July 30, 1963 R. E. WILLIAMS ETAL 3,099,484

MECHANICAL CONTOURED NURSERY SWING SEAT CONSTRUCTION

Filed June 15, 1960

FIG. 3

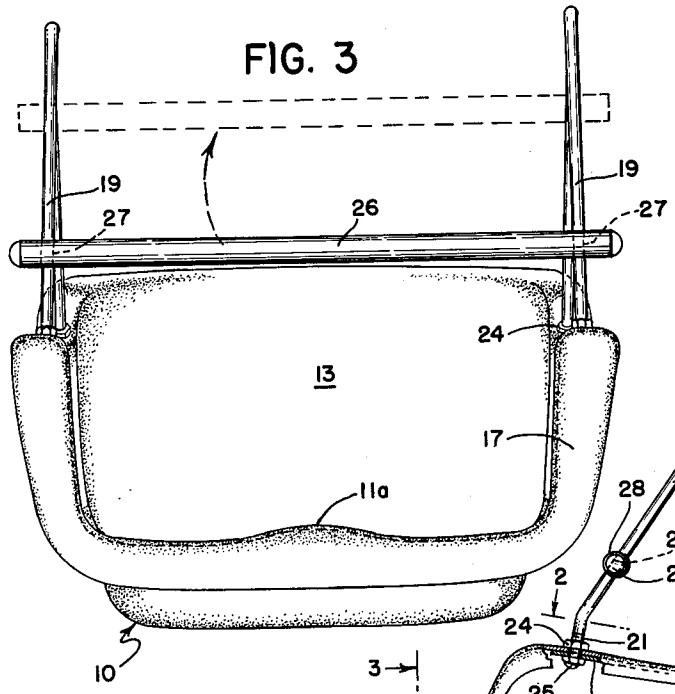


FIG. 1

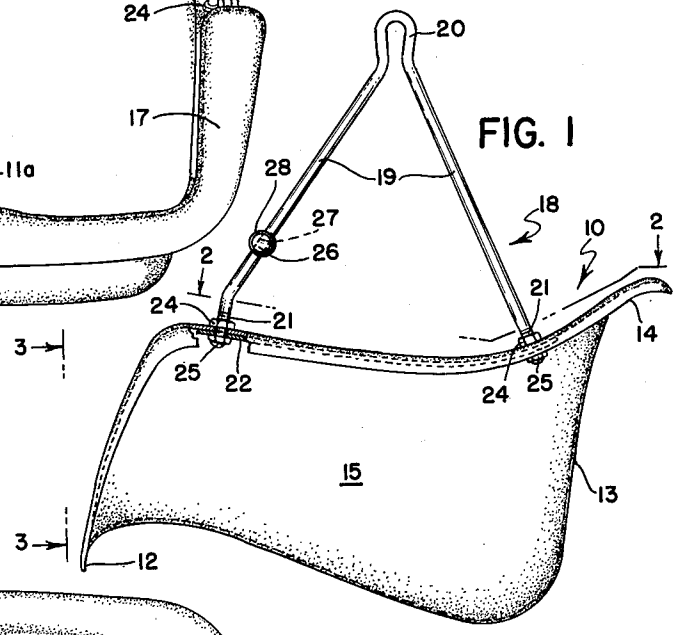


FIG. 2

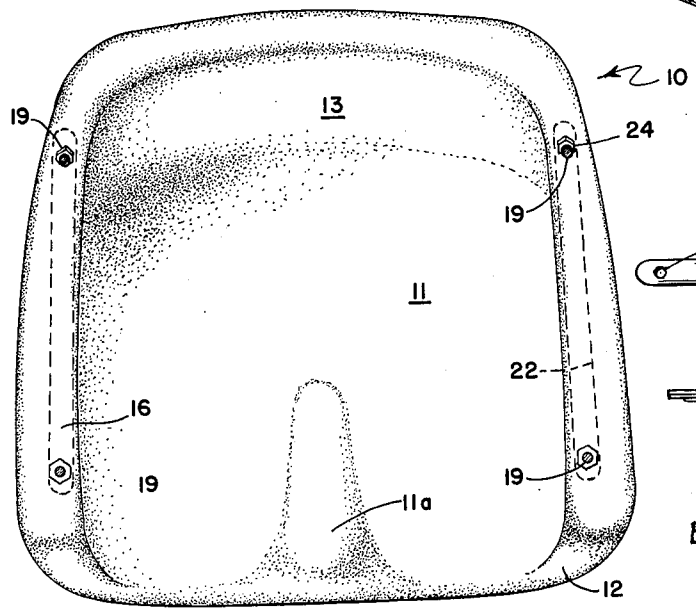


FIG. 6

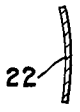


FIG. 4

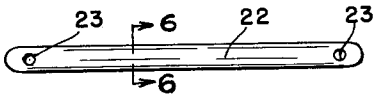
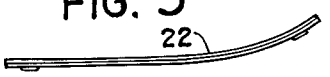


FIG. 5



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United States Patent Office 3,099,484 Patented July 30, 1963

3,099,484

MECHANICAL CONTOURED NURSERY SWING SEAT CONSTRUCTION

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Filed June 15, 1960, Ser. No. 36,435
1 Claim. (Cl. 297—280)

This invention relates to swing structures and more particularly to swing seat constructions for use for small preschool age children.

