May 24, 1955 H. N. PETERSON 2,708,809

CONSTRUCTION TOY

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Fig. 1.

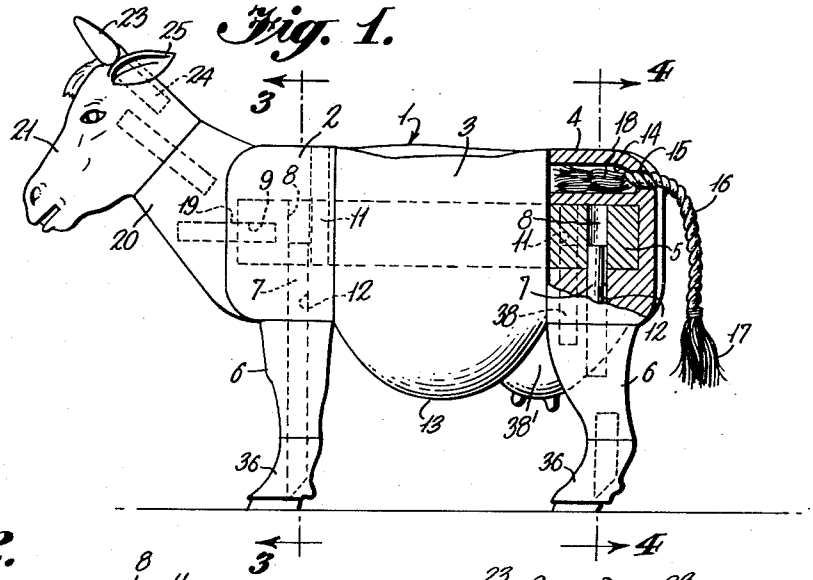


Fig. 2.

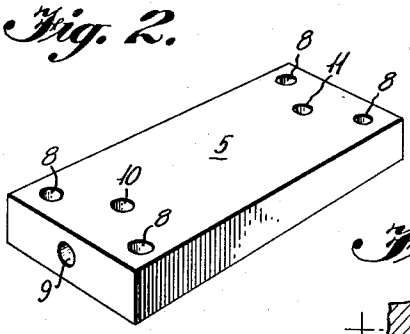


Fig. 3.

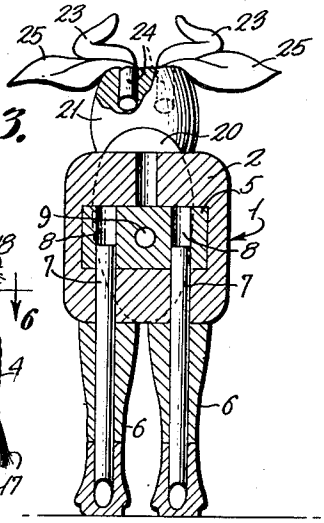


Fig. 5.

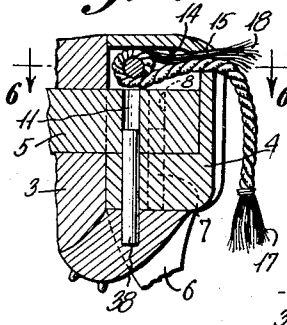


Fig. 4.

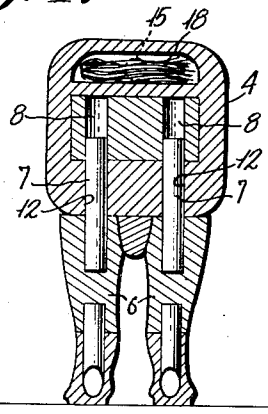
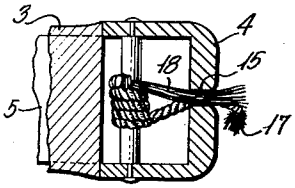


Fig. 6.



INVENTOR

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Fig. 7.

