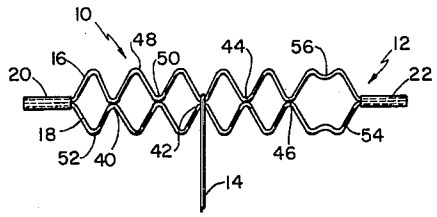
July 13, 1965 C. A. FOWLER, JR 3,194,558

WHIRLING AMUSEMENT DEVICE

Filed Sept. 10, 1963

FIG. 1



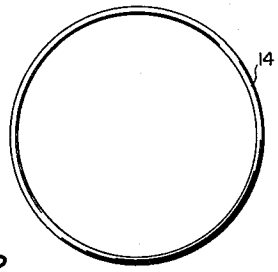




FIG. 2

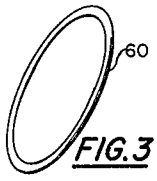



FIG. 3

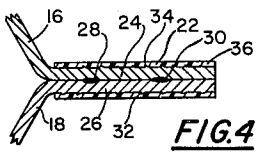



FIG. 4

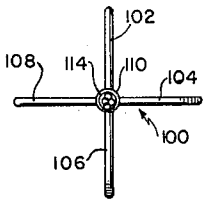



FIG. 7

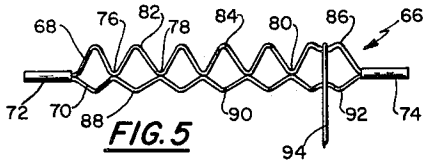



FIG. 5

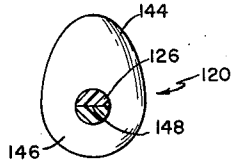



FIG. 9

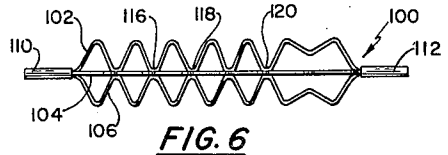



FIG. 6

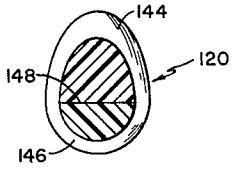



FIG. 10

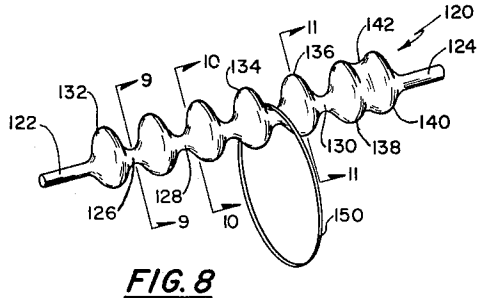



FIG. 8

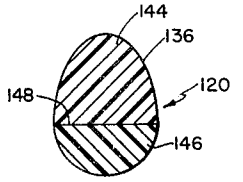



FIG. 11

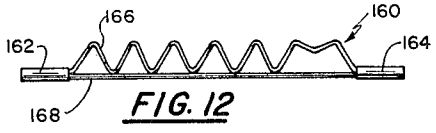



FIG. 12

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United States Patent Office 3,194,558 Patented July 13, 1965



3,194,558

# WHIRLING AMUSEMENT DEVICE

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Filed Sept. 10, 1963, Ser. No. 307,940
14 Claims. (Cl. 273—109)

This invention relates to new and useful improvements in whirling-type devices of the type wherein the skill of the operator employing the same is largely determinative of the degree of success attained in achieving certain objectives, such as may be useful for educational purposes, as a toy, for pitting the skill of one person as an operator against the skill of another person for contests, games and the like; and this invention more particularly pertains to a device of such character wherein a closed loop is caused to whirl about an elongated member that can be grasped and manipulated by the operator at its opposite ends.

Numerous devices have heretofore been proposed as games, toys and the like of such character as to involve an elongated member provided with handles at its remote extremities, together with the provision of one or more objects disposed movably on the intermediate extent of the member in an arrangement such that such object or objects can be caused to perform in a predetermined manner on appropriate manipulation of the elongated member.

