

June 29, 1948.

R. E. PAIGE

2,444,169

PUPPET

Filed Jan. 20, 1945

4 Sheets-Sheet 1

FIG. 1.

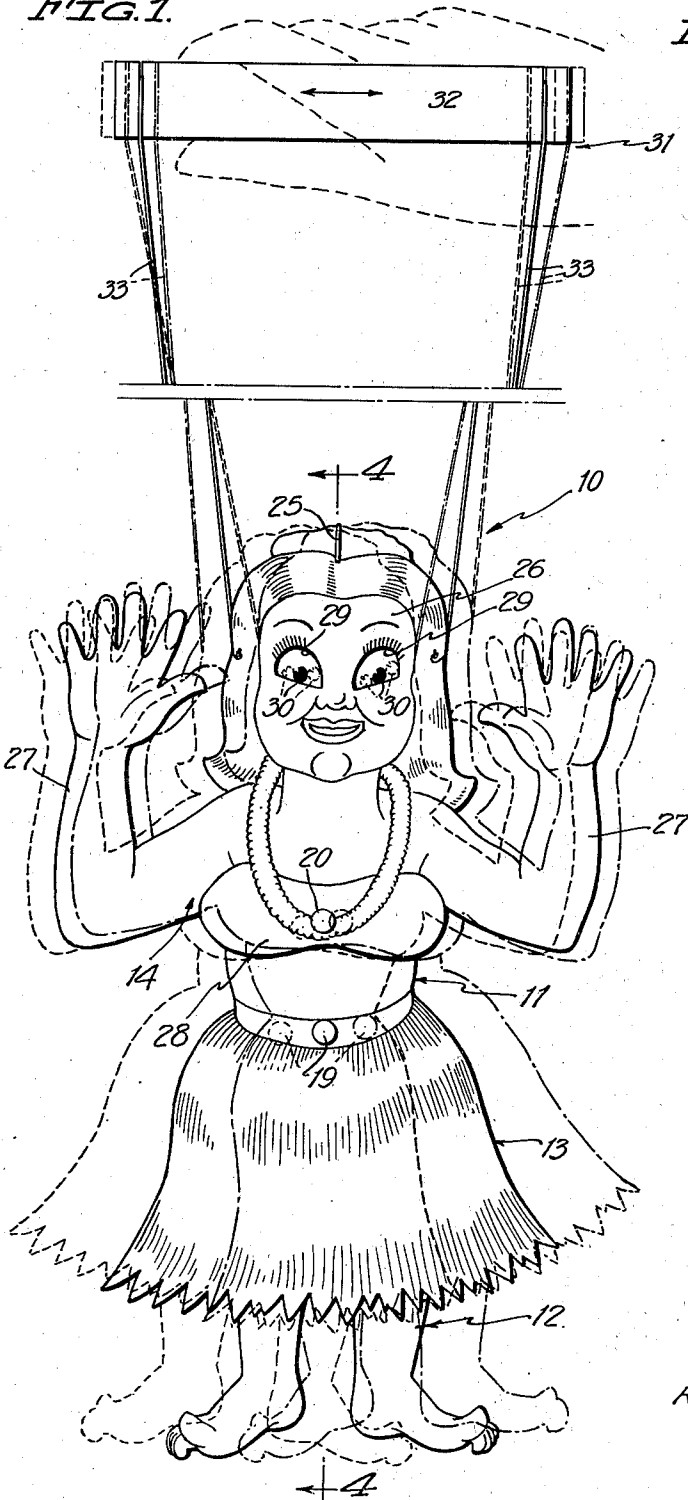
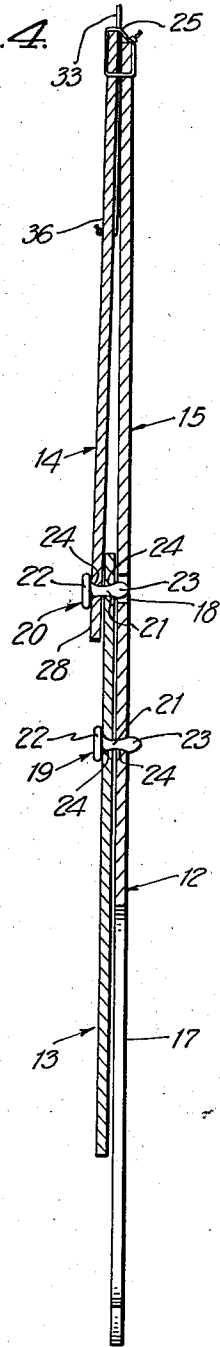


FIG. 4.



