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### Chew Toy

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#### Abstract

A chew toy according to one embodiment includes a first part having an elongated threaded post and a second part having a threaded bore that receives the threaded post. The second part has a transverse opening formed therein that is in communication with the threaded bore and is configured to receive an object that can be held therein by a force applied by the threaded post. The first part and the second part rotate relative to one another and have a range of axial movement relative to one another, but the threaded post is inseparably coupled to and contained within the threaded bore.

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## **Background/Summary**

CROSS REFERENCE TO RELATED APPLICATION [0001] The present application claims priority to and the benefit of U.S. provisional patent application Ser. No. 63/551,717, filed Feb. 9, 2024, which is hereby expressly incorporated by reference in its entirety.

### **TECHNICAL FIELD**

[0002] The disclosure relates to pet toys, specifically to a dog toy designed for the many play styles dogs engage in that is specifically configured to be a chew toy and to safely hold edible treats and sticks that can be consumed by the dog.

### **BACKGROUND**

[0003] Dogs have a natural need for play regardless of age, size or breed. Dog toys are designed to support these activities, from carry and comfort, to fetch, tug and chew. Size, shape, material and in some instances scent or infused ingredients are all elements that are combined in the creation of a dog toy. The materials—such as rope, rubber, thermo-plastic rubber, leather, synthetic nylons, all types of woven, non-woven and knitted fabric—shape and structural design of the toy are combined to support a specific play activity or some combination of play activities. Some dog toys have scented ingredients to stimulate the olfactory sense of the dog to encourage interest and play engagement. A plurality of elements are often combined so the toy can satisfy instinctual needs, provide enhanced play experiences or provide opportunities for engagement by accommodating edible treats of various degrees of hardness, from solids to pastes or liquids that can be frozen into the toy. While it varies based on material types and design, durability is a consideration in the design, function and marketing of every dog toy.

[0004] Dogs of all ages, breeds and sizes have a natural instinct and need to chew. Chew toys are designed to support this activity so the chewing need can be more safely satisfied in almost any indoor or outdoor environment. A well-designed chew toy will engage the dog, stimulate them to fulfill their instinctive needs, and reduce the likelihood of their chewing on furniture, clothing or other articles that are not intended for chewing by dogs. By definition, regardless of the dog's chewing power, a chew toy must be made from suitably durable materials and provide shapes that allow the dog to chew safely.

[0005] That said, dogs have different jaw sizes, bite strength and styles or preferences for how they want to chew. This has inspired the use of specific materials and influenced the design of shapes that best satisfy this wide range of dog chewing preferences. To better attract and engage dogs to want to chew the toy, materials are infused with scents and/or flavors, or where structurally safe, features are embedded to emit noise, or provide some textural response that stimulates. There are also categories or types of chew toys that can incorporate edible treats of various forms to attract and satisfy a dog's needs. Finally, there is a category of chew toys made from vegetable or animal materials that can be molded into a fully consumable chew toy.

[0006] Treat dispensing toys are especially popular as their design typically optimizes a play capability along with the ability to maximize engagement as the dog must figure out through play how to “win” the treat. These types of toys typically do not have any mechanism to secure a treat as their purpose is to dispense treats.

### **SUMMARY**

[0007] A chew toy according to one embodiment includes a first part having an elongated threaded post and a second part having a threaded bore that receives the threaded post. The second part has a transverse opening formed therein that is in communication with the threaded bore and is configured to receive an object that can be held therein by a force applied by the threaded post. The first part and the second part rotate relative to one another and have a range of axial movement relative to one another, but the threaded post is inseparably coupled to and contained within the threaded bore.

[0008] The threaded post includes a retaining lip that extends radially outward from the post and an interior wall of the threaded bore has an inner retaining flange. The retaining lip is captured between the inner retaining flange and a closed end of the threaded bore, thereby preventing separation of the first part and the second part. The first and second parts move between a fully retracted position in which the first and second parts are not separated and a fully extended position in which the first and second parts are separated a maximum distance. In the fully retracted position, the retaining lip is spaced from the inner retaining flange, while in the fully extended position, the retaining lip is in contact with inner retaining flange.

[0009] In another embodiment, a chew toy includes a first part having a first end portion; and a second part having a second end portion. The first part and the second part are shaped such that when one of the first end portion and the second end portion lies stable on a ground surface, the other of the first end portion and the second end portion is upright at an angle to the ground surface, whereby application of a downward force to one of the first end portion and the second end portion causes a lifting of the other of the first end portion and the second end portion. This construction provides a rocking motion to the chew toy that advantageously allows the dog to change the angle of attack on the edible being held by the chew toy but the design does not allow for uncontrolled rolling of the toy.

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## Description

### BRIEF DESCRIPTION OF THE DRAWING FIGURES

[0010] FIGS. **1-6** illustrate a chew toy according to one embodiment and being shown in a fully retracted position:

[0011] FIGS. **7-8** illustrate the chew toy in a fully extended position;

[0012] FIG. **9** illustrates a cross-sectional view of portion of the chew toy;

[0013] FIG. **10** illustrates another cross-sectional view of portion of the chew toy;

[0014] FIGS. **11-15** illustrate a chew toy according to another embodiment and being shown in a fully retracted position;

[0015] FIGS. **16-19** illustrate the chew toy in a fully extended position:

[0016] FIGS. **20A-20F** illustrate the rocking motion of the chew toy that allows the dog to advantageously change the point of attack to more comfortable insert and chew the edible between the rear molars of the dog; and

[0017] FIG. **21** is a side view of an alternative chew toy showing its rocking motion.