Exemplary of such prior proposals are the devices disclosed in U.S. Patent No. 1,206,602, granted November 28, 1916, to Scott, for Revolving Toy; U. S. Patent No. 2,596,688, granted May 13, 1952, to Hinsen, for Spiral Game; U.S. Patent No. 2,877,597, granted March 17, 1959, to Brant, for Gravity Actuated Whirling Ring Toy; and somewhat related proposals such as disclosed in U.S. Patent No. 742,397, granted October 27, 1903, to Day, for Puzzle; and in U.S. Patent No. 2,423,198, granted July 1, 1947, to McClure, Jr., for Mechanical Toy.

For the most part, as consideration of the previously mentioned patents will show, toys, games, educational and amusement devices of the same very general character of the instant invention involve the elongated member being constituted of a helical length of wire, or an elongated solid object having a helical groove or tooth along its length. In some instances, the groove or tooth extends about only a portion of the periphery of the elongated solid object.

Furthermore, the loop or loops employed in conjunction with the elongated members of the prior art are usually such that the interior configuration of the same is circular, whereas such specific internal configuration is but one of many internal configurations that can be employed in practicing the instant invention. Furthermore, the loops of the prior art devices have internal dimensions such that for the most part are less than the overall transverse dimensions of the elongated member, whereas in contrast to such prior art devices the loop of the instant invention has a maximum transverse internal dimension that not only can but preferably does exceed the maximum overall transverse dimension of the elongated member by a factor substantially greater than one, and which may by way of example have a value of about five, it being understood that the factor is not limited to being an integral number.

In marked contrast to the elongated members of prior art devices of the whirling-type, the elongated member of the instant invention does not involve a single helical length of wire, nor does the same involve an elongated solid object having a helical groove thereabout, but rather the elongated member of the instant invention alternately increases and decreases in its transverse extent along an intermediate portion of the length thereof. The arrangement is such that by appropriate manipulation of the elongated member by the opposite extremities thereof,



the loop can be caused to continuously rotate about a position along the length thereof corresponding to a locally minimal transverse dimension, and also be caused while still whirling about the elongated member to move to another position corresponding along the length of the member to a locally minimal transverse dimension.

Broadly, one aspect of the present invention involves structure in a whirling amusement device comprising an elongated, substantially straight member provided with spaced gripping portions adjacent its remote extremities whereby such member can be manipulated, said elongated member having a longitudinally extending axis generally centrally disposed therein, said member having an external configuration intermediate said gripping portions definitive of a surface of revolution envelope about said axis that alternately increases and decreases in transverse diameter along said axis, and a closed loop having a maximum internal diameter greater than the maximum diameter of said surface of revolution envelope, said loop being adapted to embrace the member intermediate the gripping portions thereof and to be whirled about the member and caused to travel from one to various other positions along the length of the member coincident with locally minimal diameters of the surface of revolution envelope on manipulation of the member.

Still another aspect of the invention has to do with structure comprising an elongated member provided with spaced gripping portions adjacent its remote extremities, said member having a continuous portion of its longitudinal extent intermediate said gripping portions contained entirely within and at least in part peripherally bounded throughout such extent by a surface that is circular in transverse section about a straight line, such surface alternately increasing and decreasing in diameter along the length of such line, said line being generally centrally disposed along the length of said member, and a closed loop having a maximum internal dimension greater than the maximum diameter of said surface, said loop being adapted to embrace the member intermediate the gripping portions thereof and to be whirled about the member and caused to travel from one to another of a plurality of positions along the length of the member coincident with locally minimal diameters of the surface on manipulation of the member.

Yet another aspect of the invention has to do with structure comprising a pair of wires secured to each other and disposed in generally side by side relationship, said wires being in close proximity to each other at a plurality of spaced positions that lie substantially along a straight line, an intermediate portion of the extent of both of said wires intermediate each adjacent pair of said spaced positions being spaced from said line, each of said wires being planar, and a closed loop adapted to embrace and whirl about the pair of wires at said positions.

