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(54) **COLLAPSIBLE SPORTS GOAL** (52) **U.S. Cl. 473/478**

(75) **Inventors: Eric A. Fobean, Stow, OH (US); Jeff Robert Gatto, Lyndhurst, OH (US)**

(57) **ABSTRACT**

Correspondence Address:
Michael L. Kenaga
PIPER RUDNICK
P.O. Box 64807
Chicago, IL 60664-0807 (US)

(73) **Assignee: The Little Tikes Company, a corporation of the State of Ohio**

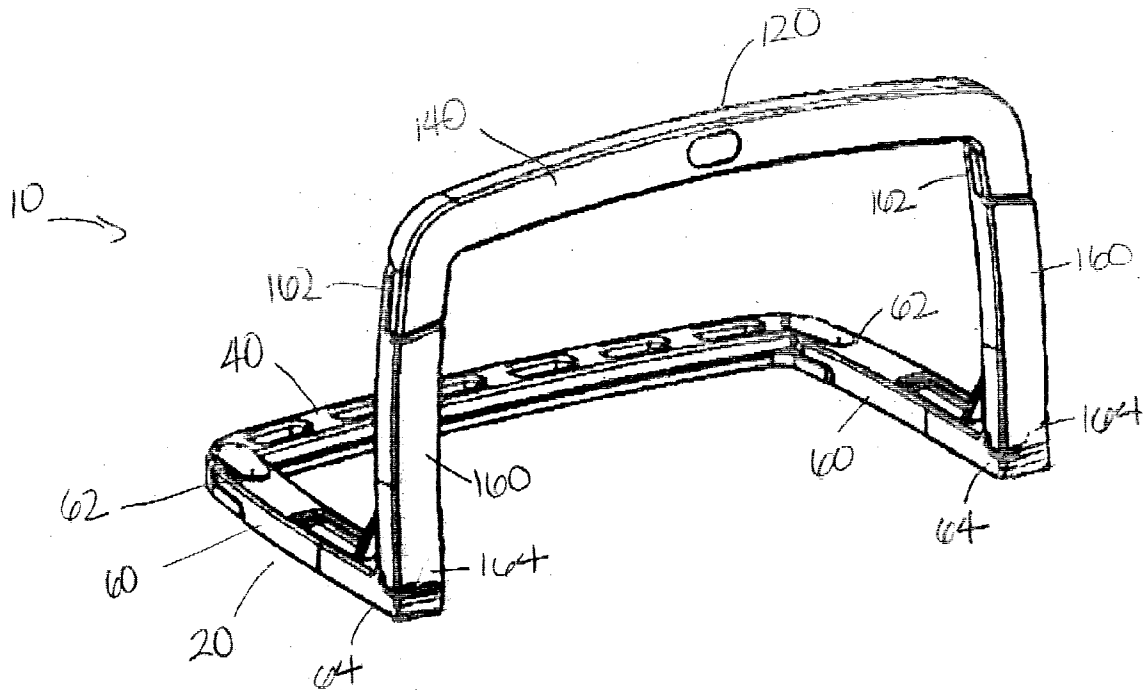
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A sports goal comprised of a frame formed by a base and an upright portion. The upright portion is pivotally connected to the base and extends upwardly therefrom. The base has parallel legs with a cross member positioned therebetween. The parallel legs of the base are releasably secured to the cross member of the base. The upright portion has parallel legs with a cross member positioned therebetween. The parallel legs of the upright portion are releasably secured to the cross member of the upright portion. The upright portion is pivoted onto the base member and the base legs and upright legs are disengaged from each respective cross member and folded towards the cross members to collapse the sports goal for storage.



