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(54) **Play structure for children**

(57) A play structure (1) for a child comprising a platform (2) as a base which can carry a changing mat, for example, on which a child can lie, has uprights (4,5,6) which support swinging beams (7,8,13,14,17) on flexible cords (9,12,15,16,18,19). The beams can carry toys, and the uprights are a push fit in the base so that they can be turned by an adult to move the beams to one side to clear the platform or can be removed for storage. The cord lengths are adjustable.

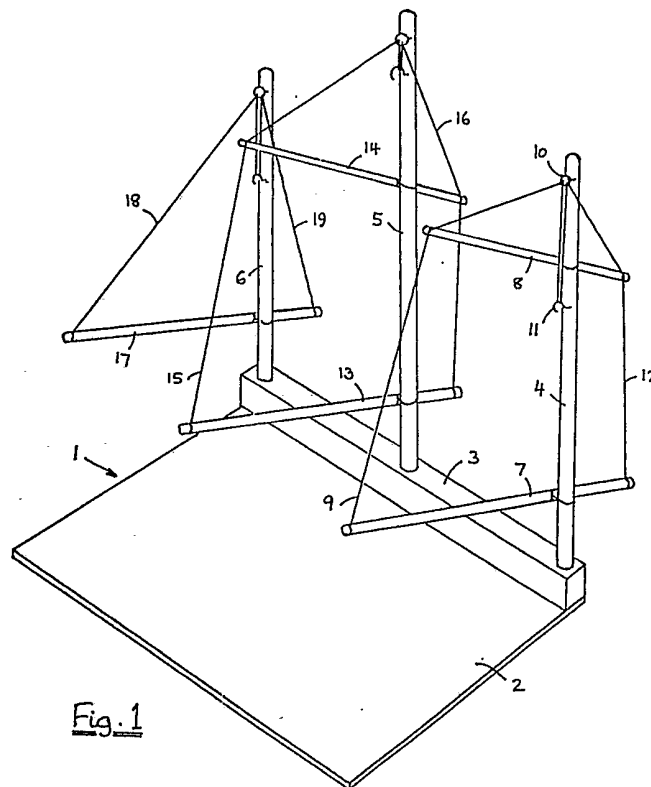
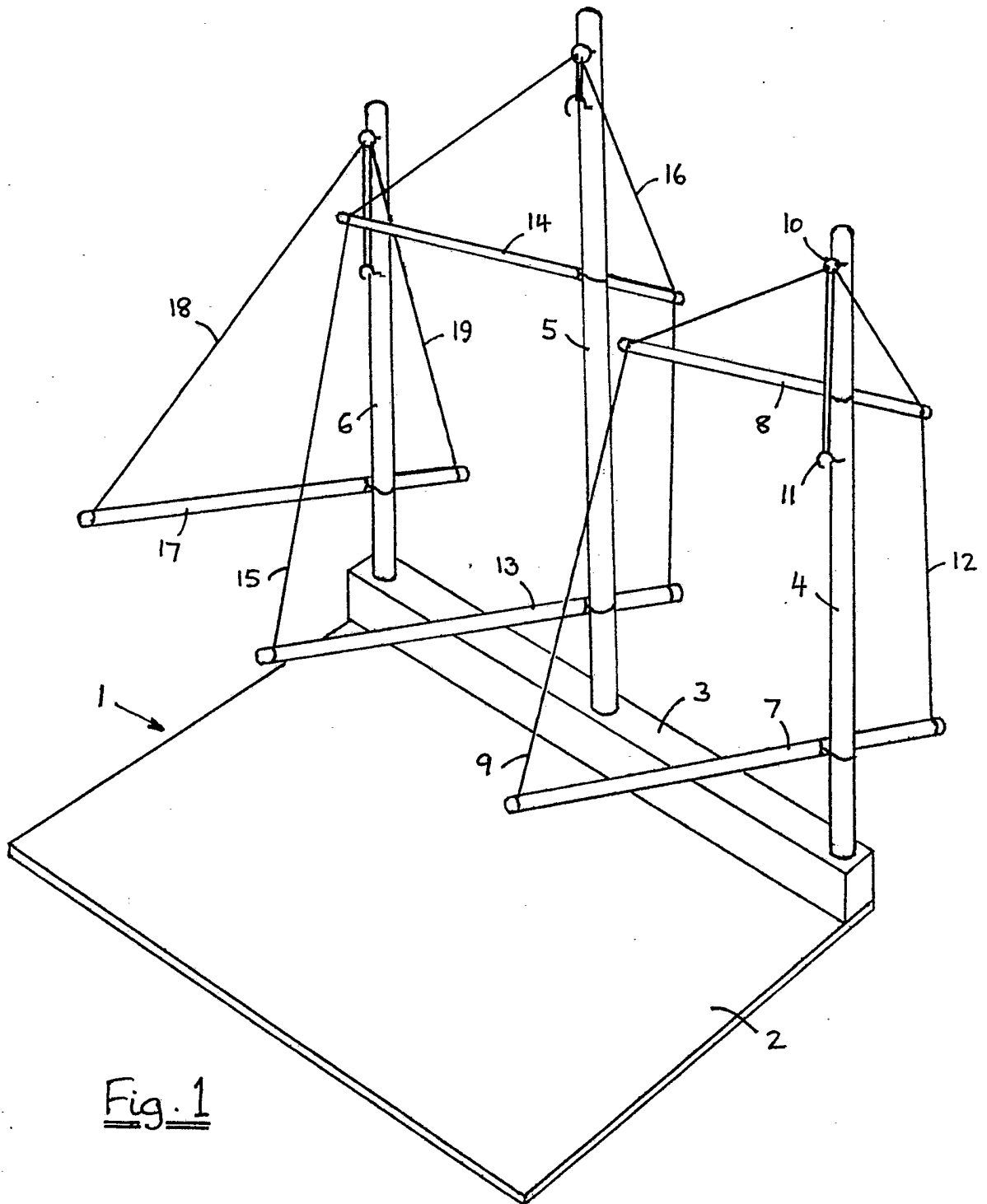