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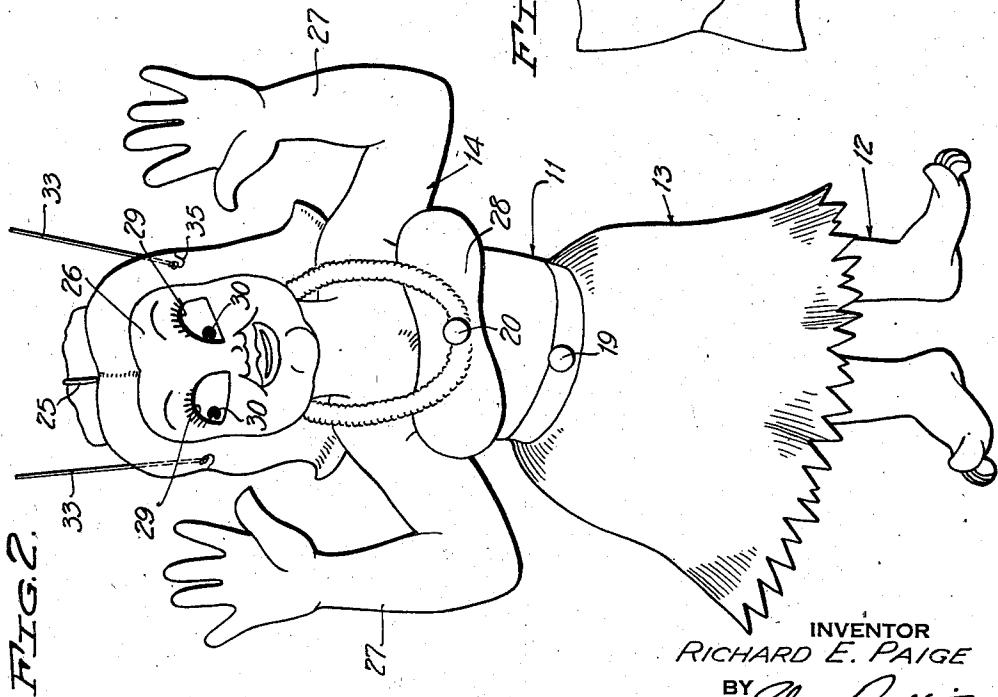
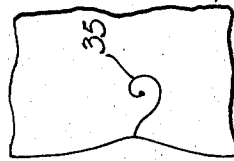
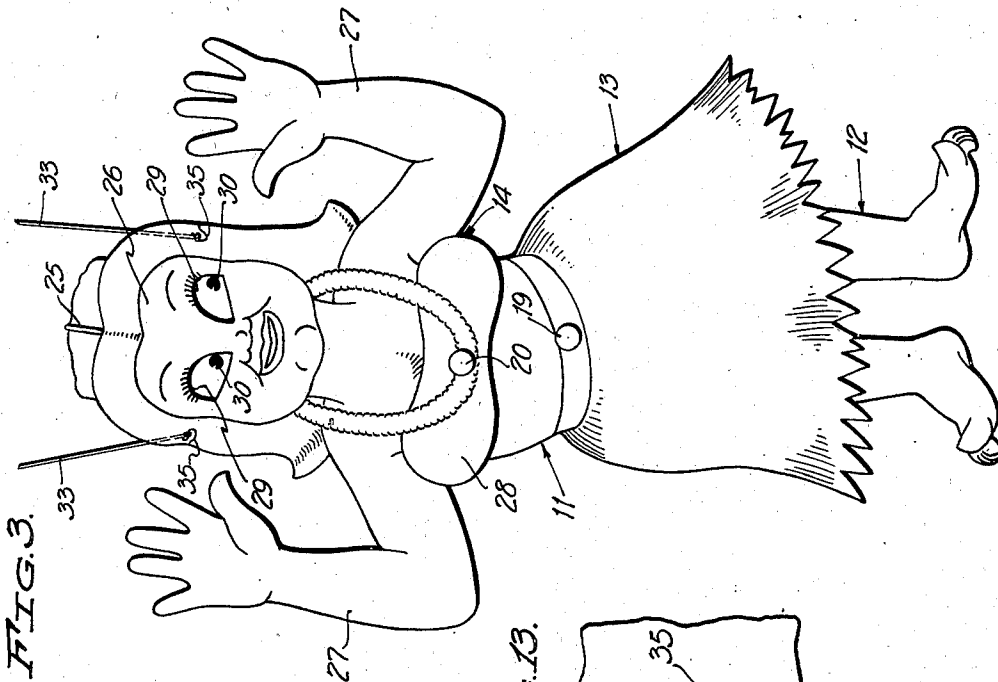
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4 Sheets-Sheet 2



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4 Sheets-Sheet 3

FIG. 5.

