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(54) **TOY APPARATUS**

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(57) **ABSTRACT**

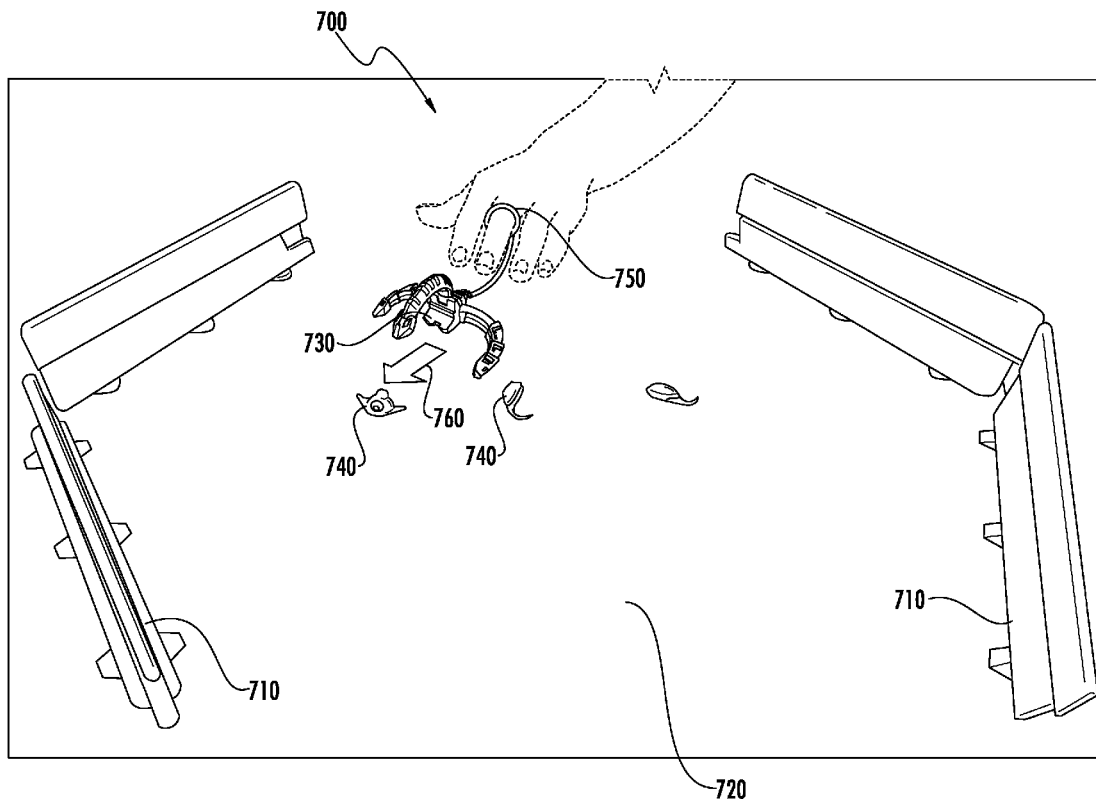
(21) Appl. No.: **14/189,815**

A toy apparatus includes a base piece and a plurality of elongated members. The base piece is configured to slide on a surface. Each elongated member has a first end and a second end, with the elongated members being movably coupled to the base piece near the first ends. A tether is coupled to the first ends of the elongated members, and tension applied to the tether moves the elongated members from a first position to a second position. In the first position, the second ends of the elongated members are expanded apart from each other. In the second position, the second ends of the elongated members are contracted toward each other and are capable of surrounding a target piece.

(22) Filed: **Feb. 25, 2014**

Related U.S. Application Data

(60) Provisional application No. 61/769,532, filed on Feb. 26, 2013.