Fig. 1

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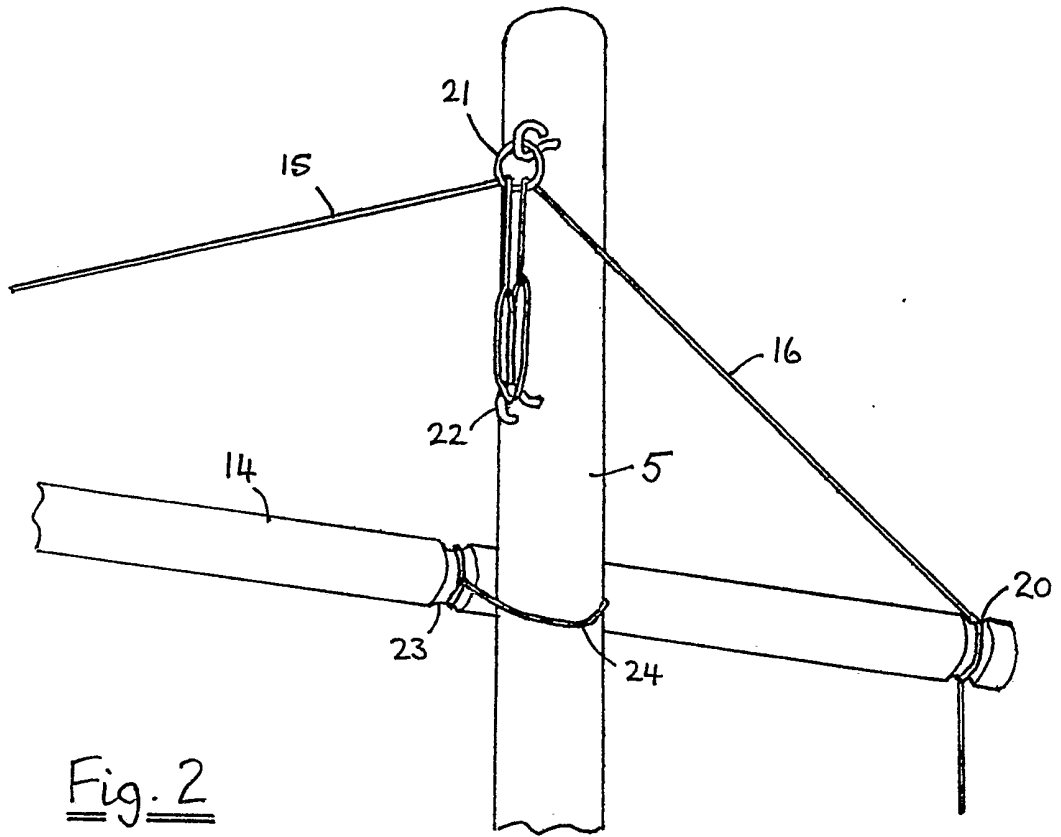


