

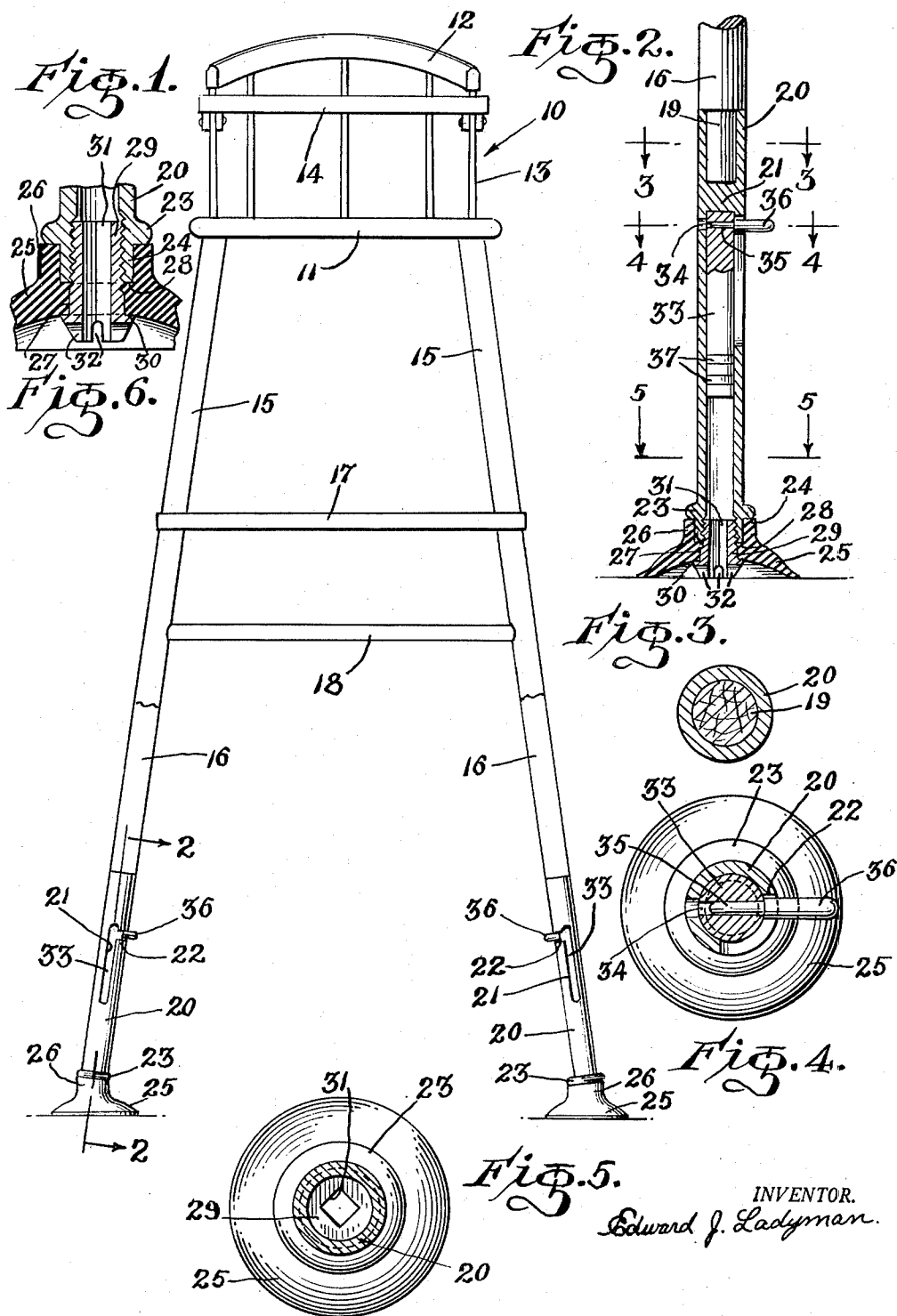
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SUCTION CUP CONSTRUCTION

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This invention relates to babies' highchairs.

It is an object of the present invention to provide an improved baby's highchair which cannot be tipped over by the baby whereby to prevent accidental injury to him or her.

It is another object of the present invention to provide an improved vacuum cup construction particularly adapted for use with baby highchairs although not limited thereto which will prevent the legs from tipping.

It is still another object of the present invention to provide an improved vacuum cup construction for the legs of highchairs or the like which may be retained in the locked position out of reach of the baby, but which may be easily and readily released to permit the movement of the chair when necessary.

Other objects of the invention are to provide an improved baby's highchair bearing the above objects in mind which is of simple construction, has a minimum number of parts, is inexpensive to manufacture and efficient in use.

For other objects and a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a front elevational view of the baby's highchair showing a preferred embodiment of the present invention in operative use on the rear legs thereof, portions of the front legs being broken away;

Fig. 2 is a vertical sectional view thereof taken along the line 2—2 of Fig. 1;

Fig. 3 is a transverse sectional view thereof taken along the line 3—3 of Fig. 2;

Fig. 4 is a transverse sectional view thereof taken along the line 4—4 of Fig. 2;

Fig. 5 is a transverse sectional view thereof taken along the line 5—5 of Fig. 2; and

Fig. 6 is an enlarged vertical sectional view of the vacuum cup and foot showing the relative relationship therebetween when the cup is not resting on the supporting surface.

