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(54) ARTICULABLE SHOULDER PUPPET

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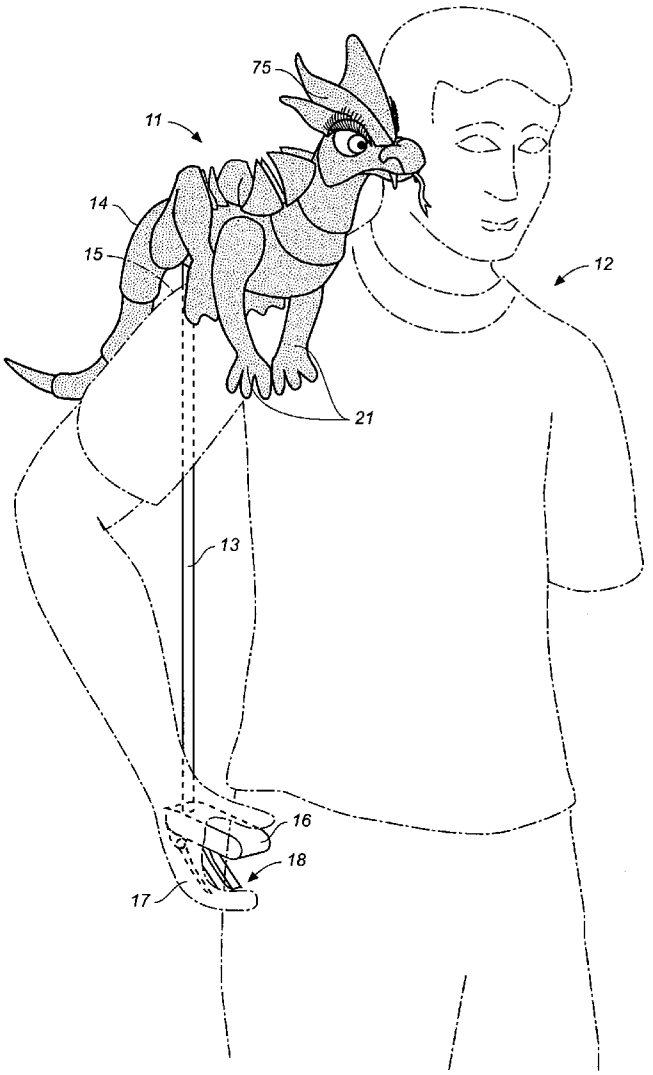
(57) **ABSTRACT**

A mechanism for a soft sculpture puppet by which its movable components can be operated while the puppet is perched on a puppeteer's shoulder including a support beam designed to rest on the shoulder of a puppeteer, a rigid control shaft attached to the beam and extending down the back to the vicinity of the waist of the puppeteer, a forward stabilizer affixed to the support beam and extending down the front of the puppeteer's shoulder which, together with the control shaft, secure the puppet on the shoulder, and control mechanisms operable from the end of the control shaft in the vicinity of the waist to selectively move the movable components of the puppet.