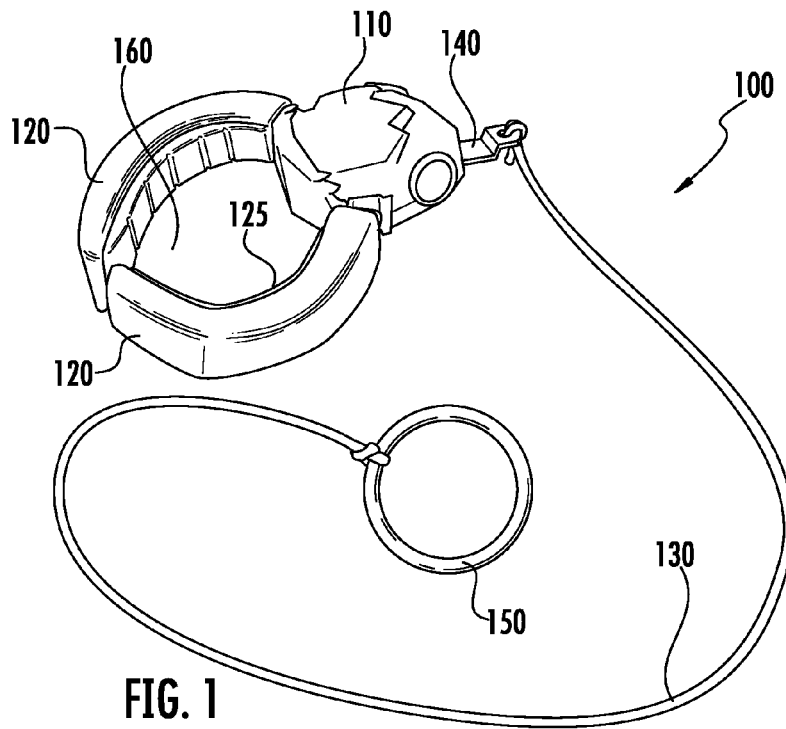


FIG. 1

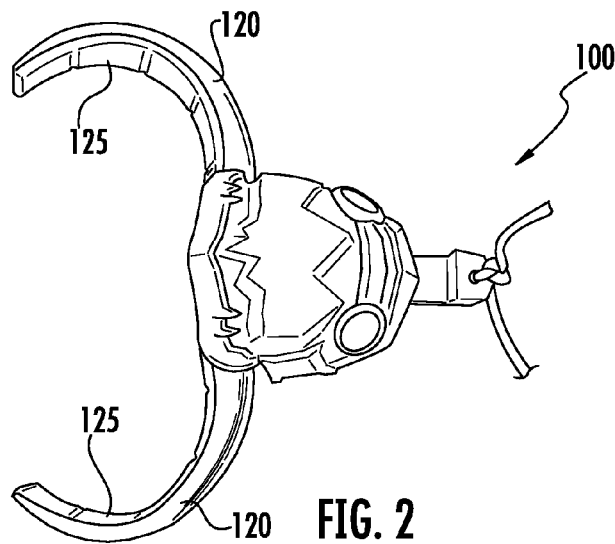


FIG. 2

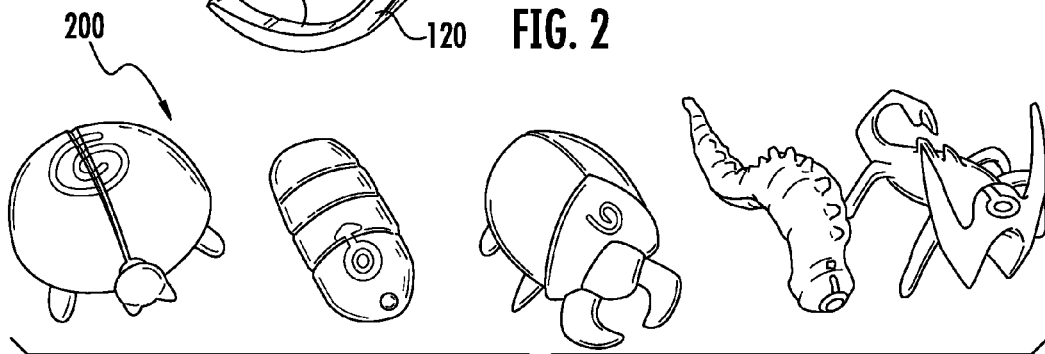


FIG. 3

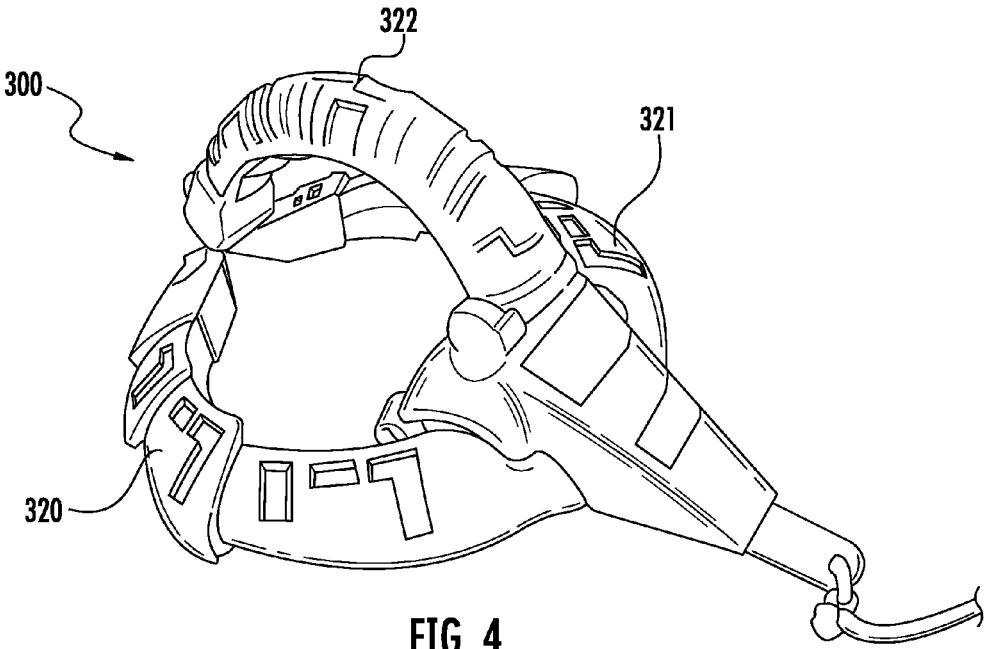


