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2,885,233

BOLTED TYPE CORNER FITTINGS

Filed March 9, 1956

3 Sheets-Sheet 1

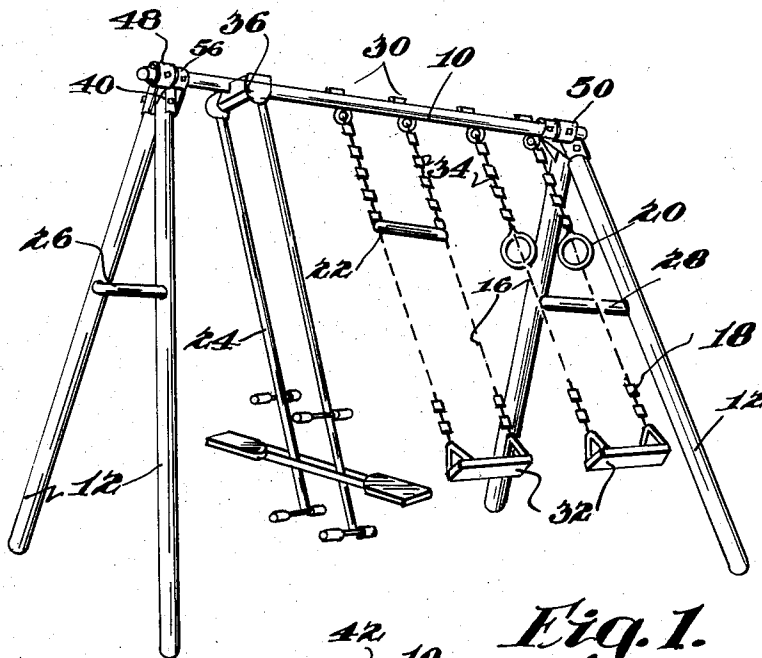


Fig. 1.

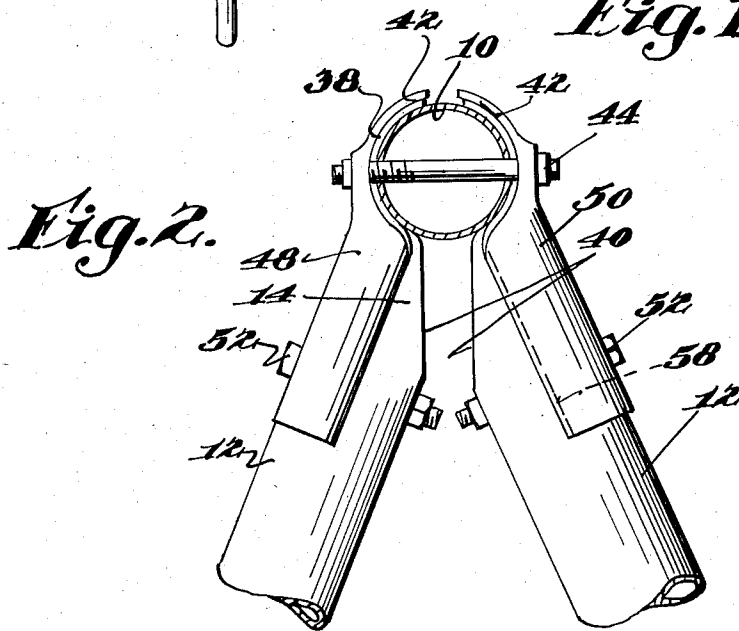


Fig. 2.

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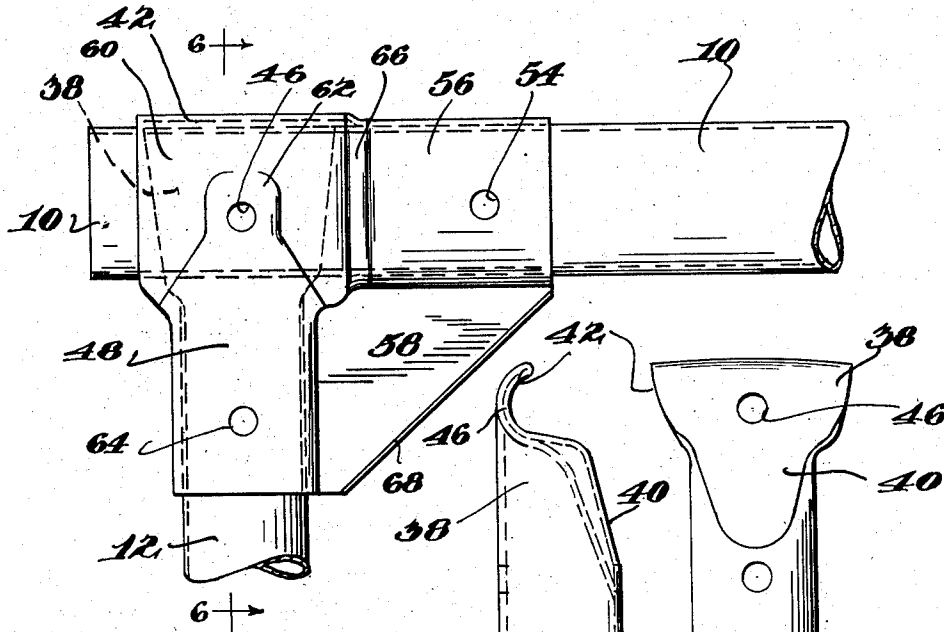