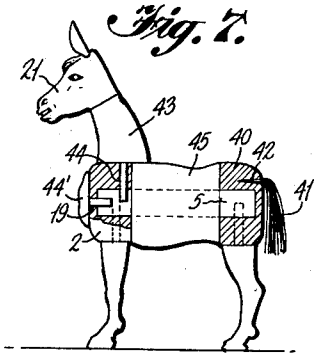


Fig. 8.

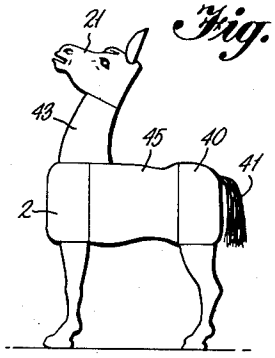


Fig. 9.

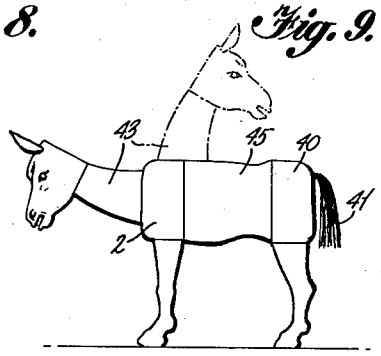


Fig. 10.

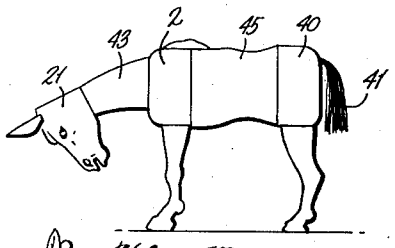


Fig. 11.



Fig. 12.

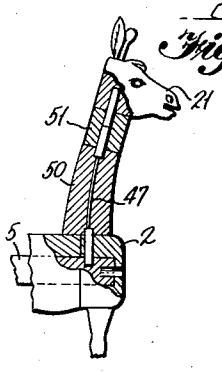


Fig. 13.

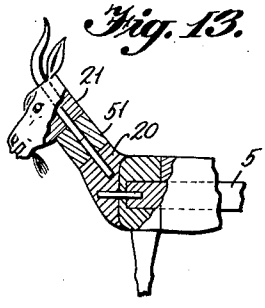


Fig. 14.

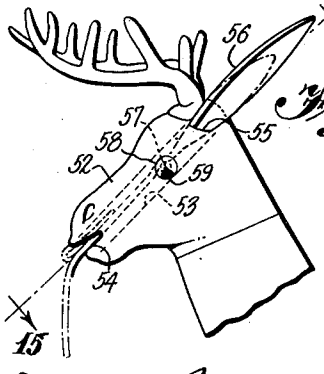


Fig. 15.

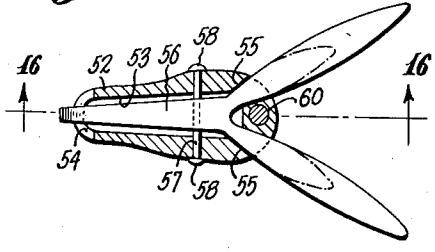
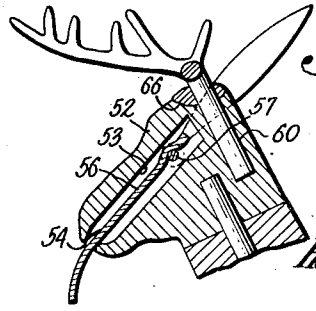


Fig. 16.



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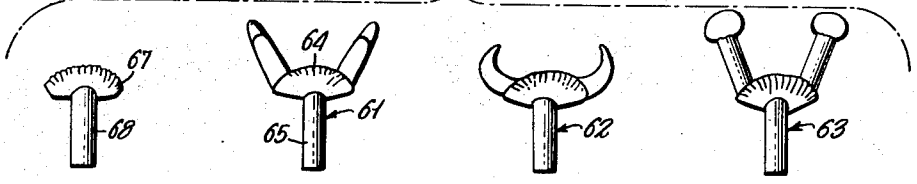
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CONSTRUCTION TOY

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Fig. 17.