Fig. 2

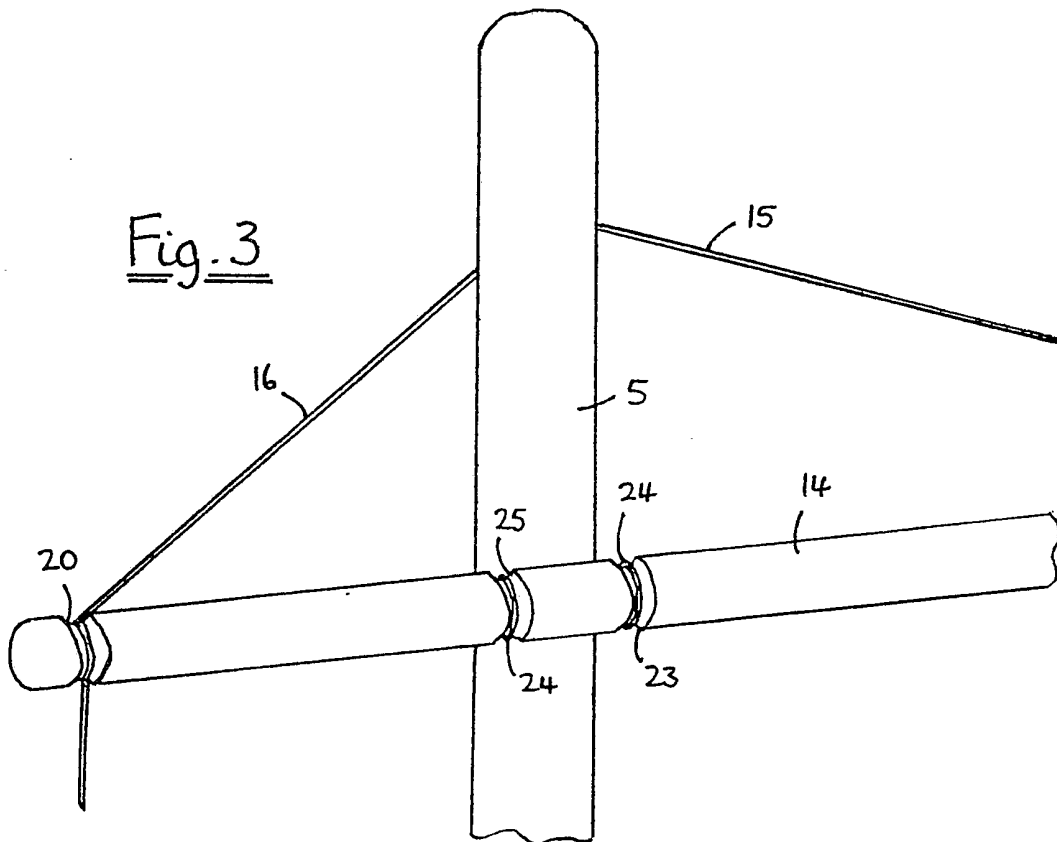


Fig. 3

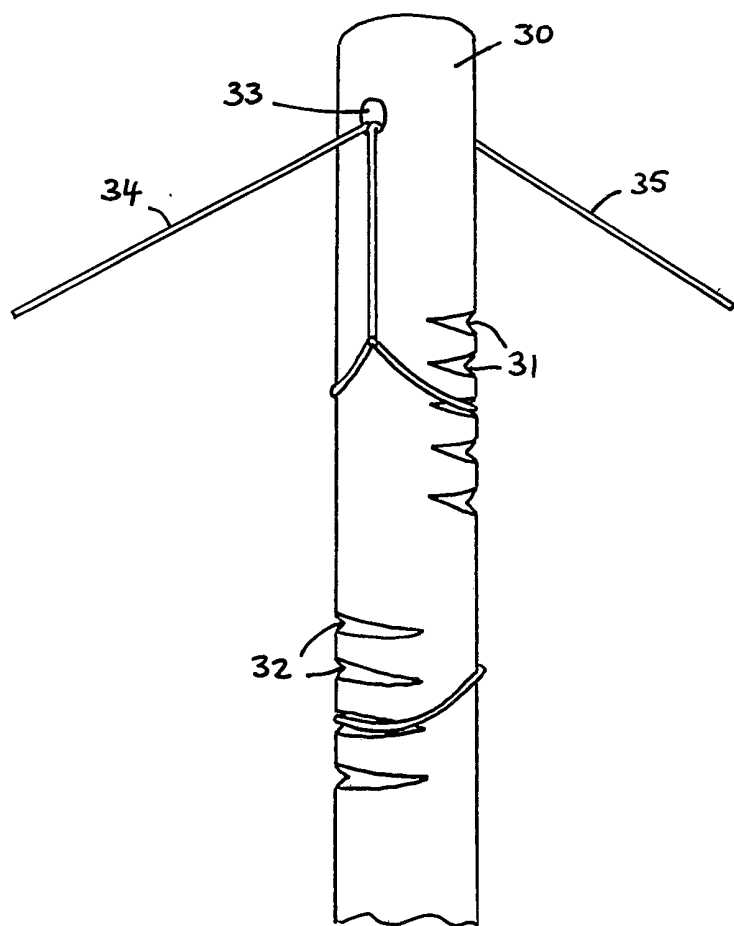


Fig. 4

## SPECIFICATION

**Play structure**

5 This invention relates to a play structure, especially to a play structure for young children, including babies and very young children.

It is an object of the invention to provide a play structure that can be used by young children including those that are too young to be able to sit or move about unaided. In one embodiment, the invention provides a changing bed on which a baby can lie and amuse itself while its clothes are being changed, and at other times.

10 According to the present invention there is provided a child's play structure comprising a stable base, at least one upright member extending upwardly from the base, and at least one beam alongside the upright member and extending outwardly therefrom suspended by flexible elongate suspension means extending from the beam to the upright member above the beam, the suspended beam being able to swing about the upright member above the base.

15 The beam may by virtue of its suspension be adapted to swing in a shallow generally horizontal arc, and may be set in motion by a child lying under the beam. The beam may optionally carry playthings, such as rattles, mirrors or soft toys, that can be suspended on or from the beam at will; but the swinging beam itself, which may be attractively shaped and/or coloured, may be sufficiently amusing and rewarding to amuse and divert the child.

The beam is normally suspended so that it has a lowest point of its arc of motion which it takes up as an equilibrium position, and so that upon horizontal displacement of the beam by the child the beam rises slightly, the weight of the beam and/or torsion in the suspension means resulting in a gentle bias tending to restore the beam to its equilibrium position. A relatively undamped, long period oscillation may ensue.

The stable base may include a platform area adapted to support a child. In a child's changing bed according to the invention, the platform area may carry a mat, such as a waterproof padded mat or mattress. The platform is suitably a board or the like, but may be discontinuous, for example comprising a plurality of slats. The beam may swing above the platform area. Then at least one upright may be mounted at or towards one side of the platform area.