### DETAILED DESCRIPTION OF CERTAIN EMBODIMENTS

[0018] FIGS. **1-10** illustrate a dog chew toy **100** in accordance with one embodiment of the present disclosure. The dog chew toy **100** combines the desirable attributes of both a chew dog toy and a treat-dispensing dog toy. More specifically, the chew toy **100** is constructed so that it can be safely chewed on by the dog and moreover, the chew toy **100** is configured and designed to hold a treat and in this way, functions as a treat-dispensing toy. The physical structure of the chew toy **100** is described herein first and then the materials and functionality of the chew toy **100** are described. It will be understood that the object that can be held within the chew toy **100** can take many different forms and can include a stick, treat, or a firm vegetable, such as a carrot, or celery stick, etc. Thus,

the word “treat” that is used herein is intended to cover any suitable object that can be held within and by the chew toy **100** to provide enjoyment to the dog.

[0019] The chew toy **100** comprises an elongated body **110** that is defined by a first end **102** and an opposing second end **104**. As described here in more detail, the elongated body **110** is actually formed of a first part **200** and a second part **300** that is coupled to the first part **200** in such a way that during normal use of the chew toy **100**, the first and second parts **200**, **300** are not separable. In other words, the first and second parts **200**, **300** are coupled so that they cannot be detached from one another during normal use; however, there is a range of motion between the first and second parts **200**, **300** as described herein. More specifically, as described herein, the first and second parts **200**, **300** can rotate relative to one another and there is also a range of axial movement between the two parts.

[0020] The chew toy **100** and in particular, the first and second parts **200**, **300**, thereof can be formed to have different shapes including the one illustrated and described herein (e.g., bone shaped).

#### First Part **200**

[0021] The first part **200** is an elongated part that has a first end **202** and an opposing second end **204**, with the second end **204** being the same as the second end **104**. The first part **200** is preferably formed as a single body (e.g., molded structure) and has a main end portion **210** and an elongated post or shaft (screw plunger) **220** that extends outwardly from the main end portion **210**. The main end portion **210** functions as a chew part and can include tactile features which are described in more detail hereinbelow. The first part **200** can be considered to be a male part and in particular, the post **220** acts as a male component of a treat-holding mechanism that is described herein. The dimensions of the post **220** are less than the dimensions of the main end portion **210** and more particularly, the width of the post **220** is less than the width of the main end portion **210**. This results in a shoulder **225** being formed between the post **220** and the main end portion **210**. The shoulder **225** can be a right-angle shoulder as shown. The post **220** has a distal end **221** which comprises the first end **202** and the distal end **221** can be a smooth, flat surface or can be a contoured surface that has tactile features to improve gripping and holding of the treat. For example, the distal end **221** can therefore be flat, concave with parallel ridges or convex with parallel ridges to optimize holding power when tightened.

[0022] The main end portion **210** can include at least one tactile feature and can include a plurality of different tactile features formed as part thereof. In the illustrated embodiment, the main end portion **210** can include a plurality of raised protrusions **215** that can be in the form of (rounded) bumps that are formed and arranged along the outer surface of the main end portion **210**. The raised protrusions **215** can be formed in one or more areas (patches). For example, there can be a ring of spaced apart raised protrusions **215** proximate the shoulder **225**. The main end portion **210** can include one or more recessed areas (channels) **230** for additional treat holding capability and/or holding spreads. Each recessed area **230** can be in the form of an elongated trough. The recessed area **230** itself includes raised protrusions (ribs or dentures) **215**. As shown, each recessed area **230** is defined by a first side wall **232** and a second side wall **234** located parallel to and across from the first side wall **232**. One row of raised protrusions **215** can be formed along or proximate to the first side wall **232** and another row of raised protrusions **215** can be formed along or proximate to the second side wall **234**. The raised protrusions **215** formed along the first and second side walls **232**, **234** are offset from one another in that they are not formed directly opposite one another. This orientation of the raised protrusions **215** within the recessed area **230** provides an area that can hold an object, such as a treat or the like. For example, a treat can be placed into the trough and retained between and by the raised protrusions **215** on the opposite side walls.

[0023] The ratio of the depth and length of the recessed area **230** is selected to accommodate treats or spreads. In addition, the recessed area (channel) **230** can include dentures that are contiguous to the molded form that establish surface areas that support dental health when chewing.

[0024] The illustrated embodiment includes two recessed areas on opposite sides of the main end portion **210**. It will also be appreciated that the raised protrusions **215** can be formed to have different sizes and/or different shapes. As shown, the raised protrusions **215** are limited to being formed along the main end portion **210** and not the post **220**. It will be understood that the recessed areas are optional.

[0025] As mentioned, the post **220** is an elongated structure (e.g., cylindrical shaped) and can have a stepped construction in that the first end **202** can have a step as a result of the post **220** having reduced dimensions compared to the other length of the post **220**. This stepped construction can be defined by another shoulder **229** which can be a right-angle shoulder.

[0026] The post **220** can have a threaded portion that is defined by outer threads **227**. The outer threads **227** extend to the shoulder **229**. The post **220** also has a retaining lip or flange **240** that extends radially outward from the post **220**. The retaining lip **240** is located adjacent to the proximal end of the outer threads **227** in that the outer threads **227** are located between the retaining lip **240** and the shoulder **229**. The retaining lip **240** extends radially outward relative to the outer threads **227**. The retaining lip **240** can be in the form of a continuous ring (as illustrated) or can be formed of multiple arcuate shaped segments that extend circumferentially around the post **220**. Another portion **241** of the post **220** can be devoid of the outer threads **227**. This portion **241** extends from the shoulder **225** to the retaining lip **240**.

## Second Part **300**

[0027] The second part **300** is an elongated hollow part that has a first end **302** and an opposing second end **304**, with the first end **302** being the same as the first end **102**. The second part **300** has a main end portion **310** and an elongated stem-like portion that extends outwardly from the main end portion **310**. The main end portion **310** functions as a chew part and can include tactile features which are described in more detail hereinbelow. The second part **300** can be considered to be a female part of the treat-dispensing mechanism.