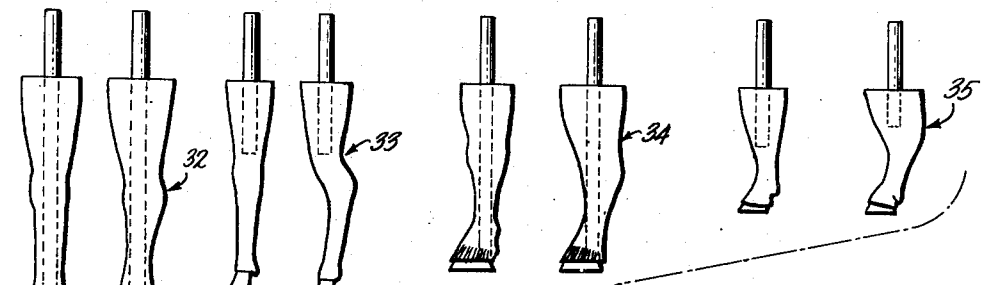


Fig. 18.

Fig. 19.

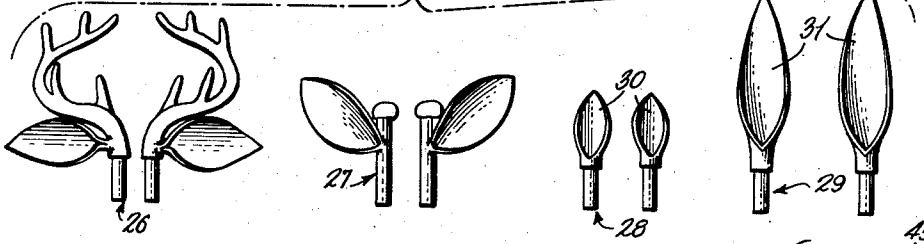
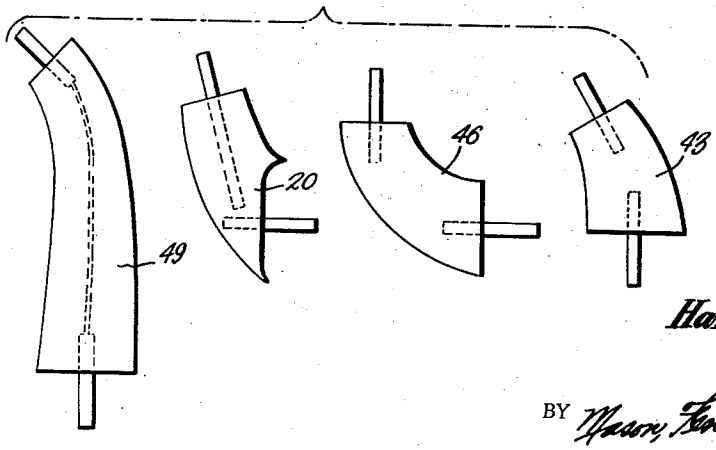
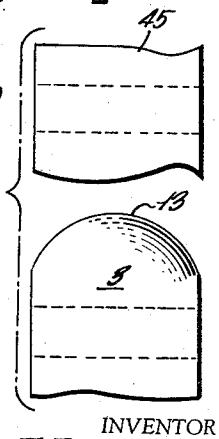


Fig. 21.

Fig. 20.





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United States Patent Office 2,708,809 Patented May 24, 1955

2,708,809

CONSTRUCTION TOY

Harry N. Peterson, Washington, D. C.

Application January 28, 1952, Serial No. 268,518

12 Claims. (Cl. 46—22)

This invention relates to a construction kit of interchangeable toy animal parts, which may be put together in various combinations to form different animals.

One of the objects of the invention is to provide toy animal parts coupled by means of complementary pegs and bores or their equivalent, including a body having a middle section and front and rear sections, with a system for locking the body sections together by means of leg elements having leg pegs, which comprise a lock block passing through the middle body section having ends projecting therefrom into recesses in the front and rear sections, the front and rear sections having leg peg bores therethrough aligned with leg peg bores in the lock block when said body sections are in contiguity on said lock block, through which said aligned bores the leg pegs extend.