A preferred play structure comprises a plurality of said upright members, each with at least one beam suspended as aforesaid.

Each said suspended beam is preferably suspended alongside the associated upright member by flexible elongate suspension means attached to the beam adjacent each end thereof. The beam may be tied to the upright to prevent substantial movement away from the upright, and is preferably tied to the upright also to prevent substantial longitudinal movement of the beam, so that movement of the beam is effectively limited to a generally horizontal swinging oscillation about the

upright, with a rise from the equilibrium position being permitted during the oscillation. The beam is preferably tied to the upright member asymmetrically, at a point closer to one end of the beam than the other.

A plurality of beams, preferably two, may be suspended from an upright member. Suitably upper and lower beams are so suspended on common flexible elongate suspension means, the upper beam being suspended by the same flexible suspension means as the lower beam, at a position on the suspension means intermediate between the lower beam and the upright member.

The length of the flexible elongate suspension means between the beam and the upright member is preferably adjustable.

Examples of the invention are illustrated in the accompanying drawings, in which:

*Figure 1* is a perspective view of a child's play structure;

*Figure 2* is an enlarged detail of the play structure;

*Figure 3* is a rear view of the detail of *Figure 2*; and

*Figure 4* shows means for adjusting the length of the suspension means.

As shown in *Figure 1*, a stable base 1 comprises a rectangular plywood board 2 and a wooden block 3 fastened thereon at one side of the board. Upright wooden rods 4, 5 and 6 are carried in sockets spaced along the block.

The rod 4 carries a lower beam 7 and an upper beam 8 suspended therefrom, each beam consisting of a length of wooden rod. A first length of nylon twine 9 is fastened to the lower beam 7 adjacent one end thereof, extends upwardly to the upper beam 8 to which it is fastened adjacent one end thereof, and continues upwardly and inwardly to an eye 10 screwed into the upright rod 4 near the top thereof. The twine passes through the eye and ends in a loop engaging a hook 11 at a lower position on the rod 4.

A second length of nylon twine 12 suspends in a similar manner the other ends of the upper and lower beams.

The upright rod 5 similarly carries a lower beam 13 and an upper beam 14 by means of lengths of twine 15 and 16.

The third upright rod 6 is provided with a single beam 17 suspended by means of lengths of twine 18 and 19 at a height corresponding to the height of the lower beams 7 and 13, in a generally similar manner except for the absence of an upper beam.

*Figures 2* and *3* show a detail of the suspension of the upper beam 14 on the rod 5, but are also generally illustrative of the suspension of all the beams on their respective rods. Each beam is necked adjacent each end and at two closely spaced asymmetric intermediate positions 23, 25 at which it is tied to its associated upright member. As shown in *Figures 2* and *3*, the twine 16 extending upwardly from the shorter end of the beam 13 is tied to the shorter end of the beam 14 at a neck 20 before passing through an eye 21 near the upper end of the rod 5 and then downwardly to end

in a loop engaged over a hook 22 screwed into the rod. The twine 15 is fastened similarly. The beam 14 is tied to the rod by means of a loop of twine 24 fastened between the intermediate necks 23 and 25  
5 in the beam and extending somewhat loosely around the upright rod, so that the beam is tied alongside the rod and has substantially no freedom of longitudinal movement, but can swing around the rod and move vertically upwards  
10 alongside the rod.

The twine can be adjusted in length between the rods and the beams, so as to alter the heights of the respective ends of the beams, either by tying fastening loops at different positions in the twine  
15 or by the provision of alternative fastening hooks at different heights on the upright rods. Other possibilities will be evident.