FIG. 4

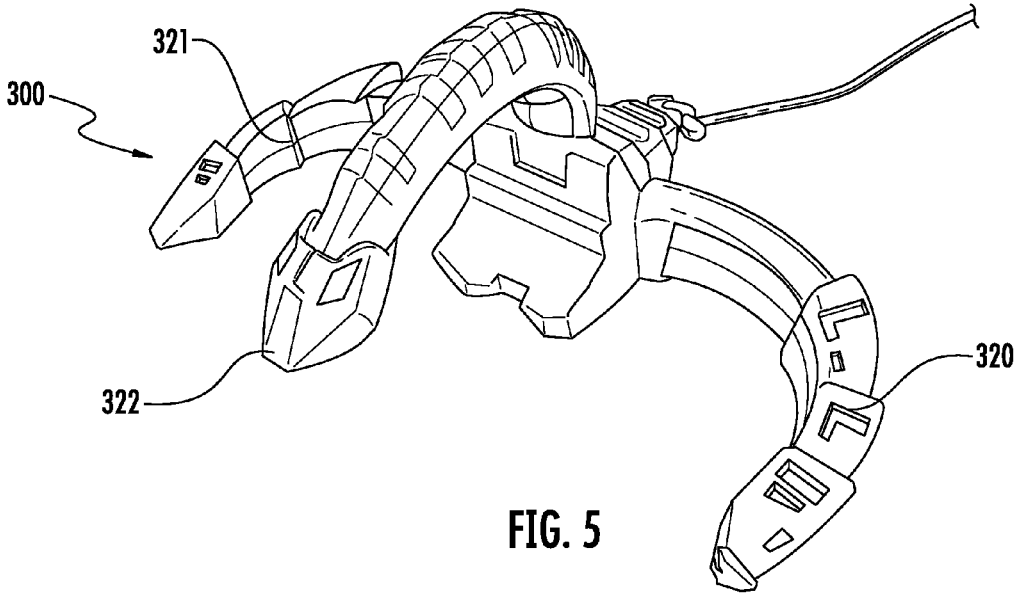
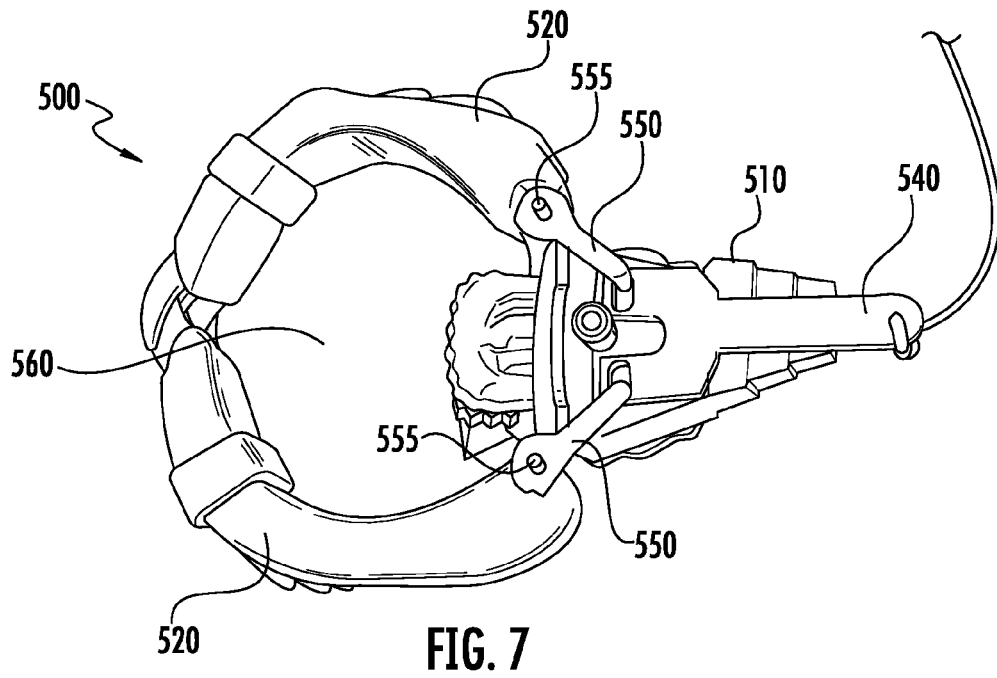
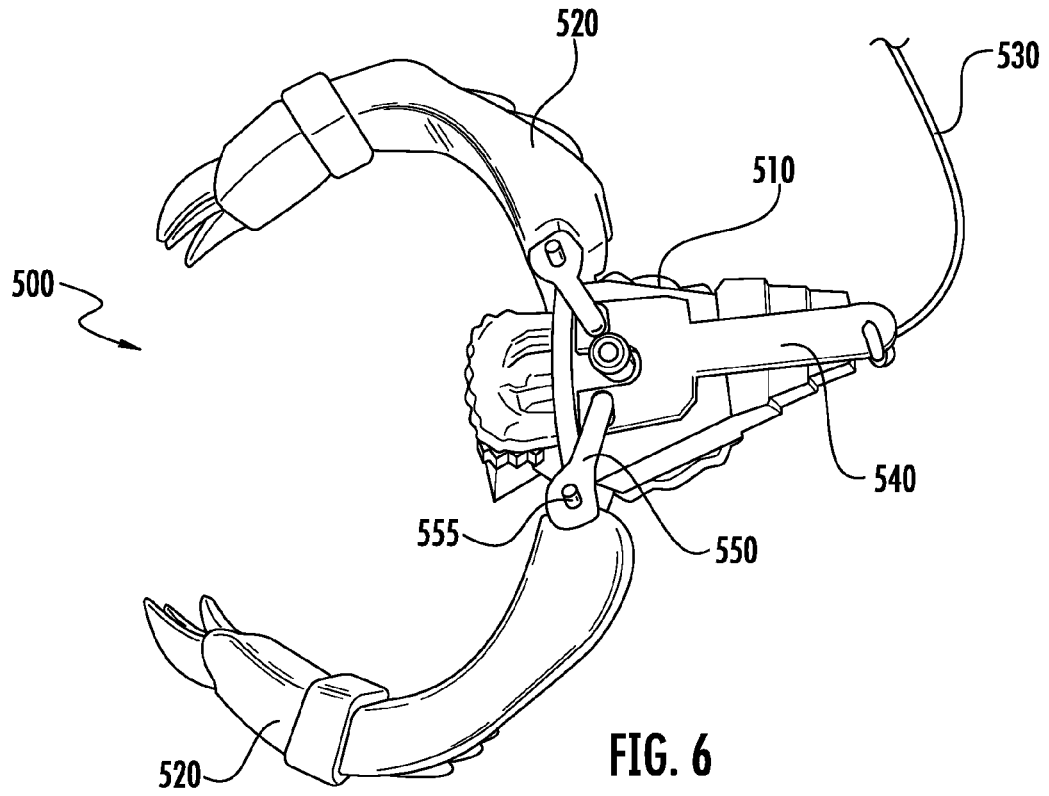
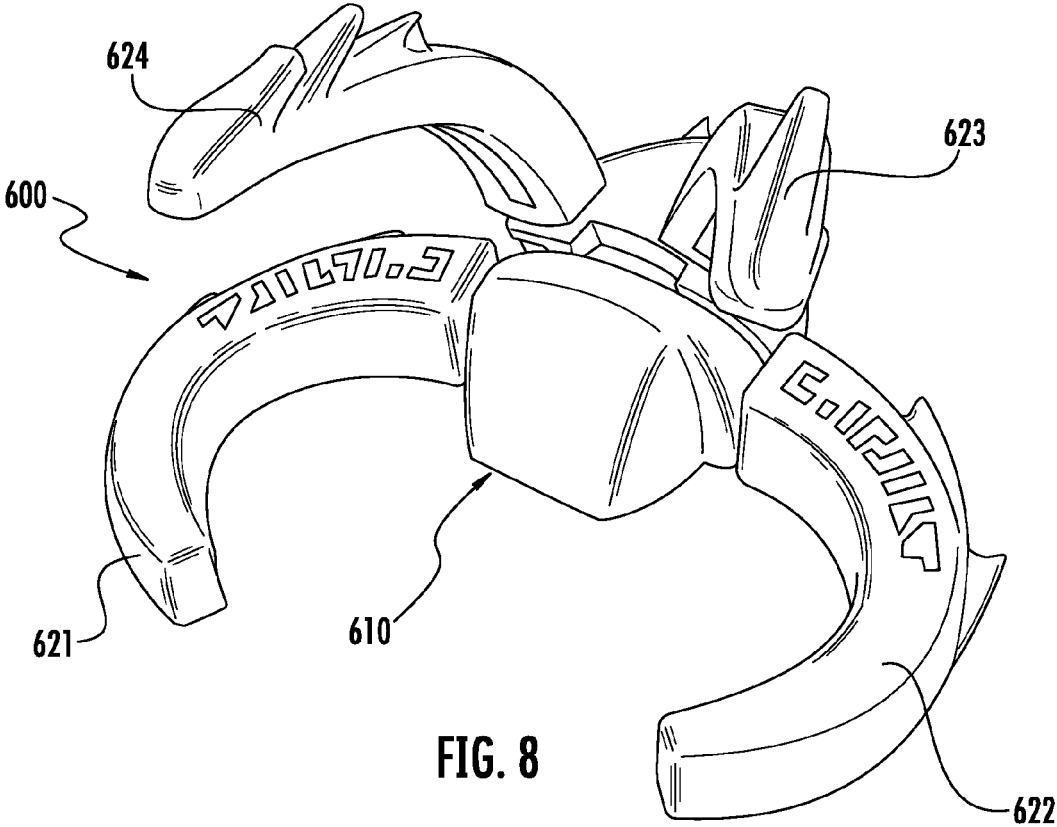