Another object of the invention is to provide an interlocked body and leg unit as described, in which the middle body section is pronouncedly convex on one side and reversible either on or with the lock block to form a belly in one position and a hump in the other.

A further object of the invention is to provide a unit as described, with a head element, interchangeable neck elements shaped to resemble the necks of different animals for coupling said head to said unit, and head appendages such as ear elements or ear and horn units characteristic of different animals interchangeably attachable to said head element.

Still another object of the invention is the provision of a rear body section having a tail chamber or magazine communicating with the posterior of said rear section by a tail orifice through which passes a double ended flexible tail, the respective ends being different to simulate the tails of different animals, one end of said tail being stowed in the magazine, while the other end is exposed, said tail being manipulable to expose either end and to vary the length of the exposed portion.

Another object of the invention is the provision of a head element having communicating eye and ear orifices, and a flexible Y-shaped member freely positioned within said head element, having a tongue portion protruding from the mouth orifice and ear portions projecting from the ear orifices, whereby upon pulling on the tongue it lengthens at the expense of the ears.

Still another object of the invention is the provision of a head element as last described, in conjunction with movable eyes on a shaft frictionally engaged by the flexible member for turning the shaft and moving the eyes when the flexible member is pulled from either the tongue end or the ears.

Other objects of the invention will appear as the following description of a practical embodiment thereof proceeds.

In the drawings which accompany and form a part of the following specification and throughout the figures of which the same reference characters have been used to denote identical parts:

Figure 1 is the representation of a toy animal, partly in longitudinal elevation and partly in vertical section, assembled from interchangeable elements;

Figure 2 is a perspective view of the lock block;

Figure 3 is a cross-section taken along the line 3—3 of Figure 1;

Figure 4 is a cross-section taken along the line 4—4 of Figure 1;

Figure 5 is a fragmentary longitudinal cross-section through the rear portion of an animal assemblage showing a modified form of rear body section;

Figure 6 is a horizontal cross-section taken along the line 6—6 of Figure 5;

Figures 7 to 10, inclusive, are a series showing in side elevation an animal assemblage following the concept of the invention illustrating neck and head elements in various positions, Figure 7 also showing in section a modified form of rear body section characterized by the absence of a tail magazine;

Figure 11 is a view in side elevation of an animal assemblage having the middle body belly section reversed to form a hump, said figure also showing in section a flexible neck element;

Figure 12 is a fragmentary view, mostly in section, of an animal assemblage showing the flexible neck element of Figure 11 straightened, and an adapter between the head and neck elements for lengthening the neck;

Figure 13 is a fragmentary view of another animal assemblage, partly in section, showing the adapter in association with a rigid neck element;

Figure 14 is a side elevation of a head having an adjustable unitary tongue and ear element and movable eye structure operated thereby;

Figure 15 is a sectional view taken along the line 15—15 of Figure 14;

Figure 16 is a sectional view taken along the line 16—16 of Figure 15;

Figure 17 is a group of head appendage elements shown in front elevation, to be used with a head shown in Figure 15, the leftmost element being a skull cap to fill the cavity otherwise exposed when horn appendages such as those shown in the other members of the group, are not employed;

Figure 18 is a group of leg elements in pairs, in side elevation, a front and hind leg of the same animal constituting a pair, and the pairs being for different animals;

Figure 19 is a group of head appendage elements for different animals, usable with the head element shown in Figure 1;

Figure 20 is a group of two middle body sections in side elevation, the upper section being normal to most of the animals buildable with the kit, the lower section being that shown in Figure 1, in reversed position to form a hump;

Figure 21 is a group of neck elements in side elevation for different animals, the leftmost element being of the bendable type, such as is shown in Figures 11 and 12.