An object of this invention is to provide a novel contoured swing seat, of simple and inexpensive, but durable construction, for use in supporting small children.

Another object of this invention is to provide a novel and improved contoured nursery swing seat rapidly usable for small and pre-school age children and which is shaped and anatomically contoured to provide a safer and more comfortable ride than any heretofore known comparable swing seat devices.

A further object of this invention is to provide novel and improved anatomically contoured swing seat, designed to assure maximum strength and durability, including rigid suspension members arranged and constructed to cause a load exerted on the swing seat to be evenly distributed thereon when the swing seat is in load-bearing condition thus assuring a long life to the swing seat.

A further object of this invention is to provide an anatomically contoured seat which may be fitted with legs and used as a play chair for small children and other similar uses.

These and other objects and advantages of my invention will more fully appear from the following description made in connection with the accompanying drawings wherein like reference character refer to the same or similar parts throughout the several views and in which:

FIG. 1 is a side elevational view of the novel contoured swing seat construction;

FIG. 2 is a top plan view of the contoured swing seat construction taken approximately along line 2—2 of FIG. 1 and looking in the direction of the arrows;

FIG. 3 is a front elevational view of the novel contoured swing seat taken along a line 3—3 of FIG. 1 and looking in the direction of the arrows;

FIG. 4 is a top plan view of the attachment and reinforcing member;

FIG. 5 is a side elevational view of the attachment and reinforcing member; and

FIG. 6 is a cross-sectional view taken approximately along line 6—6 of FIG. 5,

Referring now to the drawings it will be seen that our novel contoured nursery swing seat, designated in its entirety by the reference numeral **10**, is of integral construction, as best seen in FIGS. 1 to 3. The contoured swing seat **10** is preferably molded from strong durable Fiberglas reinforced plastic to present a rather light, but highly durable structure. This Fiberglas reinforced plastic, which is impervious to water, will not conduct or retain heat, and is therefore ideal for outside use. In the preferred embodiment the nursery swing seat **10** will be colored and the color will be molded into the seat, thus giving the swing seat a very pleasing appearance throughout the life of the swing seat.

This contoured nursery swing seat **10** includes a seat portion **11** which is inclined downwardly and rearwardly and has a downwardly and outwardly curved front flange **12**, as best seen in FIGS. 1 and 3. The swing seat **10** also includes a back rest portion **13** which is integrally formed with the seat portion **11** and extends upwardly adjacent the rear thereof and terminates in an outwardly and rearwardly flared peripheral flange portion **14**.

Side portions **15** are integrally formed with the back rest portion **13** and seat portion **11** and extend forwardly from the back rest portion and upwardly from the seat portion **11**. These side portions **15** have outwardly turned upper peripheral flange portions **16** which actually define arm rests as best seen in FIG. 2 and the side portions also have outwardly turned but vertically disposed peripheral flange portions **17** which are continuous with the front flange portion **12** of seat portion **11**. The outwardly flared upper peripheral flange portions **16** are continuous with the front flange portions **17** of the side portions and also continuous with the peripheral flange portion **14** of the back rest **13**. It will therefore be seen that while the nursery swing seat **10** is of integral construction a continuous outwardly curved peripheral flange is provided to thereby insure comfortable use of the swing seat by small children.

Means are provided for connecting the nursery swing seat **10** to conventional depending chains which are secured to a swing frame structure so that the swing seat may be moved in oscillating fashion relative to the supporting structure. These interconnecting means comprise rigid suspension members **18** which, as best seen in FIG. 1, are of rigid, substantially inverted V-shape construction. In the preferred embodiment the suspension members **18** are preferably formed from cold rolled steel rods which are cadmium plated for appearance and long life and each of these suspension members includes a pair of diverging legs **19** connected by a small loop or bight portion **20**. The lower ends of the legs **19** are threaded as at **21** as best seen in FIG. 1.