[0028] More specifically, the second part **300** is a hollow part in that it includes a first opening or first bore **301** at the second end **304**. The first bore **301** is elongated in nature and extends longitudinally within the second part **300**. The first bore **301** can have a cylindrical shape. The first bore **301** can be defined by different sections and more particularly, can be defined by a first section **303** and a second section **305**. The first bore **301** is open at the second end **304** and the second section **305** is adjacent to this opening of the first bore **301** at the second end **304**. The first section **303** can comprise a threaded section defined by inner threads **309**. The inner threads **309** are integrally formed in the second part **300**. The inner threads **309** are complementary to the outer threads **227** of the post **220** to allow the post **220** to threadingly mate with the second part **300**. In other words, the post **220** can be screwed onto the second part **300** as described herein.

[0029] As shown, the first section **303** has dimensions that are less than dimensions of the second section **305** and more particularly, the first section **303** has dimensions that are less than the second section **305**. As shown, the second section **305** lacks any threads and can have an unadorned, smooth surface.

[0030] The second section **305** has an inner retaining flange **330** that is formed at the second end **304**. In other words, the inner retaining flange **330** is formed at the opening of the first bore **301**. The inner retaining flange **330** can be in the form of an annular shaped protrusion that extends continuously around the inner wall that defines the first bore **301**. The inner retaining flange **330** can be continuous and uninterrupted in shape; however, it can also comprise a segmented structure that is formed of two or more arcuate shaped structures that define a segmented ring.

[0031] The inner retaining flange **330** and the retaining lip **240** are formed in view of one another in that the inner retaining flange **330** acts as a stop and limits and restricts movement of the post **220** in one direction. The inner retaining flange **330** thus defines one end of travel of the post **220** and thus, defines maximum separation of the two main end portions of the first and second parts **200**, **300**. More specifically, the retaining lip **240** is unable to clear the inner retaining flange **330**

and thus, the first and second parts **200**, **300** are inseparably coupled to one another. Once coupled together, in the manner described herein, the first and second parts **200**, **300** cannot be separated from one another since the retaining lip **240** contacts the inner retaining flange **330** and cannot move past the inner retaining flange **330** in a direction that would separate the two parts **200**, **300**. [0032] The second part **300** also includes a transverse opening **320** that is a through hole that extends transversely through the main end portion **310** in that the transverse opening **320** is open along the first and second side faces of the main end portion **310**. In the illustrated embodiment, the transverse opening **320** has a circular shape; however, the transverse opening **320** can have other shapes. As described herein, the transverse opening **320** is designed to hold a treat and since it is a through hole, the ends of the treat can protrude outwardly from the two opposing sides (faces) of the main end portion **310**.

[0033] In addition, the interior wall of the transverse opening **320** can have a grip feature or holder **350** that assists in holding the treat within the transverse opening **320**. The transverse opening **320** can be considered to have a first end that is closest to the first end **102** of the chew toy and a second end that is closest to the stem of the second part **300**. The grip feature **350** is located along the first end of the transverse opening **320** and can be in the form of a structure that can contact and/or grip the treat. For example, the grip feature **350** can comprise a knurled surface or can comprise a series of teeth and/or pointed protrusions. The illustrated grip feature **350** comprises a flat formed within a center concave section that has a series of teeth or the like. The grip feature **350** is directly opposite the distal end (first end) of the post **220** and therefore, as described herein, when a treat is positioned within the transverse opening **320**, the treat is positioned and held between the post **220** and the grip feature **350**. The grip feature **350** can thus be in the form of a raised surface within the transverse opening **320** with parallel ridges to provide friction for holding the treat or stick as the post **220** (screw plunger) applies pressure.

[0034] The first bore **301** is also in communication with the transverse opening **320** in that the first bore **301** intersects and forms an entrance into the transverse opening **320**. The first section **303** is thus immediately adjacent to the transverse opening **320**. This orientation, as described herein, allows for the post **220** to be driven at least partially into the transverse opening **320**.

[0035] The main end portion **310** can include at least one tactile feature and can include a plurality of different tactile features formed as part thereof. In the illustrated embodiment, the main end portion **310** can include a plurality of raised protrusions **315** that can be in the form of (rounded) bumps that are formed and arranged along the outer surface of the main end portion **310**. The raised protrusions **315** can be formed in one or more areas (patches). For example, there can be a ring of spaced apart raised protrusions **315** proximate the end of the second part **300**. The main end portion **310** can include select patches of raised protrusions **315**.

[0036] The raised protrusions **215**, **315** provide textured surfaces to provide stimulation to the dog's tongue and mouth.

#### Initial Coupling of the First and Second Parts **200**, **300**

[0037] To initially couple the first and second parts **200**, **300**, the post **220** is received within the female portion (first bore **301**) of the second part **300** and the first and second parts **200**, **300** are joined together. This initial coupling can be performed at the point of manufacturing. The end user thus does not perform this operation and instead is supplied the product in its coupled state (and is inseparable in normal use). In one embodiment, the first and second parts **200**, **300** can be joined as whole parts or alternatively, the first and second parts **200**, **300** can be joined with one of the parts **200**, **300** being itself in multiple parts that are later joined together. For example, the second part **300** can initially be formed as two parts (e.g., two halves) and the first part **200** is inserted between these two halves, which are then subsequently joined together (e.g., as by bonding (adhesive, heat seal, sonic welding etc.)).

[0038] As mentioned, the chew toy **100** is intended to be supplied in its coupled state and during normal use, the two parts **200**, **300** cannot be separated (uncoupled). This provides safety

advantages over conventional toys in that the toy **100** remains as one and does not break down into smaller parts and also it provides convenience to the user in that by remaining intact, the parts **200**, **300** cannot be separated and lost.

#### Retracted and Extended Positions of Chew Toy **100**

[0039] As described herein, the first and second parts **200**, **300** move between a first position which can be considered to be a fully tightened (retracted) position in which the first and second parts **200**, **300** have minimum separation and a second position which can be considered to be a fully extended position in which the first and second parts **200**, **300** have maximum separation.