FIG. 5





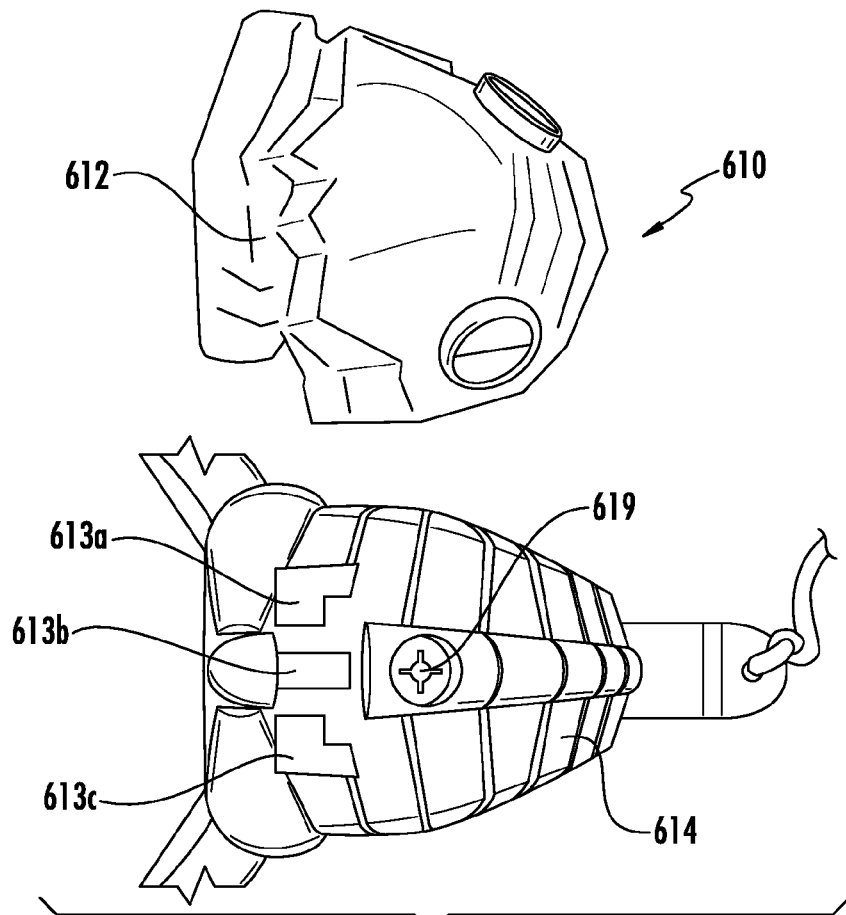


FIG. 9

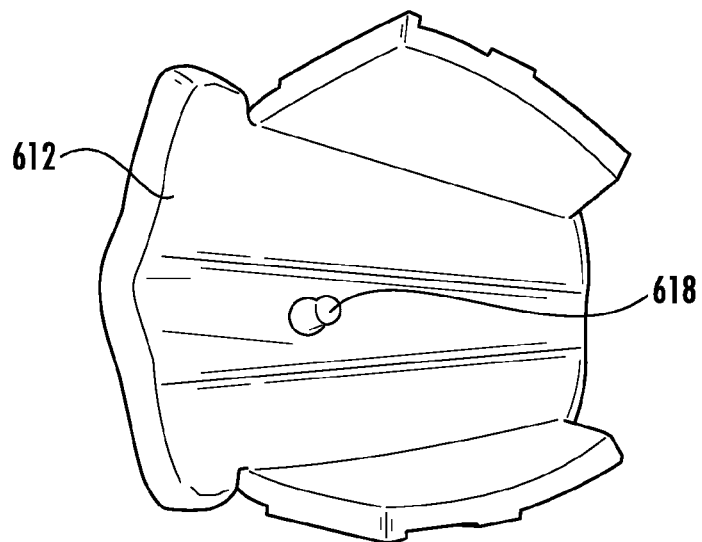


FIG. 10

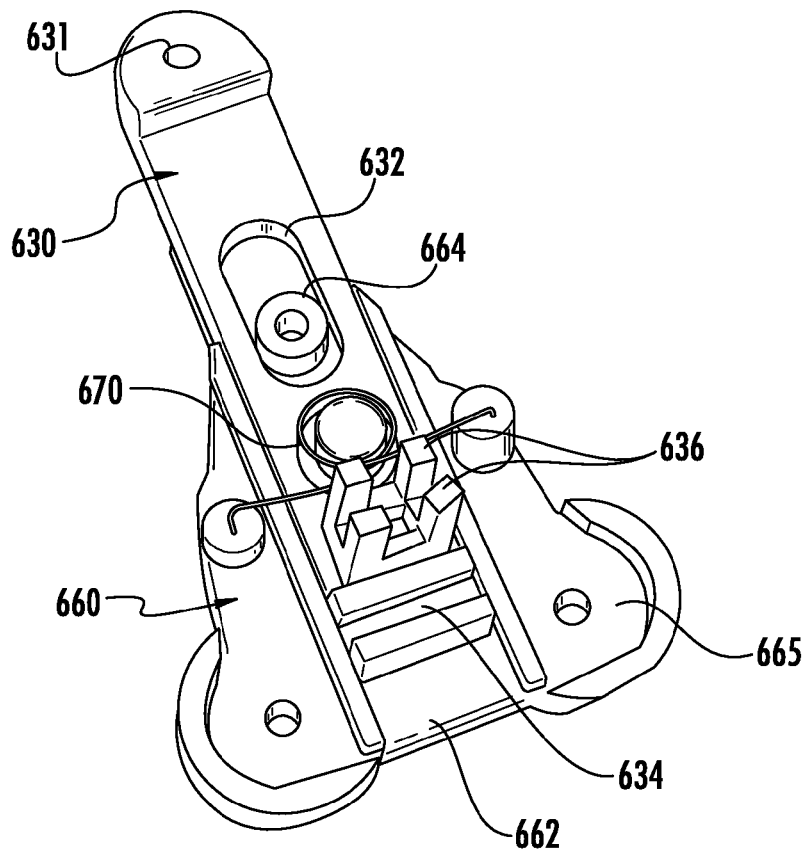


FIG. 11

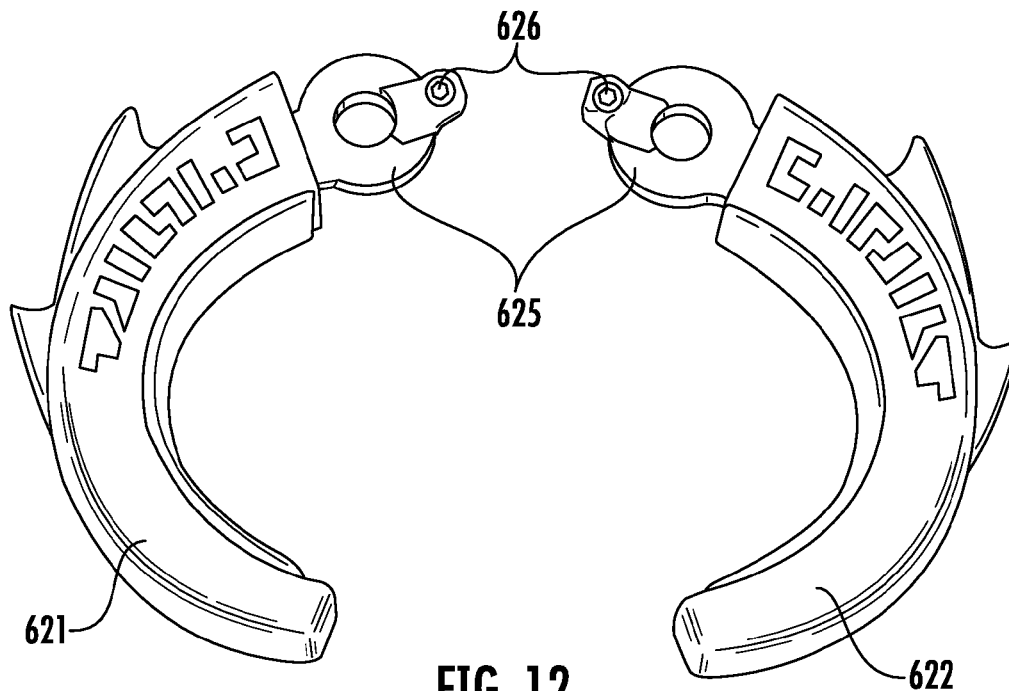


FIG. 12

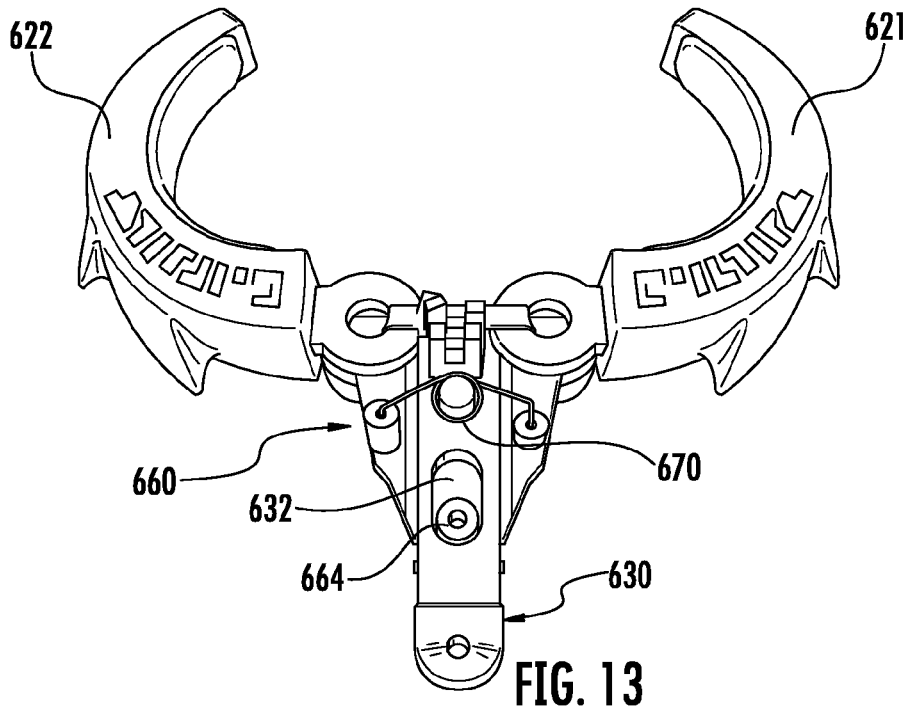


FIG. 13

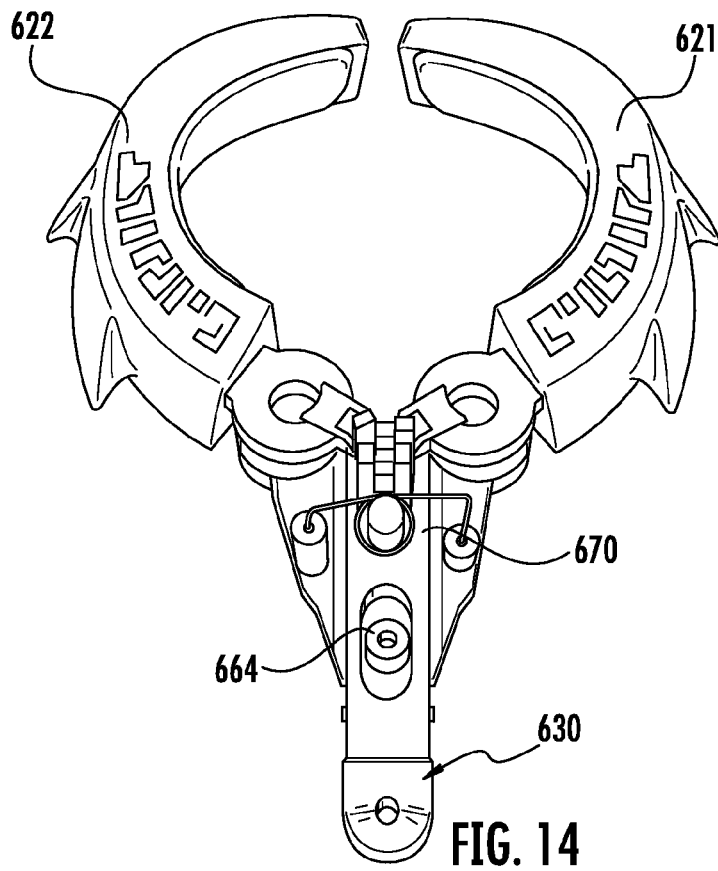


FIG. 14

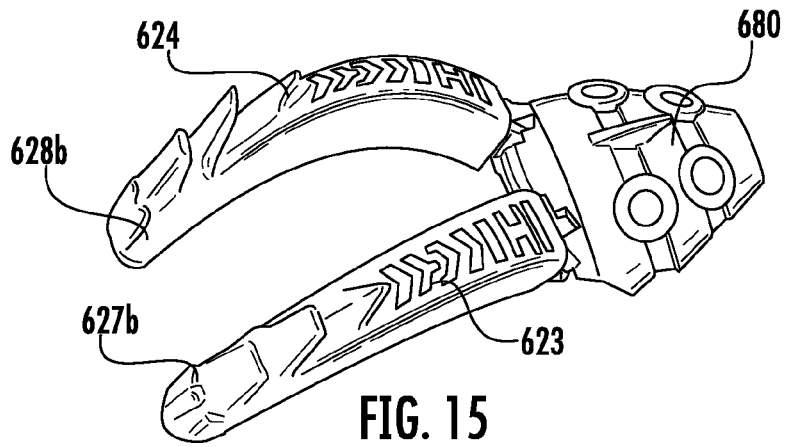


FIG. 15

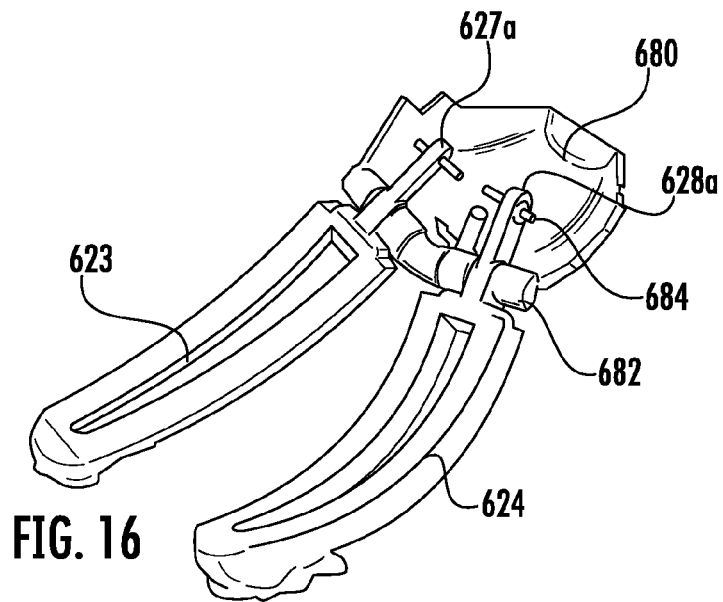


FIG. 16

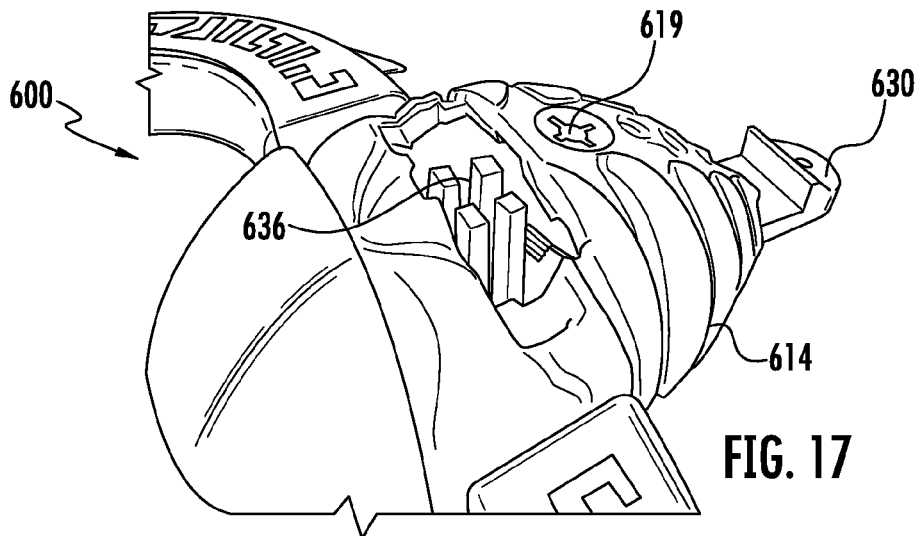


FIG. 17

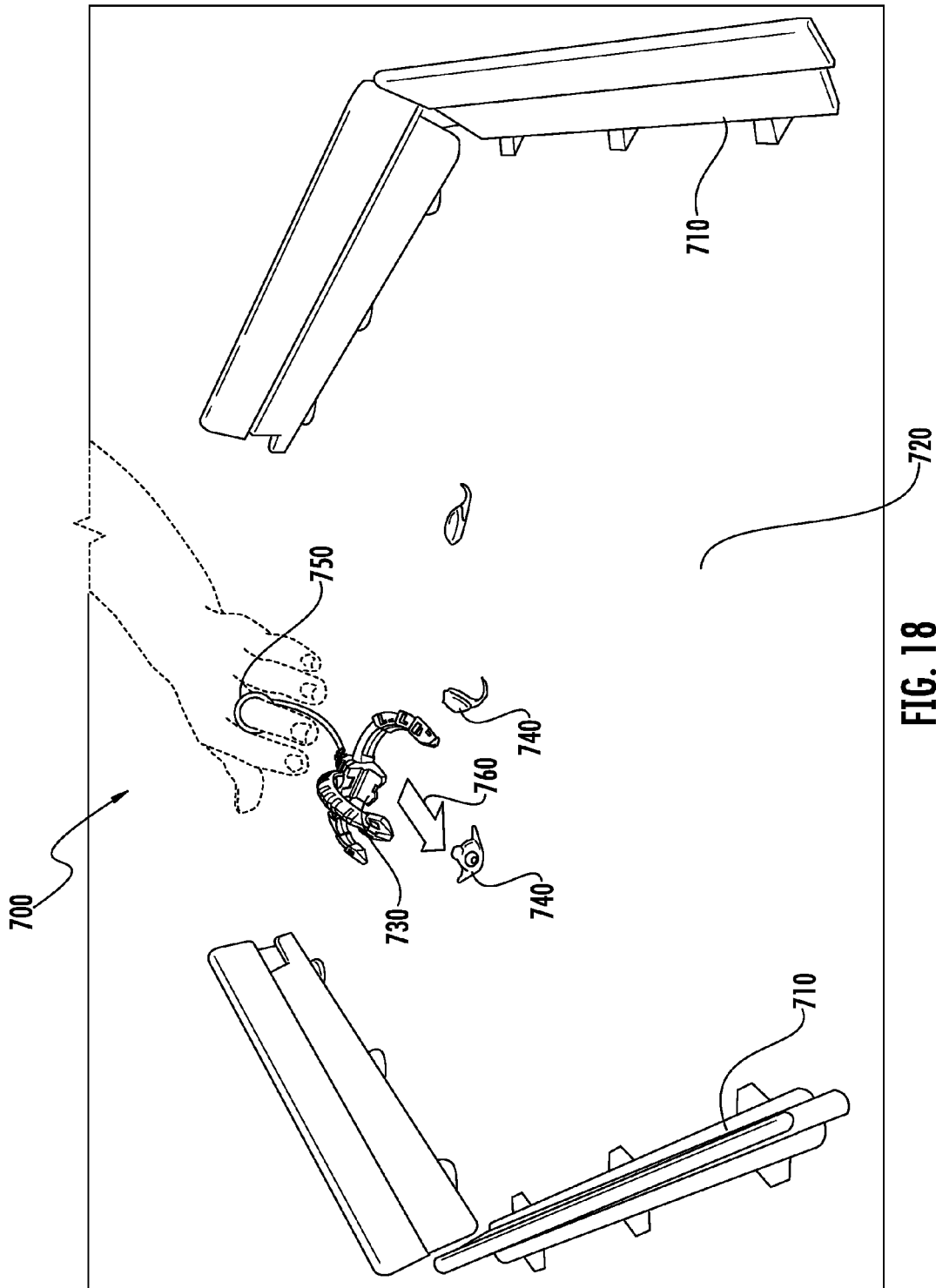


FIG. 18

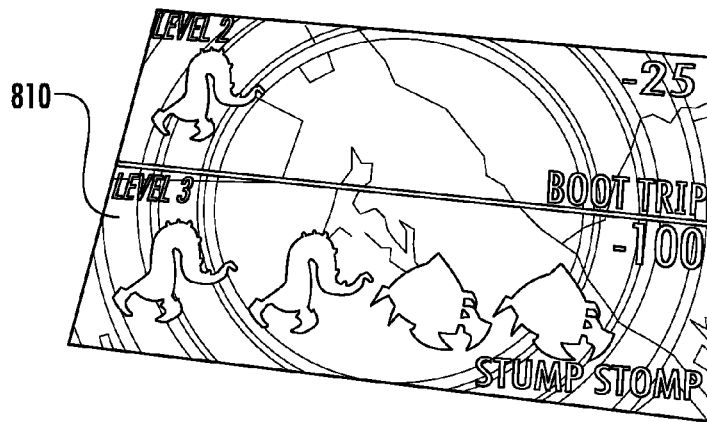
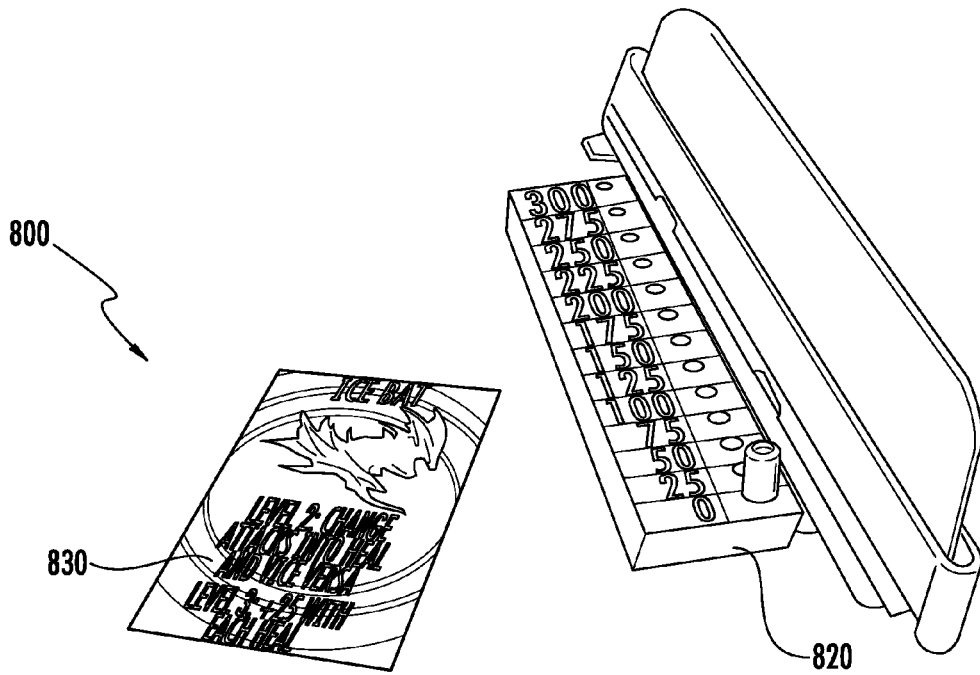


FIG. 19

TOY APPARATUS

RELATED APPLICATIONS

[0001] The application claims priority to U.S. Provisional Patent Application No. 61/769,532 filed on Feb. 26, 2013 and entitled "Toy Apparatus", which is hereby incorporated by reference for all purposes.

BACKGROUND

[0002] Games in which players retrieve articles are a popular source of entertainment. For example, fishing poles, claws, tethers, and springs have been used to pick up objects such as balls, disks, toy animals such as fish, and other types playing pieces. Game participants gain amusement through the devices with which the play pieces are retrieved, with the varying actions and dexterity that is required.

[0003] As the interests of the marketplace change over time, there continues to be a need for unique and innovative games to bring new play value.

SUMMARY

[0004] In one embodiment, a toy includes a base piece configured to slide on a surface, a plurality of elongated members movably coupled to the base piece, and a tether coupled to the elongated members. Tension applied to the tether moves the elongated members from a first position where ends of the elongated members are expanded apart, to a second position where the ends are contracted toward each other. In the second position the elongated members are capable of surrounding one or more target pieces.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] Other advantages of the present invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings wherein:

[0006] FIG. 1 is a perspective view of an embodiment of a toy apparatus with elongated members closed together;

[0007] FIG. 2 is a top view of the toy apparatus of FIG. 1 with elongated members expanded apart;

[0008] FIG. 3 depicts exemplary target pieces;

[0009] FIG. 4 shows another exemplary toy apparatus with claws closed;

[0010] FIG. 5 shows the toy of FIG. 4 with claws open;