Fig. 3.

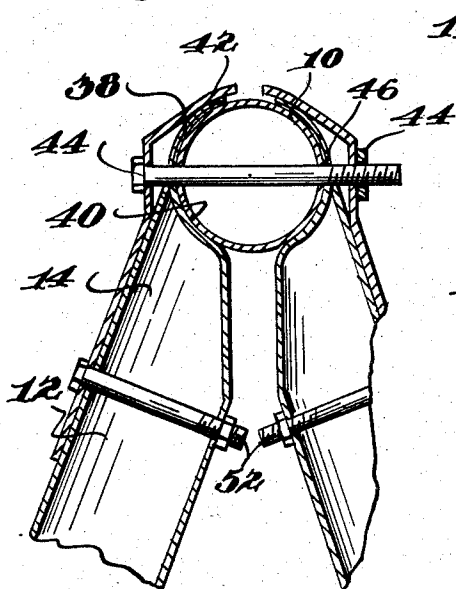


Fig. 4. Fig. 5.

Fig. 6.

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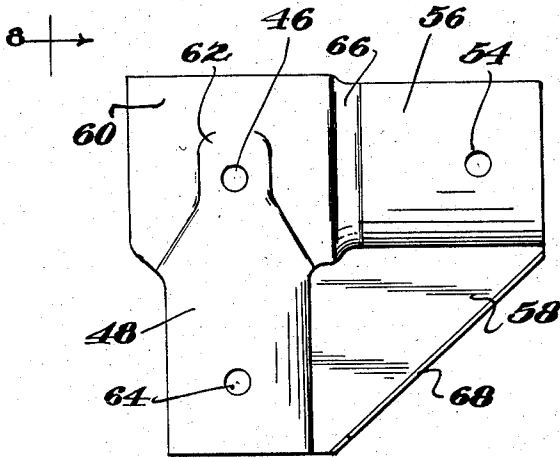


Fig. 7.

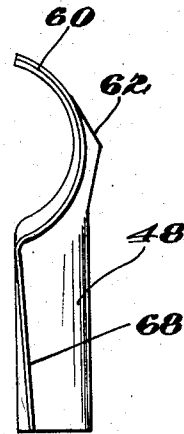


Fig. 8.

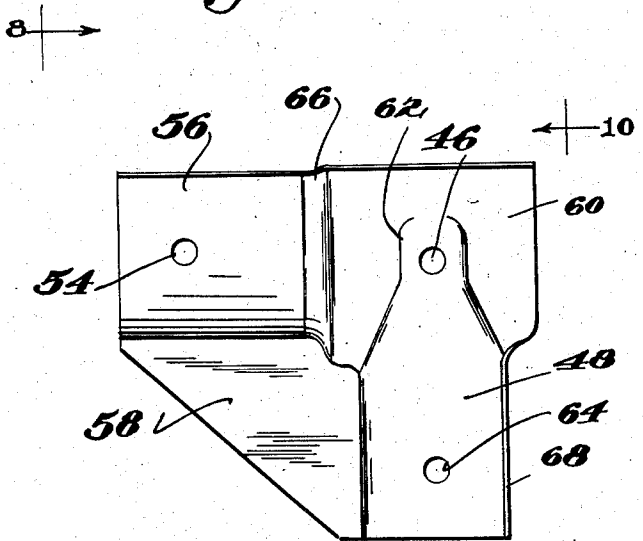


Fig. 9.

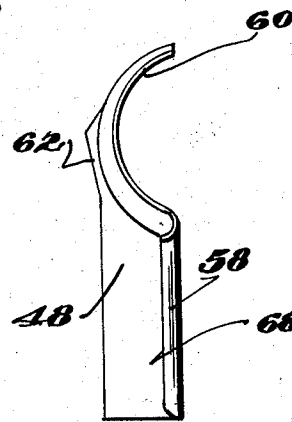


Fig. 10.