Yet another important aspect of the invention involves structure comprising an elongated, substantially straight member, means constituting spaced gripping portions adjacent remote extremities of said member, said member being of smooth convex configuration in transverse section throughout a continuous major portion of the longitudinal extent of the member, said member alternately increasing and decreasing smoothly in transverse section along said extent of the member, said member continuously including for said extent thereof a straight line that is substantially parallel to the major dimension of the member, said member having external boundary lines in longitudinal section in all planes common with said straight line, with at least one of said boundary lines for each of said planes of longitudinal section alternately smoothly converging toward and smoothly diverging from said straight line, and a closed loop having a maximum internal dimension greater than the maxi-

mum transverse dimension of said extent of the member.

A primary object of the invention is to provide a whirling amusement device wherein manipulative skill on the part of an operator will suffice and is required in order for the loop to be caused to whirl about points of minimal transverse dimensions of the elongated member and, while continuously whirling the loop, to move the loop stepwise according to a predetermined sequence from one to another adjacent positions of transverse dimension.

Yet another important object of the invention is to provide a whirling amusement device of the character outlined above, which employs an elongated member which can be made from such diverse materials as bent or formed lengths of straight wire, metal, wood, and plastics. Also, it is an object to provide a device of such character wherein the loop can be made of such materials.

Other aspects, objects, features and advantages of the present invention will become apparent during the following description of preferred embodiments of the invention taken in conjunction with accompanying drawings illustrative of such preferred embodiments of the invention, wherein:

FIGURE 1 is a side elevational view of the elongated member of a whirling amusement device of my invention, hidden details thereof being indicated in dashed outline, and a fragmentary portion of a loop disposed about the elongated member;

FIGURE 2 is an end elevational view of a loop suitable for use with the elongated member shown in FIGURE 1;

FIGURE 3 is an end elevational view of an elliptical loop shown on reduced scale that can be used in lieu of the circular loop of FIGURE 2 with the elongated member shown in FIGURE 1;

FIGURE 4 is an enlarged sectional detail view of the right hand end of the elongated member shown in FIGURE 1;

FIGURE 5 is an elevational view of a modified elongated member, the same being shown in association with a partially illustrated loop;

FIGURE 6 is a side elevational view of yet another modified elongated member, this member being suitable for use with loops such as shown in FIGURES 2 and 3;

FIGURE 7 is an end view on an enlarged scale of the elongated member shown in FIGURE 6;

FIGURE 8 is an isometric view of still another modification of the elongated member, the same being shown in association with a circular loop;

FIGURES 9, 10 and 11 are respectively transverse sectional views taken upon the planes of the section lines 9—9, 10—10, and 11—11 in FIGURE 8; and

FIGURE 12 is an elevational view of yet another embodiment of the elongated member.

Referring now to the drawings wherein like numerals designate like parts throughout the various views, and with initial attention being directed to FIGURES 1, 2 and 4, the reference numeral 10 designates generally a whirling amusement device of the present invention. The whirling amusement device 10 is comprised of an elongated member 12 and a loop or ring 14.

Elongated member 12 is comprised of a pair of wires 16 and 18 disposed in generally side by side relationship. Means including the wires 16 and 18 define gripping portions or handles 20 and 22 at the opposite ends of the elongated member 12. Inasmuch as the structure defining the gripping portions or handles 20 and 22 are identical, a detailed description of the structure constituting the gripping portion or handle 22 will suffice for both.

The gripping portion or handle 22 is clearly shown in FIGURE 4, wherein it will be seen that the end portions 24 and 26 of the wires 16 and 18 are straight, extend longitudinally of the elongated member 12, and are fixedly secured to each other as by spot welding 28 and 30. The sides of the wire portions 24 and 26 remote from each other are roughened or serrated as indicated at 32 and 34 so as to restrain against dislodgment a plastic sleeve or tube 36 fitted on the wire portions 24 and 26. While many materials such as rubber and the like are suitable for the sleeve or tube 36, it is preferred that the same be of a thermoplastic plastic material or resin possessing a sufficient degree of flexibility or resiliency as to facilitate placement of the same on the wire portions 24 and 26. Conveniently, the sleeve or tube 36 can be polyethylene or nylon. It will be understood that the teeth or serrations 32 and 34 are inclined to the left as viewed in FIGURE 4 so as to readily allow the sleeve 36 to be moved to the left as seen in FIGURE 4 on assembling the device, but so as to prevent or resist removal or movement to the right relative to the wire portions 24 and 26.