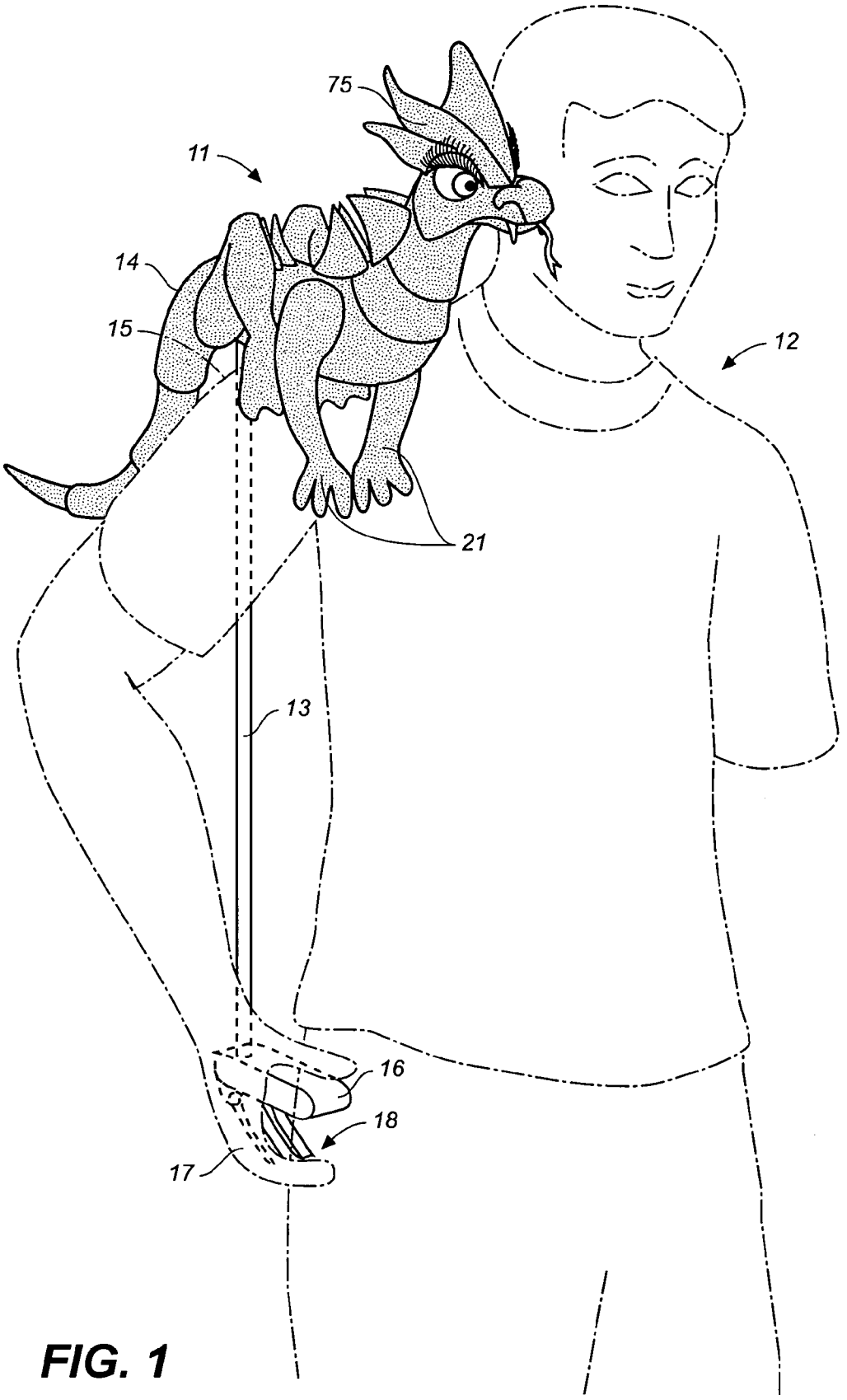


FIG. 1

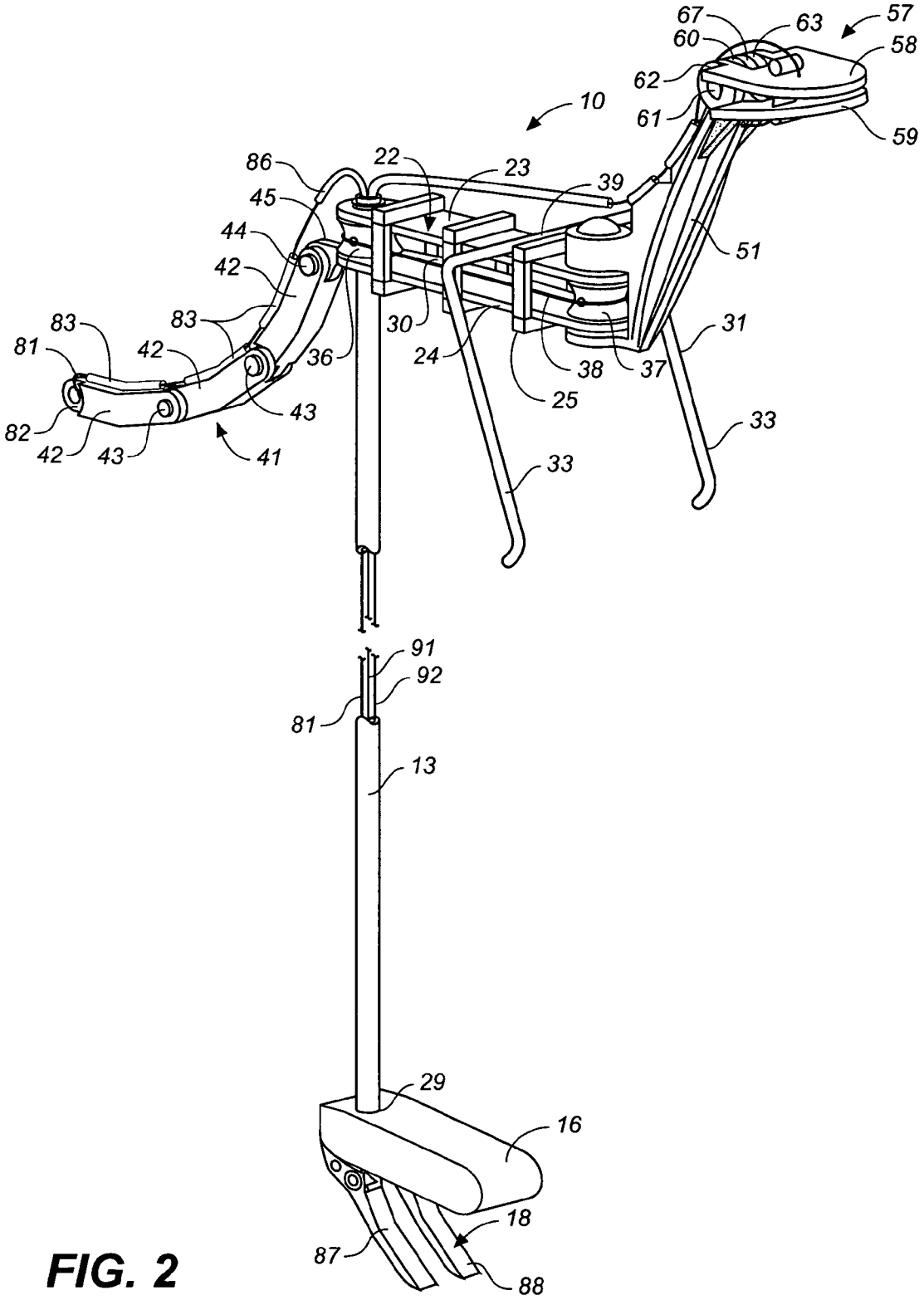

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FIG. 2

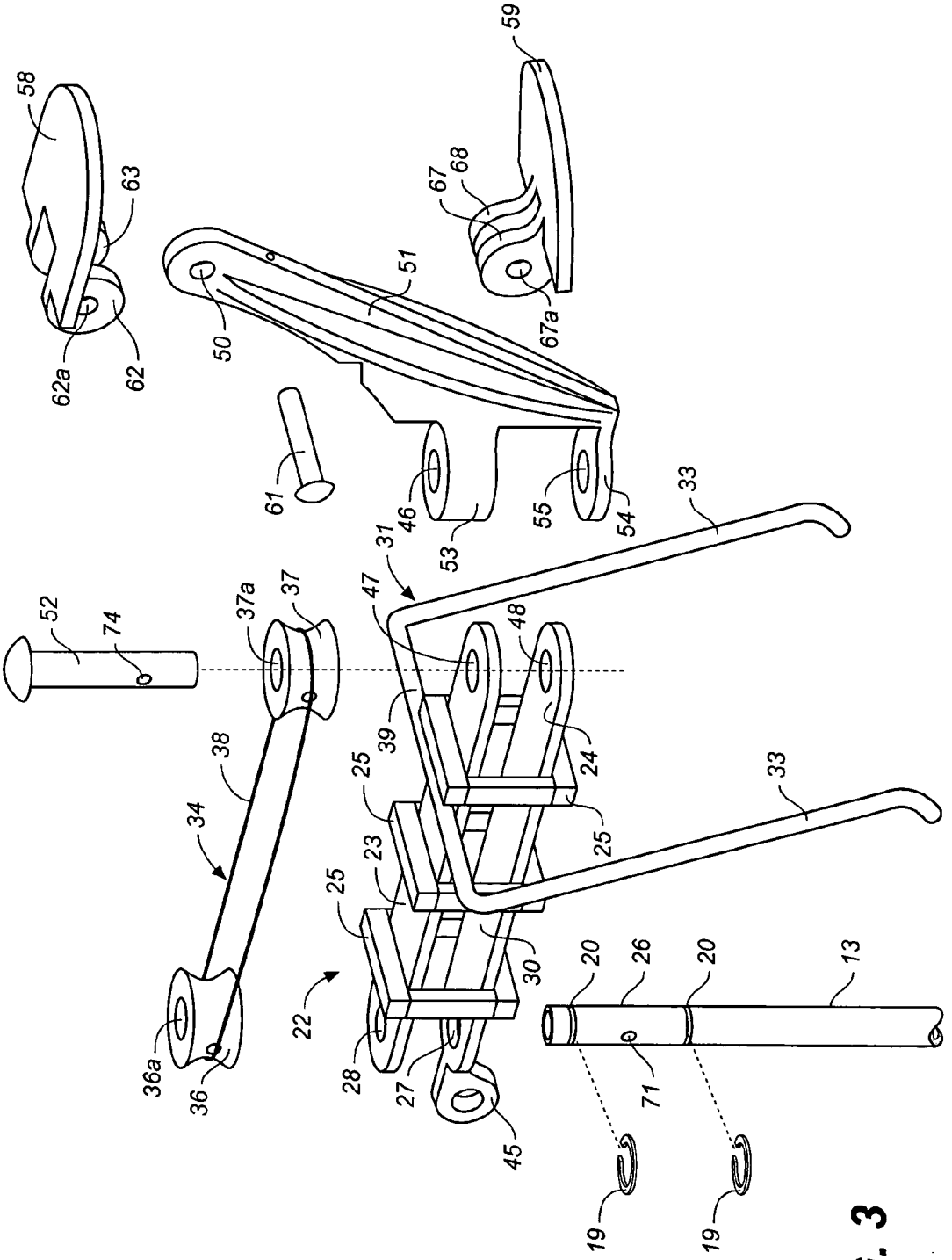