[0011] FIG. 6 is a bottom view of an exemplary apparatus, showing components involved with moving the claws;

[0012] FIG. 7 shows the toy of FIG. 6, with claws in a closed position;

[0013] FIG. 8 is a perspective view of another embodiment of a toy apparatus;

[0014] FIG. 9 is a top view of an exemplary base piece and head piece;

[0015] FIG. 10 is a bottom view of the head piece of FIG. 9;

[0016] FIG. 11 shows an exemplary actuation element and plate;

[0017] FIG. 12 provides a top view of exemplary claws;

[0018] FIG. 13 shows the components of FIGS. 11 and 12 assembled together, with claws in a first position;

[0019] FIG. 14 shows the components of FIGS. 11 and 12 assembled together, with claws in a second position;

[0020] FIG. 15 is a perspective top view of an embodiment of modular claws;

[0021] FIG. 16 is a perspective bottom view of the claws of FIG. 15;

[0022] FIG. 17 shows an embodiment of coupling elements for the modular claws of FIG. 15;

[0023] FIG. 18 shows an exemplary game system; and

[0024] FIG. 19 illustrates an embodiment of game cards and a scoring element.

DETAILED DESCRIPTION

[0025] FIGS. 1-2 illustrate an exemplary embodiment of a toy 100 that includes a base piece 110, claws 120, and a tether 130. The toy 100 in FIG. 100 is shown as a fantasy creature, with the base piece 110 being shaped as the creature's head and body, and the pincers or claws 120 being shaped as its arms. In other embodiments, the toy 100 may be configured to represent, for example, animals, space aliens, human figures, machinery, spacecraft, vehicles, or other realistic or imaginative items. The claws 120 are elongated members that expand apart and contract together to retrieve objects such as the target pieces 200 of FIG. 3. The claws 120 are configured in FIGS. 1-2 in a curved shape, with the claws 120 having a concave surface 125 that forms a space 160 to surround a target piece. However, in other embodiments the claws 120 may take other forms that are enabled to surround a target piece, such as being linear, angled, or having an irregular contour. For the purposes of this disclosure, "surround" shall mean encompassing a sufficient portion around the target piece such that the target piece cannot fit through any openings between the claws. In the embodiment of FIGS. 1-2, the two claws 120 move in a plane parallel to the surface on which toy 100 is placed, so that they may surround a target object when the claws 120 are closed together. The target pieces 200 are embodied in FIG. 3 as fantasy creatures. However, other embodiments are possible such as animals, military supplies, tools, balls, or other objects that may correspond to the shape of the toy 100 that is being used to retrieve the objects.

