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UNDULATORY MERRY-GO-ROUND

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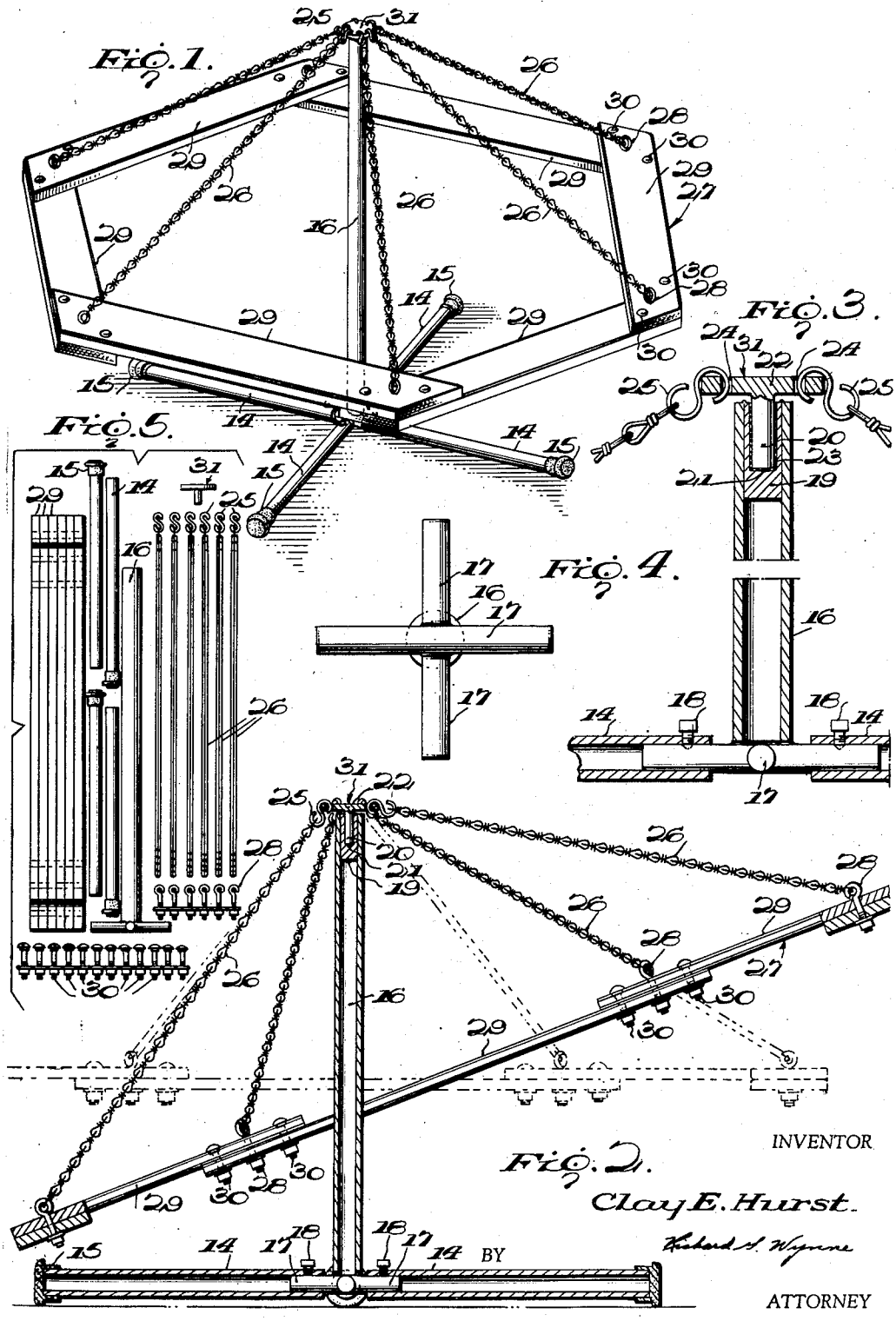


Fig. 1.