[0040] FIGS. **1-6** illustrate the retracted position of the chew toy **100**. In this position, the post **220** is threadingly attached to the second part **300** in that the outer threads **227** of the post **220** are threadingly engaged with the inner threads **309**. In the fully retracted position, the shoulder **225** seats against the second end **304** of the second part **300** and the distal end **221** of the post **220** is received within the transverse opening **320** (e.g., the post **220** occupies a substantial area of the transverse opening **320** (e.g., 50% or more in one embodiment)). In this fully retracted position, there is a space between the distal end **221** of the post **220** and the grip feature **350**. This space is at a minimum distance in the fully retracted position. In order to fit a larger sized treat within the space, the post **220** is backed off from the grip feature **350** by unscrewing the first part **200** from the second part **300**, resulting in the post **220** moving away from the grip feature **350**. Much like a vise, the user can initially open up the treat dispensing mechanism by unscrewing the post **220** to create more clearance to initially receive the treat before then tightening the post **220** against the treat.

[0041] As shown, in the fully retracted position, the retaining lip **240** is spaced from and is not in contact with the inner retaining flange **330**. However, the retaining lip **240** does not enter the first section **303** and does not contact or engage the inner threads **309**. Instead, only the outer threads **227** are engaged with the inner threads **309**.

[0042] The fully extended position is shown in FIGS. **7-8**. In this position, the distal end **221** of the post **220** can be completely withdrawn from the transverse opening **320** in that it is not located within the transverse opening **320**. The transverse opening **320** in this position is at a maximum in terms of open space to receive a treat. In other words, without the post **220** in the transverse opening **320**, the treat of various size can be received within the transverse opening **320**. However, the retaining lip **240** prevents the first part **200** from being separated from the second part **300** even when the post **220** is completely unscrewed from the second part **300**. This is because the retaining lip **240** cannot clear the inner retaining flange **330** and thus the inner retaining flange **330** acts as a stop that prevents separation of the first part **200** from the second part **300**. This is in contrast to conventional chew holding toys in which the two parts **200**, **300** fully separate by completely unscrewing one part from the other part.

[0043] To retain and hold the treat within the transverse opening **320**, the first and second parts **200**, **300** are manipulated by unscrewing the first part **200** relative to the second part **300**, thereby creating enough open space within the transverse opening **320** to receive the treat. The treat can be positioned within the center of the transverse opening **320** adjacent to the grip feature **350** and aligned within the distal end **221** of the post **220**. To hold the treat, the user screws the first part **200** relative to the second part **300** causing the post **220** to move axially in a direction toward the grip feature **350**. As the post **220** moves in this direction, the distance between the distal end **221** and the grip feature **350** decreases and the distal end **221** of the post **220** is driven into contact with the treat. As the post **220** is driven, the post **220** applies a force against the treat resulting in the treat being held between the grip feature **350** and the post **220**. The first and second parts **200**, **300** are tightened until the treat is securely held between the grip feature **350** (a wall) and the post **220**. The teeth of the grip feature **350** bite into the treat to assist in holding the treat.

[0044] The length of the second section **305** is specifically selected and designed such that when the first and second parts **200**, **300** are separated at a maximum distance (fully extended position),

the outer threads **227** of post **220** are entirely or at least substantially located within the second section **305** as opposed to being threadingly engaged with the inner threads **309**. However, in this fully extended position, the retaining lip **240** is in contact with the inner retaining flange **330**. [0045] It will also be appreciated that the screwing movement can be activated by rotating either the first part **200** or the second part **300**.

#### Materials

[0046] As mentioned, the chew toy **100** functions not only as a treat-holding toy but also functions as a chew toy. As such, the chew toy **100** is formed of a material that is suitable and safe for a dog to gnaw on and chew on with or without a treat or stick inserted into the transverse opening **320**.

[0047] In one embodiment, the chew toy **100** is made from animal, vegetable or cellulose material that is processed with organic or petroleum-based materials that support transformation through injection molding to form a safe to chew durable material for the chew toy **100**. In one embodiment, the chew toy **100** is formed of a material that has a shore hardness of between 40 to 100. The materials are food-grade safe, dishwasher safe and freezer safe. In one embodiment the chew toy **100** is formed only of animal or vegetable material that is entirely consumable.

Alternatively, the chew toy **100** can be formed from a rubber composition.

#### Shape of Chew Toy **100**

[0048] As shown, the chew toy **100** has an ergonomic shape and in particular, has an ergonomic grip for easy tightening. Therefore, a maximum holding force can be achieved more easily due to the user easily gripping and rotating the parts **200**, **300**. The chew toy **100** has an ergonomic symmetrical shape that has an oblong extension to optimize grip to move easily apply force to tighten or loosen the screw mechanism holding the treat or stick.

[0049] The illustrated chew toy **100** has a symmetrical shape; however, when the screw (post **220**) is fully tightened without a treat inserted for use as a chew toy, the two ends **102**, **104** of the chew toy **100** are offset, providing motion when the dog interacts with the chew toy **100**. In particular, when one of the first part **200**, **300** lies flat on the ground, the other part **200**, **300** is in a raised position. For example, the other part can be at an angle of 90 degrees or less than 90 degrees relative to the ground surface. The shape of the chew toy **100** is stable in this position in that it can sit on a flat surface without rolling. However, since one part **200**, **300** is raised relative to the other part **200**, **300** when the one part **200**, **300** lies flat on the ground, this orientation permits a rocking and rolling action when the dog plays with the chew toy **100** and pushes it. In other words, while the chew toy **100** can have a symmetric shape, it assumes a range of asymmetrical shapes and an asymmetrical shape when the post **220** is completely screwed into a closed position (i.e., the fully retracted position of the chew toy **100**) in a non-linear position so the shape naturally rocks when touched and the extension of the symmetrical piece provides surface area for being held in place to the ground allowing support for chewing and or licking of the device or a spread on the device, and the variability of the positioning of the chew toy **100** by the force of the dog's paw positions the treat/stick inserted into the chew channel (the transverse opening) or being held in the diameter of the chew toy **100** in a manner that improves the accessibility of the treat/stick to the dogs molars.