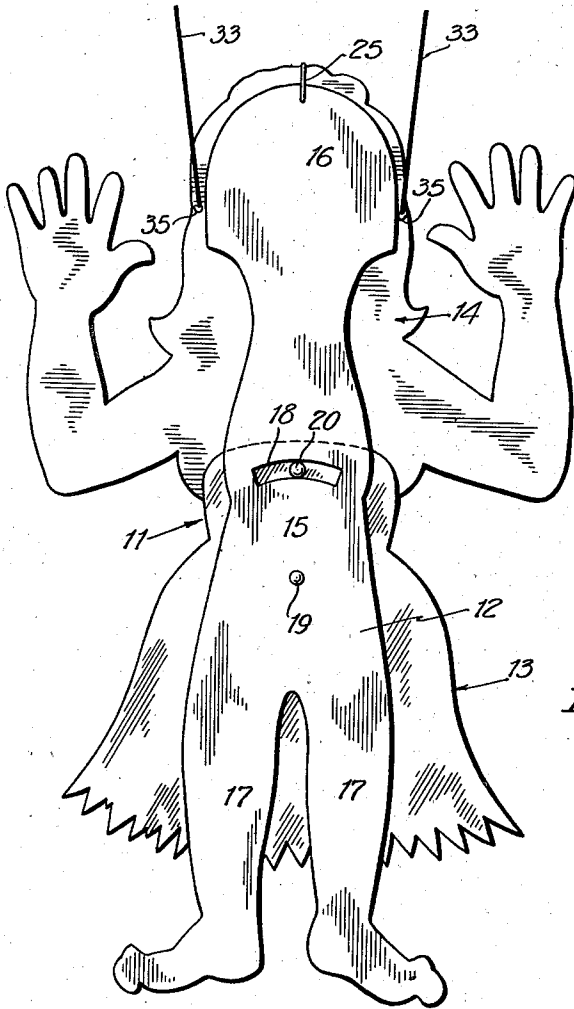


FIG. 6.

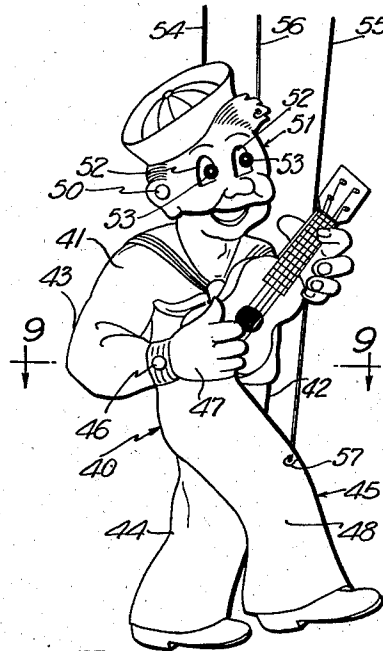


FIG. 7.

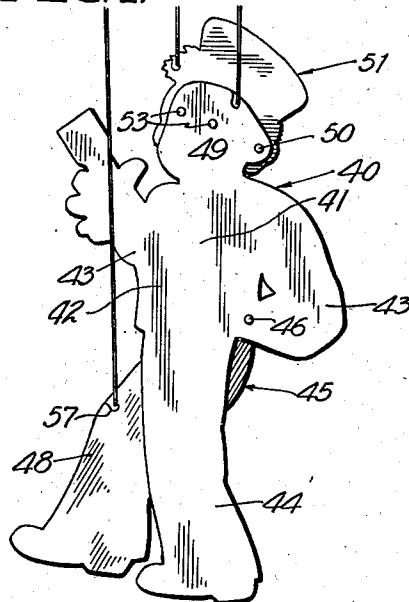


FIG. 14.

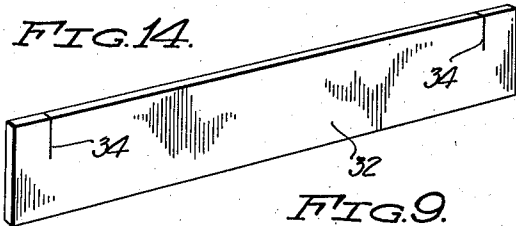
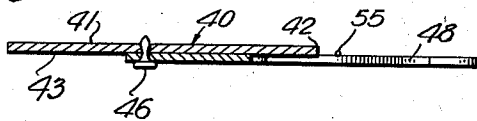


FIG. 9.



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2,444,169

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4 Sheets-Sheet 4

FIG. 8.

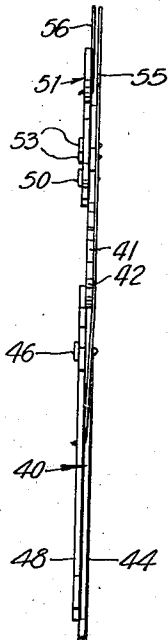


FIG. 10.