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FIG. 3

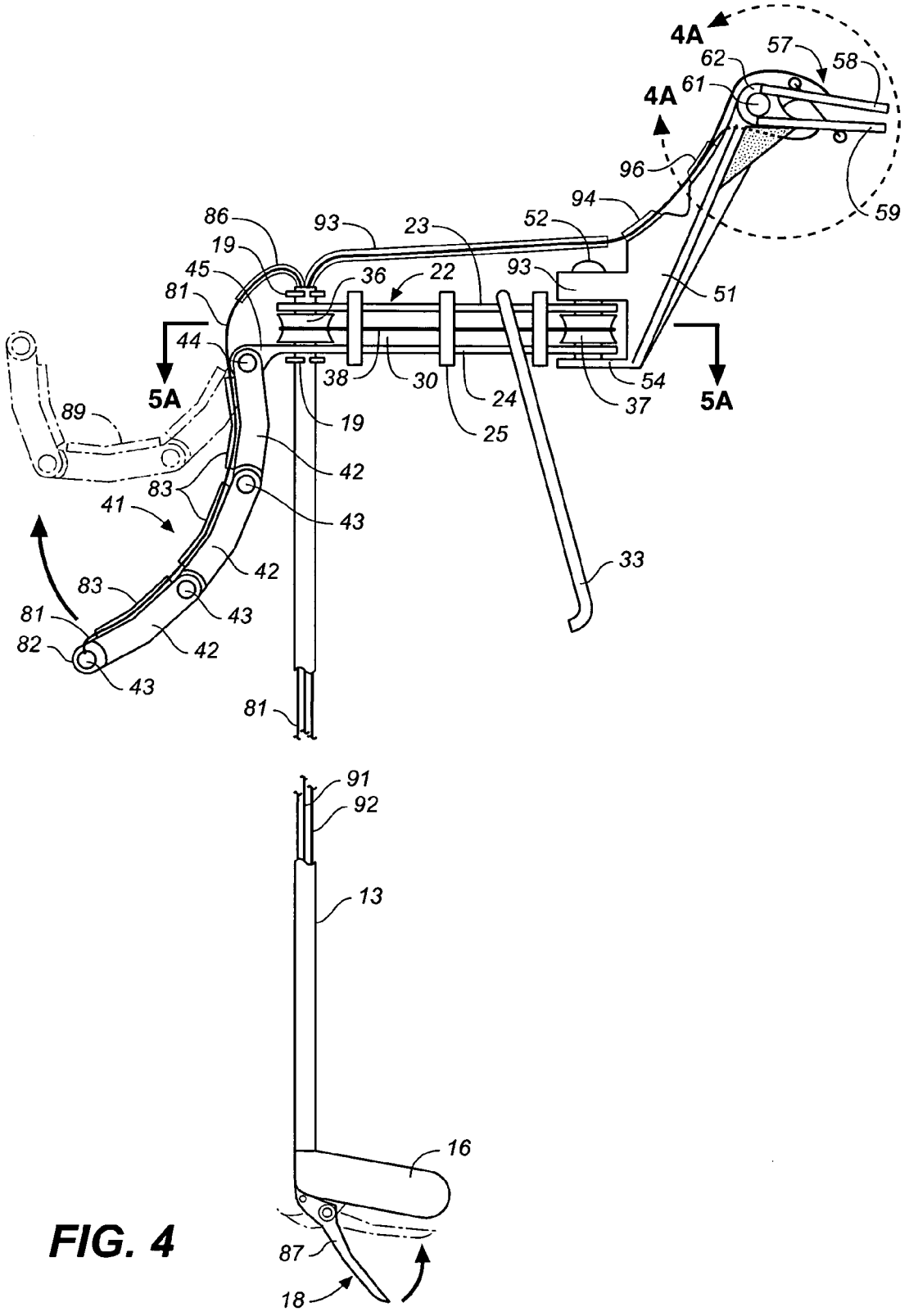
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FIG. 4