Now referring in detail to the drawings, and first adverting to the group of Figures 1 to 4, the numeral 1 represents as a whole a toy animal constructed from a selected group of the elements constituting the kit. Essentially, there is a body constituted by a front body section 2, a middle body section 3, a rear body section 4, a lock block 5 on which the three body sections are assembled, and leg elements 6, provided with leg pegs 7, by means of which the body sections are locked upon the lock block.

The lock block 5 is a rigid body of nonround cross-sectional shape. The lock block shown by way of illustration is rectangular in cross-section. The nonround characteristic of the block is essential to prevent the body section from rotating relative to the block. The middle body section 3 is formed with a longitudinal passage

shaped to fit the lock block, and the front and rear body sections **2** and **4** are provided with recesses terminating short of their extreme ends, also shaped to fit the lock block. The lock block is longer than the middle body section, so as to extend into the recesses in the front and rear body sections.

The locking block is provided with bores **8** therethrough, to receive the leg pegs **7**. It has additional bores **9**, **10** and **11** which do not necessarily extend all the way through it, and which are to receive the pegs of other appendage elements. The front and rear body sections **2** and **4** are provided with bores **12**, extending from their lower surface, and opening in the respective recesses which register with the bores **8** in the lock blocks when the body sections are in assembled position on the lock block. When the pegs **7** of the leg elements are inserted through the bores **12** and into the bores **8**, the body sections are thereby locked upon the lock block.

The lock block may be fixedly secured within the middle body section **3**, but it is preferably slidable through the middle body section, so that it may be extended to a convenient distance for facilitating the alignment of the bores **12** and **8** and the insertion of the leg pegs in the first of the body end sections to be assembled. When that has been done, the middle body section is pushed into contact with the assembled end section, which causes the free end of the lock block to project the proper distance to secure precise alignment of its bores **8** with the bores **12** of the other body end section.

The animal represented in Figure 1 is a cow, the body section **3** employed being the lower member selected from the group shown in Figure 20, which has the pronounced convexity **13** on one side, which is placed in downward position in Figure 1, to form a belly characteristic of a cow.

The rear body section **4**, as shown in Figures 1 and 4, is provided with a chamber **14** above the lock block that communicates with the exterior at the rear by means of a tail bore **15**. A flexible tail **16** is provided, having a short or cow brush **17** at one end, and a long or horse brush **18** at the opposite end. The tail **16** passes through the tail aperture **15**, the selective length which is to be exposed extending outwardly of said bore, while the remaining portion is stowed in more or less desultory fashion within the tail magazine. In the case in which the animal would be a horse, the tail is inserted in the tail bore **15**, reversely with respect to the position shown, so that the horse brush is exposed, while the cow brush is concealed within the magazine. The tail can be drawn out more or less, selectively according to the animal which is being replicated.

The front body section **2** has a bore **19** in the front, which registers with the bore **9** in the front of the lock block, the aligned bores being used for the insertion of the neck peg which secures the neck **20** to the body. The neck **20** carries a peg which fits into a peg socket in the head element **21**.

Since the same head element is used in making a variety of animals, the characteristic appearance of the head is created by the provision of interchangeable head appendages. In the case of the cow, the head appendages comprise a pair of ear and horn units, best shown in Figure 3, in which the horn **23** is rigid with respect to the securing peg **24**, while the ear portion **25** is flexible. The head element is provided with laterally spaced bores for the reception of the pegs **24**. Other interchangeable horn and ear units are illustrated in the two lefthand examples in Figure 19, the unit **26** being for a deer, and the unit **27** for a giraffe. In the event that the animal being assembled is hornless, interchangeable units **28** and **29**, Figure 19, are provided, consisting each of a pair of flexible ears **30** and **31** mounted on a peg.

The legs of the animals may each be an integral member with a peg projecting from the top, as shown in the examples **32**, **33**, **34** or **35** in Figure 18. However, they

can be sectional, as shown in Figure 1, so that the same thigh section can be used for several animals, with different hoof sections **36**.