One such alternative is shown in Figure 4. In this case an upright rod 30 is provided with a through  
20 aperture 33 near its upper end. The aperture is wide enough to allow two lengths of twine 34, 35 to pass easily through. The lower ends of these lengths of twine suspend the ends of a beam or beams (not shown) on opposite sides of the rod,  
25 and the lengths of twine cross in the aperture. Two series of spaced apart notches 31, 32 below the aperture on opposite sides of the rod provide series of attachment points that can be engaged by loops  
30 at the upper ends of each length of twine. The notch to be used is selected according to the desired length of suspending twine between the rod and the beam.

While wood lends itself as a suitable material for constructing the base, upright members and  
35 beams, alternatives such as plastics materials and metals are also envisaged. Similarly, the elongate flexible suspension means is not limited to nylon twine.

The board 2 forms a suitable base for a mat or  
40 mattress. A baby, which is not normally able to use a child's toy of the 'activity centre' type, and for which suspended toys are generally only provided over a cot, perambulator or carry-cot, may lie on the mat or mattress on its back under the  
45 beams, and with its hands or feet set the beams swinging.

The upright rods 4, 5 and 6 are a push fit in the sockets in the block 3, so that they can be turned in or removed from the sockets if desired, but are  
50 not turnable in the sockets merely by swinging any of the beams. Thus they are removable for storage of the play structure; and they can be turned by an adult to move the beams away from the platform area when a child is to be laid on or lifted from the  
55 platform, and turned back to reposition the beams over the platform area while the child is on the platform.

#### CLAIMS

60 1. A child's play structure comprising a stable base, at least one upright member extending upwardly from the base, and at least one beam alongside the upright member and extending out-  
65 wardly therefrom suspended by flexible elongate

suspension means extending from the beam to the upright member above the beam, the suspended beam being able to swing about the upright member above the base.

70 2. A play structure according to Claim 1, wherein the beam is suspended in a manner permitting it to swing in a shallow generally horizontal arc.

75 3. A play structure according to Claim 1 or 2 wherein the beam is suspended so that it has a lowest point of its arc of motion which it takes up as an equilibrium position.

80 4. A play structure according to any one of the preceding claims wherein the beam has an equilibrium position, and upon displacement of the beam from the equilibrium position, the weight of the beam and/or torsion in the suspension means results in a bias tending to restore the beam to its equilibrium position, and relatively undamped,  
85 long period oscillations ensue.

5. A play structure according to any one of the preceding claims wherein the stable base includes a platform area adapted to support a child.

90 6. A play structure according to Claim 5 wherein the platform area carries a mat or mattress.

7. A play structure according to Claim 5 or 6 wherein the at least one upright is mounted at or towards one side of the platform area.

95 8. A play structure according to any one of the preceding claims wherein the beam is suspended alongside the upright member by flexible elongate suspension means attached to the beam adjacent each end thereof and extending to the upright  
100 member above the beam.

9. A play structure according to Claim 8 wherein the beam is tied to the upright member to prevent substantial movement of the beam away from the upright.

105 10. A play structure according to Claim 8 or 9 wherein the beam is tied to the upright member to prevent substantial longitudinal movement of the beam.

110 11. A play structure according to Claim 10 wherein the beam is tied to the upright member asymmetrically, at a point closer to one end of the beam than the other.

115 12. A play structure according to any one of the preceding claims wherein upper and lower beams are suspended from an upright member on common flexible elongate suspension means, the upper beam being at a position on the suspension means intermediate between the lower beam and the upright member.

120 13. A play structure according to any one of the preceding claims wherein the length of the flexible suspension means between the beam and the upright member is adjustable.

125 14. A play structure according to Claim 13 wherein the length of the flexible elongate suspension means is adjustable by means of a loop at one end of the suspension means being selectively engageable with one of a series of spaced apart notches in the upright member, and the suspen-  
130 sion means passes through an aperture in the up-

right member.

15. A play structure according to any one of the preceding claims comprising a plurality of said upright members, each with at least one suspended  
5 beam.

16. A play structure according to any one of the preceding claims wherein the at least one upright member is a removable push fit in a socket mounted on the base.

10 17. A child's play structure substantially as described with reference to any of the drawings.