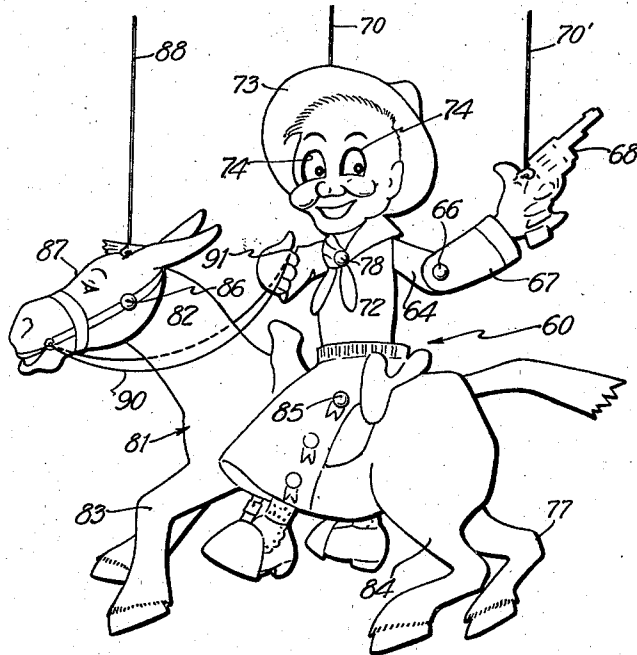


FIG. 12.

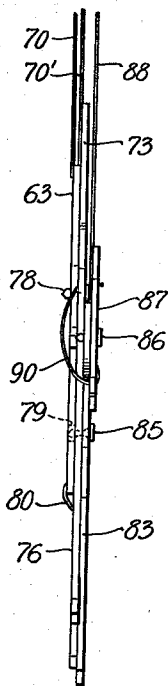
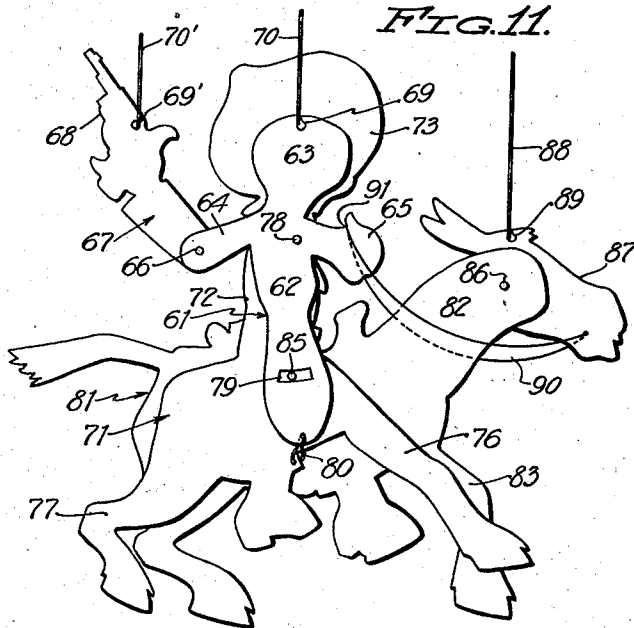


FIG. 11.



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# UNITED STATES PATENT OFFICE

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Application January 20, 1945, Serial No. 573,657

20 Claims. (Cl. 46-126)

1

This invention relates to improvements in puppets.

Heretofore, puppets have usually been constructed in the form of a three dimensional clothed flexible figure in which each part to be moved has a thread connected thereto. Each movable part, such as the arms, legs, head or body, is under the influence of the pull on a thread, which multiplicity of threads complicates the coordinate manipulations necessary for an operator to impart life-like poses and actions to the character. It is therefore one of the purposes of this invention to so simplify the manipulation of a puppet that a child can cause it to act. It is a further purpose to minimize the number of threads under the control of an operator by forming the parts of the characters of stiff cardboard and transmitting motion from those movable parts of the figure directly under the influence of the threads to other movable parts and by which all movable parts coordinate to impart life-like animations to the figure.

Another feature of the invention resides in a puppet which may be constructed to include a plurality of animated figures in which the pivoted parts thereof are interconnected so that movement directly imparted by the manipulation of suspension threads connected to certain parts of the figures to directly impart movement thereto is transmitted to other pivoted parts thereof.

Another feature of the invention lies in constructing a puppet or a plurality of connected puppets in such a manner that a simple oscillating motion causes the puppets to go through a predetermined series of motions: a continuous "act" such as galloping a horse, singing, dancing, etc. This feature makes this new type of puppet adaptable to advertising window displays in which a puppet figure or figures acts out a continuous advertising message.

Another feature of the invention is to provide a puppet which is not articulated at all natural joints but instead, the same has combinations such as an arm and leg formed together, or a whole upper body formed in a single piece joined to a lower body by a pivoted joint at the waist. By forming the figures of combinations of integral and pivoted parts, an unlimited number of comical animated forms may be embodied in the puppet figures.

A further feature of the invention is the provision of a novel fastener element which serves two functions, namely, it connects two parts of the cardboard figure together and forms a pivot on which the parts may turn. This fastener ele-

2

ment is in itself a collar button whose pointed head is forcibly pushed through aligned holes in the cardboard stock of the parts to be connected and depends upon the elasticity of the stock to close in behind the head of the button, thereby preventing separation of the same. Also, by appropriately placing the collar button elements upon a puppet figure, the same may serve to impart the appearance of the button of the coat or other garment of the figure.