At a plurality of positions 40, 42, 44 and 46 spaced along an imaginary straight line extending between the handles 20 and 22, the wires 16 and 18 are closely juxtaposed to each other, and optionally at such positions the wires 16 and 18 can if deemed necessary or expedient be spot welded together. Intermediate the spaced positions such as indicated at 40, 42, 44 and 46 the wires 16 and 18 are bent or formed to extend from each other and from the aforementioned imaginary straight line to define alternate ridges and valleys such as indicated at 48 and 50 along the length of the elongated member 12. The arrangement is such that each of the wires 16 and 18 alternately smoothly diverge and smoothly converge toward the imaginary line extending between the handles 20 and 22. In this particular embodiment of the invention, it will be observed that the shapes of the wires 16 and 18 intermediate the handles 20 and 22 are symmetrical with respect to an imaginary straight line extending between the handles 20 and 22. It will be also noted that each of the wires 16 and 18 are so shaped as to define on rotation of the elongated member 12 about an axis extending through the handles 20 and 22 a surface of revolution that smoothly varies in transverse cross section alternately between localized maximal and minimal cross sectional area.

It will be noted also that a ridge 52 is defined between the handle 20 and the position 40, and also that a ridge 54 of somewhat more complex character is defined between the position 46 and the handle 22. As will be seen on inspection of FIGURE 1 the complex ridge 54 includes a local minimal position or valley 56 wherein the wires 16 and 18 are spaced from each other. The wires 16 and 18 are preferably as implied by the term "wire" metallic, though of course they can be a high polymer, substantially rigid plastic material if desired in which case they would be secured together by a suitable adhesive or by thermal bonding, as will be understood by those skilled in the art. Preferably, the wires 16 and 18 are steel, and are preferably plated, coated or treated so as to inhibit corrosion and/or to present a more attractive appearance. In actual practice, it has been found desirable that the wires 16 and 18 be of steel and plated with chromium or nickel, though zinc or other substantially nontoxic metals can also be beneficially employed. The loop or ring 14 is preferably made of the same material as the wires 16 and 18, and also preferably the ring or loop 14 has a surface coating or treatment similar to that of the wires 16 and 18.

The loop or ring 14 preferably has a maximum internal dimension substantially greater than the maximum transverse dimension of the elongated member 12, and in fact such maximum internal dimension of the loop or ring 14 is several times greater than the maximum transverse dimension of the elongated member 12. The maximum internal dimension of the ring or loop 14 can conveniently be from about one and one half to about eight times the maximum transverse dimension of the elongated member 12 and is preferably from about two

to about five times the maximum transverse dimension of the elongated member 12. The ratio of such dimensions is especially preferred to be about three.

The mode of operation or use of the whirling amusement device shown in FIGURES 1, 2 and 4 will be readily appreciated. The ring or loop 14 is disposed about the elongated member 12 and the remote extremities of the elongated member 12 are grasped by the gripping portions or handles 20 and 22. Thus held in the hands of the user, the elongated member 12 is manipulated by imparting a generally circular type of motion to either one or both the handles 20 and 22 to cause the loop 14 to commence whirling about the elongated member 12 at one of the positions 40, 42, 44 and 46, it being understood that it is not necessary in the opinion of most users of the device that the elongated member 12 be caused to rotate about its own longitudinal axis. Notwithstanding the foregoing comment concerning not rotating the member about its axis, some users of the device have been successful and have derived enjoyment in the use of the device by allowing the loop to simply hang suspended while rotating the member about its own axis so as to cause the loop to follow a prescribed path along the length of the member. After a whirling motion has been imparted to the loop 14 by appropriate manipulation of the elongated member 12, the objective is to manipulate the elongated member 12 in such a manner that the loop 14 will successively whirl about a predetermined sequence of valleys such as valleys 50 and 56, it being understood that the whirling motion of the loop 14 is to be continuously maintained and the engagement of the loop 14 with the elongated member 12 to progress sequentially and smoothly under the control of the operator through all the valleys intervening between the valley in use and the target valley, so to speak.

