one marker with the recesses 68 of another marker and stacking the markers as shown in FIG. 14. As can be appreciated from FIG. 13, the microspikes 66 and recesses 68 may be provided in such a way as to allow seating of stacked markers in several rotational arrangements. Furthermore, to enhance portability of the system, a case 70 may be provided, as in FIGS. 15-17, in which the markers may be stacked and carried. While the case 70 shown in FIGS. 15-17 holds four markers, it may be appreciated that a case may be provided to hold any desired number of markers to be used as a system to define an athletic playing area or field.

[0061] FIGS. 18-20 illustrate perspective views of another illustrative embodiment of the boundary marker. In the illustrated embodiment, as may be seen in FIGS. 18-20, the marker includes an upper cone 40 or top, a central body 42, and a base 44. As may be seen, the upper cone 40 or top extends downward to completely cover the sides of the central body 42. The central body 42 is provided with a finger hole 72 or indentation to facilitate rotation of the central body 42 relative to the upper cone 40 or top during retraction of the boundary marking tape 46 or other extensible element. As the upper cone 40 or top extends downward to completely cover the sides of the central body 42, the sides of the upper cone 40 or top are suited for the addition of decorations 74. Additionally, as the top portion of the central body 42 is visible from above, the top portion of the central body 42 is also suited for the addition of decorations 74. Decorations 74 may indicate a vendor of the marker, an advertisement, a preference of the owner of the marker, or any other desired or customizable decoration.

[0062] The embodiment illustrated in FIGS. 18-20 includes a center hole 60 for insertion of a center hole spike, as discussed above. Additionally, the base 44 may be provided with a rounded cavity 76 corresponding to the shape of the upper cone 40 or top to facilitate stacking of the marker. As discussed above, the base 44 may be provided with a high-friction surface, such as a rubber bottom 78, as

illustrated in FIG. 19, or any other mechanism to assist in keeping the marker in a desired location.

[0063] FIG. 20 illustrates some additional details of the embodiment of the marker. Specifically, FIG. 20 illustrates how the horizontal slot 54 discussed above may be integrated into the upper cone 40 or top. In this way, the boundary marking tape 46 may extend from the marker in a horizontal, low-to-the-ground fashion. Additionally, the embodiment may be provided with a lock 80 to lock the position of the extended boundary marking tape 46 during use, as discussed above. Finally, FIG. 20 illustrates one way in which the boundary marking tape 46 may be provided with embellishments or markings, such as decorations 74.

[0064] By way of illustration, and not limitation, the boundary marker illustrated in FIGS. 18-20 may have the following representative dimensions. The marker may have a diameter of approximately 6.5 inches and a maximum spindle width of approximately 5.5 inches (within the upper cone 40 or top). The length of the boundary marking tape 46 contained within such an embodiment (and on such a spindle) may be approximately 20 yards. Such an embodiment provides a portable package with a good length of boundary marking tape 46. One of skill in the art will readily recognize that the illustrated and discussed sizes and dimensions may be varied as desired to provide a smaller or larger marker and a shorter or longer extensible element or boundary marking tape 46.

[0065] The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims, rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

What is claimed and desired to be secured by Letters Patent is:

1. A modular portable adjustable athletic field boundary system comprising:

an athletic field marker that marks a position along a boundary of an athletic field comprising:

a base;

a top;

a body; and

an attachment point located on at least one of the base, the top, and the body; and

an extensible element disposable about at least a portion of the body and contained within the marker in a storage position and adapted to rest along the ground in an extended position, wherein the extensible element is made of a highly-visible material and defines a boundary line of an athletic field in the extended position, comprising:

a proximal end connected to the body of the marker; and

a distal end adapted to be reversibly connected to the attachment point of the marker;

wherein the extended position of the extensible element may extend any length equal to or less than the length of the extensible element; and

wherein a plurality of the markers and extensible elements may be connected to one another around the perimeter of an athletic field to define a boundary and completely enclose an area that is an athletic field.

2. The system of claim 1 wherein the marker is low-profile.

3. The system of claim 1 wherein the base is provided with a lower surface adapted for frictional contact with an athletic playing surface.