[0026] In FIG. 1, tether 130 is coupled to a rod 140 extending from the tail section of base piece 110, and terminates in an optional loop 150. Tether 130 may be any flexible material that can impart tension, such as but not limited to a string, a lanyard, or an elastic band. The tether 130 is held by a player's hand, such as by loop 150, or by grasping directly on tether 130. Loop 150 may be designed to fit on an individual finger, or to fit over several fingers. In FIG. 1, loop 150 is embodied as a circular ring and may be rigid or flexible. Loop 150 may be fabricated from, for example, plastic or cloth, and may include fasteners such as hook-and-loop material or snaps to adjust the size of the loop to secure it on a user's hand. In yet other embodiments, loop 150 may be replaced by a handle, knob, or other device to enable the user to maintain control of the tether 130.

[0027] In game play, the toy 100 is placed on a surface such as a table, game board, or floor, with target pieces (e.g. pieces 200 of FIG. 3) placed on the surface at a distance away from the user. The toy 100 is slid on the surface, with claws 120 in an expanded or open position, toward the target pieces to capture and retrieve them. The toy 100 may be slid by, for example, a user manually providing an initial pushing force to project the toy 100 across the surface. When tension is applied to the tether, whether through the player pulling on the tether 130 or through the momentum of the thrown toy 100 pulling the tether 130 taut, the tension causes the claws 120 to move from their open position to a closed position. That is, in the open position the tips of the claws 120 are in an expanded

position away from each other, and in the closed position the tips of the claws 120 contract toward each other. Tension on the tether 130 closes the claws 120 to retrieve a target piece, and pulling on the tether 130 may enable the player to pull the toy 100 back to the player. Although in the embodiment of FIG. 1 the tether 130 is coupled to rod 140, which is coupled to the claws 120, in other embodiments the tether 130 may be connected directly to the claws without the presence of rod 140.