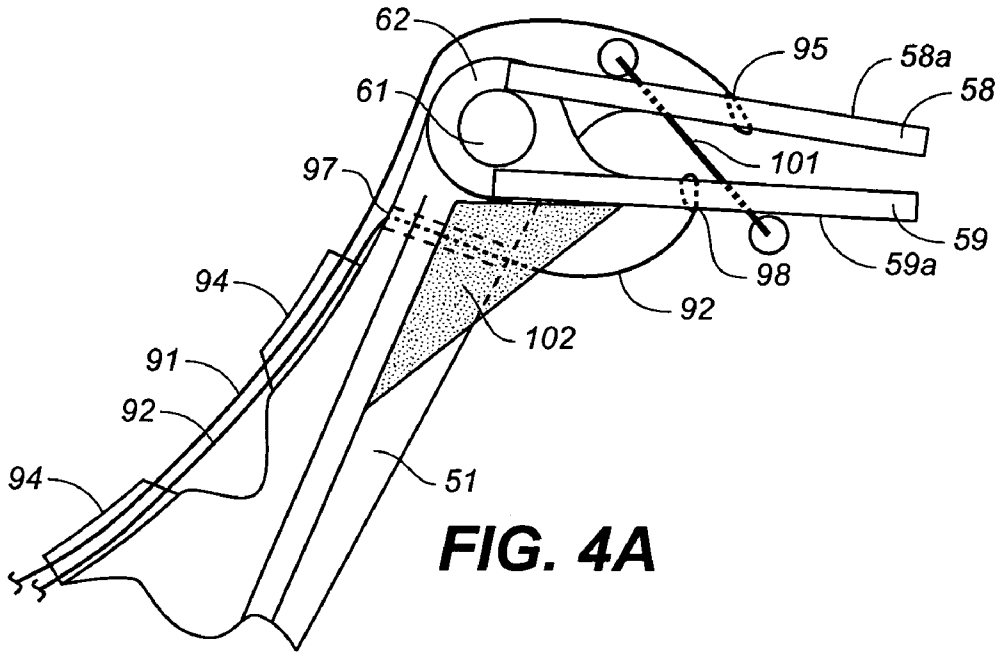
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FIG. 4A

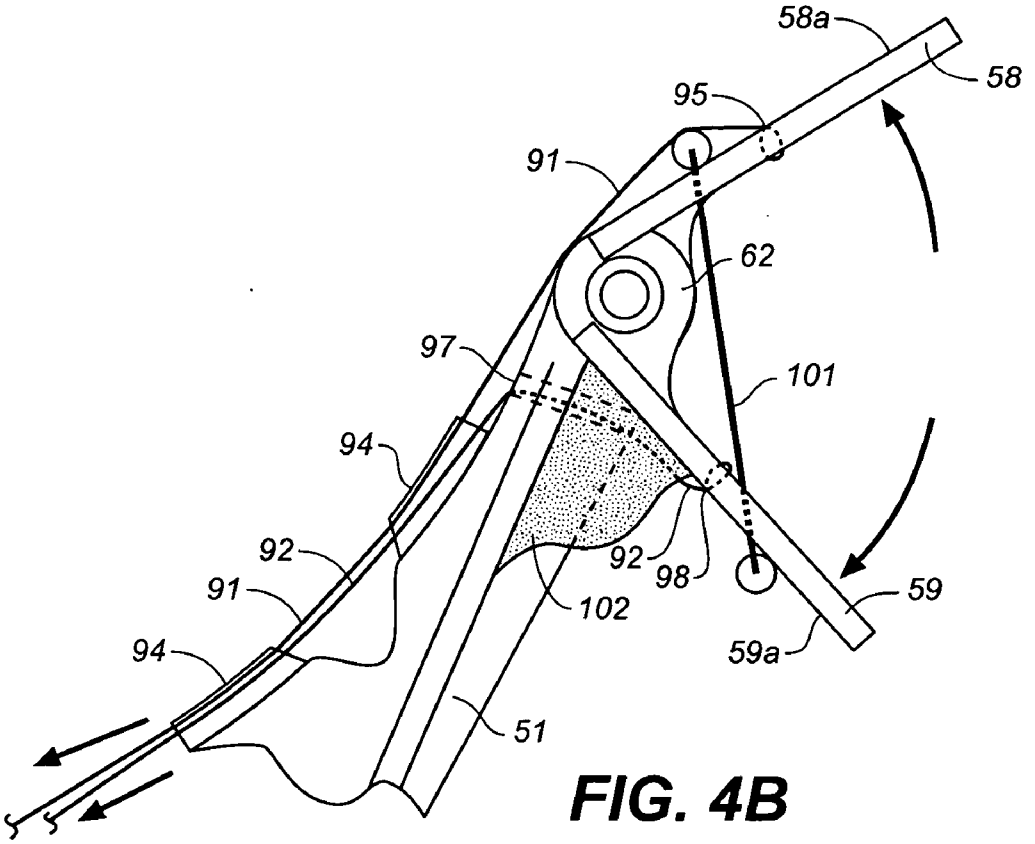
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FIG. 4B