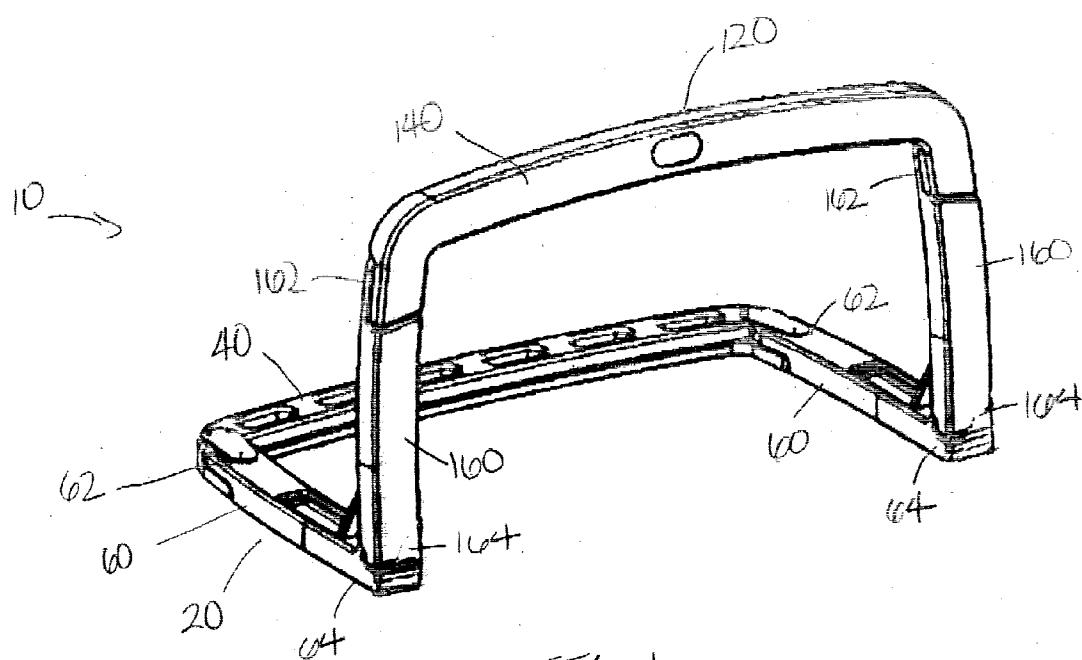


FIG. 1

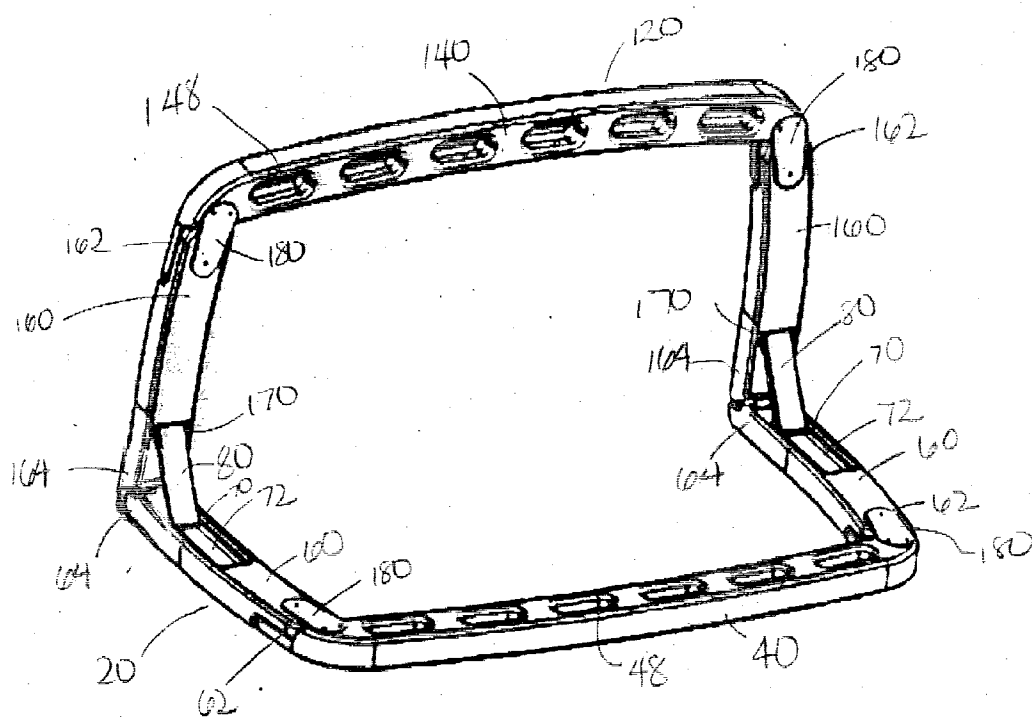