It will be appreciated that substantial skill and manual dexterity will be required to obtain objectives that may be predetermined for a particular game or contest, especially when operation in a valley such as that indicated at 56 is included in the program of sequential objectives. While great skill and experience may be essential to successively carry out advanced and involved programs, great pleasure and amusement can be realized by tyros in the use of the device. Inasmuch as involved gyratory motions of complex character may be imparted to the loop 14, either intentionally or inadvertently as the case may be, a substantial basic appreciation of the physical laws governing gyroscopes and the like can be obtained of educational value.

Needless to say, more experienced devotees to the enjoyment of the whirling amusement device 10 can use more than one loop or ring 14 at a time, and such plurality of loops or rings can, if desired, be of varying size, and whether one or more rings are employed, such rings need not be circular such as the ring 14, but an elliptical ring such as that indicated at 60 in FIGURE 3 may be utilized to advantage. Obviously, many other forms of closed loops can be utilized, while observing in general the foregoing statements relating the maximum internal dimension of the closed loop to the maximum transverse dimension of the elongated member 12.

Attention is now directed to the modification of the elongated member shown in FIGURE 5. The elongated member shown in FIGURE 5 is designated generally at 66, the same comprising a pair of wires 68 and 70 and gripping portions or handles 72 and 74 at its remote extremities. The construction of the elongated member 66 is identical to the previously described elongated member 12 except that the wires 68 and 70 are not symmetrical with respect to a straight line extending between the handles 72 and 74 as in the case of the elongated member 12. While the wires 68 and 70 are in close proximity at a plurality of positions 76, 78 and 80 spaced along an imaginary straight line drawn between the handle 72 and 74, the wire 68 is bent or formed to define ridges 82, 84 and 86 that are further displaced from such imaginary straight line than are ridges 88, 90 and 92 bent or formed in the wire 70. As in the case of the wires 16 and 18, the wires 68 and 70 are each of planar form, that is, the entire extent of each wire lies in a single plane. Similarly, the planes of the wires 68 and 70 are coincident, and this is also true of the planes defined by the wires 16 and 18.

The elongated member 66 is provided with a closed loop 94 which can be any one of many configurations, as for example, a circular form such as shown in FIGURE 2, or an elliptical form such as shown in FIGURE 3. As in the case of the embodiment of the invention disclosed in FIGURES 1, 2 and 4, the maximum internal dimension of the loop 94 is substantially greater than the maximum transverse dimension of the elongated member 66.

It will be noted in connection with the form of the invention shown in FIGURE 5 that an imaginary straight line between the handles 72 and 74 extends generally centrally of the elongated member 66, and that upon rotation of the elongated member 66 about such line as an axis results in the definition of a surface of revolution envelope that alternately increases and decreases smoothly in transverse cross sectional area along the length of the elongated member 66. In this particular embodiment of the invention, the entire extent of the wire 68 is at all positions tangent to such surface of revolution envelope with the wire 70 being tangent thereto only adjacent positions such as indicated at 76, 78 and 80; however, it will be evident to those skilled in the art that such continuous tangency need not be the exclusive domain of only one of the wires (consider that both the wires 16 and 18 are continuously tangent), but one of such wires can be continuously tangent for a portion of the length of the elongated member with the other wire being continuously tangent for another portion of the longitudinal extent of the elongated member, it only being necessary that one of such wires to be tangent to the surface of revolution envelope for the extent of the elongated member between the handles. In other words, rather than the wire 68 possessing all of the higher ridges, some of the higher ridges can be defined by the wire 70 with the diametrically opposite ridges of the wire 68 correspondingly reduced in height. Notwithstanding such considerations, it is preferred that one of the wires exclusively plays the role and defines all of the higher ridges as in the embodiment shown in FIGURE 5. Indeed, with further regard to FIGURE 5, the wire 70 can be straight throughout its length.

