July 20, 1965 J. A. CONTI 3,195,845

OUTDOOR PLAY GYM

Filed Aug. 5, 1963 2 Sheets-Sheet 1

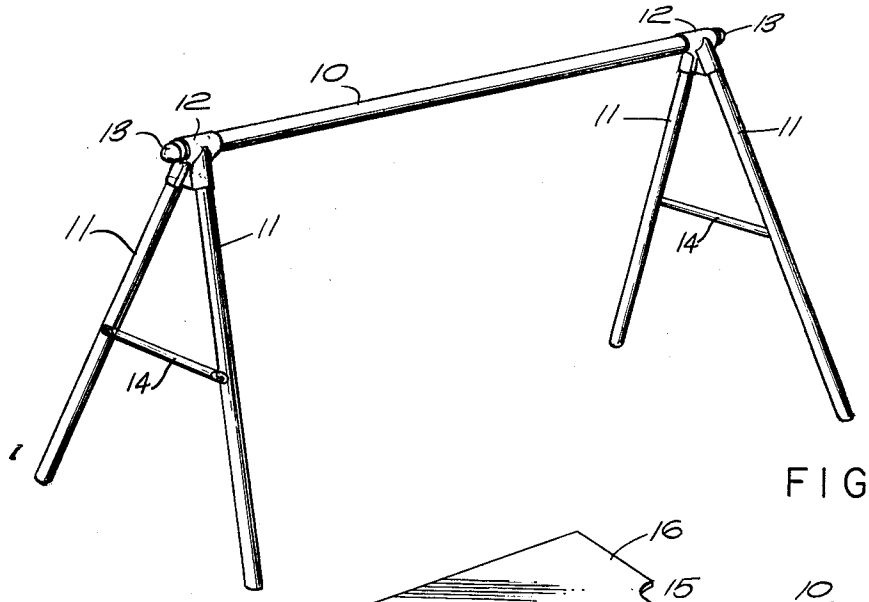


FIG. 1

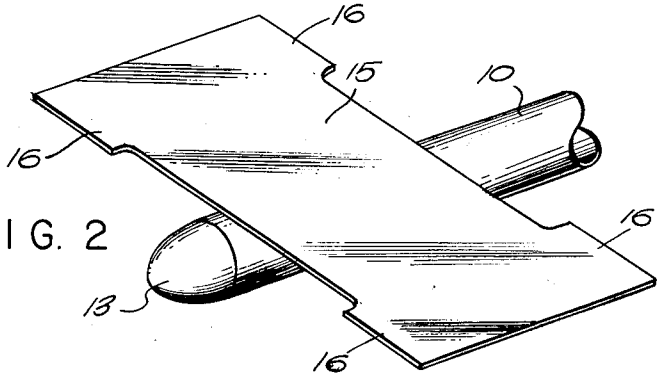


FIG. 2

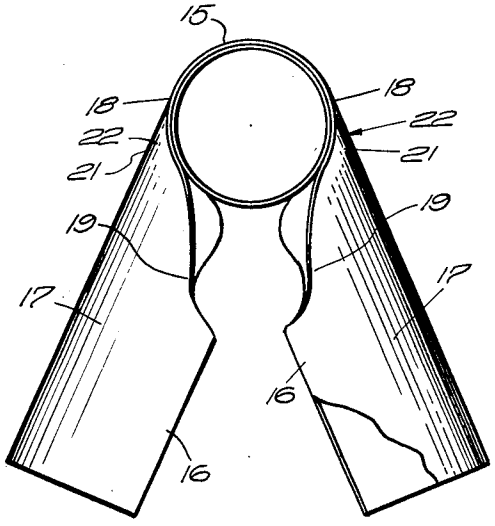


FIG. 3

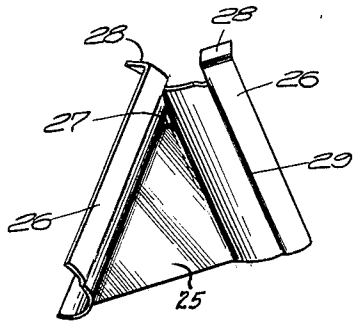


FIG. 4

INVENTOR.
JOHN A. CONTI
BY
Blair & Buckles
ATTORNEYS

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OUTDOOR PLAY GYM