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BOLTED TYPE CORNER FITTINGS

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5 Claims. (Cl. 287—54)

This invention relates to a playground apparatus having a plurality of associated play units, but more particularly to a new bolted type corner fitting construction. The usual corner fittings, although somewhat sturdy, are difficult to properly assemble and relatively costly in manufacture. The subject invention overcomes the customary objections and criticisms experienced with most well known fittings by the provision of easily fabricated, interchangeable, separable malleable iron top fittings with a clamp type dual leg socket construction.

It is an object of this invention to provide pairs of separable half section fittings which, after assembly, have the appearance of a complete unit.

Another object is to provide these right and left half sections which are interchangeable to the extent that each pair may be used on either end of the apparatus without the necessity of exactness of pitch and angle to obtain a perfect fit of the component parts at the connections with the top bar and leg supports.

A further object is to give added strength to the device and the connections despite the use of the fabricated half section and specific top leg supports.

An additional object is to provide for the fabrication of the fittings so that, due to the formation of the pressed out bolt head seat construction, a tight clamping of the component parts is accomplished.

A still further objective is the provision of a doubled material overhanging lip construction on the top ends of the leg supports insuring strength at the engagements with the horizontal top bar of the apparatus.

Figure 1 is a perspective view of a playground apparatus to which a plurality of individual play units have been attached.

Figure 2 is a fragmentary vertical sectional view taken through the top horizontal bar.

Figure 3 is a side elevation of one of the half corner fittings shown applied to the top end of a leg support.

Figures 4 and 5 are fragmentary front and side elevations of a top of one of the leg supports.

Fig. 6 is a vertical sectional view of a pair of corner fittings, top leg supports at their connections with the top horizontal bar taken on the line 6—6 of Figure 3.

Figures 7 and 8 are detailed front and end elevations of the upper surface of one of the corner fittings, while

Figures 9 and 10 are similar views of the bottom of these fittings.

Other objects of my invention will be apparent in the detailed description to follow, taken with the above figures in the accompanying drawings.

In the drawings, where like reference characters denote like parts, the numeral 10 refers to the horizontal top bar tubing having appropriately drilled apertures. The converging leg supports 12 are provided with fabricated ends 14 for a purpose to be later explained. In the subject disclosure the play units include the swings 16 and 18, one having a pair of gym rings 20 and the other a short horizontal bar 22. Also shown is the sky scooter pumper 24 and the end acting bars 26 and 28, although it

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is contemplated that other types of play units may be used or substituted for the above. The swings 16 and 18 are secured to the horizontal bar by ball bearing hangers 30 and are provided with non-tiltable seat bracket constructions 32 and the lower ends of the galvanized chains 34. The pumper 24 is supported on the top bar 10 by a cross-bar device 36 having oil impregnated bronze bearings.

With particular reference to the salient features of the invention, in Figures 2, 3 and 4, the ends of the tubular leg supports are shown stamped and formed at 38 to conform to the contour of the top horizontal bar 10. A relatively flat surface 40 is formed on one side of each top end of the tubular legs, terminating with a pressed double thickness arcuate top bar engaging portion 42.

Apertures 46 are drilled through this top bar engaging lip 42 and threaded nuts and bolts 44 are adapted to securely maintain two half section fittings 48 and 50, the fabricated end leg supports 38 and the horizontal bar 10. It is to be observed that the ends of the supports and fittings are spaced from each other at these ends 42. To more securely maintain a rigid connection at these locations, threaded nuts and bolts 52 are received in the appropriate drilled apertures below the flattened surfaces 40 of the leg supports 12 and the pair of corner fittings 48 and 50. Another bolted connection is shown at 54 to additionally maintain the reduced section 56 of the fitting on the top bar and a flat plate portion or web 58 is shown connecting the two right angular supporting members 60.

Due to the spacing of the tops of the leg supports and their associated flattened surfaces 40, complete adjustment of the component parts is possible and with the bolts being located where they are it is very convenient to have the parts readily assembled and adjusted.

It can be understood that the fabrication of the ends of the supports into a doubled material thickness will strengthen these members and insure a rigid connection at the points of their engagement with the top horizontal bar. Further, the forming of the fittings into two half sections permits of easy assembly and adequate adjustment without effect upon the strength of their supporting functions and still present the appearance of single integral fitting units.

Another important factor is that the complete apparatus is to be separably packaged for shipment unassembled, some difficulty might be experienced in arranging and erection of the parts so the design, connections and simplicity of erection could be most important.

Through the refinement in the construction and design of the individual parts and the overall apparatus even a young person may assemble and adjust the entire device with the minimum of effort, and once erected, there is little danger of separation of the connecting parts. Naturally, this eliminates the necessity of constant attention and subsequent maintenance.