The use of the whirling amusement device shown in FIGURE 5 will be evident in the light of the preceding description of the embodiment shown in FIGURE 1. The principal difference in the use of the device is that translation of the loop 94 along the length of the elongated member 66 is more easily accomplished when the loop 94 is whirled through such an angular relationship with the elongated member 66 so as to be in engagement with the wire 70.

The whirling amusement device illustrated in FIGURE 5 can be made of the same materials previously indicated as suitable for the whirling amusement device illustrated in FIGURE 1.

Attention is now directed to the form of the invention shown in FIGURES 6 and 7. These figures illustrate a modified form of elongated member designated generally at 100 which can be used in lieu of the previously described elongated members 12 and 66 in conjunction with the closed loops such as indicated in FIGURES 2 and 3. The elongated member 100 in end view is of cruciform configuration as clearly shown in FIGURE 7, and essentially comprises two constructions such as shown in FIGURE 1 joined together axially at right angles to each other. In short, the elongated member 100 is com-

prised of four identical wires 102, 104, 106 and 108. Each of these wires is substantially identical to the wire 16 of the embodiment shown in FIGURE 1. The elongated member 100 is provided with gripping portions or handles 110 and 112 at its opposite ends, and as shown in FIGURE 7 the handle 110 is constituted of straight end portions of the wires 102, 104, 106 and 108 being bundled and secured together as by welding, not shown, and embraced by a sleeve or tube 114 of the nature of the previously described sleeve or tube 36, it being understood that the handle 112 is essentially of the same construction as the handle 110.

As clearly shown in FIGURE 6, what may be termed the valleys of the wires 102, 104, 106 and 108 are coincident along the axis of the elongated member 100 and are closely spaced to each other at positions such as indicated at 116, 118 and 120. It will be noted that the positions 116, 118 and 120 are spaced along an imaginary straight line extending between the handles 110 and 112. A single plane is defined by the wires 102 and 106 that is at right angles to a single plane defined by the wires 104 and 108, and it will be observed that the entire structure of the elongated member 100 is symmetrical with respect to a straight line extending between the handles 110 and 112. While such symmetry is preferred so as to obtain obvious economy in the fabrication of the parts and in the assembly of the elongated member 100, it will be understood by those skilled in the art that it is not essential that the wires 102, 104, 106 and 108 be identical, and that, as in the case of the embodiments shown in FIGURE 5, the ridges defined by such various wires can be of relatively greater and lesser extents from the imaginary line connecting the handles 110 and 112; it only being essential that there can exist a straight line generally parallel to the longitudinal dimension of the elongated member 100 such that rotation of the member 100 about such straight line will result in the generation of surface of revolution envelope which will smoothly vary alternately in transverse cross sectional area along the longitudinal extent of the member 100.

The use of the elongated member 100 with a loop such as the previously described loops 14 and 60 will be readily understood in the light of the foregoing descriptions of the use of the elongated members 12 and 66, though it must be again emphasized that the major transverse dimension of the loop used must be greater than the major transverse dimension of the surface of revolution envelope, so that the loop can be caused to travel along the elongated member 100 while being whirled thereabout by manipulation of the handles 100 and 112.

The embodiment of the invention shown in FIGURE 6 can be made of materials such as previously indicated suitable for the embodiment shown in the previously described figures.

Attention is now directed to the form of the invention illustrated in FIGURES 8, 9, 10 and 11, this embodiment of the invention differing primarily in that the same includes an elongated member of solid rather than open or wire construction, though as will be subsequently appreciated, the same may be hollow and yet such as to present a continuous shell or surface. The embodiment of the invention shown in FIGURES 8 through 11, inclusive, comprises an elongated member designated generally at 120, the same being comprised of a solid body having oppositely extending longitudinal handles 122 and 124 at its opposite extremities.

Intermediate the handles 122 and 124, the elongated member 120 smoothly alternates to increase and decrease along its longtiudinal extent in transverse cross sectional area, with such transverse section being at all positions along such extent smoothly convex.

The smoothly convex transverse cross sections of the elongated member 120 are clearly shown in FIGURES 9, 10 and 11, respectively, showing cross sections taken at



a position of locally minimum cross section, a position of intermediate cross section, and a position of locally maximum cross section.