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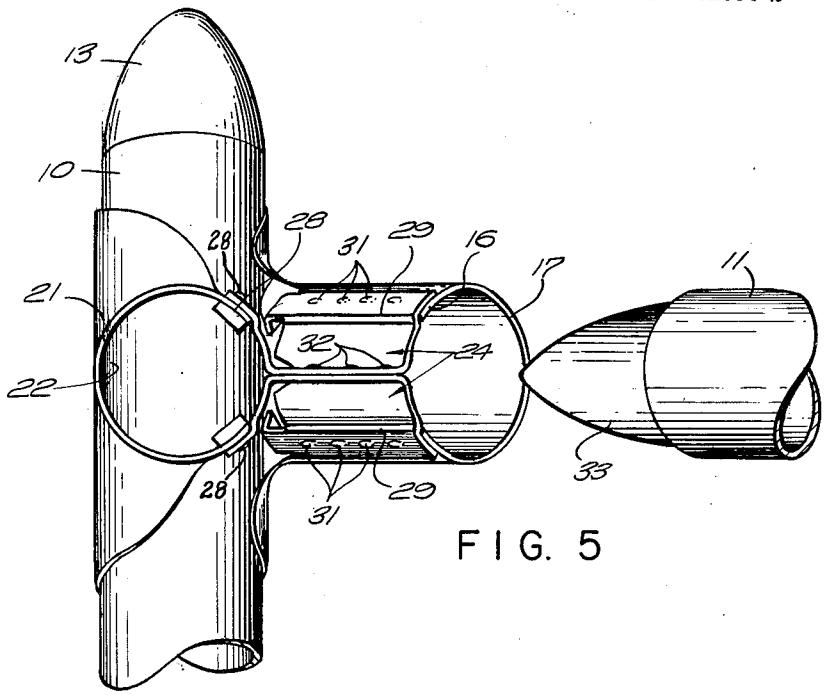


FIG. 5

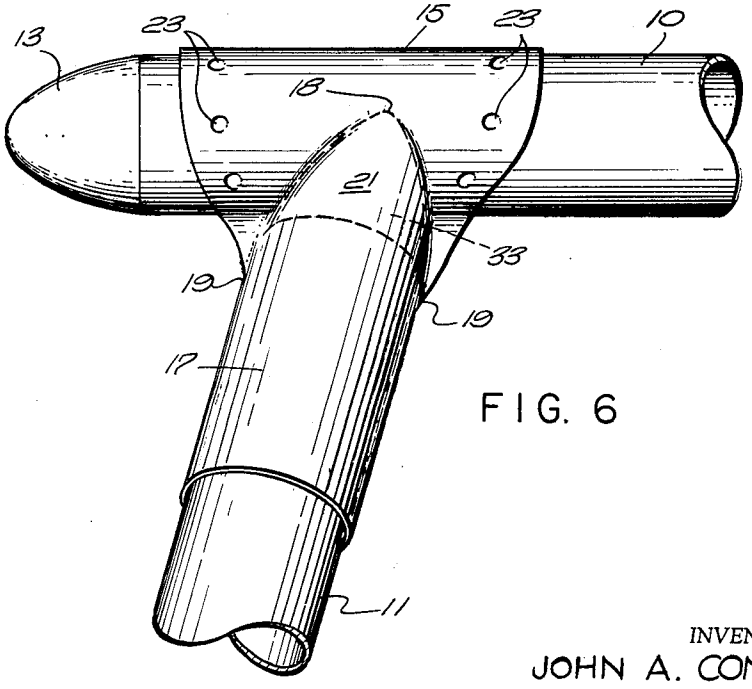


FIG. 6

INVENTOR.
JOHN A. CONTI
BY
Blair & Buckles
ATTORNEYS

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OUTDOOR PLAY GYM

John A. Conti, Dothan, Ala., assignor to Hedstrom Union Company, Fitchburg, Mass.