Fig. 3.

Fig. 5.

Fig. 4.

Fig. 2.

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UNDULATORY MERRY-GO-ROUND

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1 Claim. (Cl. 272—33)

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My invention pertains to a piece of play equipment operable as an undulatory merry-go-round, as a non-undulatory merry-go-round and as a seesaw.

As is well appreciated by those skilled in the play equipment art, the feature of paramount importance in this field is that of safety for the children. Because of this, the prior art is replete with developments along this line which have added safety guard rails and similar bulky attachments to play ground equipment. This necessarily raises the cost of the equipment beyond the reach of individual families and has not materially reduced the play ground accident rate. A large number of the accidents are caused by children standing on seats which were designed for sitting only, this being an especially inherent hazard of present merry-go-rounds since the seat supporting members rise almost vertically from the seat. By my invention I have eliminated this danger by the provision of a seat supporting unit which is at an angle such that the assuming of a standing position is not only discouraged, but is substantially impossible. This is accomplished by the provision of a low center post from the top of which a plurality of seat supporting means outwardly depend at a relatively small angle to the ground as compared to the prior art devices. By this arrangement the only position assumable by the average child is the sitting position.

Along with the advancement of child safety, my device also fulfills a need of the individual family for a truly entertaining piece of play equipment which combines the features of portability, inexpensiveness, and minimum space requirements so important to the city dweller. As will be explained hereinafter, my invention is uniquely designed for quick assembly and disassembly and has a minimum number of parts storable in a small carton which reduces to a minimum the costs of manufacture, packaging, transportation, storage, and merchandising. It is a versatile device usable indoors and outdoors, at home and on outings.

The various objects and features of my invention will be fully apparent from a consideration of the following description when taken in conjunction with the accompanying drawing wherein:

Fig. 1 is a perspective view showing my invention in assembled condition;

Fig. 2 is a vertical section showing my device in tipped condition and in dotted lines in a horizontal condition;

Fig. 3 is an enlarged view with part of the center post removed showing the head piece, bearing means and the leg attachment means;

Fig. 4 is a bottom view of the center post showing the cross structure thereof; and

Fig. 5 is a view of the parts which form my device showing the feature of compactness of my invention which facilitates storage and transportation thereof.

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As seen in the drawing my invention comprises base means made up of four leg members 14 having rubber surface-engaging tips 15 and connected to a vertical center supporting means 16. The center post 16 has three bar stock elements 17 welded to its base over which are slid the leg pipes 14. Suitable attaching means, such as lugs 18 detachably secure the leg pipes to the bar stock elements 17 which form a cross structure. The center post 16 extends vertically upwardly preferably about three to four feet and is provided with an integral bearing 19 at its top portion. Depending into this bearing is a bearing pin 20 which has a bearing face 21 and is integrally attached to an upper supporting disc or plate 22 forming a headpiece 31. Between the bearing 19 and the bearing pin 20 there is advantageously provided a film of grease 23 to facilitate rotation. The supporting disc 22 has six holes 24 therein through which pass suitable chain connecting means such as the hooks 25. Extending downwardly and outwardly from the supporting disc 22 are six seat supporting chains 26, which are pivotally connected to a seat structure 27 by means of eye bolts 28. These elements make up the seat supporting members.

The seat structure 27 is hexagonal in shape and is made up of six similar elements 29 properly arranged and overlapped to provide seat sections of two different heights. The seat elements 29 are rigidly connected together by means of two carriage bolts 30 and an eye bolt 28 at each joint.

It will be readily seen, therefore, that my invention combines simplicity of design with ruggedness of structure in a novel and economical manner and provides a new and distinct type of undulatory merry-go-round exceptionally safe to operate. The safety feature of my device will be readily appreciated by an examination of the drawing for it will be noted that the hexagonal seat structure causes the joint of the seat elements 29 to hit the ground before dangerously approaching the center post 16 and before the child's legs dangerously approach the ground. Also it will be noted that the low center post along with the large angle between opposing

chains afford great stability and eliminates the need for a safety rail inwardly of the seat.