FIG. 2

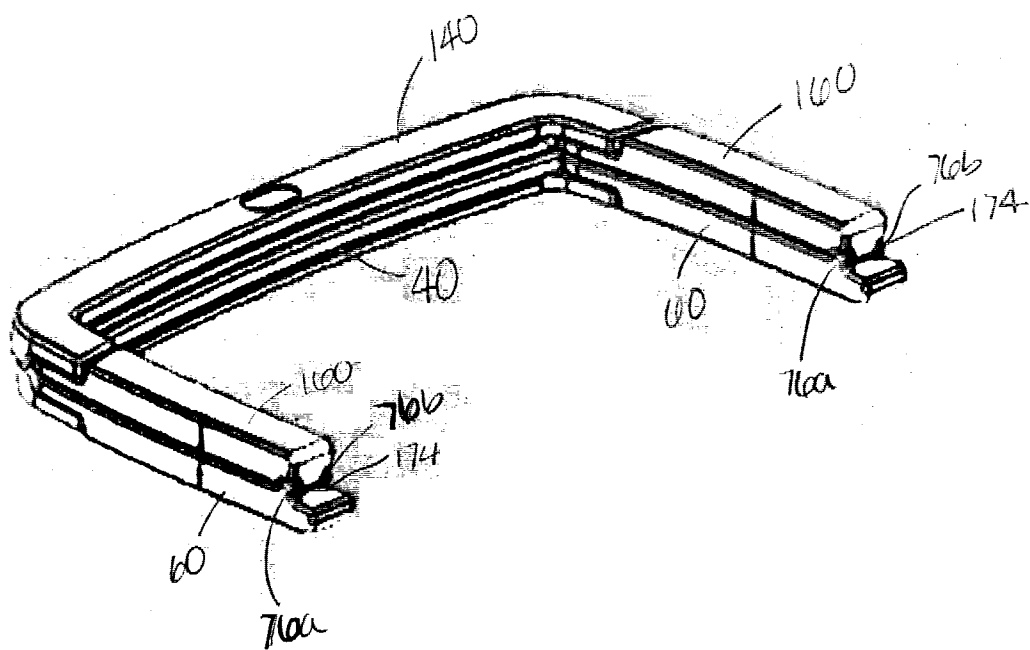


FIG. 4