Other novel features of the invention will become apparent as the following specification is read in conjunction with the accompanying drawings, in which,

Figure 1 is a front elevational view of a puppet in the form of a dancing girl figure, the same being shown in a normal position of rest in full lines, and in opposed swinging positions in dotted lines, and dot and dash lines respectively, a portion of the suspension cords being broken away.

Figure 2 is a view similar to Figure 1 showing in full lines the position of the parts corresponding to that position shown in dotted lines in Figure 1.

Figure 3 is a view similar to Figure 1 showing in full lines the position of the parts corresponding to that position shown in dot and dash lines in Figure 1.

Figure 4 is an enlarged vertical sectional view on the line 4-4 of Figure 1.

Figure 5 is a rear elevational view of the dancing girl figure.

Figure 6 is a front elevational view illustrating the invention embodied in a puppet in the form of a dancing and ukulele-playing sailor.

Figure 7 is a rear view of the puppet figure shown in Figure 6.

Figure 8 is an edge elevational view of the puppet figure shown in Figures 6 and 7.

Figure 9 is an enlarged horizontal sectional view on the line 9-9 of Figure 6.

Figure 10 is a front elevational view of the invention embodied in a puppet in the form of a horse and riding cowboy.

Figure 11 is a rear elevational view of the puppet toy shown in Figure 10.

Figure 12 is an edge elevational view of the puppet figure shown in Figures 10 and 11.

Figure 13 is an enlarged fragmentary front elevational view illustrating the type of slit used to connect a thread to a part to be actuated.

Figure 14 is a perspective view of the manipulating bar.

Referring to the drawings by reference characters and at present to the form of my inven-

3

tion illustrated in Figures 1 to 5 inclusive, the numeral 10 designates a puppet in its entirety which includes a jointed feminine figure 11 in the form of a hula dancer. However, other figures 11 may be made in other forms such as will be hereafter described and as shown in Figures 6 to 12 inclusive. The figure 11 comprises a rear section 12, a lower front section 13 and an upper front section 14, all of which are constructed of stiff cardboard or other equivalent flat material.

The rear section 12 comprises an elongated body portion 15, an upper head portion 16, and leg portions 17—17. The body portion 15 is provided with an arcuate slot 18 at a point inwardly of and adjacent the plane of the top edge of the lower front portion 13 as best illustrated in Figure 5. The lower section 13 is pivotally connected to the rear section 12 by a fastener element 19. A fastening element 20 similar to the element 19 pivotally connects the lower overlapping portion of the upper front section 14 to the upper portion of the lower front section 13 and the rear end of the element 20 extends into the slot 18 and functions as a stop in conjunction with the ends of the slot 18 to limit pivotal movement of the rear section 12 and lower front section 13 relative to each other. The arcuate slot 18 is struck on an arc concentric to the axis of the fastener element 19.

Each fastener element 19 and 20 comprises a shank portion 21 having an enlarged flat head 22 at one end thereof and a rounded pointed head 23 at the other end thereof. The pointed head 23 is forcibly pushed through aligned holes 24—24 of the parts to be pivotally connected and the elasticity of the cardboard stock is relied upon to close in behind the head 23 and prevent accidental separation of the fastener element from the connected parts.

A flexible thread connection 25 connects the head portion 16 to the top of the upper body section 14.

The jointed feminine figure 11 comprises the pivotally connected sections 12, 13 and 14. The section 13 is representative of the lower body portion of the figure draped in a skirt, the legs 17—17 of the section 12 depending therebelow. The front upper section 14 is representative of the head 26, arms 27, and upper body portion 28 of the figure and combined with the legs 17—17 and section 13 complete the figure.

The head 26 of section 14 is provided with eye openings 29—29 which expose the eyeballs 30—30 printed on the front side of the head portion 16 of the rear section 12.

The puppet 10 also includes a novel suspension and manipulating means 31 for the figure 11. The means 31 includes a flat bar 32 of appropriate length. A pair of suspension threads 33—33 have their upper ends fixedly connected to the bar at suitably spaced distances apart while their lower ends are respectively connected to the opposed sides of the head 26 of section 14.

The bar 32 is preferably made of cardboard stock and has a pair of slits 34—34 (Figure 14) extending inwardly from the top edge thereof. The upper ends of the threads 33—33 are pulled through the respective slits and the length of the threads may be adjusted by pulling the free ends back and forth until the figure 11 is properly suspended, after which the threads are permanently secured by passing the threads around the bar once more and thence through the slits a second time. The purpose of the slits 34 is to per-

4

mit the making of an easy die-cutting operation whereas a hole in the bar would necessitate a delicate stripping operation to clear the holes before the thread could be threaded there-through. Also, the formation of holes in the bar for effecting a thread connection would necessitate tedious threading of the threads through the holes and the tying of knots in the threads at the proper location necessary to effect an adjustment of the suspension threads.