As is evident from Fig. 2 my invention may be used as a seesaw since one side of the seat structure **27** may be elevated up to and even above the center post **16**. Also, as evident from Fig. 1, it may be operated as a non-undulatory merry-go-round. By combining these movements, children are able to rotate swiftly and climb to and fall from an elevation equal to the height of the center post. Such operation is not possible with prior art devices since the center posts are usually nine to twelve feet in height and the angle between opposing seat supporting members is relatively small, that is, on the order of about 55 to 70 degrees, whereas in my device the center post is between about three to four feet in height and the angle between opposing chains is relatively large, that is, on the order of about 90 to 120 degrees or more. In a sense, therefore, the great stability and uniqueness of my invention stems in part from a particular structural arrangement, the criterion being that the seat structure be vertically pivotable in a manner such that the upper portion thereof substantially attains the height of the center post. In other words, the seat structure is annularly connected to the seat supporting means to surround the center post at a distance therefrom and a height thereto such that upon vertical pivoting of the seat structure the upwardly disposed portion thereof substantially attains the height of the bearing means on the center post.

The seat elements **29** are reversable, thereby permitting either side to be used as the top surface. Also the lapped type seat structure simultaneously accommodates children of different leg lengths without the necessity of raising or lowering the seat structure by connecting higher or lower chain links to the eye bolts. The three bolts at each seat joint prevent either a twisting or a cupping warp by clamping the boards across the grain from each other. Also the connection of the eye bolt directly to both boards insures maximum strength and supportability. The seat boards are thus more secure than if they were connected to the chain through an intermediate wood member as in a flat seat design.

It will be appreciated that my undulatory merry-go-round is easily balanced for use by two, three, four or six children and the intrinsic stability enables five or more than six children to be balanced without difficulty. This may be best emphasized by the fact that a parent may ride my device with his child, since as the child moves outwardly and upwardly, the net restoring moment of the child is great due to the comparatively large lever arm. This emphasizes the lack of criticality in the placement of several children on the seat structure for the obtaining of satisfactory balance.

As seen in Fig. 5, my device is adaptable for packaging in a relatively small, long, narrow carton for storage or transportation.

While I have described a typical preferred form and application of my invention, I do not wish to be limited or restricted to the specific details herein set forth, but wish to cover all changes and modifications which do not constitute departures from the spirit and scope of the invention.

I claim:

A portable, knockdown, undulatory merry-go-round capable of rotating motion, see-saw motion, and a combination thereof constructed of parts which in knockdown condition form a small package, comprising a vertical center post, a bearing in the top of said center post, a horizontally disposed cross member rigidly secured to the bottom of said center post, horizontal pipe legs detachably secured to said cross member, a head piece having a bearing pin rotatably positioned in said bearing and an upper horizontally disposed supporting disc positioned above said center post, six flexible seat supporting members pivotally connected to said head piece for vertical movement with respect thereto, and a hexagonal seat structure having straight seat elements joined together at their ends in overlapped relationship to provide alternate high and low seats annularly of said center post, said seat structure being connected at the junctions of said straight seat elements to the lower ends of said flexible seat supporting members and vertically positioned about half way between the ends of said vertical center post, said supporting members being of a length to form an angle between diametrically opposed supporting members of about 90° to 120° to enable one of the occupants to rise to a position above the top of the center post.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
438,315	Hall	Oct. 14, 1890
444,585	Ullven	Jan 13, 1891
1,590,387	Clayton	June 29, 1926
1,927,682	Edwards	Sept. 19, 1933
2,516,049	Evans	July 18, 1950
2,560,703	Sebel	July 17, 1951