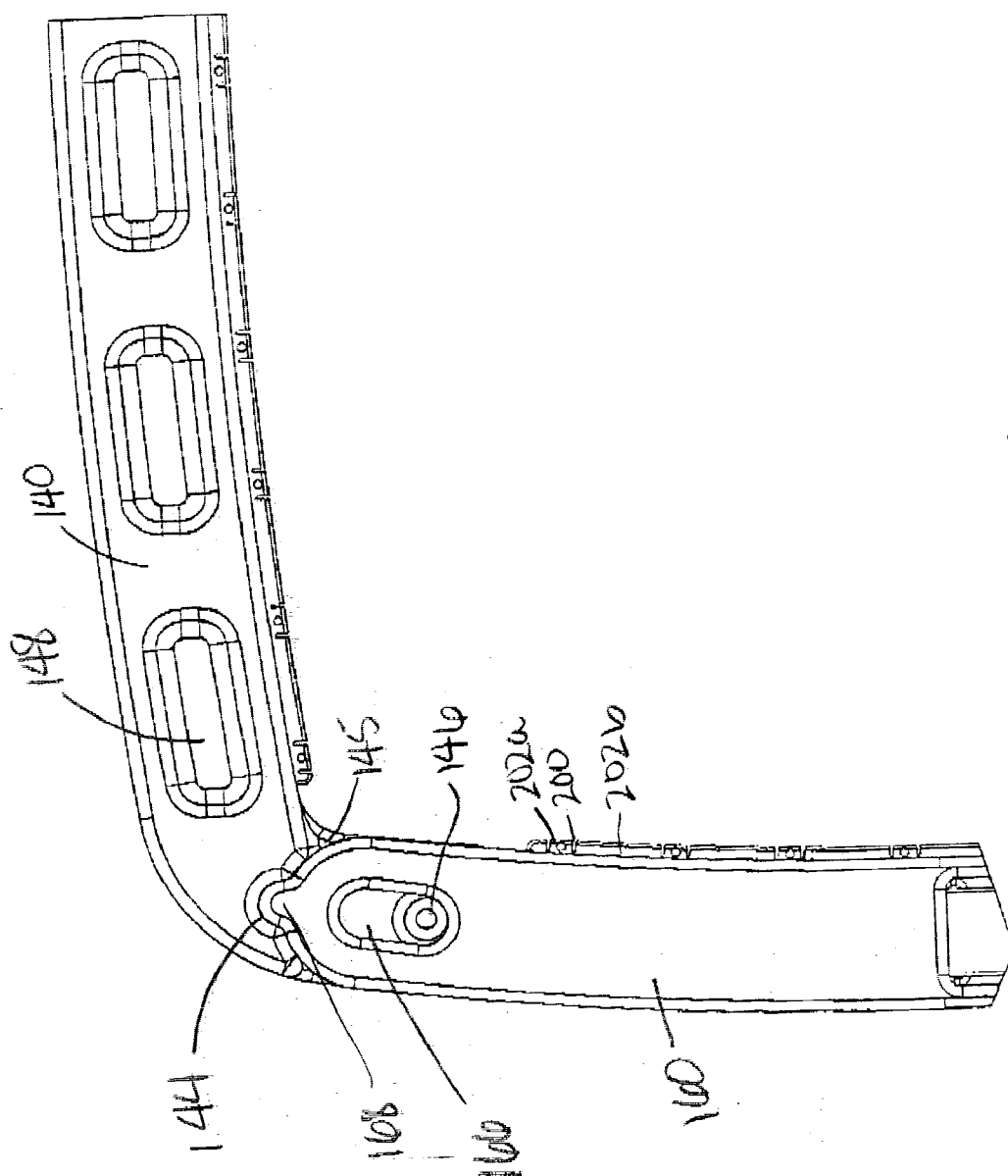
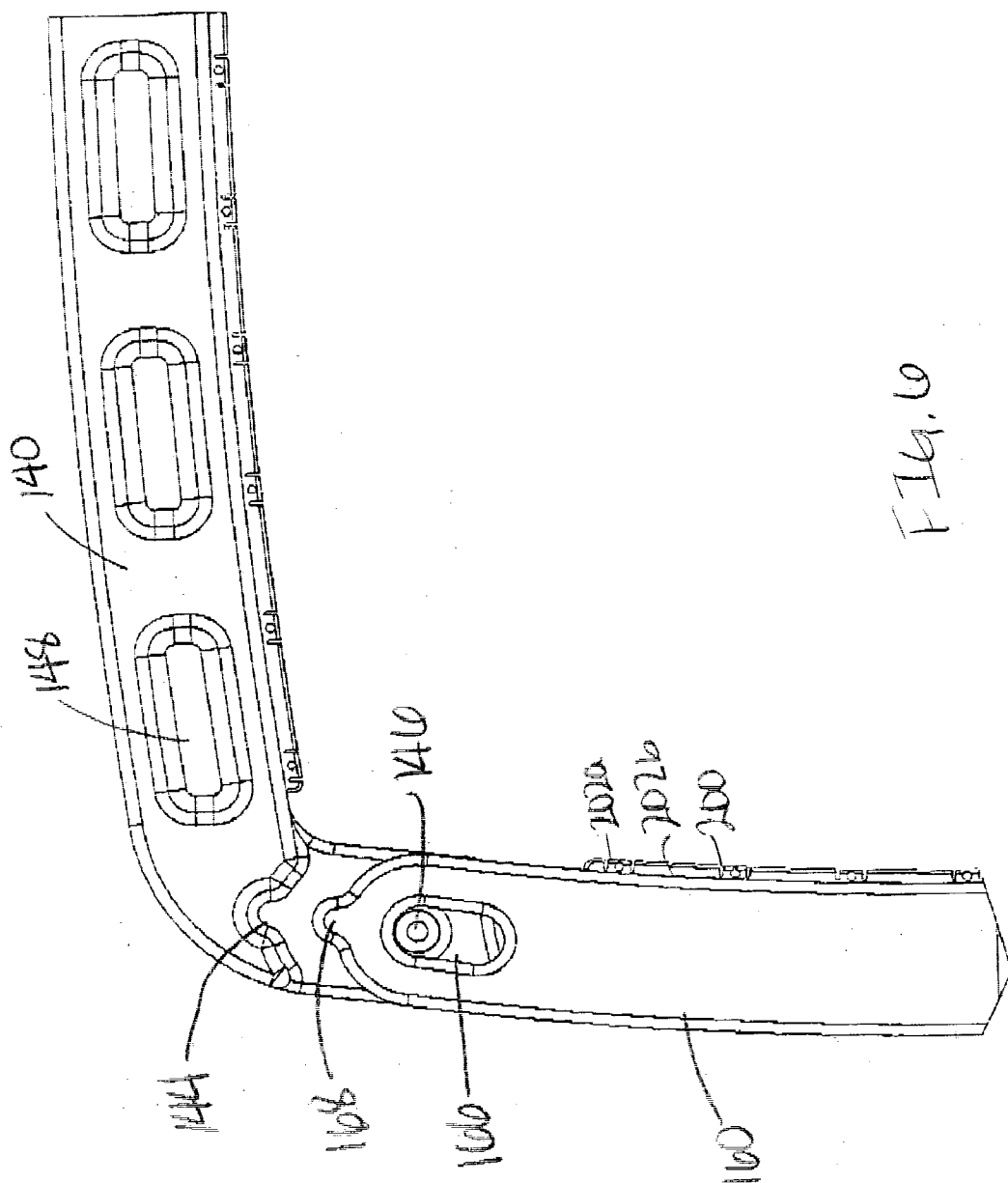