[0028] FIGS. 4-5 show another embodiment of a toy 300, this embodiment having three claws 320, 321 and 322, instead of two claws as in FIG. 1. FIG. 4 shows the toy in a closed or contracted position, while FIG. 5 shows the toy in an open or expanded position. Claws 320 and 321 move in a plane parallel to its supporting surface, while claw 322 moves in a different plane—which is orthogonal to the surface in this embodiment. The two claws 320 and 321 may assist in providing stability while the toy is being slid during play, in addition to serving as retrieving mechanisms. Having the third claw 322 in a different plane may add play value by allowing different shapes and sizes of objects to be retrieved. In other embodiments, the toy 300 may only have claws similar to claw 322, and not include claws 320 or 321, such that the claw(s) 322 descend from above the playing surface to surround a target object. In such an embodiment, the base (e.g., main body) of the toy 300 may be made wider to provide stability for the toy 300 when it is slid.

[0029] In various embodiments, the toy apparatuses of the present disclosure may have different numbers of claws and decorated with different designs. Toy 100 has two claws, toy 300 has three claws, and toy 600 (FIG. 8) has four claws. Other numbers of claws are possible, with different arrangements of the claws. For example, the claws may be unevenly spaced apart, rather than the symmetrical arrangement shown in the present figures. In another example, the claws may have different lengths from each other, such as an upper claw being shorter than the lower two.

[0030] FIGS. 6-7 provide views of the mechanisms of a toy 500 that includes a body or base piece 510, claws 520, a tether 530, an actuation element 540, and linkages 550. FIG. 6 is a view of the underside of the assembly when the pincers 520 are open, such as when the toy 500 is ready to deploy to capture a playing piece. FIG. 7 shows the same view with pincers 520 closed, where the pincers 520 form an area 560 that is capable of surrounding the playing piece. Note that although the tips of pincers 520 are showing as forming a closed area 560 in this embodiment, in other embodiments the tips need not contact each other. That is, some space may remain between the tips of pincers 520, as long as the gap is small enough to retain the playing piece in area 560.

[0031] In FIGS. 6 and 7, the claws 520 are movably coupled to base piece 510, using pin joints 555 to enable a pivoting motion in this embodiment. In other embodiments, the pivoting movement may involve the use of ball joints, hinges, and the like. Linkages 550 couple the claws 520 to actuation element 540, where actuation element 540 is shown in this embodiment as a flat rod that slides within base piece 510 in this embodiment. When tension is applied to the tether 530, either by active pulling from a user or by the transfer of momentum when the toy 500 reaches the extent of its travel and the tether 530 becomes taut, the tension causes actuation element 540 to be pulled partially out of base piece 510. This movement of the actuation element 540 then causes the linkages 550 to pivot and move claws 520 from their open posi-

tion to their closed position. The linkages 550 are depicted in FIGS. 6 and 7 as rod-shaped arms, but other shapes are possible without departing from the scope of this disclosure. Note that in other embodiments, the actuation element 540 may be omitted and tether 530 may be directly coupled to pincers 520. In yet further embodiments, actuation element 540 may optionally include a sleeve or a coating to facilitate movement of actuation element 540 within base piece 510.

[0032] FIGS. 8-17 provide detailed views of components of a toy 600, in another embodiment. In FIG. 8 the toy 600 includes a base piece 610 and four claws 621, 622, 623 and 624. Claws 623 and 624 are removable and thus are modular, as shall be described further below. FIG. 9 shows a top view of base piece 610, which in this embodiment includes a head piece 612 and a body 614. FIG. 10 shows a bottom view of head piece 612 which may optionally be detachable, such as to allow the user to change the claws that are attached to body 614, or to exchange other head pieces onto the body 614. In other embodiments, the head piece 612 may be integral to base piece 610, or the base piece 610 may have other exchangeable components that may be inserted elsewhere on body 614. In the embodiment of FIGS. 9 and 10, the head piece 612 may be coupled to the body 614 placing it over body 614 and inserting the post 618 into hole 619 in body 614. Other methods of attaching head piece 612 to body 614 are possible, such as a replacing post 618 with a hole and inserting a fastener such as a screw or pin through the hole of head piece 612; having tabs or flanges on the head piece 612 or body 614 for clipping onto a mating component, or sliding one component onto another.

[0033] FIG. 9 also shows recesses 613a, 613b and 613c in the top surface of body 614 for attaching claws. In this embodiment, recesses 613a, 613b and 613c are exposed when head piece 612 is removed from body 614. In operation, a user may modify the number of claws that toy 600 is configured with. For example, a user may utilize only the two claws 621 and 622 (see, e.g., FIG. 1), with or without the head piece 612 on body 614. In such an embodiment, recesses 613a-613c would not be utilized. For a three-clawed arrangement, the user may remove the head piece 612 and insert an additional claw (e.g., claw 623 or 624 of FIG. 8) into recess 613a, 613b or 613c. The user may also utilize four claws, as shown in FIG. 8, by omitting the head piece 612 and inserting claws 623 and 624 into recesses 613a and 613c. Thus, it can be seen that recesses 613a, 613b and 613c offer increased play value by the enabling alteration of the toy's configuration as desired by the user. The recesses 613a, 613b and 613c are depicted as rectangular-type holes in this embodiment, but other shapes are possible that enable a desired movement path for claws 623 and 624 and that allow insertion of the claws. In yet other embodiments, one of the recesses, such as center recess 613b, may be utilized to allow a single mechanism operating through the recess 613b to move multiple claws attached to the body 614.

[0034] FIG. 11 shows inner components of toy 600—an actuation element 630 that slides in a track 662 of a plate 660. Plate 660 is configured with a flat bottom, so that it may slide on a playing surface. In other embodiments, the base piece 610 may be configured in other ways to allow it to slide on a surface, such as having rounded nubs, wheels, or runners on its bottom surface. The choice of material for base piece 610, as well as any attached claws, may also facilitate the slidability of the toy. For instance, components of the toy may be manufactured from particular plastics, metals, wood, and

coatings applied thereto to allow minimize friction between the toy and its supporting surface.

[0035] Actuation element 630 includes a hole 631 to which a tether such as a string may be attached. In this embodiment, a protrusion 664 on plate 660 slides in a slot 632 in actuation element 630. This interaction between protrusion 664 and slot 632 provides end limits to the travel of actuation element 630 between its closed and open positions. An optional spring 670 may be included in the assembly, to assist in maintaining actuation element 630 in its pulled out position so that the claws remain closed when actuated.

[0036] Actuation element 630 also includes a groove 634 and prongs 636, while plate 660 also includes receiving areas 665. Prongs 636 are joining elements to enable claws to be modular, as shall be described in relation to FIGS. 15-17. Receiving areas 665 receive linkages 625 of claws 621 and 622, shown in FIG. 12. In this embodiment of FIG. 12, linkages 625 are shaped as rings, with pins 626 at the ends. The pins 626 extend through the underside of the linkages 625, and are seated in the groove 634 of actuation element 630. Posts (not shown) on an underside of body 614 fit into the central holes of linkages 625, forming a pivot joint between body 614 of base piece 610 and claws 621 and 622.

[0037] Assembled views of the components from FIGS. 11 and 12 are shown in FIGS. 13 and 14. Claws 621 and 622 are seated in receiving areas 665 of plate 660, where they will pivot when body 614 is assembled onto the toy. FIG. 13 shows the toy in its open position, with the ends of claws 621 and 622 expanded apart from each other. In this position actuation element 630 is pushed forward on plate 660, as evidenced by protrusion 664 being at an initial end of slot 632, and spring 670 being bowed. In FIG. 14 the actuation element 630 is in its outermost position, extended out from the plate 660, the pins 626 (FIG. 12, not visible in FIG. 14) are pulled by groove 634 of actuation element 630 (FIGS. 11 and 12), causing the claws 621 and 622 to contract toward each other. As can be seen in FIG. 14, actuation element 630 has been slid outward relative to protrusion 664, and spring 670 is in an unbiased state. Thus, FIGS. 13 and 14 demonstrate one embodiment in which pulling actuation element 630, such as through tension by a tether coupled to actuation element 630, causes claws 621 and 622 to move from an expanded to a contracted position.