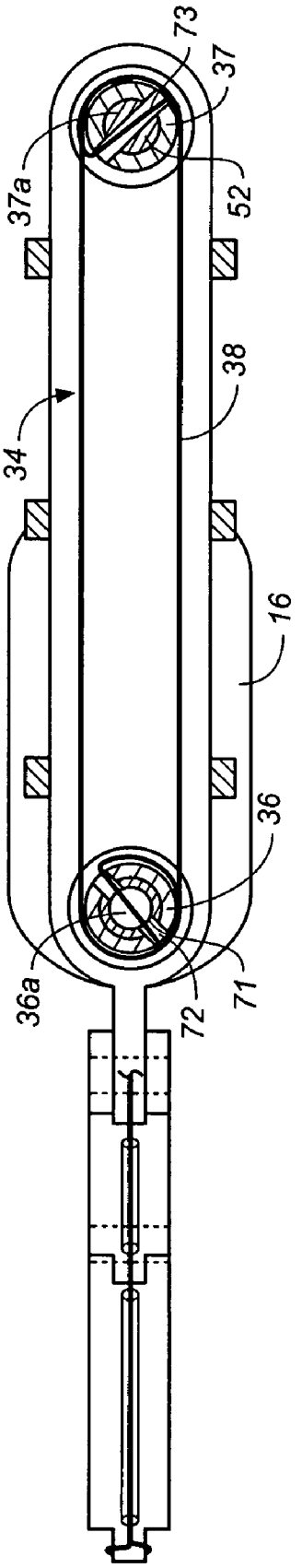

FIG. 5A

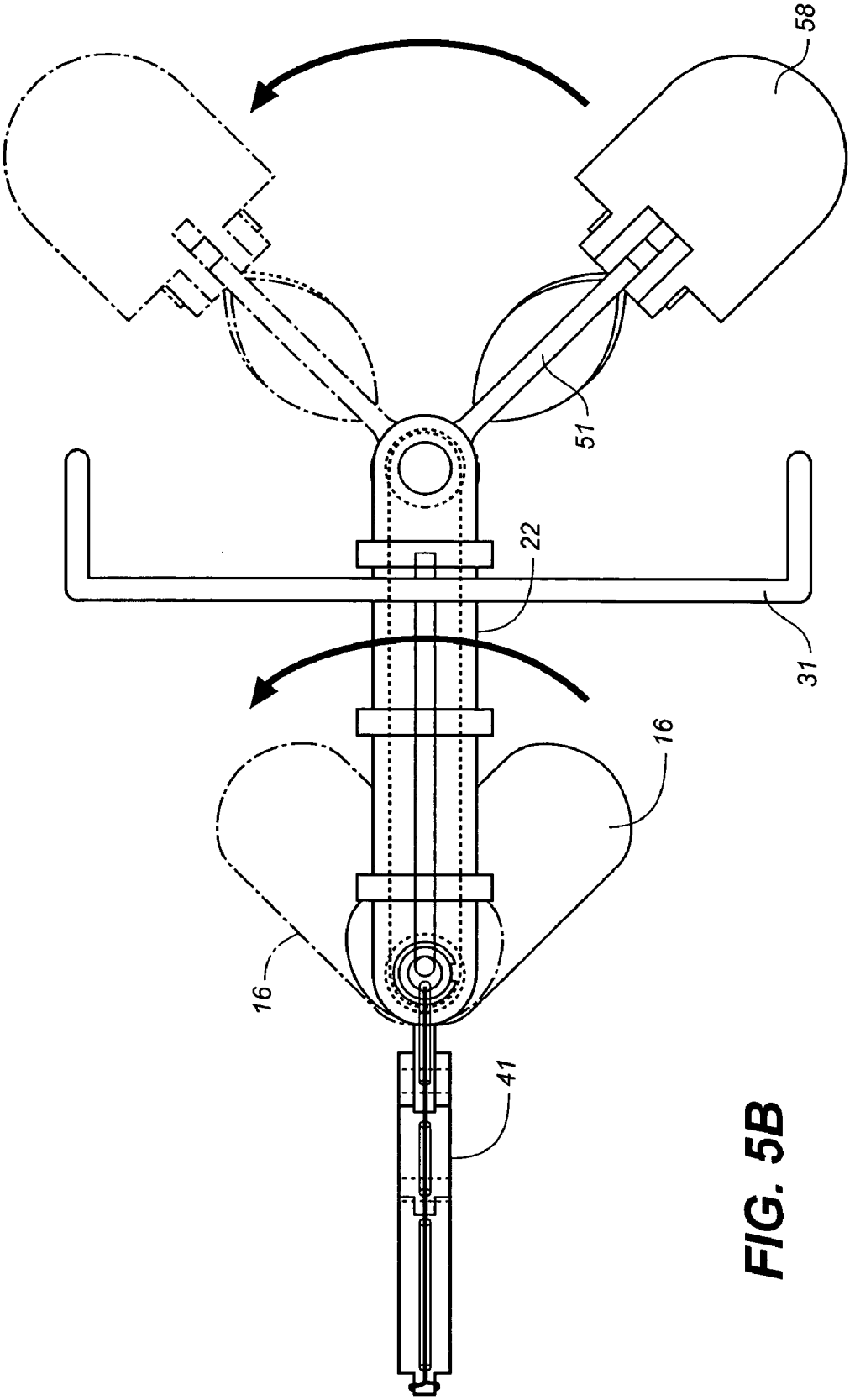

FIG. 5B

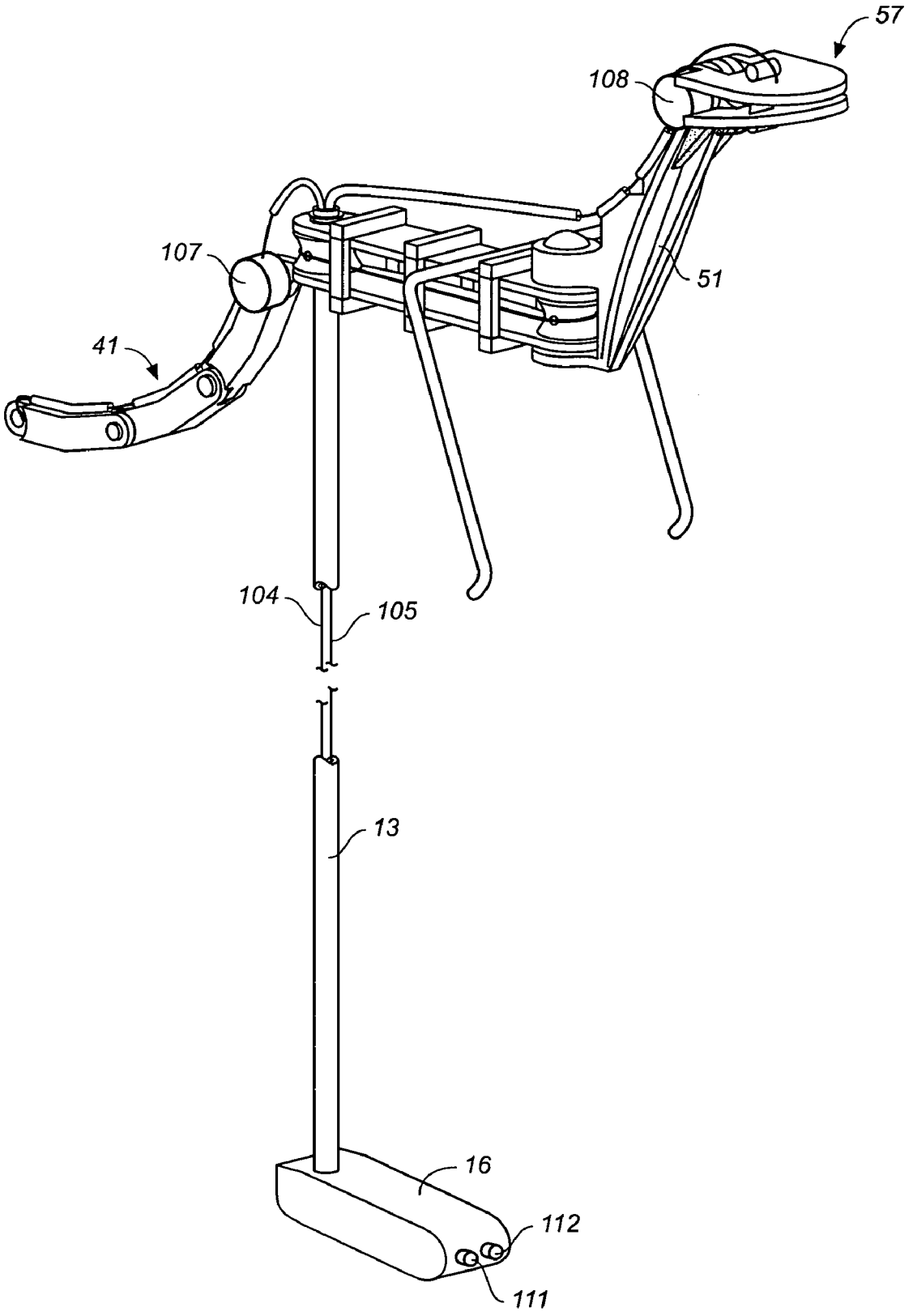

FIG. 6

ARTICULABLE SHOULDER PUPPET

FIELD OF THE INVENTION

[0001] The present invention relates to puppets and, more particularly, to a structure for an articulable puppet mounted on a hollow shaft and adapted to be operated while perched on a puppeteer's shoulder.

BACKGROUND

[0002] Hand puppets (as opposed to marionettes) are generally operated by a puppeteer inserting one of his or her hands into the puppet body and, by the movement of the hand and/or fingers within the puppet, causes the puppet to come to "life"—make one or more of its parts move. This manner of operation is not possible when, for example, the puppet is perched on a puppeteer's shoulder.

BRIEF DESCRIPTION OF THE INVENTION

[0003] The present invention is a structure for a puppet having movable parts and intended to sit on a puppeteer's shoulder while its movable parts are selectively activated. In order to effectively operate the puppet while on the puppeteer's shoulder, the present invention provides a novel mechanism for the puppet that includes: a support structure in the form of a beam that is intended to sit on a puppeteer's shoulder; a rigid tubular control shaft affixed near one end of the beam which is intended to depend down the back of the shoulder to the vicinity of the puppeteer's waist; and a depending forward stabilizer affixed near the other end of the beam at a distance from the control shaft that enables the shaft and stabilizer to straddle the shoulder. The shaft and stabilizer secure the puppet on the puppeteer's shoulder while it is operated. The control shaft has at its distal end a handle and associated controls that can be easily grasped by a hand of the puppeteer and used to selectively activate animation mechanisms that run from the distal end of the control shaft to the moving parts of the puppet.

[0004] Accordingly, it is an object of the present invention to provide a structure for a puppet intended to sit on, and be operated while on, the shoulder of a puppeteer.

[0005] Another object of the invention is to provide a support structure and internal operating mechanism by which a soft sculpture puppet with movable parts can be operated to selectively move the parts while sitting on a puppeteer's shoulder.