FIG. 5



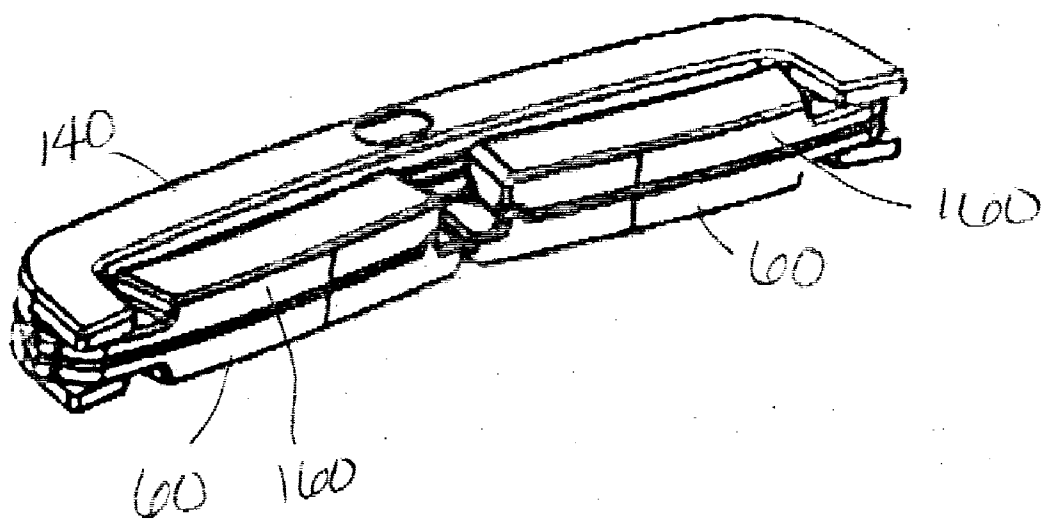


FIG. 7

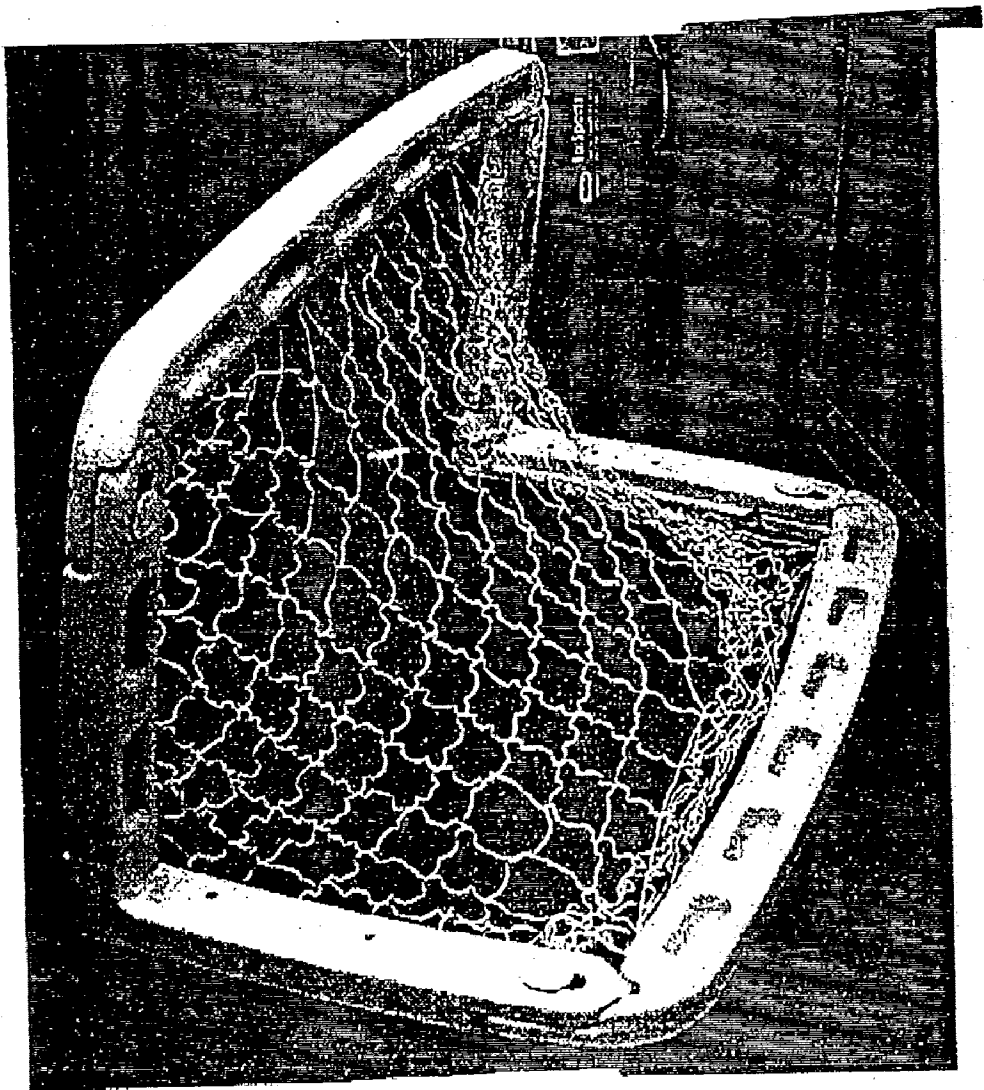


FIG. 8

COLLAPSIBLE SPORTS GOAL

TECHNICAL FIELD OF THE INVENTION

[0001] The present invention relates in general to a sports goal, and more particularly to a children's collapsible sports goal for soccer or hockey.

BACKGROUND OF THE INVENTION

[0002] Soccer and hockey are sports that include a goal as part of the equipment to play the sport. Collapsible sports goals that are used for soccer or hockey, ice or field, are well known. It is also known to construct a goal from a size that is smaller than that of the professional standardized required size so that it may be used on a smaller field or by young children.

[0003] Typically, the collapsible goals have been formed from a combination of metal or plastic pieces that are constructed such that the pieces are pivotally secured to each other. For example, collapsible frames having tubular members that are coupled to each other with an elastic cord disposed within the tubular member are known. These frames depend on the elastic cords to maintain the structure formed by the tubular members. Thus if the elastic cords fail, the structure of the frame will no longer be supported.

[0004] Another type of collapsible frame includes tubular members that are pivotally connected at each end by a hinge connection. The tubular members may also be telescoping to assist the parts to collapse. These frames, however, are generally time consuming to collapse since there are many connection points.

[0005] Other collapsible goals include frames that include a plurality of members that may be disassembled for storage. These goals generally require tools to disassemble or to partially collapse the frame. As a result, these goals are not easily collapsible. They typically require more than one person to collapse the goal. Also, since these goals are comprised of a plurality of members, they are awkward and cumbersome to carry once they are disassembled or collapsed.

[0006] Additionally, some collapsible goals require bars or stakes that extend downward from the frame to secure the frame into the ground. Often the stakes are required not only to secure the goal but also to balance the frame members with respect to each other. Alternatively, some frames include a clip member or fastener that is used to secure the frame members in the upright position. The small components of the prior art, such as the clip member, are easily lost, thus compromising the usefulness of the goal.

[0007] As a result, there exists a need for an improved transportable sports goal that is formed from minimal pieces, that is independently balanced and that is intuitively easier to collapse from a use position to a storage position and the reverse.

SUMMARY OF THE INVENTION

[0008] According to one aspect of the invention, a sports goal is provided with a frame formed from a base and an upright portion. The upright portion is pivotally connected to the base and extends upwardly therefrom. The base has parallel legs with a cross member positioned therebetween.

The parallel legs of the base are releasably secured to the cross member of the base. The upright portion has parallel legs with a cross member positioned therebetween. The parallel legs of the upright portion are releasably secured to the cross member of the upright portion. To collapse the goal, the upright portion is pivoted onto the base member and the base legs. Next, the legs are disengaged from the cross members and folded towards the cross members to place the sports goal in a storage position.