[0050] In one embodiment, when the part **300** lies stable on the ground, the part **200** is at an angle of less than 90 degrees relative to the ground. In this orientation, the edible is at an angle. The angle of the first part **200** in this orientation can be selected such that when the part **200** transitions from the upright angled position to a position at which it lies stable on the ground surface, the angle of the edible changes. In one embodiment, the degree at which the edible changes is less than 60 degrees. However, it will be appreciated that this angle of change of the edible can be less or more than 60 degrees (e.g., it can be 45 degrees or less, etc.).

[0051] As mentioned and with reference to FIGS. **20A-20F**, one aspect of the present chew toy **100** is that it is constructed to act as a positioning aid with stability control. More specifically, in the chew toy **100**, the purposeful angularly offsetting of the two ends of the chew toy **100** allows for a rocking motion but does not let the chew toy **100** freely rotate or move in an uncontrolled manner



to facilitate the treat being in a position to best support access for the dog to chew effectively on the treat. In other words and as previously described, the chew toy **100** is constructed so that when one end lies substantially planar to the ground, the other end is at angle; and conversely, when the other end is substantially planar to the ground, the one end is at angle. This construction provides stability but also provides a rocking motion in that when the angled end is pushed down and assumes the substantially planar position, the other end moves from being substantially planar to being angled. The ends of the chew toy **100** are thus designed so that at least in one position, the end is stable and rests on the ground and resists free movement.

[0052] In the illustrated embodiment, each of the ends of the chew toy **100** includes a lateral protruding (pointed) portion that acts as a stop. If the chew toy **100** is pushed toward the ground by applying force to the top of the protruding portion of the end that is in a stable position to the ground, the protruding portion seats against the ground and resists further movement (i.e., prevents rotation). Conversely, if a force is applied to the protruding portion of the end that is angled and upstanding relative to the ground, this causes that end to move from the angled upstanding position to the stable position (and also causes the opposite end to move in the opposite way from stable to angled upstanding).

[0053] This rocking motion allows for the dog to change the angle of attack with respect to the edible that is held in the chew toy **100**. As shown in FIGS. **20A-20F**, the edible protrudes upwardly from the chew toy **100** and the rocking motion shifts the angle of attack of the dog. By adjusting the angle of attack, the dog can more easily and comfortably position the edible at the molars which are the teeth used for grinding and chewing.

[0054] The purposeful offsetting of the ends of the chew toy **100** acts as a positioning aid but the construction also provides stability that prevents uncontrolled and unwanted motion, such as free rolling, that would frustrate the dog since the edible would be shifting in space as the dog is chewing. Instead, a controlled rocking motion offers an improved solution to optimize the dog's point of attack.

#### Alternative Shapes (FIG. **20C**)

[0055] FIG. **20C** shows different shaped two part chew toys **100**. These alternative designs incorporate the inseparable coupling feature described herein with respect to the illustrated chew toy **100**. In other words, the two parts include the retaining lip **240** and the inner retaining flange **330** that allow for the range of motions described herein but do not allow for separability during normal use of the product.

[0056] In addition, the end of the second part **300** can include a flat (planar section) that facilitates the chew toy **100** being stably positioned in a vertical orientation in which the dog can grasp and chew on the edible.

[0057] Now referring to FIG. **21** in which another embodiment is shown and indicated at **101**. Like the alternative shapes of FIG. **20C**, the embodiment in FIG. **21** is of a two-part construction that can include the retaining lip **240** (FIG. **9**) and the inner retaining flange **330** that allow for the range of motions described herein but do not allow for separability during normal use of the product. In this embodiment, the first part that functions like first part **200** has a rocking horse shape in that it can have a generally flat center portion with two raised ends that can be considered to be two handles. Like a rocking horse, when one end is pushed down, that end comes into contact with the ground and the other end raises.

[0058] The flat area on the bottom allows the chew toy to stand upright. Pressure on either of the two ends (handles) adjusts the angle of attack since the chew toy rocks. By providing stability when the chew toy is in the vertical orientation, the dog has another position of the chew toy in which the edible is engageable.

#### Chew Toy

[0059] FIGS. **11-19** illustrate a dog chew toy **400** in accordance with one embodiment of the present disclosure. The dog chew toy **400** combines the desirable attributes of both a chew dog toy

and a treat-dispensing dog toy. More specifically, the chew toy **400** is constructed so that it can be safely chewed on by the dog and moreover, the chew toy **400** is configured and designed to hold a treat and in this way, functions as a treat-dispensing toy. The chew toy **400** has a similar construction and similar features as the chew toy **100** and therefore, like elements are numbered alike.

[0060] As with the chew toy **100**, the chew toy **400** comprises an elongated body that is defined by a first end and an opposing second end. As described here in more detail, the elongated body is actually formed of a first part **500** and a second part **600** that is coupled to the first part **500** in such a way that during normal use of the chew toy **400**, the first and second parts **500**, **600** are not separable. In other words, the first and second parts **500**, **600** are coupled so that they cannot be detached from one another during normal use; however, there is a range of motion between the first and second parts **500**, **600** as described herein. More specifically, as described herein, the first and second parts **500**, **600** can rotate relative to one another and there is also a range of axial movement between the two parts.