[0006] The invention possesses other objects and advantages, especially as concerns particular characteristics and features thereof which will be better understood from the following detailed description of the preferred embodiments when read in conjunction with the appended drawing figures.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] **FIG. 1** is a perspective view of the invention in the form of a dragon puppet shown in operative relation to a puppeteer;

[0008] **FIG. 2** is a perspective view of internal mechanisms of the invention illustrated in **FIG. 1**;

[0009] **FIG. 3** is a perspective view of the main structural elements of the invention with parts exploded to better reveal their details and relationships to one another;

[0010] **FIG. 4** is a side view of the invention as shown in **FIG. 2**;

[0011] **FIG. 4A** is an enlarged view of the area **4A-4A** of **FIG. 4**;

[0012] **FIG. 4B** is the same as **FIG. 4A** with the mechanism shown in a different position;

[0013] **FIG. 5A** is a sectional view taken along the line **5A-5A** of **FIG. 4**;

[0014] **FIG. 5B** is a top view of the invention with movement of certain parts shown in dotted lines; and

[0015] **FIG. 6** is a perspective view similar to **FIG. 2** of an alternative embodiment of the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0016] Referring to **FIG. 1**, the invention resides in the internal structure (not shown) of a puppet **11** designed to sit on the shoulder **15** of a puppeteer **12** and be held there by a hollow, rigid control shaft **13** which extends from the puppet body **14** down the back of the shoulder **15** of the puppeteer **12** to the vicinity of the waist of the puppeteer where a handle **16** at the distal end of control shaft **13** can be grasped by the puppeteer's hand **17**. To operate most comfortably, the control shaft **13** is between 18 inches and 30 inches long and preferably 22 inches long.

[0017] As described in detail below, the puppet **11** has movable parts that are operated by controls **18** mounted at the distal end of control shaft **13** on handle **16**. The depending legs **21** of puppet **11** are spaced apart from the control shaft **13** a sufficient distance to allow the shaft **13** and legs **21** to straddle the puppeteer's shoulder **15** with legs **21** extending down the front of the shoulder **15**. In this way, the puppet **11** is stabilized on the shoulder **15** so that movement of the shaft **13** does not easily dislodge the puppet **11** from the shoulder **15**.

[0018] Referring also to **FIGS. 2 and 3**, the main components of the internal structure **10** of puppet **11** include a support beam **22**, the hollow rigid control shaft **13** and a forward stabilizer **31** which is disposed in the legs **21** of puppet **11**.