[0009] Another aspect of the invention includes a sports goal having a frame formed from a base and an upright portion. The upright portion is pivotally connected to the base and extends upwardly therefrom. The base and the upright portion each have parallel legs with a cross member positioned therebetween. Each end of the base cross member and each end of the upright cross member has a recess and an outwardly extending protrusion. The base legs and the upright legs have an upwardly extending tab that engages the recess in the respective cross members and an opening that houses the protrusions extending from the respective cross members. The outwardly extending protrusions of the cross members are disposed within the openings of the legs and the tabs of the legs are positioned within the recesses of the cross members to releasably secure the legs to the cross members.

[0010] Another aspect of the invention is a method of collapsing a sports goal. The method includes the initial step of providing a sports goal having a base with parallel legs with a cross member positioned therebetween and a pivotally connected upright portion with parallel legs with a cross member positioned therebetween. Next, a brace member is pivoted into a pocket within the legs of the base. The upright portion is pivoted towards the base until the upright portion rests on top of the base. The legs are unlocked from the cross members and folded towards the cross members to place the sports goal in a collapsed storage position.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Further aspects of the invention and their advantages may be discerned from the following description when taken in conjunction with the drawings, in which like characters number like parts and in which:

[0012] **FIG. 1** is a front perspective view of the sports goal of the present invention;

[0013] **FIG. 2** is a rear perspective view of the sports goal illustrated in **FIG. 1**;

[0014] **FIG. 3** is an exploded view of the sports goal illustrated in **FIG. 2**;

[0015] **FIG. 4** is a perspective view of the sports goal of **FIG. 1** partially collapsed to the storage position;

[0016] **FIG. 5** is a front elevational view of one end of the upright portion of the sports goal of **FIG. 1**;

[0017] **FIG. 6** is a front elevational view of the end of the upright portion of **FIG. 5** in a disengaged position;

[0018] **FIG. 7** is a perspective view of the sports goal of **FIG. 1** in the collapsed storage position; and

[0019] **FIG. 8** is a perspective view of the sports goal of **FIG. 1** with the net installed.

DETAILED DESCRIPTION OF ILLUSTRATED EMBODIMENT

[0020] FIG. 1 illustrates the sports goal of the present invention having a collapsible frame indicated in general at 10. The collapsible frame includes a base 20 and an upright portion 120. The base 20 has two parallel legs 60 with a cross member 40 positioned therebetween. A first end 62 of the legs 60 is releasably secured to the cross member 40. The upright portion 120 also includes two parallel legs 160 with a cross member 140 positioned therebetween. The first end 162 of the legs 160 of the upright portion 120 are also releasably secured to the cross member of the upright portion.

[0021] FIG. 3 illustrates the members of the frame and the connection means that releasably secure the cross member 40 of the base 20 and the cross member 140 of the upright portion 120 to the respective parallel legs. The cross member 40 of the base includes two ends 42a and 42b. Each end includes a semicircular recess 44 formed within the cross member. Each end also includes an extended portion 45 that has an outwardly extending protrusion 46. As illustrated, the protrusion 46 has a cylindrical shape.

[0022] The first end 62 of each leg 60 of the base includes an oblong shaped opening 66 through the leg 60 and a semicircular tab 68 extending from the outer edge of the first end 62. The oblong shaped opening 66 houses the outwardly extending cylindrical protrusion 46 located on the extended portion 45 of the cross member 40. Each opening 66 is shaped so that the leg slidingly engages the outwardly extending protrusion 46 of the cross member. Also, the tab extending from each leg is semicircular so that it is sized to matingly engage one of the recesses in the cross member.

[0023] The cross member 140 of the upright portion of the frame also includes ends 142a and 142b. Identical to the cross member 40 of the base, each end 142a, 142b of the cross member 140 of the upright portion includes a semicircular recess 144, an extended portion 145 and an outwardly extending cylindrical shaped protrusion 146. The first end 162 of the legs 160 of the upright portion also include an oblong shaped opening 166 and a semicircular tab 168 that extends from the first end 162 of each leg 160. As with the base, each opening 166 is shaped so that the leg 160 slidingly engages the outwardly extending protrusion 146 of the cross member. Also, the tabs 168 of the legs 160 are sized to matingly engage the recesses 144 in the cross member 140. Thus, as will be discussed with respect to FIGS. 5 and 6, when the tab of either the base or the upright portion is positioned in the recess, the respective protrusion is located at the bottom of the opening (see FIG. 5) and when the tab is slid away from the recess, the protrusion is located near the top of the opening (see FIG. 6).

[0024] If desired, the shape of each recess, tab, protrusion and opening may vary as long as the recess and tab are preferably able to matingly engage which results in an interference or friction fit between the members and the protrusion is preferably able to slide within the opening. For example, the recess and the tab may be semicircular, elliptical or rectangular. The protrusion may have a cylindrical or cubical shape and the opening may have an oblong, elliptical or rectangular shape as long as the protrusion is able to slide in the opening. The recess may also be designed so that it

slightly tapers towards the opening such that the protrusion is snapped into the recess to secure the leg to the cross member.