[0038] In yet other embodiments (not shown), the claws may be coupled to the base piece with other types of movement instead of pivoting, such as with a sliding motion. For example, the claws may telescope in and out of the toy's base. When a user pulls on the tether, a portion of the claws are retracted into the toy's body, while the remainder of the length of the claws remain outside of the body to capture the target piece.

[0039] FIGS. 15-17 depict yet another embodiment in which certain claws may be modular. FIG. 15 shows a top view and FIG. 16 shows a bottom view of removable claws 623 and 624 that are coupled to a shell piece 680 via pin joints 682. Claws 623 and 624 have first ends 627a and 628a, respectively, that extend under shell piece 680, with pins 684 placed in these first ends 627a and 628a. Pins 684 are insertable into the prongs 636 that are shown in FIG. 11, and which are also shown in the assembled toy 600 of FIG. 17. The prongs 636 and pins 684 assemble to form a horizontal pivot joint, so that the claws 623 and 624 rotate in an approximately vertical plane compared to the horizontal plane of claws 621 and 622. To attach the module claws 623 and 624, the actua-

tion element 630 is placed in its forward position so that the prongs 636 are accessible through an opening in body 614 (e.g. recesses 613a, 613b or 613c of FIG. 9; the entire area of which is open in FIG. 17 for clarity). A user may then place the pins 684 between prongs 636. Shell piece 680 may be secured to body 614 to help attach claws 623 and 624 to the toy 600. In the embodiment of FIG. 17, a hole 619 in body 614 may be used to receive a mating protrusion (e.g., post 618 of FIG. 10) on shell piece 680. When the actuation element 630 is pulled, the prongs 636 move with the actuation element 630, thus causing the second ends 627b and 628b of claws 623 and 624 to contract toward each other and toward claws 621 and 622. Providing modular claws enhances play value by allowing a user to exchange claws of different designs, or to change the number of claws. Changing the number of claws may also allow players to change the level of play difficulty or to capture different types of objects, such as target pieces of various shapes and sizes. The claws may be coupled or decoupled from the toy as desired during the course of the game play.

[0040] FIG. 18 shows an embodiment of a game system 700 using the retrieving toys described herein. The game system 700 may include an optional game arena 710 to define the playing space within which the retrieving assemblies 750 capture the target pieces 740. The game arena 710 is embodied here as vertical walls, with multiple segments that are placed on a playing surface 720, and that can be spaced apart and angled as desired. Playing surface 720 may be, for example, a tabletop, a floor, a game board, or other surface that is conducive to sliding objects on top of it. In other embodiments, the game arena 710 may be configured as, for example, curved border pieces, or posts. In various embodiments, the game arena may be separate from the playing surface or may be affixed to the playing surface.

[0041] In operation, a user slides a retrieving toy 730, with claws open, toward target pieces 740 as indicated by arrow 760. In FIG. 18, it can be seen that loop 750 is mounted on the user's hand, so that the user can maintain control of the tether attached to toy 730. If the toy 730 is slid accurately toward a target piece 740, the user pulls on the tether, thus closing the claws of toy 730 and capturing the piece. In one embodiment, players may race to capture as many target pieces 740 as possible, with the winner being the one to grab the most target pieces. In other embodiments, players may compete to capture certain colors or types of target pieces. Players may take turns capturing the pieces, or may compete simultaneously.

[0042] In yet further embodiments, a game system 800 in FIG. 19 may include game cards and a scoreboard. Exemplary game play may include claw figures as described above, target pieces, a game arena, action cards 810, a hit point status indicator 820 (e.g., a scoreboard), and character cards 830. The action cards 810 may indicate which target pieces are required for a particular action related to at least one of the target pieces. For example, one green target piece may be required to take twenty-five hit points from a player's opponent. Each player takes turns starting a round by placing one or more of their own target pieces into the game arena. The opposing player places a number of their target pieces into the game arena. During a competitive round, the players must battle to retrieve target pieces from the game arena by flinging their claw figures into the arena and activating the claws to grab the target pieces and bring them back to the player's side. Once the competitive round ends, the starting player uses their captured target pieces to activate an action on one of

their action cards **810**. Points are tracked on status indicator **820**. The first player to reduce their opponent's hit points to zero wins.

[0043] While the specification has been described in detail with respect to specific embodiments of the invention, it will be appreciated that those skilled in the art, upon attaining an understanding of the foregoing, may readily conceive of alterations to, variations of, and equivalents to these embodiments. These and other modifications and variations to the present invention may be practiced by those of ordinary skill in the art, without departing from the spirit and scope of the present invention, which is more particularly set forth in the appended claims. Furthermore, those of ordinary skill in the art will appreciate that the foregoing description is by way of example only, and is not intended to limit the invention.

What is claimed is:

1. A toy apparatus comprising:
 - a base piece configured to slide on a surface;
 - a plurality of elongated members, each elongated member having a first end and a second end, wherein the plurality of elongated members are movably coupled to the base piece near the first ends; and
 - a tether coupled to the first ends of the elongated members; wherein the elongated members have a first position in which the second ends of the elongated members are expanded apart from each other, and a second position in which the second ends of the elongated members are contracted toward each other, wherein in the second position the elongated members are capable of surrounding a target piece; and
 wherein tension applied to the tether moves the elongated members from the first position to the second position.
2. The apparatus of claim 1 further comprising an actuation element coupling the tether to the elongated members, wherein the actuation element is slidably coupled to the base piece.
3. The apparatus of claim 3 wherein the actuation element is a rod.
4. The apparatus of claim 1 wherein the elongated members are pivotally joined to the base piece.
5. The apparatus of claim 1 wherein the elongated members are curved to have a concave surface, such that the concave surfaces of the elongated members form a space to surround the target piece in the second position.
6. The apparatus of claim 1 wherein the plurality of elongated members move in a plane parallel to the surface when moving between the first position and the second position.
7. The apparatus of claim 1 wherein two of the plurality of elongated members move in a first plane when moving between the first position and the second position, and wherein at least one of the plurality of elongated members moves in a second plane, wherein the second plane is different from the first plane.
8. The apparatus of claim 1 further comprising a joining element coupled to the tether, wherein the joining element is configured to enable a user to modularly couple and decouple one of the plurality of elongated members from the joining

element, and wherein the elongated member is movable from the first position to the second position when the elongated member is coupled to the joining member.

9. A game apparatus comprising:
 - a plurality of target pieces; and
 - a plurality of retrieving assemblies comprising:
 - a base piece configured to slide on a surface;
 - a plurality of elongated members, each elongated member having a first end and a second end, wherein the plurality of elongated members are movably coupled to the base piece near the first ends; and
 - a tether coupled to the first ends of the elongated members;
 wherein the elongated members have a first position in which the second ends of the elongated members are expanded apart from each other, and a second position in which the second ends of the elongated members are contracted toward each other, wherein in the second position the elongated members are capable of surrounding a target piece; and
 - wherein tension applied to the tether moves the elongated members from the first position to the second position.
10. The apparatus of claim 9 further comprising a plurality of game cards, wherein the game cards include instructions for conducting an action related to at least one of the target pieces.
11. The apparatus of claim 9 further comprising a game arena, wherein the game arena defines a space within which the retrieving assemblies capture the target pieces.
12. The apparatus of claim 11 wherein the game arena comprises a wall capable of being placed on the surface.
13. The apparatus of claim 9 wherein the retrieving assemblies further comprise an actuation element coupling the tether to the elongated members, wherein the actuation element is slidably coupled to the base piece.
14. The apparatus of claim 9 wherein the elongated members are pivotally joined to the base piece.
15. The apparatus of claim 9 wherein the plurality of elongated members move in a plane parallel to the surface when moving between the first position and the second position.
16. The apparatus of claim 9 wherein two of the plurality of elongated members move in a first plane when moving between the first position and the second position, and wherein at least one of the plurality of elongated members moves in a second plane, wherein the second plane is different from the first plane.
17. The apparatus of claim 9 wherein the retrieving assemblies further comprise a joining element coupled to the tether, wherein the joining element is configured to enable a user to modularly couple or decouple one of the plurality of elongated members from the joining element, and wherein the elongated member is movable with respect to the joining element when the elongated member is coupled to the joining member.

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