In Figure 18, each example comprises a pair of legs, one front and one hind, example **32** being giraffe legs, example **33**, deer legs, example **34**, horse legs, and example **35**, cow legs.

Specifically with respect to the cow, an udder **38'** is provided, which carries a peg **38** insertable through a bore in the lower part of the rear body section, which aligns with the hole **11** of the lock block.

Figures 5 and 6 illustrate an alternative form or rear body section having the tail magazine **14**, in which a transverse roller is rotatably mounted. The tail is wound about said roller, both ends of the tail projecting from the tail bore **15**. Normally, one end portion of the tail will be extended to the point at which only sufficient of the other end is exposed to afford a fingerhold in drawing it out, and thereby pulling the hitherto exposed portion of the tail in.

Still another alternative rear body section **40** is shown in Figure 7, characterized by the absence of a tail magazine. When this rear body section is employed, an appropriate tail element is selected, for example, the horse tail **41** shown in Figure 7, which has a pointed pin **42** at its upper end, adapted to be stuck in the rear body section.

Referring now to the group of Figures 7, 8, 9 and 10, which show a horse assembled from selected kit parts, these illustrate the versatility of which the assembled parts are capable. In Figure 7, the horse neck element **43**, which as shown in Figure 21 carries a peg at each end, is inserted through the bore **44** in the upper part of the front body section **2** and into the bore **10** of the lock block with which the bore **44** registers. This establishes the erect position of the neck. The peg is frictionally rotatable in the registering bores so that the neck can be turned to the position shown in Figure 8. The peg at the upper end of the neck element **43** projects into a bore in the head element, being frictionally rotatable therein, so that the head may be turned from the forward position shown in Figures 7 and 8, to the rearward position shown in dotted lines in Figures 9.

Alternatively, the neck **43** can be inserted through the bore **19** in the front of the front body section **2** which registers with the bore **9** in the lock block, placing the neck in the forward position shown in Figures 9 and 10. When the neck is in the erect position shown in Figures 7, 8 and 9, a breast plate **44'** may be secured to the front body section **2** by means of a peg carried by said breast plate insertable in the registering bores **19** and **9**. This not only gives proper convexity to the breast of the horse, but also conceals the bore **19**. In the horse model the upper middle body section **45**, shown in Figure 20, is selected.

Figure 11 shows the assembled camel. In making this figure, the same middle body section is used as is employed for the cow, but in reverse position, so that the convexity **13** which forms the belly of the cow, becomes the hump of the camel. The rear body section may be either the section **40** shown in Figure 7, or one of the tail magazine sections shown in Figures 4 or 5. The same type of tail is used for the camel as for the cow, but is not pulled out as far from the magazine. The neck element for the camel may be of rigid construction, as shown at **46** in Figure 21, but is preferably a bendable neck **50** consisting of a wire core **47** surrounded by a molded flexible sheath **48**. A peg is carried at both ends of the neck, one for insertion in the bore of the head element, and the other to be inserted in the aligned bores **19** and **9** in the front body section **2** and the lock block **5**. In Figure 21, the leftmost example **49** is similar to the camel's neck shown in Figure 11, but somewhat longer to serve for a giraffe's neck and not bent to so great an extent.

Figure 12 shows details of the giraffe assemblage, in which the neck is sectional, the lower part being the camel's neck **50** shown in Figure 11, to which is secured an adapter **51** having a bore in its lower end receiving the peg at the top of the neck element **50**, and having a peg at its upper end which fits into the head bore.

Figure 13 shows the same adapter **51** applied to the cow neck **20** to form a goat neck, or the neck of some comparable animal.