[0025] Alternatively, if desired, the sports goal may be designed such that the recesses are located in the top of the legs and the tabs are positioned to extend downward from the cross member to engage the recess in the leg. Also, the legs may be designed with the protrusion extending outwardly from the leg and the cross member may be designed to include an opening that houses the protrusion.

[0026] The upright portion 120 is pivotally connected to the base 20. More specifically, as shown in FIGS. 1 and 2, the second end 64 of each base leg 60 is pivotally connected to the second end 164 of each leg of the upright portion. As shown in FIG. 3, the second ends 64 of the legs 60 of the base include a channel 74 formed within each leg. Each channel 74 is defined by two upwardly extending ears 76a and 76b. The ears 76a and 76b form the outer edges of the channel 74.

[0027] The second ends 164 of the legs 160 of the upright portion include a rod 174 that extends outwardly from the second ends 164 of the legs 160. The rod 174 includes a circular opening 176 extending lengthwise through the center of the rod. The circular opening 176 is sized to receive a pin to secure the rod to the channel. As shown in FIGS. 1 and 2, each rod is disposed within the respective channel. The rods are secured within the channels 74 by a pin (not shown) which extends between the ears 76a and 76b and through the opening 176 of the rod 174. As such, when it is desirable to place the frame in either a storage position or a use position, the rods 174 at the second end of the legs 160 of the upright portion pivot within the channels 74 of the second end of the legs 60 of the base.

[0028] The legs 60 of the base member also include a pocket 72 with a groove 70 placed on either side of the pocket. A rectangular brace support 80 having outwardly extending pins 82 is positioned within each pocket 72. More specifically, the pins 82 of the brace support 80 are disposed within the grooves 70 in the pocket 72. The pockets 72 are sized to house the rectangular brace support 80 when the frame is placed in a storage position. Thus, when it is desirable to collapse the frame, the pins 82 of the brace supports 80 allow the brace supports 80 to pivot between a support position (FIG. 2) to a storage position wherein the brace supports are disposed within the pockets. The pockets house the brace supports such that the brace supports become flush with the remainder of the legs 60.

[0029] The legs 160 of the upright portion each include an angled aperture 170. As shown in FIG. 2, the angled apertures 170 house one of the brace supports 80 when the frame is in the use position. The brace supports 80 are pivoted towards the front of the frame to be placed within one of the angled apertures 170. When the brace supports are placed in the angled apertures, the upright portion of the frame is supported in the use position.

[0030] Also shown in FIGS. 2 and 3, each cross member 40, 140 includes a plurality of open oblong shaped members 48, 148, respectively. The open oblong shaped members are formed when the cross members of the sports goal are blow molded. The oblong shaped members are large enough to be used as a handle for an adult or a child to grab when they need to move the sports goal.

[0031] An oblong shaped cover 180 with a downwardly extending housing 182 is placed over each connection means that secures the legs to the cross members. The housing 182 is cylindrically shaped with a hollow center that enables the housing 182 to cover the protrusions 46 and 146 of the base cross member and the upright portion cross member, respectively. As illustrated in FIG. 2, the cover 180 covers each opening 66 and 166 in the legs 60 and 160, respectively, thereby preventing a child from pinching themselves with the movable legs. The cover 180 also protects the connection means from environmental factors or undesirable debris when the sports goal is stored outdoors.

[0032] Additionally, the inner side of the base and upright portions that form the frame include a plurality of notches 200 and outwardly extending flanges 202a and 202b (see FIGS. 5 and 6). The notches and flanges are arranged in a pattern. As illustrated in FIGS. 5 and 6, the pattern includes a notch 200 between each flange 202a and 202b with the flanges arranged in an alternating fashion. The arrangement of the notches and the flanges provides a connection point for the user to secure a net, shown in FIG. 8. Although the connection point is illustrated having a specific pattern of flanges and notches, the connection point could be formed with any pattern or size of flange and notch to accommodate the net used with the frame.

[0033] The sports goal of the present invention may be placed in a use position (FIGS. 1-3) or it may be collapsed to a storage position (FIGS. 4-7). The connection means between the members of the base and the upper portion of the frame that enable the members to pivot or slide with respect to each other allow the goal to be easily converted between the use position and the storage position.

[0034] As shown in FIG. 4, the first step in collapsing the frame of the sports goal is to pivot the upright portion downward on to the base. The upright portion is pivoted slightly forward so that the brace support members may be removed from the angled apertures. Once the brace supports are removed from the angled apertures, the brace supports may be pivoted downwards towards the legs of the base. The brace supports are pivoted until each brace support is disposed within the pockets located in the leg of the base. Next, the upright portion may be pivoted downwards towards the base until the upright portion is resting flat on top of the base thereby forming a "C" shape, as illustrated in FIG. 4.

[0035] FIGS. 5 and 6 illustrate one of the connection means, with the cover removed, between a leg and the cross member of the upright portion. Since the connection means between each leg and cross member of the base and the upright portion is identical, only one of the connection means is illustrated in detail as shown in FIGS. 5 and 6.

[0036] In FIG. 5, the tab of the leg is placed in the recess of the cross member to lock the leg to the cross member. Since the recess matingly engages the tab, the leg is prevented from shifting or rotating with respect to the cross member when the tab is in the recess.