I have also provided a novel form of connection between the lower ends of the threads 33 and the head portion 26 of section 14. By reference to Figure 13 it will be seen that a J-shaped slit 35 is formed in the cardboard stock, the shank portion of which opens onto the edge of the cardboard stock while the hook portion is disposed inwardly of said edge. The lower end of the suspension thread 33 is slid into the slit until it reaches the closed hooked end thereof. A knot 36 is tied in the lower end of the thread to prevent its pulling free of the slit. This type of thread connection avoids the punching and stripping of holes from the stock adjacent the edges of the parts which would result in breakage of the edges of the stock when the punch of the die forces the board.

The full line position of the parts shown in Figure 1 represent the puppet in a normal stationary suspended position. To manipulate the puppet figure 11, an operator grasps the bar 32 and alternately imparts a right and left shifting force thereto in a direction lengthwise of the bar. This oscillating movement of the bar 32 imparts a back and forth swinging movement to the figure, the limits of swinging movements being shown in dotted lines and dot and dash lines in Figure 1 and in full lines in Figures 2 and 3. The threads 33—33 constitute flexible pendulums from which the figure is suspended, the same describing arcs whose centers are at spaced points along the bar 32. As the figure 11 swings back and forth, animate actions are imparted to the various pivotally connected parts. Due to the fact that the upper front section 14 is directly connected to the threads 33—33, and that the head portion 16 of the rear section 12 is pivotally and loosely connected to the head 26 of section 14, these sections swing simultaneously in the same direction but through different arcs. By reason of the pivotal connection 19, the lower front section 13 is caused to swing in a direction opposite to that of the sections 12 and 14 thus imparting a dancing action to the figure 11. The limit of swinging movement of the section 13 in opposite directions is controlled by engagement of the fastening element 20 with the ends of the slot 18. The relative swinging movements of the sections 12 and 14 causes the eyeballs 30—30 to move up and down as well as sideways relative to the walls of the eye openings 29—29 and which imparts a rolling appearance to the eyes. By ordinary skill and timing on the part of an operator during manipulation of the bar 32 many amusing poses and actions may be imparted to the jointed figure 11 as will be seen by reference to Figures 2 and 3.

Although I have mentioned that the figure is activated by the swinging movement imparted thereto, it is to be understood that by a mere tilting of the bar 32 in the direction of its ends will impart a pulling action on one thread and cause a slackening of the other thread, whereupon animated poses may be imparted to the figure.

5

In Figures 6 to 9 inclusive I have illustrated a further adaptation of my invention wherein the puppet figure 40 is in the form of a caricature of a sailor dancing and playing a ukulele. The figure 40 includes a main body section 41 which is cut to a shape to simulate the body 42 of the figure, the two arms 43—43 and one leg 44. One of the arms 43 has a section 45 pivotally connected thereto by a pivot fastener element 46. The section 45 overlies the front of section 41 and is cut to the shape to form a hand portion 47 and a leg portion 48. The main section 41 is also formed with a head section 49, the front of which is representative of the chin and mouth of the figure. Pivotally connected to the head portion 49 by a pivot fastener element 50 is a head section 51 which overlies the front of the section 41. The head section 51 is provided with eye openings 52—52 through which eyeball elements 53—53 carried by the head portion 49 of section 41 extend. The eyeball elements 53, pivot fastener elements 46 and 50 are in the form of collar buttons and are inserted with the cardboard stock in the same manner as the fastener elements 19 and 20 hereinbefore described.

All three sections, 41, 45 and 51 are under the control of suspension threads 54, 55 and 56 respectively and have their lower ends connected in J-shaped slits 57 cut in the respective sections at certain edges thereof. The upper ends of the threads 54, 55 and 56 are connected to a manipulating bar similar to bar 32 and by manual manipulation the figure 40 may be placed into animation. The figure 40 when set in motion will impart the appearance that the sailor figure is dancing, playing the ukulele, singing, and rolling its eyes for simultaneous pivotal movements are imparted to the sections 41, 45 and 51 in coordinate relation to each other. The same principles of manipulation and operation are present in the puppet figure 40 as is present in the puppet figure 11 heretofore fully explained.

In Figures 10 to 12 inclusive I have illustrated my invention embodied in jointed figure 60 in the form of a horse and a cowboy rider. The figure 60 comprises a plurality of cardboard sections movably connected together in a novel manner so that motion from a swinging pendulum section under the control of manipulating suspension threads will transmit motion to sections not under direct control of the threads. The figure 60 includes a rear section 61 which comprises an elongated body portion 62, a head portion 63, and arm portions 64 and 65. A pivot fastener element 66 connects an arm section 67 to the arm portion 64, and which arm section 67 is also shaped to simulate a pistol 68. Connected to the top of the section 61 by means of a J-shaped slot 69 is a manipulating suspension thread 70. A suspension thread 70' is directly connected to the arm section 67 by a J-shaped slit 69'.