Preferably, though not necessarily absolutely essential, the positions of locally minimal cross section such as indicated at 126, 128 and 130 are in alignment with each other and also in alignment with the handles 122 and 124. Also, though not absolutely essential, the transverse cross section of the elongated member 120 at postions of minimal cross section such as at 126, 128 and 130 are circular or of an elliptical form closely approaching a circle. Positions of locally maximum cross sections such as indicated at 132, 134 and 136 can be circular in cross section; however, it is preferred that the elongated member 120 have an egg-shaped configuration as clearly shown in FIGURES 9, 10 and 11. Preferably, though not necessarily, the positions of locally maximum cross section 132, 134 and 136 are somewhat eccentric with respect to the positions of minimal cross section 126, 128 and 130, and this is true whether such maximal configurations be egg-shaped, as shown, circular or elliptical.

The elongated member 120 also includes a pair of maximal positions 138 and 140 that are axially spaced and separated by a minimal position or a valley 142. The transverse cross section of the member 120 at the position 142 has a configuration similar to the cross sectional configuration of the member 120 at the positions 138 and 140, and since the valley 142 is of shallow depth, the same is little, if any, eccentrically positioned with respect to the ridges or positions 138 and 140.

The elongated member 120 can be made of wood and turned by a programmed lathe or automatically controlled tool such as used in making wooden rifle stocks; however, the same is preferably made of a plastic material such as polyethylene, or nylon, any thermoplastic suitable for injection molding techniques being quite suitable. When the elongated member 120 is made of plastic, the same can be fabricated in a single operation as in integral body, or the same can be fabricated in two halves 144 and 146, and thereafter secured by a suitable adhesive or bonding technique along a mating plane 148, as clearly shown in FIGURES 9, 10 and 11.

The elongated member 120 is provided with a closed loop or ring 150, which can be of the same character as previously described loops or rings 14 and 60. The loop or ring 150 can be metal as is preferred; however, the same can be of plastic such as nylon if desired. In any event, the maximum internal dimension of the loop or ring 150 is substantially greater than th emaximum transverse dimension of the elongated member 120 as previously described in connection with the other illustrated and described embodiments of the invention. Also, in any event, as in the case of the previously described embodiments of the invention, the minimum internal dimension of the loop or ring 150 is such that the loop or ring 150 can be caused to whirl about and travel along the length of the member 120 during manipulation of the latter by the handles 122 and 124.

FIGURE 12 discloses a modified version of the elongated member shown in FIGURE 5. This modified elongated member is designated generally at 160 and comprises handles 162 and 164 together with wires 166 and 168. The elongated member 160 differs from the elongated member shown in FIGURE 5 solely to the extent that the wire 168 corresponding to the wire 70 in the latter member is straight. The use of the member 160 tends to emphasize the difficulty of limiting the extent of longitudinal shifts of the loop, rather than making it particularly difficult to initiate a longitudinal shift of the loop, as compared to the use of the elongated member shown in FIGURE 5.

Inasmuch as the various illustrated and described preferred embodiments of the invention are susceptible to numerous variations without departing from the spirit of the invention, attention is directed to the appended claims in order to ascertain the actual scope of the invention.

I claim:

1. In a whirling amusement device, structure comprising an elongated, substantially straight member provided with spaced gripping portions adjacent its remote extremities whereby such member can be manipulated, said elongated member having a longitudinal axis generally centrally disposed therein, said member having an external configuration along a continuous portion intermediate said gripping portions definitive of a surface of revolution envelope about said axis that alternately increases and decreases in transverse diameter along said axis, said surface of revolution along its axial length having an alternating sequence of longitudinally spaced, locally maximal and locally minimal diameters with each adjacent pair of such sequence of maximal diameters being defined and separated by one of the locally minimal diameters, and a closed loop having a maximum internal diameter greater than the greatest of the sequence of locally maximal diameters, said loop being adapted to embrace the member intermediate the gripping portions thereof and along the axial extent of the defined surface of revolution and to be whirled about the member and caused to travel from one to other positions along the length of the member coincident with the locally minimal diameters of the surface of revolution envelope on manipulation of the member.