#### First Part **500**

[0061] The first part **500** is an elongated part that has a first end and an opposing second end. The first part **500** is preferably formed as a single body (e.g., molded structure) and has a main end portion **510** and an elongated post or shaft (screw plunger) **220** that extends outwardly from the main end portion **510**. The main end portion **510** functions as a chew part and can include tactile features which are described in more detail hereinbelow. The first part **500** can be considered to be a male part and in particular, the post **220** acts as a male component of a treat-holding mechanism that is described herein. The dimensions of the post **220** are less than the dimensions of the main end portion **510** and more particularly, the width of the post **220** is less than the width of the main end portion **510**. This results in a shoulder being formed between the post **220** and the main end portion **510**. The shoulder can be a right-angle shoulder as shown. The post **220** has a distal end **221** which comprises the first end of the first part **500** and the distal end **221** can be a smooth, flat surface or can be a contoured surface that has tactile features to improve gripping and holding of the treat. For example, the distal end **221** can therefore be flat, concave with parallel ridges or convex with parallel ridges to optimize holding power when tightened.

[0062] The main end portion **510** can include at least one tactile feature and can include a plurality of different tactile features formed as part thereof. In the illustrated embodiment, the main end portion **510** can include a plurality of recessed sections **503**. In the illustrated embodiment, there are two sets of recessed sections **503** formed along the two sides of the first part **500** and in particular, the two sets are located 180 degrees apart from one another. Each recessed section **503** can be in the form of a groove or channel.

[0063] The first part **500** includes the post **220** which is an elongated structure (e.g., cylindrical shaped) and can have a stepped construction in that the first end and can have a step as a result of the post **220** having reduced dimensions compared to the other length of the post **220**. This stepped construction can be defined by another shoulder which can be a right-angle shoulder.

[0064] The post **220** can have a threaded portion that is defined by outer threads **227**. The outer threads **227** extend to the shoulder. The post **220** also has a retaining lip or flange **240** that extends radially outward from the post **220**. The retaining lip **240** is located adjacent to the proximal end of the outer threads **227** in that the outer threads **227** are located between the retaining lip **240** and the shoulder. The retaining lip **240** extends radially outward relative to the outer threads **227**. The retaining lip **240** can be in the form of a continuous ring (as illustrated) or can be formed of multiple arcuate shaped segments that extend circumferentially around the post **220**. Another portion **241** of the post **220** can be devoid of the outer threads **227**. This portion **241** extends from the shoulder **225** to the retaining lip **240**.

[0065] Details of the retaining lip **240** are also shown in FIG. 9 which illustrates the chew toy **100**.

#### Second Part **600**

[0066] The second part **600** is an elongated hollow part that has a first end and an opposing second end. The second part **600** has a main end portion **610** and an elongated stem-like portion that extends outwardly from the main end portion **610**. The main end portion **610** functions as a chew part and can include tactile features which are described in more detail hereinbelow. The second part **600** can be considered to be a female part of the treat-dispensing mechanism.

[0067] More specifically, the second part **600** is a hollow part in that it includes a first opening or first bore **601** at the second end. The first bore **601** is elongated in nature and extends longitudinally within the second part **600**. The first bore **601** can have a cylindrical shape. The first bore **601** can be defined by different sections and more particularly, can be defined by a first section and a second section. The first bore **601** is open at the second end and the second section is adjacent to this opening of the first bore **601** at the second end. The first section can comprise a threaded section defined by inner threads **609**. The inner threads **609** are integrally formed in the second part **600**. The inner threads **609** are complementary to the outer threads **227** of the post **220** to allow the post **220** to threadingly mate with the second part **600**. In other words, the post **220** can be screwed onto the second part **600** as described herein.

[0068] As shown and similar to the chew toy **100**, the first section has dimensions that are less than dimensions of the second section and more particularly, the first section has dimensions that are less than the second section. As shown, the second section lacks any threads and can have an unadorned, smooth surface.

[0069] The second section has an inner retaining flange **330** that is formed at the second end **304**. In other words, the inner retaining flange **330** is formed at the opening of the first bore **301**. The inner retaining flange **330** can be in the form of an annular shaped protrusion that extends continuously around the inner wall that defines the first bore **601**. The inner retaining flange **330** can be continuous and uninterrupted in shape; however, it can also comprise a segmented structure that is formed of two or more arcuate shaped structures that define a segmented ring. The inner retaining flange **330** is also shown in FIG. 9 with respect to the chew toy **100**.

[0070] The inner retaining flange **330** and the retaining lip **240** are formed in view of one another in that the inner retaining flange **330** acts as a stop and limits and restricts movement of the post **220** in one direction. The inner retaining flange **330** thus defines one end of travel of the post **220** and thus, defines maximum separation of the two main end portions of the first and second parts **200**, **300**. More specifically, the retaining lip **240** is unable to clear the inner retaining flange **330** and thus, the first and second parts **500**, **600** are inseparably coupled to one another. Once coupled together, in the manner described herein, the first and second parts **500**, **600** cannot be separated from one another since the retaining lip **240** contacts the inner retaining flange **330** and cannot move past the inner retaining flange **330** in a direction that would separate the two parts **500**, **600**.

[0071] The second part **600** also includes a transverse opening **320** that is a through hole that extends transversely through the main end portion **610** in that the transverse opening **320** is open along the first and second side faces of the main end portion **610**. In the illustrated embodiment, the transverse opening **320** has a circular shape; however, the transverse opening **320** can have other shapes. As described herein, the transverse opening **320** is designed to hold a treat and since it is a through hole, the ends of the treat can protrude outwardly from the two opposing sides (faces) of the main end portion **610**.

[0072] In addition, the interior wall of the transverse opening **320** can have a grip feature or holder **350** that assists in holding the treat within the transverse opening **320**.

[0073] The main end portion **610** can include at least one tactile feature and can include a plurality of different tactile features formed as part thereof. In the illustrated embodiment, the main end portion **610** can include a plurality of recessed sections **603**. In the illustrated embodiment, the recessed sections **603** formed along the curved end the second part **600**. Each recessed section **603** can be in the form of a groove or channel.