A pair of elongate reinforcing and attachment members **22** preferably formed of galvanized steel or the like are disposed in abutting relation beneath the undersides of the arm rests **16**. Each of these attachment members **22** is secured to its associated suspension member **18** adjacent the lower free ends of legs **19** thereof. It will be seen that each of the attached members **18** is provided with apertures **23** adjacent each end thereof and these apertures are arranged in registering relation with corresponding apertures formed in the arm rests **16** to thereby permit the legs **19** of each of the suspension members **18** to extend therethrough. A lock nut **24** of conventional hexagonal configuration cooperates with a stop nut **25** to secure the lower threaded ends of suspension members **18** to the reinforcing and attachment member **22** and the arm portion **16** of the swing seat **10**. It will be seen that the suspension members **18** are connected to their associated arm rest portions **16** at widely spaced points therealong and each of these suspension members cooperates with its associated reinforcing attachment member **22** to reinforce the arm rest along their entire longitudinal extent. These members **22** are of curved cross-sectional configuration and each has an upwardly curved rear portion to cooperate with the correspondingly shaped portion of the arm rests **16**.

The contoured nursery swing seat **10** is also provided with a retaining bar **26** which extends between and is slidable on the suspension members **18**. This elongate safety retaining bar is preferably formed of hardwood, the ends of which are provided with suitable apertures **27** through which extend the forwardmost legs **19** of each of the suspension members **18** so that the retaining bar **26** is mounted on the suspension members for vertical sliding movement relative thereto. It will also be noted that retaining bar **26** is provided with a cover **28** of heavy linear polyethelene which may be peppermint striped or otherwise colored for added appearance and appeal.

This uniquely constructed contoured nursery seat is especially safe and anatomically contoured for use by small children. When the swing seat **10** is in use, it will

be suspended for support by conventional chains which will be connected to the bight or loop portion **20** of each of the suspension members **18**. These uniquely constructed inverted V-shaped suspension members **18** actually cause the load exerted on the swing seat, when the latter is in load-bearing relation, to be evenly distributed thereon so that the swing seat will be subjected to even wear, thus insuring a maximum durability and much longer life.

It is also pointed out that not only are the arm portions **16** reinforced throughout their respective lengths by the cooperative relation between the reinforcing and attachment member **22** and the suspension members **18**, but the entire side portions **15** are reinforced by means of the retaining bar **26** which extends between the suspension members **18**. The diverging leg portions **19** of each suspension member are rigidly interconnected by their associated bight or loop portions and since the retaining bar **26** extends between the forwardmost of these legs **19**, the rearmost parts of the side portions **15** will also be reinforced and load stresses will be transferred evenly from the swing seat to the suspension member and thereafter to the associated suspension chains.

The seat portion **11** is provided with an elevated central front portion **11***a* as best seen in FIGS. 2 and 3 and the rearwardly inclined configuration of the seat portion **11** cooperates with the central portion **11***a* to eliminate any tendency of the child to slip forwardly from the swing seat during oscillation thereof. The rearwardly sloping seat which terminates in an upwardly and outwardly curved back rest portion cooperates with the side portions to not only present a safe, durable construction, but one in which the child may enjoy a more comfortable ride than any heretofore known swing seat construction.

It will be noted that the various portions of the seat **10** generally curve and blend together so that there are no sharp corners, and as pointed out above, the swing seat is shaped and contoured to also eliminate any tendency of the child to be accidentally displaced therefrom.

It will therefore be seen from the foregoing description that we have provided a nursery swing seat which is readily usable by small children and is arranged and constructed to function in a more efficient and safe manner than any heretofore known comparable devices. It will be noted that the uniquely constructed nursery swing seat is not only of light, durable construction, but also presents a highly pleasing appearance. It will therefore be seen from the preceding paragraphs that we have provided a novel nursery swing seat which will provide small children many hours of pleasure.

It will, of course, be understood that various changes may be made in the form, detail, arrangement and proportion of the parts without departing from the scope of our invention which consists of the matter described herein and set forth in the appended claim.

What we claim is:

Nursery swing seat construction comprising a contoured swing seat integrally formed of plastic material including a seat portion having a downwardly curved front peripheral flange portion, a back rest portion integrally formed with said seat portion and extending upwardly therefrom and having an outwardly turned peripheral flange portion, side portions extending upwardly from opposite sides of said seat portion and being integrally formed therewith and extending rearwardly and continuously with said back rest portion and being integrally formed therewith, said side portions having outturned peripheral flange portions being continuous with said seat portion flange portion and said back rest flange portion and each of said side portion peripheral flange portions defining arm rests, a pair of spaced apart inverted V-shaped, rigid suspension members being fixedly connected with said arm rests and extending upwardly therefrom and each of said members being adapted to be connected to a swing support for swinging movement relative thereto, and an elongate retaining bar extending between and having its ends slidably mounted on said suspension members for vertical sliding movement relative thereto, and a pair of elongate attachment and reinforcing members disposed along the under side of said arm rests and being connected with said suspension members, said attachment members cooperating with said suspension members and said retaining bar for imparting rigidity to said arm rests throughout their respective lengths and to said side portions.

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