2. The combination of claim 1, wherein said member is substantially planar and substantially symmetrical about said axis intermediate said gripping portions.

3. The combination of claim 1, wherein said member is substantially planar, and is asymmetrical about said axis intermediate said gripping portions.

4. The combination of claim 3, wherein said member is comprised of a pair of wires that alternately converge toward and diverge from said axis.

5. In a whirling amusement device, structure comprising an elongated member provided with spaced gripping portions adjacent its remote extremities, said member having a continuous portion of its longitudinal extent intermediate said gripping portions defined by a plurality of longitudinally extending wires contained entirely within and at least in part peripherally bounded throughout such extent by a surface that is circular in transverse section about a straight line, such surface alternately increasing and decreasing in diameter along the length of such line, said line being generally centrally disposed along the length of said member, and a closed loop having a maximum internal dimension greater than the maximum diameter of said surface, said loop being adapted to embrace the member intermediate the gripping portions thereof and to be whirled about the member and caused to travel from one to another of a plurality of positions along the length of the member coincident with locally minimal diameters of the surface on manipulation of the member.

6. In a whirling amusement device, structure comprising a pair of wires secured to each other and disposed in generally side by side relationship, said wires being in close proximity to each other at a plurality of spaced positions that lie substantially along a straight line, an intermediate portion of the extent of at least one of said wires intermediate each adjacent pair of said spaced positions being spaced from said line, each of said wires being planar, and a closed loop adapted to embrace and whirl about the pair of wires at said positions.

7. The combination of claim 6, wherein both of the wires are common to a single plane.

8. The combination of claim 6, wherein the wires are continuously contiguous to each other along said line for substantial intervals adjacent their opposite ends to constitute a pair of spaced handles at the opposite ends of the device for manipulating the pair of wires thereby to impart a whirling motion to the loop.

9. The combination of claim 8, wherein said wires are symmetrical about said line, and wherein at least one of said intermediate portions is in part convex toward and spaced from the straight line.

10. In a whirling amusement device, structure comprising a plurality of wires secured together in generally side by side relationship, all of said wires being in close proximity to each other at a plurality of spaced positions that lie substantially along a straight line, an intermediate portion of the extent of all of said wires between each adjacent pair of said spaced positions being spaced from said line, each of said wires substantially lying in the same plane, with at least two intersecting planes being defined by said wires, and a closed loop adapted to loosely embrace and whirl about the plurality of wires at said positions.

11. In a whirling amusement device, structure comprising an elongated, substantially straight member, means constituting spaced gripping portions adjacent remote extremities of said member, said member being of smooth convex configuration in transverse section throughout a continuous major portion of the longitudinal extent of the member, said member alternately increasing and decreasing smoothly in transverse section along said extent of the member, said member continuously including for said extent thereof a straight line that is substantially parallel to the major dimension of the member, said member having external boundary lines in longitudinal section in all planes common with said straight line, with at least one of said boundary lines for each of said planes of longitudinal section alternately smoothly converging toward and smoothly diverging from said straight line, and a closed loop having a maximum internal dimension greater than the maximum transverse dimension of said extent of the member.

12. The combination of claim 11, wherein said member is of generally elliptical or egg-shape cross section at positions along said extent thereof corresponding to locally maximal cross sectional area.

13. The combination of claim 12, wherein said member is of generally circular cross section at positions along said extent thereof corresponding to locally minimal cross sectional area.

14. A whirling amusement device, structure comprising an elongated, substantially straight member, said member being comprised of a pair of longitudinally coextensive wires arranged in side by side relationship, at each end of said member said pair of wires being parallel and secured together and constituting at least in part handle means at the opposite ends of the member for manipulating the member, an extent of one of said wires intermediate said handle means alternately and smoothly converging toward and diverging from a straight line generally parallel to the longitudinal extent of the member, said other wire being straight and substantially parallel to said straight line, and a closed loop of such size as to be loosely whirled about and to travel along said wires when the latter extend through the loop.

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