[0074] The main end portion **610** and or the stem portion of the second part **600** can include one or

more recessed areas (channels) **630** for additional treat holding capability and/or holding spreads. Each recessed area **630** can be in the form of an elongated trough. The recessed area **630** itself includes raised protrusions (ribs or dentures) **632**. As shown, each recessed area **630** can be defined by a first side wall and a second side wall located parallel to and across from the first side wall. One row of raised protrusions **632** can be formed along or proximate to the first side wall and another row of raised protrusions **632** can be formed along or proximate to the second side wall. The raised protrusions **632** formed along the first and second side walls are offset from one another in that they are not formed directly opposite one another. This orientation of the raised protrusions **632** within the recessed area **630** provides an area that can hold an object, such as a treat or the like. For example, a treat can be placed into the trough and retained between and by the raised protrusions **632** on the opposite side walls.

[0075] In the illustrated embodiment, there are two recessed areas on opposite sides of the second part **600**.

#### Initial Coupling of the First and Second Parts **500**, **600**

[0076] To initially couple the first and second parts **500**, **600**, the post **220** is received within the female portion (first bore) of the second part **600** and the first and second parts **500**, **600** are joined together. This initial coupling can be performed at the point of manufacturing. The end user thus does not perform this operation and instead is supplied to the product in its coupled state. In one embodiment, the first and second parts **500**, **600** can be joined as whole parts or alternatively, the first and second parts **500**, **600** can be joined with one of the parts **500**, **600** being itself in multiple parts that are later joined together. For example, the second part **600** can initially be formed as two parts (e.g., two halves) and the first part **500** is inserted between these two halves, which are then subsequently joined together (e.g., as by bonding (adhesive, heat seal, sonic welding, etc.).

[0077] The chew toy **400**, like the chew toy **100**, is intended to be supplied in its coupled state and during normal use, the two parts **500**, **600** cannot be separated (uncoupled). This provides safety advantages in that the toy **400** remains as one and does not break down into smaller parts and also it provides convenience to the user in that by remaining intact, the parts **500**, **600** cannot be separated and lost.

[0078] It will therefore be appreciated that the chew toy **400** is very similar to the chew toy **100** and functions in the same way.

[0079] Various embodiments of systems, devices, and methods have been described herein. These embodiments are given only by way of example and are not intended to limit the scope of the claimed inventions. It should be appreciated, moreover, that the various features of the embodiments that have been described may be combined in various ways to produce numerous additional embodiments. Moreover, while various materials, dimensions, shapes, configurations and locations, etc. have been described for use with disclosed embodiments, others besides those disclosed may be utilized without exceeding the scope of the claimed inventions.

[0080] Persons of ordinary skill in the relevant arts will recognize that the subject matter hereof may comprise fewer features than illustrated in any individual embodiment described above. The embodiments described herein are not meant to be an exhaustive presentation of the ways in which the various features of the subject matter hereof may be combined. Accordingly, the embodiments are not mutually exclusive combinations of features; rather, the various embodiments can comprise a combination of different individual features selected from different individual embodiments, as understood by persons of ordinary skill in the art. Moreover, elements described with respect to one embodiment can be implemented in other embodiments even when not described in such embodiments unless otherwise noted.

[0081] Although a dependent claim may refer in the claims to a specific combination with one or more other claims, other embodiments can also include a combination of the dependent claim with the subject matter of each other dependent claim or a combination of one or more features with other dependent or independent claims. Such combinations are proposed herein unless it is stated

that a specific combination is not intended.

[0082] Any incorporation by reference of documents above is limited such that no subject matter is incorporated that is contrary to the explicit disclosure herein. Any incorporation by reference of documents above is further limited such that no claims included in the documents are incorporated by reference herein. Any incorporation by reference of documents above is yet further limited such that any definitions provided in the documents are not incorporated by reference herein unless expressly included herein.

[0083] For purposes of interpreting the claims, it is expressly intended that the provisions of 35 U.S.C. § 112(f) are not to be invoked unless the specific terms “means for” or “step for” are recited in a claim.

## Claims

1. A chew toy comprising: a first part having an elongated threaded post; and a second part having a threaded bore that receives the threaded post, the second part having a transverse opening formed therein that is in communication with the threaded bore and is configured to receive an object that can be held therein by a force applied by the threaded post; wherein the first part and the second part rotate relative to one another and have a range of axial movement relative to one another but the threaded post is inseparably coupled to and contained within the threaded bore.
2. The chew toy of claim 1, wherein the first part has a main end portion with the threaded post extending outwardly from the main end portion, the main end portion having a plurality of raised protrusions formed along an outer surface thereof.
3. The chew toy of claim 2, wherein the main end portion has at least one recessed area for holding a treat or spread, the at least one recessed area having a plurality of raised protrusions formed therein.
4. The chew toy of claim 3, wherein the recessed area is defined by a first side wall and an opposing second side wall spaced from and parallel to the first side wall, the plurality of raised protrusions comprising a first row of raised protrusions formed along or proximate to the first side wall and a second row of raised protrusions formed along or proximate to the second side wall.
5. The chew toy of claim 4, wherein the first row of raised protrusions are offset from the second row of raised protrusions in that the first and second rows of raised protrusions are not formed directly opposite one another.
6. The chew toy of claim 2, wherein a first shoulder is defined between the main end portion and the threaded post, the post includes a first section that is adjacent to the first shoulder and is free of outer threads.
7. The chew toy of claim 1, wherein the threaded post includes a retaining lip that extends radially outward from the post and an interior wall of the threaded bore has an inner retaining flange, the retaining lip being captured between the inner retaining flange and a closed end of the threaded bore, thereby preventing separation of the first part and the second part.
8. The chew toy of claim 1, wherein the retaining lip comprises a continuous ring and the inner retaining flange comprises a continuous ring.
9. The chew toy of claim 1, wherein the threaded post has a stepped construction and has a distal end portion that has a width less than an adjacent threaded section of the threaded post that includes outer threads.
10. The chew toy of claim 1, wherein the transverse opening is defined by an interior wall that has a grip feature formed there along, the grip feature being disposed opposite the distal end portion of the post to allow the object to be held between the distal end portion and the grip feature.
11. The chew toy of claim 10, wherein the grip feature comprises a plurality of teeth formed along a concave surface.
12. The chew toy of claim 1, wherein a center axis of the transverse opening is perpendicular to a

longitudinal axis of the threaded post.