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2 Claims. (Cl. 248—163)

This invention relates to an outdoor play gym. It relates more particularly to an improved supporting structure for swings, slides, teeter boards and like children's play equipment.

A play gym usually comprises an elevated elongated cylindrical crossbar member from which is suspended the swings, slides, and other active elements of the gym. The horizontal member is supported by pairs of diverging tubular legs connected to the opposite ends of the horizontal member and extending downwardly-outwardly to the ground. For obvious reasons it is desirable to construct these devices so that they can be readily assembled and disassembled by the ultimate purchaser. Accordingly, their legs are usually removably secured to the horizontal member by means of nuts and bolts, or they are removably connected thereto by being slid into depending sockets integral with the horizontal member.

While these modes of securing the legs to the crossbar are structurally adequate, they have not proved entirely satisfactory in use. In the former case, tools are required, and it takes considerable time and effort to put up or take down the gym because one has to manipulate the several nut-bolt pairs that are required to adequately join each leg to the crossbar. Additionally, after the assembled gym has been exposed to the elements for only a short time, the nuts and bolts become rusted to such a degree that they cannot be disengaged at all. And very often these small parts become lost or broken.

The latter described gym construction employing sockets to connect the legs to the crossbar is also disadvantaged even though in requiring no small parts, it is easily assembled because the legs have a dangerous tendency to slip or pull out of the sockets when the play gym is tilted or the crossbar is pulled sideways by the child's activities.

Further, the fitting or socket located at the leg-crossbar joints of the prior play gyms of both types tend to tear, loosen or pull away under the very great stresses which are developed at those points during normal use of the gym. To overcome this problem, some have resorted to strut members secured between the legs and the crossbar and spanning those joints. This of course, adds to the number of small parts and manipulations required to assemble the apparatus and in the case of the second-mentioned type of construction ignores the very reason for turning to a socket-type of joint in the first instance.

Accordingly, it is a primary object of this invention to provide a play gym which requires no screws or bolts or tools to attach the legs to the crossbar but which may be quickly assembled and then subsequently easily disassembled for shipping or storage.

A further object of this invention is to provide a play gym whose supporting legs can be readily detached from the crossbar when desired, yet which do not pull way therefrom when the gym is tilted or rocked in use.

A still further object of this invention is to provide an outdoor play gym having leg-crossbar joints which remain extremely rigid and rugged and require no additional reinforcement.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises the features of construction, combination of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the invention will be set forth in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings in which:

FIG. 1 is a perspective view of an outdoor play gym embodying the features of my invention;

FIG. 2 is a perspective view on a larger scale showing the strap forming part of a joint member of the apparatus of FIG. 1 prior to its mounting on the crossbar;

FIG. 3 is an end view on a still larger scale showing the strap of FIG. 2 after it has been formed about and secured to the crossbar;

FIG. 4 is a perspective view on the scale of FIG. 3 of the closure member which forms the remainder of the joint member of the apparatus of FIG. 1;

FIG. 5 is an exploded view from below of the apparatus of FIG. 3 after installation of the two closure members and showing also the end portion of one leg, and

FIG. 6 is a side view of the joint member of FIG. 5 with the leg inserted into the joint member.

Referring to the drawings, the invention play gym comprises an elevated tubular frame member or crossbar **10** from which is suspended the usual swings, ladders, and such (not shown). The crossbar **10** is supported in its elevated position by pairs of elongated tubular legs **11** extending downwardly-outwardly from the ends of the member **10** to the ground. These legs are secured to the crossbar by means of a pair of end joint members indicated generally at **12**. Each end of the horizontal frame member **10** is fitted with a generally hemispherical plug **13** which covers the exposed ends of the crossbar and which serves a decorative function as well. Finally, a pair of horizontal bars **14** are connected between the legs of each leg pair on which the children may swing and which serve also to stabilize the gym.