[0019] The support beam **22** is formed by an upper beam member **23** and a spaced-apart lower beam member **24** which define a space **30** therebetween and are secured together by plurality of beam ties **25**.

[0020] The control shaft **13** is a rigid, hollow tube having one end **26** secured near the back end of support beam **22**, in bores **27** and **28** in lower beam member **24** and upper beam member **23**, respectively. After shaft **13** is fit into beam **22**, spring clips **19** are placed into spaced-apart groove **20** near end **26** of shaft **13** to secure the shaft in beam **22**. The other (distal) end **29** of control shaft **13** is secured to handle **16**.

[0021] The U-shaped forward stabilizer **31** is fixedly attached on support beam **22** at a location spaced apart from control shaft **13**. The distance between the location on beam **22** where shaft **13** is fixed and where forward stabilizer **31** is mounted is sufficient to permit the two elements to straddle a person's shoulder as seen in **FIG. 1**. U-shaped stabilizer **31** has depending legs **33** connected by a cross bar

39 which is secured to beam 22. The legs 33 may be separated at their ends, as shown, or joined, depending on the design of the puppet with which the mechanism is used. The legs 33 are most effective when between 6 inches and 9 inches long.

[0022] It is onto the above-described main components that the movable components of the puppet and control mechanisms for animating them are operatively secured.

[0023] Referring to FIGS. 2, 3 and 4, the three moveable components of puppet 11 are the tail 41, neck member 51 and mouth structure 57.

[0024] The tail structure 41 is formed by a plurality of links 42 articulably secured together end to end by pins 43 which is rotatably attached by a pin 44 to a boss 45 extending from the back end of lower beam member 24 for up and down movement.

[0025] A spool drive 34 operatively located in the beam space 30 and control shaft 13 give movement to the neck member 51. The spool drive 34 is made up of a back spool 36 having a central through bore 36*a*, a forward spool 37 having a through bore 37*a* and a drive belt 38 that can be made from strong cord material and wraps around each of the spools.

[0026] The rigid neck member 51 has a pair of spaced-apart extending attachment arms 53 and 54 having bores 46 and 55, respectively, and a jaw attachment bore 50. The neck is rotatably secured at the front end of beam 22 by a pin 52 that passes through bore 46 in neck member attachment arm 53, bore 47 in beam member 23, bore 37*a* in spool 37 which resides in beam space 30, bore 48 in lower beam member 24, and bore 55 in neck member attachment arm 54. The pin 52 is free to rotate in beam members 23 and 24, but fixedly secured in arms 53 and 54 and spool 37 as by keyways or other means known in the art. In this way, rotation of spool 37 in one direction causes neck member 51 to move to one side, rotation of spool 37 in the other direction causes neck member 51 to move to the other side, and back and forth rotation of spool 37 causes neck member 51 to move from side to side (see FIG. 5A). The mechanism for rotating spool 37 is described below.

[0027] Referring to FIGS. 2, 3 and 4, the mouth structure 57 includes an upper jaw member 58 having spaced-apart attachment arms 62 and 63 with bores 62*a* and 63*a* (not shown), respectively, and a lower jaw member 59 having spaced-apart attachment arms 67 and 68 with bores 67*a* and 68a (not shown), respectively. Upper jaw member 58 and lower jaw member 59 are mounted on one end of neck member 51 by a pin 61 that passes through bores 62*a*, 67*a*, 50, 68*a* and 63*a*. The pin 61 is sized to permit rotation thereon of jaw members 58 and 59 relative to each other and the neck member 51.

[0028] The animation mechanisms of the invention that extend from the distal end of the control shaft 13 to the three movable components described above selectively allow the puppeteer to animate the puppet 11 in a variety of ways.

[0029] Control shaft 13 is disposed in bore 27 in lower beam member 24, the central bore 36*a* of spool 36, and bore 28 in upper beam member 23. Bores 27 and 28 are sized to permit rotation of shaft 13 about its longitudinal axis, while shaft 13 is fixed within bore 36*a* such that the two rotate together. Shaft 13 can be fixed in bore 36*a* by a keyway or other known means for fixedly joining a shaft in a bore. Shaft 13 is thus free to rotate about its longitudinal axis in beam 22 and turn spool 36 as it does so.

[0030] As best shown in FIG. 5A, the shaft 13 has a transverse bore 71 that is aligned with a transverse bore 72 in spool 36. Spool 37 also has a transverse bore 73 that is aligned with a transverse bore in pin 52. The drive belt 38, which can be a strong cord material, is wound around spools 36 and 37 and through bores 71, 72, 73 and 74. In this way, when shaft 13 it rotated about its longitudinal axis, spool 36 will turn, which, through belt 38, will cause spool 37 to turn, which will cause neck member 51 to move to one side or the other. In this way, the puppeteer 12 can make the head 75 of the puppet 11 (FIG. 1) move from side to side with subtle movement of handle 16 that rotates shaft 13 about its longitudinal axis.

[0031] Referring to FIGS. 2 and 4, the tail structure 41 is operated by a control cord 81 attached to the end 82 of tail structure 41. The cord extends from end 82 through tubular link guides 83 secured on the upper surface of each link 42. Link guides 83 can be formed from flexible plastic tubing attached to the links 42 as by glue or molded as an integral part the links 42. The cord 81 continues through a tubular guide 86, preferably of flexible plastic tubing, that extends into control shaft 13 and guides the cord 81 from the link guides 83 to the shaft 13. The control cord 81 extends all the way to the bottom of control shaft 13 where it attaches to lever 87 which is one of controls 18. When lever 87 is moved toward handle 16, the cord 81 is pulled downward, causing the tail structure 41 to raise up as indicated by dashed lines 89 in FIG. 4. When lever 87 is released (it is spring-loaded, as is well known in the art for such a control), it relaxes the cord 81 and tail structure 41 will fall downward by its own weight. By pulling and releasing lever 87, the tail structure 41 can be made to move up and down.