Figures 14, 15 and 16 show an alternative head construction which can be used in the assemblage of most of the animals, consisting of a head **52** having a capacious bore or hollow **53**, the forward end of which constitutes the open mouth **54**. Said bore is divided into two branch bores **55** extending earward and opening in the surface of the skull at laterally displaced points. A flexible tongue and ear unit **56** is mounted in the head **52**, said flexible unit being Y-shaped, as shown in Figure 15, the stem of the Y extending through the bore **53** and projecting a short distance beyond the mouth **54**, while the arms of the Y pass through the branch bores **55** to an extending position outside of the head, being shaped as ears. When the tongue portion is pulled, the ears are drawn in and shortened. This enables the ears of various animals to be simulated. If desired, the excess tongue portion which protrudes from the mouth when the ears are shortened, may be rolled and pushed back more or less into the mouth. In this form of the invention the bore **53** is intersected by a roller **57** having eyes **58** at its outer ends in substantially correct position on the outside of the head to represent the eyes of the animal. A sector shaped area **59** is painted on the eyes. The roller **57** is in the normal plane of the stem or tongue portion of the tongue and ear unit **56**, so that the latter is diverted in order to pass the roller **57**, and rests frictionally against said roller. Thus when either the tongue or ears are pulled, the frictional passage of the member **56** across said roller, causes it to rotate and make the eyes roll.

Horn appendages may be used with this form of head construction, for which purpose the head is provided with a bore **60** between the branch bores **55** adapted to receive one of the horn elements **61**, **62** or **63**, shown in Figure 17, or other horn elements of like construction. These consist each of a pair of rigid horns unitary with a skull cap **64**, which carries a peg **65**. The skull cap fits within an appropriate recess **66**, which surrounds the bore **60**. In case that the animal is hornless, so that a horn appendage is not used, a plain skull cap **67** having a securing peg **63** is used for filling said recess. Referring to Figure 17, the plain skull cap would be used when the animal represents a horse, the element **61** for a goat, **62** for a cow, and **63** for a giraffe.

The specific elements illustrated in the drawings and herein described are not to be regarded as exhausting the number of forms which may be included within the purview of the invention, nor is the invention restricted to the use of any particular material, nor to the building of only the specific animals which are herein disclosed by way of example.

It will be understood by those skilled in the art that the specific details of construction and arrangement of parts are not to be necessarily considered binding or limiting with respect to the inventive concept, but are only representative of equivalent structures which may be employed in carrying out the principles of the invention.

What I claim is:

1. In a three dimensional toy animal, structural components including front, middle and rear body sections in end to end abutment, said middle body section having a longitudinal bore therethrough of nonround cross-section, and said front and rear body sections having recesses of similar cross-section in their ends which abut said middle body sections, a lock block of nonround cross-sectional shape to fit the bore of said middle body section extending therethrough and beyond both ends of said middle body section, the recessed ends of said front and rear body sections fitting the extended ends of said lock block, leg peg bores extending upwardly through said front and rear body sections and into said lock block, and supporting legs having pegs at their upper ends extending into said lock block through said bores for supporting said lock block in definite position and whereby said front, middle and rear body sections are locked together as a unit, said lock block being the sole means for maintaining said middle body section in definite position relative to said front and rear body sections.

2. In a three dimensional toy animal, structural components including front, middle and rear body sections in end to end abutment, said middle body section having a longitudinal bore therethrough of uniform polygonal cross-section, and said front and rear body sections having recesses of similar cross-section in their ends which abut said middle body section, a lock block of cross-sectional shape to fit the bore of said middle body section and the recesses of said front and rear body sections, and of such length as to extend through said middle body section and into the recesses of said front and rear body sections, leg peg bores extending upwardly through said front and rear body sections and into said lock block, and supporting legs having pegs at their upper ends extending into said lock block through said bores whereby said lock block is supported in definite position and said front, middle and rear body sections are locked together as a unit, said lock block being the sole means for maintaining said middle body section in definite position relative to said front and rear body section.

3. In a three dimensional toy animal, a body having a chamber in its rear portion and an opening from said chamber to the outside of said body at the rear, a roller journaled in said body transversely intersecting said chamber and an extensible flexible double ended tail wound about said roller, having both ends passing freely through said opening whereby either end is accessible for pulling one end out and the other end in.