Disposed forwardly of the section 61 and concealing the same with the exception of the arm portions 64 and 65 is a section 71. The section 71 is shaped to simulate the body portion 72 and head portion 73 of the cowboy rider. The head portion 73 is provided with eye openings 74—74 which expose eyeballs provided on the front face of the head portion 63 of section 61. The section 71 also includes leg portions 76 and 77 simulating the right front and rear legs of a horse. The body portion 72 of section 71 is pivotally con-

6

ected to the body portion 62 of section 61 by a pivot connector element 78. The section 61 below the pivot 78 is provided with an arcuate slot 79 which is concentric to the pivot element 78. A loop thread 80 connects the lower end of the section 61 with an adjacent portion of the section 71 whereby pendulum swinging movement of the section 61 imparts a force to the section 71 to set the same in motion.

Pivotally connected to the section 61 and overlying all but the leg portions 76 and 77 thereof is a section 81 shaped to simulate the body, hind quarters, neck 82 and left front and rear legs 83 and 84 respectively of a horse. The sections 61 and 81 are connected by a pivot fastener element 85, the shank of which is in alignment with the arcuate slot 79 and into which the shank extends. The shank of the fastener element 85 is engageable by opposite ends of the slot 79 for limiting pivotal movement of the sections 61 and 81 relative to each other.

The head of the element 85 imparts the appearance of a button along the chaps printed on the front side of the section 81.

Pivotally connected to the neck portion 82 of section 81 by means of a pivot fastener element 86 is a head section 87, the same being shaped to simulate the head of a horse. The pivot element 86 is eccentrically located relative to the head section 87 to cause the front end thereof to drop down by gravity. A manipulating suspension thread 88 has its lower end connected to the head section 87 by a J-shaped slot 89. A loop cord 90 has its ends fixed to the head section and has its loop portion threaded through an opening 91 in the arm section 65.

The pivot fastener elements 66, 78, 85, and 86 are similar in construction and function as the elements 19 and 20 hereinbefore specifically described.

The manipulating suspension threads 70, 70' and 88 have their upper ends fixedly connected to a bar 32 which is manipulated in a manner similar to the bar hereinbefore specifically described. The sections 61, 67, and 87 are directly connected to the threads 70, 70' and 88 respectively, which threads act as pendulums as the puppet horse and cowboy puppet figure swings from side to side, the respective pendulums exerting a pulling force upon the pivoted sections as the figure passes beneath each slit connection and past it. Movement of the section 61 is transmitted to the section 71 by the connecting loop 80, the section 71 turning on the pivot connecting element 85. The pivoted sections constituting the horse and cowboy figure move in coordinated relation to impart the appearance of a galloping horse and a pistol shooting cowboy rider.

While I have illustrated and described three different designs of puppet figures, I wish it to be understood that the puppet figures may be made up in unlimited numbers of subject matter, therefore I do not restrict myself to the designs of puppets nor to any thing less than the whole of my invention as set forth in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. An animated puppet comprising in combination, a puppet figure including a plurality of rigid pivotally connected co-related sections, a rigid manipulating member, suspension threads having their upper ends connected to the manip-

7

ulating member and their lower ends respectively connected to certain of the sections, whereby oscillatory manipulation of the member will impart a pendulum swinging action to the figure to cause direct alternate pulling forces to be exerted upon those sections to which said threads are connected to impart repetitious actions to the puppet figure, and means connecting the other pivoted sections with those other pivoted sections directly connected to the member by threads for imparting pivotal movement to the former sections from the latter sections.

2. An animated puppet comprising in combination, a puppet figure including a plurality of rigid pivotally connected correlated sections, means for suspending the figure and for imparting pendulum swinging action thereto to effect repetitious pivotal movement of a predetermined group of the sections, and means for imparting pivotal movement to the other of the sections from the pivotal movements of the first group of sections.

3. In an animated puppet, a plurality of correlated flat sections arranged in overlapping relation, said sections comprising a group of three of which two are individually pivoted to the third, means for setting the latter section into oscillation in its own plane, thereby imparting predetermined oscillatory movements to said pivots, and means constraining said first and second sections to swing through predetermined limited arcs as said pivots move.

4. In an animated puppet, a plurality of correlated flat sections arranged in overlapping relation, said sections comprising a group of three of which two are individually pivoted to the third, means for setting the latter section into oscillation in its own plane, thereby imparting predetermined oscillatory movements to said pivots, and means constraining said first and second sections to swing through predetermined limited arcs as said pivots move, said last-named means comprising suspension elements constrained to swing as pendulums in a common plane.

5. In an animated puppet, a plurality of correlated flat sections arranged in overlapping relation, said sections comprising a group of three of which two are individually pivoted to the third, means for setting the latter section into oscillation in its own plane, thereby imparting predetermined oscillatory movements to said pivots, and means constraining said first and second sections to swing through predetermined limited arcs as said pivots move, said last-named means comprising suspension elements constrained to swing as pendulums in a common plane, and a common control element to spaced points of which said suspension elements are anchored.