Referring to FIG. 2, each joint member **12** comprises under this invention, an elongated, generally rectangular flat metal strap **15** arranged crosswise with respect to member **10** near one end thereof. Each strap **15** has opposite end portions of increased width which form pairs of generally rectangular side-extending wings **16** running an appreciable distance along the length of the strap. Referring first to FIG. 2 and then to FIG. 3, in forming each joint member **12**, the portions of strap **15** on each side of its width axis are bent downwardly around member **10** so as to follow the contour thereof, until the end portions of the strap **15** are disposed substantially evenly and at an angle of about 30°–45° from one another. Following this, the two portions of strap **15** lying below member **10** are symmetrically bowed or curved inwardly about the longitudinal axis of the strap forming a pair of opposed diverging shells or half sleeves indicated at **17**.

As best seen in FIG. 3, when each end portion of strap **15** is bowed or curved as described and its wings **16** are drawn toward one another, the section of shell **17** extending between point **18** on the longitudinal axis of the strap where the strap on being bowed first disengages from the side wall of crossbar **10** and the points **19, 19** where the wings **16** join the main body of the strap is formed into a generally triangular saddle **21** creating between the strap and crossbar **10** a wedge-shaped well or pocket **22** whose opposite walls are bowed or curved along mutually perpendicular axes. The two pockets **22** extend from a line approximately even with the bottom of member **10** to the respective points **18** becoming gradually narrower and less curved as they approach those points. After the strap **15** has been fully formed and bowed about member **10** as described above, it is permanently secured thereto as by spot-welding at the points **23** spaced along the opposite

side margins of strap **15** where those engage the wall of member **10**.

Further in accordance with this invention, closure means indicated generally at **24**, FIGS. 4 and 5, are provided for completing or closing the two shells **17**, **17** and also for connecting them together. These closure means **24** are shown more particularly to comprise a pair of rigid plates or stampings each having a generally isosceles triangular-shaped main body portion **25** and a pair of similar relatively wide rectangular wings **26** extending along the equal sides of body portion **25**. The opposite wings **26** are the same length as wings **16** of strap **15** and they are also bowed or curved upwardly-outwardly from the same side of portion **25** so as to have the same radius of curvature as wing portions **16**. The apex of base portion **25** is trimmed off at **27**, FIG. 4, to facilitate the forming of member **24** and to reduce the likelihood of tearing at the junction of the two wing portions **26**. The ends of wings **26** at the narrow ends of closure means **24** are each provided with an integral L-shaped detent **28** which overhangs the concave side of the wing for reasons that will become apparent hereinafter.

As best seen in FIG. 5 a pair of reinforcing members **24** are arranged face-to-face with their main body portions **25** in contact and are then slid sideways into the region between the two shells **17** so that their body portions **25** bridge over the space between the two shells. When the closure means are so positioned their wings **26** overlap a marginal portion of the corresponding wings **16** of each shell **17** and also close one half of the open space between the side edges of each shell **17**. To facilitate the positioning of members **24** each wing **26** is bent slightly parallel to its edge to form a small step **29** spaced from the edge of the wing which is adapted to register with the edge of wing **16** when the members **24** are properly seated. Thus, when the two closure members **24** are positioned, they combine with the shells **17** to provide a pair of generally cylindrical downwardly-outwardly extending open-ended sockets each suitable for slidably receiving the upper end of a tubular leg **11**. The two closure members **24** of each joint member **12** are then permanently secured in place as by spot-welding them to the side edge margins of wings **16** at points **31** spaced therealong and to each other at points **32** so that the crossbar **10**, strap **15** and closure means **24** all form a rigid, integral unit.

Further under the invention and referring now to FIGS. 5 and 6, the end of each leg **11** for receiving into a joint member **12** is provided with an integral tongue extension **23**. Tongue extension **23** is generally triangular but is curved to conform to the curvature of the leg. In other words, it is spade-shaped. In assembling the gym, then, leg **11** is slid into a joint member **12** and is oriented so that its tongue extension **33** registers with pocket **22**. The shape and size of tongue **33** is such that it can be forced or wedged into the pocket to such an extent that its tip almost reaches point **18** at which time the tongue **33** is squeezed between the wall of member **10** and the wall formed by strap **15**. As mentioned previously, these two walls are curved about mutually perpendicular axes. Accordingly, different portions of the tongue **33** are deformed differently by said walls and due to the tongue's natural resilience it presses tightly or wedges against said walls thereby preventing the leg from pulling out of joint member **12** even when the play gym is rocked vigorously in use. Yet, each leg **11** is easily removed from its corresponding joint member **12** for disassembling the gym by simply striking the end of a crossbar **10** with a sharp upward blow which suffices to disengage the tongue **33** of the leg from its corresponding pocket **22** whereupon the leg can be slid completely out of its socket.