4. In a three dimensional toy animal of the type comprising detachable peg connected sections, one of said sections being a head having a bore therein a detachable horn and ear unit therefor, said horn and ear unit comprising a rigid horn component and a flexible ear component, and a peg rigidly connected to said horn component adapted to fit a bore in said head.

5. A set of toy animal components of realistic shape adapted to be assembled to form an animal, and lock means for certain of said components, said set including front, middle and rear body sections adapted to be placed in end to end abutment, said middle body section having a bore therethrough of uniform rectangular cross-section, and said front and rear body sections having recesses in the ends which abut the middle body section, said recesses being of corresponding cross-section to said bore, said lock means including a block of rectangular cross-section slidably fitting the bore in said middle body section and being long enough to extend therebeyond at both ends into the recesses of said front and rear body sections, said middle body section being adjustable about the longitudinal axis of said block to definite reverse positions, leg peg bores extending upwardly through said front and rear body sections registrable with aligned bore components in said block, supporting legs having pegs at their upper ends insertable through said leg peg bores into said aligned bore components for supporting said lock block in a definite position and for locking said body sections together on said block, said lock block being the sole means for maintaining said middle body section in either of its reverse positions.

6. Three dimensional toy animal as claimed in claim 5, said middle body section having a hump on the top side which becomes a belly when the middle section is inverted.

7. In a three dimensional toy animal as claimed in

claim 5, said rear body section having a chamber above said lock block, said chamber having an opening communicating with the outside of said rear body section at the rear, and a reversible and extensible flexible tail slidable through said opening having a portion stowed in said chamber and a portion exposed beyond the rear of said body section.

8. Three dimensional toy animal as claimed in claim 4, said horn and ear unit being swivelly adjustable in the bore of said head.

9. In a three dimensional toy animal, structural components including front end, middle, and rear end body sections in end to end abutment, lock block means projecting from an end of said middle section fitting into a bore in the adjacent end section, a leg peg bore extending upwardly through said end section into said projecting means, and a supporting leg having a peg shaped upper end extending into said lock block means through said leg peg bore for locking said middle section and adjacent end sections together.

10. Head construction for toy animals comprising a head-shaped member having a passage therethrough one end of which forms the open mouth of the animal, said passage being symmetrically branched from a common point within said member forming divergent branch bores which extend earward from an ear opening in the surface of said member opposite said mouth, a flexible Y-shaped member within said passage and branch bores extending beyond said mouth and said ear openings, the extended ends of said Y-shaped member being shaped respectively as a tongue and as ears, either the tongue or the ears being adapted to be pulled to lengthen the one at the expense of the other, a roller journaled in said head-shaped member transversely intersecting said passage diverting said Y-shaped member, to be frictionally rotated thereby when said Y-shaped member is pulled, and eyes fixed at the ends of said roller exposed at the surface of said head-shaped member.

11. Head construction for toy animals comprising a head-shaped member having a passage therethrough one end of which forms the open mouth of the animal, said passage being symmetrically branched from a common

point within said member forming divergent branch bores which extend earward from an ear opening in the surface of said member opposite said mouth, a flexible Y-shaped member within said passage and branch bores extending beyond said mouth and said ear openings, the extended ends of said Y-shaped member being shaped respectively as a tongue and as ears, either the tongue or the ears being adapted to be pulled to lengthen the one at the expense of the other, a roller journaled in said head-shaped member transversely intersecting said passage, engaged by said Y-shaped member to be rotated when the latter is pulled, and eyes fixed at the ends of said roller exposed at the surface of said head-shaped member.

12. In a three dimensional toy animal, structural components including separable middle, and rear end sections with contiguous end faces and means for locking them in abutment, said rear end section being provided with a chamber and a tail hole through the rear communicating with said chamber, a flexible reversible tail having its opposite ends constructed to simulate different animal tails, said reversible tail being slidable through said tail hole so as to be adjustable for length, and having one tail end normally stowed in said chamber while the other is exposed, said chamber opening in the interface between said sections.

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