4. The system of claim 1 further comprising means for further securing the placement of the marker.

5. The system of claim 1 wherein the extensible element is provided with markings showing the extent to which the extensible element is extended from the body.

6. The system of claim 1 wherein the extensible element is a boundary marking tape.

7. The system of claim 6 wherein the boundary marking tape is provided with markings showing the extent to which the boundary marking tape is extended from the body.

8. The system of claim 6 wherein the boundary marking tape is provided with markings indicating the location of additional athletic field elements.

9. The system of claim 6 wherein the boundary marking tape is provided with markings taken from the group of decorative markings, advertising markings, personalized markings, personalized logos, luminous markings, and reflective markings.

10. The system of claim 1 wherein the body comprises a fixed element fixedly connected to at least one of the top and the base, and a rotatable element rotatably attached to at least one of the fixed element, the top, and the base, and wherein the proximal end of the extensible element is connected to the rotatable element.

11. The system of claim 10 further comprising a means for providing extension and retraction of the extensible element.

12. The system of claim 1 further comprising a means for providing extension and retraction of the extensible element.

13. The system of claim 12 wherein the means for providing extension and retraction of the extensible element is a tensioning device.

14. The system of claim 12 wherein the means for providing extension and retraction of the extensible element is a rotating portion of the body attached to a rotating handle.

15. The system of claim 1 further comprising a lock to lock an extension of the extendible element.

16. The system of claim 1 further comprising means for squaring the boundary.

17. A method for providing a modular portable adjustable athletic field boundary, the method comprising the steps of:

providing a first athletic field marker and a second athletic field marker, each marker comprising:

a base;

a top;

a body attached to the base and to the top so as to be between the base and the top;

an attachment point located on at least one of the base, the top, and the body; and

an extensible element disposable about at least a portion of the body and containable within the marker in a storage position that lies flat along the ground in an extended position, wherein the extensible element is made of a highly visible material comprising:

a proximal end connected to the body of the marker; and

a distal end adapted to be reversibly connected to the attachment point;

extending the extensible element of the first marker to a desired distance equal to or shorter than the total length of the extensible element of the first marker; and

connecting the distal end of the extended extensible element of the first marker to the attachment point on the second marker wherein the first marker, the extensible element of the first marker and the second marker define a boundary line for an athletic field.

18. The method of claim 17 further comprising the steps of:

extending the extensible elements of additional markers to desired distances equal to or shorter than the total length of the respective extensible elements;

connecting the distal ends of the extended extensible elements of each marker to the attachment points on other markers so that the connected markers and extensible elements entirely enclose a substantially two-dimensional athletic field;

disconnecting the distal ends of the extensible elements from the attachment points; and

retracting the extensible elements of the markers to disassemble the athletic field boundary.

19. A modular portable adjustable athletic field boundary system comprising:

an athletic field marker that marks a position along a boundary of an athletic field comprising:

a base;

a top;

a body wherein the body is attached to the base and to the top so as to be between the base and the top and wherein at least one portion of the body has a diameter smaller than that of the base and the top, the body comprising:

a fixed element fixedly connected to the base and the top; and

a rotating element rotatably connected to at least one of the base, the top, and the fixed element; and

an attachment point located on at least one of the base, the top, and the body;

an extensible element disposable about at least a portion of the body and contained within the marker in a storage position and that lies flat along the ground in an extended position, wherein the extensible element is made of a highly visible material and defines a boundary line of an athletic field in the extended position comprising:

a proximal end connected to the rotating element; and

a distal end adapted to be reversibly connected to the attachment point of the marker; and

means for providing extension and retraction of the extensible element;

wherein the extended position of the extensible element may extend any length equal to or less than the length of the extensible element to provide a boundary line of any said length; and

wherein a plurality of the markers and extensible elements may be connected to one another around the perimeter of an athletic field to define a boundary and completely enclose an area that is an athletic field.

20. The system of claim 19 wherein the extensible element comprises a boundary marking tape and wherein the means for providing extension and retraction of the extendable element is a tensioning device.

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