[0032] Referring to FIGS. 4, 4A, and 4B, the upper jaw member 58 and lower jaw member 59 are controlled by a pair of cords 91 and 92 that extend from controls 18 through control shaft 13 to the jaw members 58 and 59. Both cords 91 and 92 pass through a flexible guide tube 93 which extends from within control shaft 13 to the vicinity of neck member 51 and then through guide tubes 94 affixed to neck member 51 before they split paths. Once again, the tubes 94 can be flexible tubes affixed as by glue to neck member 51 or formed as a part thereof. Cord 91 extends to and is attached at 95 to upper jaw member 58, while cord 92 passes through a bore 97 in neck member 51 to the lower jaw member 59 where it is attached at 98. The attachment of cords 91 and 92 can be by passing them through small holes in jaw members 58 and 59, respectively, and knotting them or in any other suitable manner known in the art.

[0033] The other ends of cords 91 and 92 are attached to control lever 88 (see FIG. 2) which pulls the strings simultaneously when lever 88 is pulled toward handle 16, applying a force on upper jaw member 58 and lower jaw member 59 which pulls them apart, as shown in FIG. 4B. Two mechanisms are provided to assure that the jaw members 58 and 59 close when the lever 88 is released and the cords 91 and 92 relaxed. An elastic strap 101 is secured between the jaw members 58 and 59 and is stretched when they are pulled apart (FIG. 4B). When the lever 88 is released, the

cords **91** and **92** are relaxed and strap **101** pulls the jaw members **58** and **59** together (**FIG. 4A**). In addition, a resilient foam member **102** is disposed between the lower jaw member **59** to which it is attached as by glue or the like and neck member **51** to which it is also attached as by glue or the like. When the jaw members **58** and **59** are pulled apart, foam member **102** is compressed, building up a force in a direction tending to push the jaw members **58** and **59** toward one another. When the lever **88** is released and cords **91** and **92** relaxed, foam member **102** acts like a spring and pushes lower jaw member **59** to its closed position.

[**0034**] The manipulation of lever **88** causes the mouth structure **57** to open and close.

[**0035**] The controls **18**, including levers **87** and **88** and twistable control shaft **13**, permit a puppeteer to mount the dragon puppet **11** on his/her shoulder and, with subtle movement of one hand away from the puppet, cause the tail to move up and down, the head to move from side to side and the mouth to open and close in a multitude of combinations and sequences.

[**0036**] Referring to **FIG. 6**, in an alternative embodiment, the cords **81**, **91** and **92** are replaced by electrical wires **104** and **105** that lead from an electrical power source (such as batteries not shown) in handle **16** to motors **107** and **108**, respectively, that drive the tail structure **41** and mouth structure **57**, respectively. Switch buttons **111** and **112** operate switches (not shown) that control the flow of electric power to motors **107** and **108**. In all other respects, the invention is the same. The movement of neck member **51** remains a function of twisting control shaft **13**.

[**0037**] It is within the skill of the art to adapt motor drives to tail structure **41** and mouth structure **57** so that it is unnecessary to describe the details thereof.

[**0038**] It will be obvious to those skilled in the art that numerous modifications can be made in the various components described above without departing from the invention. As such, it is intended that the present invention only be limited by the terms of the appended claims.

What is claimed is:

1. A structure for a shoulder-sitting puppet, comprising:

a beam member adapted to rest on a puppeteer's shoulder;

a rigid, hollow control shaft having a first end and a second end and secured at its first end to, and depending from, said beam member whereby said shaft extends along the back to the vicinity of the waist of a puppeteer when said beam member rests on a puppeteer's shoulder;

a forward stabilizer secured to, and depending from, said beam member at a location spaced apart from said control shaft whereby said forward stabilizer extends down the front of the shoulder of a puppeteer when said body member rests on the puppeteer's shoulder and said control shaft extends along the back of the puppeteer's shoulder;

at least one movable puppet component attached to said beam member;

a control mechanism extending from the second end of said control shaft to said at least one movable puppet component and operative from the second end of said control shaft to selectively move said movable puppet component.

2. The structure for a shoulder-sitting puppet of claim 1 wherein said control shaft is between **18** inches and **30** inches long.

3. The structure for a shoulder-sitting puppet of claim 1 wherein there are at least two movable puppet components and said control mechanism extends to both whereby each movable puppet component is independently selectively movable by said control mechanism.

4. The structure for a shoulder-sitting puppet of claim 3 wherein said control shaft has a longitudinal axis and said control mechanism includes rotation of said control shaft about its longitudinal axis to move one of said movable puppet components.

5. The structure for a shoulder-sitting puppet of claim 3 wherein said control mechanism includes mechanical actuators disposed at the second end of said control shaft and control cords that extend from said actuators through said control shaft to said movable puppet components.

6. The structure for a shoulder-sitting puppet of claim 3 wherein said control mechanism includes:

mechanical actuators disposed at the distal end of said control shaft;

a source of electrical power;

electric motors disposed to operate said movable puppet component;

wires that extend from said electrical power source through said control shaft to said motors and wherein said actuators connect and disconnect said source of electric power to and from said motors.

7. The structure for a shoulder-sitting puppet of claim 4 wherein said control mechanism includes a spool drive between said control shaft and one of said movable puppet components which movable puppet component is made to move by rotating said control shaft about its longitudinal axis.

8. The structure for a shoulder-sitting puppet of claim 1 wherein there are three movable components attached to said beam member including a tail structure that can move up and down, a neck member that can move from side to side and a mouth structure that can open and close.

9. The structure for a shoulder-sitting puppet of claim 8 wherein said control mechanism includes:

a first control cord that extends from the second end of said control shaft to said tail structure and is operative when pulled to raise said tail structure and operative when released to allow said tail structure to fall;

a pair of second control cords that extends from the second end of said control shaft to said mouth structure and are operative when pulled to cause said mouth structure to open; and

a spool drive operatively disposed between said control shaft and said neck member whereby rotation of said control shaft in one direction about its longitudinal axis causes said neck member to move to one side and rotation in the opposite direction causes said neck member to move to the other side.

10. The structure for a shoulder-sitting puppet of claim 8 wherein said mouth structure includes spring means urging said mouth structure closed.

11. The structure for a shoulder-sitting puppet of claim 1 wherein said forward stabilizer is further describes as a U-shaped member having a cross bar with two extending legs and wherein said cross bar is affixed to said beam member.

12. The structure for a shoulder-sitting puppet of claim 11 wherein said legs are between 6 inches and 9 inches long.

* * * * *