**13.** The chew toy of claim 1, wherein the second part has a main end portion with the threaded bore formed therein and being open at one end of the second part.

**14.** The chew toy of claim 1, wherein the first and second parts move between a fully retracted position in which the first and second parts are not separated and a fully extended position in which the first and second parts are separated a maximum distance.

**15.** The chew toy of claim 14, wherein the first part includes a main end portion from which the threaded post extends with a shoulder defined between the main end portion and the threaded post, wherein in the fully retracted position, the shoulder abuts an end of the second part and a distal end portion of the threaded post is disposed within the transverse opening.

**16.** The chew toy of claim 15, wherein in the fully extended position, the distal end portion of the threaded post is withdrawn from the transverse opening and the shoulder is spaced from the end of the second part.

**17.** The chew toy of claim 1, wherein the threaded post includes a retaining lip that extends radially outward from the post and an interior wall of the threaded bore has an inner retaining flange, the retaining lip being captured between the inner retaining flange and a closed end of the threaded bore, thereby preventing separation of the first part and the second part, and wherein the first and second parts move between a fully retracted position in which the first and second parts are not separated and a fully extended position in which the first and second parts are separated a maximum distance, wherein in the fully retracted position, the retaining lip is spaced from the inner retaining flange and in the fully extended position, the retaining lip is in contact with inner retaining flange.

**18.** The chew toy of claim 17, wherein in the fully retracted position, one of the first and second parts is configured and oriented to lie flush on a flat surface, while the other of the first and second parts is positioned at an angle less than 90 degrees relative to the flat surface.

**19.** The chew toy of claim 1, wherein the transverse opening is a cylindrical shape and the threaded post has a cylindrical shape.

**20.** A chew toy comprising: a first part having an elongated threaded post; and a second part having a threaded bore that receives the threaded post, the second part having a transverse opening formed therein that is in communication with the threaded bore and is configured to receive an object that can be held therein by a force applied by the threaded post; wherein the first part and the second part rotate relative to one another and have a range of axial movement relative to one another, but the threaded post is inseparably coupled to and contained within the threaded bore; wherein the first and second parts move between a fully retracted position in which the first and second parts are not separated and a fully extended position in which the first and second parts are separated a maximum distance, wherein in the fully retracted position, one of the first and second parts is configured and oriented to lie flush on a flat surface, while the other of the first and second parts is positioned at an angle relative to the flat surface.

**21.** A chew toy comprising: a first part having an elongated threaded post; and a second part having a threaded bore that receives the threaded post, the second part having a transverse opening formed therein that is in communication with the threaded bore and is configured to receive an object that can be held therein by a force applied by the threaded post; wherein the first part and the second part rotate relative to one another and have a range of axial movement relative to one another, but the threaded post is inseparably coupled to and contained within the threaded bore; wherein the threaded post includes a retaining lip that extends radially outward from the post and an interior wall of the threaded bore has an inner retaining flange, the retaining lip being captured between the inner retaining flange and a closed end of the threaded bore, thereby preventing separation of the first part and the second part.

**22.** A chew toy comprising: a first part having a first end portion; and a second part having a second end portion; wherein the first part and the second part are shaped such that when one of the first

end portion and the second end portion lies stable on a ground surface, the other of the first end portion and the second end portion is upright at an angle to the ground surface, whereby application of a downward force to one of the first end portion and the second end portion causes a lifting of the other of the first end portion and the second end portion.

**23.** The chew toy of claim 22, wherein the first part has an elongated threaded post and the second part has a threaded bore that receives the threaded post, the second part having a transverse opening formed therein that is in communication with the threaded bore and is configured to receive an object that can be held therein by a force applied by the threaded post; wherein the first part and the second part rotate relative to one another and have a range of axial movement relative to one another but the threaded post is inseparably coupled to and contained within the threaded bore.

**24.** The chew toy of claim 23, wherein the threaded post includes a retaining lip that extends radially outward from the post and an interior wall of the threaded bore has an inner retaining flange, the retaining lip being captured between the inner retaining flange and a closed end of the threaded bore, thereby preventing separation of the first part and the second part.

**25.** The chew toy of claim 23, wherein the retaining lip comprises a continuous ring and the inner retaining flange comprises a continuous ring.

**26.** The chew toy of claim 23, wherein the threaded post has a stepped construction and has a distal end portion that has a width less than an adjacent threaded section of the threaded post that includes outer threads.

**27.** The chew toy of claim 23, wherein the transverse opening is defined by an interior wall that has a grip feature formed therealong, the grip feature being disposed opposite the distal end portion of the post to allow the object to be held between the distal end portion and the grip feature.

**28.** The chew toy of claim 22, wherein the first end portion includes a first protruding section and the second end portion includes a second protruding section, wherein when the first and second parts are in a fully retracted position, the first protruding section faces in a first direction and the second protruding section faces in a second direction that is different than the first direction.

**29.** The chew toy of claim 28, wherein the first and second directions are generally opposite one another.

**30.** The chew toy of claim 22, wherein the angle is less than 90 degrees.

**31.** The chew toy of claim 22, wherein the ground surface is flat.

**32.** The chew toy of claim 22, wherein the second end portion has a transverse opening formed therein that is configured to receive and hold an object that is at a second angle relative to the ground surface when the second end portion lies stable on a ground surface, wherein the angle of the first end portion is an angle selected such that when the first end portion transitions to position at which it lies stable on the ground surface, the second angle changes.

**33.** The chew toy of claim 32, wherein a degree of change of the second angle is 60 degrees or less.

**34.** The chew toy of claim 32, wherein a degree of change of the second angle is 45 degrees or less.

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