Referring now more in detail to the drawing, 10 indicates generally a baby's highchair of any suitable design including the usual seat 11, the back 12, sides 13 and pivotally mounted retaining member 14 in the usual construction of such chairs. The seat 11 is supported on the usual diverging front legs 15 and the diverging rear legs 16, the legs being connected by the transverse braces 17 and 18.

In the practice of my invention, means are provided for preventing the tipping of the chair and in the following example are shown as provided at the lower ends of the rear legs 16 although it will be readily apparent that the construction is equally applicable to all four legs as well as other items for example tables on ships and passenger trains, ladders and the like, without departing from the spirit and scope of the invention.

As shown in Fig. 2, the rear legs 16 of wood or other suitable material are formed at their lower ends with the

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reduced shanks 19 onto which is fitted the hollow cylindrical upper end of the metallic tubing 20 integrally formed with the transverse wall 21 near its upper end on which the shank 19 is supported. The tubular elements 20 below the wall 21 are provided with the elongated vertical slots 21' provided at their upper ends with the lateral extensions 22 for a purpose which will hereinafter become clear.

The lower end of the tubular elements 20 are integrally formed with the laterally extending flanges 23 and are provided therebelow with the internally threaded bores 24.

A rubber suction cup 25 is provided for each of the tubular elements 20 and includes a hollow cylindrical shank 26 integrally formed therein which is adapted to be press fitted upwardly onto the tubular elements into abutment with the flange 23, the suction cups 25 being provided with the reduced bores 27 which form with the central enlarged bores of the hubs 26 the shoulders 28 adapted to support the lower ends of the tubular members 20.

An externally threaded foot 29 passes upwardly through the reduced openings 27 of the suction cups and is screwed into the internally threaded opening 24 at the lower end of the tubular elements 20, the feet 29 being integrally formed at their lower ends with the laterally extending flanges 30 which engage the undersurface of the suction cups 25 whereby to retain the same in engagement with the tubular members 20. The feet 29 are each provided with an angular bore 31 therethrough which connects the tubular members 20 with the interior of the suction cups, the flanges 30 being provided with a transverse intersecting slots 32 communicating with the angular bore 31. The slots 32 will facilitate the passage of air from within the suction cup upwardly into the tubular member, as will be obvious.

A cylindrical piston 33 is adapted for sliding movement within the tubular members 20, the pistons 33 at their upper ends being provided with a transverse opening 34 which receives therewithin the shank 35 of an enlarged operating handle 36, the handle 36 being slidable within the vertical slots 21' and the lateral extensions 22 thereof. Gaskets 37 are provided on piston 33 for flush and air tight engagement with the walls of tubular elements 20.

In operation, with the suction cups 25 resting on the supporting surface, and the pistons 33 positioned at the bottom of the tubular elements 20, the pistons 33 are drawn upwardly by means of the handles 36 which move within the slots 21' effecting a bicycle pump action and creating a vacuum below the pistons within the tubular members, the vacuum extending into the suction cups through the angular bore 31 of the feet 29. The pistons will be retained locked in their upper vacuum making position by means of the movement of the handles 36 and to the slots 22 to prevent the chair from tipping, the vacuum action being activated. It will be noted that the handles 36 are disposed out of reach of the occupant of the chair to prevent the child from releasing the vacuum. When it is desired to move the chair, it is only necessary to rotate the handles 36 from the extensions 22 into the slots 21' and to move the pistons 33 downwardly to the lower end of their stroke.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

Having thus set forth and disclosed the nature of my invention, what is claimed is:

1. A suction cup construction for the legs of tables, chairs or the like comprising elongated hollow tubular members secured to the lower ends of the table legs or

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the like, pistons reciprocal within said tubular members, each of said tubular members having an elongated slot terminating in its upper end with a lateral extension, pins fixedly carried by the upper ends of said pistons and adapted to ride within said slots and extensions thereof whereby to move said pistons; suction cups at the lower ends of said tubular members, and means for connecting said suction cups to the lower ends of said tubular members.

2. A suction cup construction according to claim 1, said last mentioned means comprising said tubular members at the lower ends thereof being integrally formed with laterally extending flanges spaced upwardly from the lower edges thereof, each of said suction cups being integrally formed with a cylindrical hub adapted to be fitted onto the lower ends of said tubular members in abutment with said flanges, said suction cups having reduced bores extending downwardly therethrough and forming with the bores of said hubs a shoulder supporting the lower edges of the tubular members, said tubular members at their lower ends being internally threaded, and externally threaded feet adapted to pass upwardly through said reduced bores into threaded engagement with said tubular members, said feet at their lower ends being formed with laterally extending flanges adapted to

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engage the undersurface of the suction cup, said feet having a bore therethrough connecting said tubular members with said suction cups.

3. A suction cup construction for the legs of tables, chairs or the like comprising hollow tubular elements extending downwardly from the lower ends of the legs, piston means within said tubular portions, means for raising and lowering said piston means and for locking the same in an upper position, and suction cup means at the lower ends of said tubular elements adapted to be operative upon upward movement of said pistons, and means for connecting said suction cups interiorly to the lower ends of said tubular elements.

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