Still referring to FIG. 5, as mentioned previously each closure means **24** is formed with a pair of L-shaped tongue extensions or detents **28**. When the closure means are properly positioned on shells **17**, the detents **28** are seen to overhang the upper end of the sockets for functioning as a secondary safety means and also for limiting the distance to which the legs can be inserted into the sockets.

It will be appreciated from the foregoing then, that the instant outdoor play gym may be assembled and disassembled extremely quickly and easily by one person possessing no special tools. Further, there are no screws, bolts or other small parts to become broken or lost. In fact, the basic frame construction consists of only five separate parts each of which is in and of itself large and rugged. While the invention play gym, the legs are rigidly secured to the crossbar producing an extremely sturdy overall unit which does not pull apart when rocked or tilted. Yet, these legs may be readily removed when desider to knock down the play gym for storage.

It will thus be seen that the objects set forth above, among those made apparent from the preceding description, are efficiently attained and, since certain changes may be made in the above construction without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

I claim:

1. An outdoor play gym of the type requiring no nuts, bolts, or screws and the like to secure the legs thereto comprising: a generally cylindrical crossbar for supporting a swing; an elongated strap positioned cross-wise on said crossbar near an end thereof, said strap having an intermediate portion in conforming engagement with and secured to a circumferential wall portion of said crossbar and having opposite unengaged end portions bowed inwardly about the longitudinal axis of said strap thereby forming a pair of diverging opposing cylindrical shells, the portion of each of said shells adjacent said crossbar being generally saddle-shaped for defining a pair of wedge-shaped wells between said shells and opposite sides of said crossbar, said crossbar being curved about a horizontal axis, each said shell portion being curved about a different axis; closure means mounted between said shells, said closure means being arranged and adapted to form with said shells a pair of diverging, open-ended sockets, and an elongated leg having an end portion slidably received in one of said sockets, said end portion including an integral resilient tongue extension comprising a longitudinally curved sheet material element, said tongue extension being wedged into said well when said portion is received in said one of said sockets, and said tongue extension being deformed within said well to prevent the pulling out of the leg from said one of said sockets.

2. An outdoor play gym of the type requiring no nuts, bolts, screws and the like to secure the legs thereto comprising: a generally cylindrical crossbar for supporting a swing; a pair of similar elongated generally rectangular straps positioned cross-wise on said crossbar near opposite ends thereof, each of said straps having an intermediate portion in conforming engagement with and secured to a circumferential wall portion of said crossbar and having opposite unengaged end portions bowed inwardly about the longitudinal axis of said strap thereby forming a pair of diverging opposing cylindrical shells, the portion of each of said shells adjacent said crossbar being generally saddle-shaped for defining a pair of wedge-shaped wells between said shells and opposite sides of said crossbar; closure means mounted between said shells formed by each of said straps, each of said closure means including a pair of similar generally triangular rigid plates secured together face to face between said shells, said plates having pairs of opposed curved wings extending out from corresponding side edges thereof to and being

secured to opposite side edges of adjacent ones of said shells thereby forming with said shells pairs of diverging open-ended sockets at each end of said crossbar and four elongated legs said legs having end portions slidably received in said sockets, said end portions including integral resilient tongue extensions each of said extensions comprising a longitudinally curved sheet material element, said tongue extensions being wedged into corresponding ones of said wells and said tongue extensions being deformed within said wells to prevent the pulling out of said legs from their respective sockets.

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CLAUDE A. LE ROY, *Primary Examiner.*