[0037] FIG. 6 illustrates the leg disengaged from cross member. A user disengages the leg from the cross member when they pull the leg away from the cross member. As the leg is pulled away from the cross member, the protrusion slides within the opening in the leg as the tab is removed

from the recess. Once the leg is fully disengaged from the cross member, as illustrated in FIG. 6, the protrusion is positioned near the top of the opening in the leg. At this point, each leg is free to be pivoted about the outwardly extending protrusions. As illustrated in FIG. 7, each leg is pivoted inward towards the cross members to a fully collapsed position.

[0038] As illustrated and described, the sports goal of the present invention is able to collapse to a flat elongated compact member that requires minimal storage space and is easy to transport. More specifically, a user is able to pivot the frame about six pivot points, e.g., the points between the legs of the upright portion and the legs of the base and the points at the disengaged leg about the protrusion, to fully collapse the sports goal. Thus, the user is able to collapse the sports goal merely by folding or pivoting the frame members and the brace supports. As a result, there is no requirement to detach components to collapse the frame.

[0039] The pieces that form the base and upright portion of the frame are primarily blow molded from any plastic material, such as high density polyethylene, low density polyethylene, ABS, polypropylene or polycarbonate. The pieces may also be injection molded or rotational molded from any plastic material, such as high density polyethylene, low density polyethylene, ABS, polypropylene or polycarbonate. Alternatively, the frame may be formed from a metal or from an extruded plastic material.

[0040] Therefore, while the invention has been described with respect to the illustrated embodiment, it is not limited thereto, but only by the scope and spirit of the appended claims.

We claim:

1. A sports goal comprising:

a base having parallel legs with a cross member therebetween, the parallel legs of the base being releasably secured to the cross member of the base; and

an upright portion pivotally connected to the base and extending upwardly therefrom, the upright portion having parallel legs with a cross member therebetween, the parallel legs of the upright portion being releasably secured to the cross member of the upright portion;

whereby the upright portion is pivoted onto the base member and the base legs and upright legs are disengaged from the cross members and folded towards the cross members to collapse the sports goal for storage.

2. The sports goal of claim 1, wherein one end of each leg has a tab and an opening and each end of the cross members have a recess and a protrusion, whereby the tabs of the legs engage the recess in the cross members and the openings in the legs house the protrusions of the cross members to releasably secure the legs to the cross members.

3. The sports goal of claim 2, further comprising a cover for protecting the connection between each tab and recess and each opening and protrusion.

4. The sports goal of claim 1, further comprising a brace support pivotally connected to each leg of the base.

5. The sports goal of claim 4, wherein the legs of the base include a pocket for housing the brace support when the goal is collapsed for storage.

6. The sports goal of claim 1, wherein one end of the base legs has a channel and one end of the upright portion legs has

a rod, whereby the rods of the upright portion legs pivot within the channels of the base legs.

7. The sports goal of claim 1, further comprising a net secured to an inner surface of the base and the upright portion.

8. The sports goal of claim 1, wherein the base cross member and the upright portion cross member have handles for moving the sports goal.

9. The sports goal of claim 1, wherein the upright portion rests flat on the base when collapsed to a storage position.

10. A sports goal comprising:

a base having parallel legs with a cross member positioned therebetween;

an upright portion pivotally connected to the base, the upright portion having parallel legs with a cross member positioned therebetween;

each end of the base cross member and each end of the upright cross member having a recess and an outwardly extending protrusion; and

the base legs and the upright legs having an upwardly extending tab for engaging the recess of the cross members and an opening for housing the protrusions of the cross members;

whereby, the outwardly extending protrusions of the cross members are disposed within the openings of the legs and the tabs of the legs are disposed within the recesses of the cross members thereby releasably securing the legs to the cross members.

11. The sports goal of claim 10, further comprising a cover for protecting the connection between each tab and recess and each opening and protrusion.

12. The sports goal of claim 10, further comprising a brace support pivotally connected to each leg of the base.

13. The sports goal of claim 12, wherein the legs of the base include a pocket for housing the brace support when the goal is collapsed for storage.

14. The sports goal of claim 10, wherein one end of the base legs has a channel and one end of the upright portion

legs has a rod, whereby the rods of the upright portion legs pivot within the channels of the base legs.

15. The sports goal of claim 10, further comprising a net secured to an inner surface of the base and the upright portion.

16. The sports goal of claim 10, wherein the base cross member and the upright portion cross member have handles for moving the sports goal.

17. The sports goal of claim 10, wherein the upright portion rests flat on the base when collapsed to a storage position.

18. A method of collapsing a sports goal comprising:

providing a sports goal having a base with parallel legs pivotally locked with a cross member positioned therebetween and a pivotally connected upright portion with parallel legs pivotally locked with a cross member positioned therebetween;

disengaging a brace member from a locked position between the base and upright portion;

pivoting the upright portion towards the base until the upright portion rests on top of the base;

unlocking the legs of the upright portion and the base; and

folding the legs toward the cross members thereby placing the sports goal in a collapsed storage position.

19. The method of claim 18, wherein the step of unlocking the legs further comprising:

pulling the legs to release tabs on the legs from recesses in the cross members so that the legs slide away from the cross members.

20. The method of claim 18, wherein the step of unlocking the legs further comprising:

pulling the legs to release tabs on the cross members from recesses in the legs so that the legs slide away from the cross members.

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