It is also to be understood, that due to the comparable forming of the bolted corner fittings, they are interchangeable and applicable to either end of the apparatus so in assembly, there is the minimum of care required in the selection of the fittings with respect to their connecting locations.

In the disclosures of Figures 7, 8, 9 and 10, where details of one of the half section fittings has been shown, it is to be noticed that the pressed out portions 62 form seats for the bolt heads 44. The lower vertical section 48 is additionally secured by bolts 52 in the apertures 64 extending through each of the circular tubings 12 at each of these locations.

With reference to the horizontal arcuate sections of the fittings it will be observed that the sections 60 are of a larger diameter than the sections 56 having a set

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back 66 therebetween. Although the formation of these sections are of a size to engage portions of the apparatus horizontal bar 10, due to the insertion of the lips 42 of the ends of the tubular leg supports 12 between the horizontal bar and the fittings, larger diameters are necessary at these locations and the radius of each section is centered at different points. This construction assembly is readily apparent in Figure 2. The flat plate web 58, having a right angular flange 68, presenting a strong rigid connection is clearly shown in Figures 7, 8, 9 and 10.

I claim:

1. In a clamp type fitting for playground apparatus having converging interchangeable tubular leg supports and connecting horizontal tubular bar, each of said tubular leg supports being fabricated to provide reduced horizontal end portions and double thickness arcuate horizontal bar engaging lips spaced from each other with spaced parallel flattened surfaces on their inner sides, means for connecting and securing said horizontal bar, leg supports and fittings at the junction of the component parts of said clamp type fitting, said means comprising threaded bolts and nuts received in opposed drilled apertures in said associated parts, said fittings comprising two half sections, each of which is provided with comparable vertical and horizontal semi-circular sections having flanged web portions therebetween, and additional means for securing said leg supports, horizontal bar and fittings comprising threaded bolts and nuts received in apertures in the lower vertical portions of said fittings, the reduced horizontal end portions of the fittings, and the horizontal bar and fittings.

2. Fabricated converging tubular leg members for engagement with a tubular supporting member, the ends of said converging leg members being stamped to present inner spaced parallel flattened surfaces terminating in arcuate double thickness lip tubular support engaging members, the component parts of said members being bolted, means for permitting easy installation and adjustment of said bolted component parts comprising spaced flattened surfaces and the ends of said arcuate lip support engaging members being spaced from each other, and means for connecting said members in rigid relationship comprising threaded nuts and bolts positioned in drilled apertures in said component parts and said fabricated converging leg members being interchangeable for application at either end of said tubular supporting member.

3. In a clamp type fitting for a playground apparatus having converging tubular leg supports and connecting horizontal tubular bar, each of said tubular leg supports being fabricated to provide double thickness arcuate horizontal bar engaging lips spaced from each other and spaced flattened surfaces on their inner sides, said flattened surfaces and adjacent vertical edges converging at angles

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of less than 180 degrees whereby when said pairs of leg supports are positioned the flattened surfaces of each tubular support will be parallel to each other, and means for connecting and securing said horizontal bar, leg supports and fittings comprising threaded nuts and bolts received in drilled apertures in said associated parts and said clamp fitting being interchangeable for application at either end of said tubular connecting bar.

4. In an interchangeable top corner fitting for playground apparatus having converging tubular end supports and a horizontal tubular bar, the combination of connecting and securing means therefor, each of said tubular end supports being provided with fabricated upper ends shaped to conform to the contour of the horizontal tubular bar, the ends of said supports being stamped to present double thickness arcuate horizontal bar engaging lips, threaded nuts and bolts received in opposed apertures in said end supports, tubular bar and pairs of half sectioned fittings adapted to partially enclose their connections whereby the appearance of a complete fitting unit is presented.

5. In an interchangeable top corner fitting for playground apparatus having converging tubular leg supports and a horizontal tubular bar, the combination of connecting and securing means therefor, each of said tubular leg supports being provided with fabricated upper ends shaped to conform to the contour of the horizontal bar, the ends of said leg supports being stamped to present double thickness horizontal bar engaging lips and the inner surfaces of said supports having flattened surfaces, said flattened surfaces and adjacent vertical edges converging at angles of less than 180 degrees whereby when said pairs of leg supports are positioned the flattened surfaces of each tubular support will be parallel to each other, threaded nuts and bolts received in opposed drilled apertures in said leg supports, tubular bar and pairs of half sectioned fittings adapted to partially enclose their connections whereby said associated members are maintained in rigid relationship and give the appearance of a complete integral fitting unit.

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