6. In an animated puppet, a plurality of correlated flat sections arranged in overlapping relation, said sections comprising a group of three of which two are individually pivoted to the third, a suspension element constrained to swing as a pendulum and engaging said third section so that the latter may be set into oscillation in its own plane, thereby imparting predetermined oscillatory movements to said pivots, and means constraining said first and second sections to swing through predetermined limited arcs as said pivots move.

7. In an animated puppet, a plurality of correlated flat sections arranged in overlapping relation, said sections comprising a group of three of which two are individually pivoted to the third, a suspension element constrained to swing as

8

a pendulum and engaging said third section so that the latter may be set into oscillation in its own plane, thereby imparting predetermined oscillatory movements to said pivots, and means constraining said first and second sections to swing through predetermined limited arcs as said pivots move, said last-named means comprising other suspension elements constrained to swing as pendulums in said plane.

8. In an animated puppet, a plurality of correlated flat sections arranged in overlapping relation, said sections comprising a group of three of which two are individually pivoted to the third, a suspension element constrained to swing as a pendulum and engaging said third section so that the latter may be set into oscillation in its own plane, thereby imparting predetermined oscillatory movements to said pivots, and means constraining said first and second sections to swing through predetermined limited arcs as said pivots move, said last-named means comprising other suspension elements constrained to swing as pendulums in said plane, and a common control element to spaced points of which all of said suspension elements are anchored.

9. In an animated puppet, the combination of elements set forth in claim 3, said constraining means comprising a slot in one of said sections and a pin carried by another section and projecting into said slot.

10. In an animated puppet, the combination of elements set forth in claim 3, said constraining means comprising a slot in one of said sections and a pin carried by another section and projecting into said slot, said pin constituting one of said pivots.

11. In an animated puppet, the combination of elements set forth in claim 3, said constraining means comprising a slot in one of the underlying sections and a pin carried by an overlying section and projecting rearwardly into said slot.

12. In an animated puppet, the combination of elements set forth in claim 3, the front surfaces of said sections bearing complementary embellishments conjointly defining a fanciful depiction, said constraining means comprising a slot in one of the overlying sections, and a pin carried by an underlying section and projecting forwardly into said slot, the front end of said pin forming part of said depiction.

13. In an animated puppet, the combination of elements set forth in claim 3, said constraining means comprising a flexible tie element of predetermined length connecting two of said sections, said tie element exercising its constraining effect when it become taut.

14. In an animated puppet, a plurality of correlated flat sections arranged in overlapping relation, the front surfaces bearing complementary embellishments conjointly defining a fanciful depiction, said sections comprising a group of three of which two are individually pivoted to the third and are also mutually pivoted to each other, and means for setting one of said sections into oscillation in its own plane, thereby imparting predetermined oscillatory movements to the other sections, said means comprising a suspension element constrained to swing as a pendulum.

15. In an animated puppet, the combination with the elements set forth in claim 14 of means for limiting the extent of relative movement between two of said sections, said means comprising a slot in one of said sections and a pin carried by the other and projecting into said slot.

16. In an animated puppet, the combination



of elements set forth in claim 3, said constraining means comprising an additional section pivoted to one of the sections to be constrained, and a suspension element connected to said additional section and constrained to swing as a pendulum in the plane of said section.

17. In an animated puppet, the combination of elements set forth in claim 3, each section being composed of flat cardboard stock, and certain of said pivots comprising an element shaped like a collar button and pierced through the overlapping mutually pivoted sections.

18. An animated puppet comprising a plurality of flat pivotally connected correlated sections arranged in overlapping relationship, the front faces of said sections bearing complementary embellishments conjointly defining a fanciful depiction including a depiction of at least one live figure, and means for suspending the puppet and for imparting pendulum swinging action thereto in the plane of said sections to effect repetitious pivotal movements of said sections through limited oscillatory paths, said suspending means comprising a common control element elevated with respect to said sections, and suspension elements anchored to spaced points along said control element and extending downwardly to predetermined points of engagement with certain of said sections, whereby said pendulum action will cause predetermined variations in the degrees of overlap of said sections, said sections being of such contours, and the pivot axes being so disposed, that said variations will animate said depiction independently of the normal regions of articulation in the live figure depicted.

19. An animated puppet comprising, in combination, a puppet figure including a plurality of overlapping correlated sections constructed of sheet material, pivot elements connecting the overlapping sections together and about which they are free to turn, a control bar, a plurality of suspension threads, means connecting the upper ends of the threads to said bar at spaced apart distances therealong, and means for connecting the lower ends of the threads to said sections whereby oscillatory movement imparted to the control bar will cause the figure to

swing in pendulum fashion wherein each thread swings taut upon a different center thereby exerting alternate repetitious pulling forces upon the pivotally connected sections, the means for connecting the upper ends of the threads to the control bar comprising spaced slits provided in the control bar extending downwardly from the top edge thereof, the upper ends of the threads being inserted into the respective slits and the threads looped about the bar and having the looped portions also respectively disposed in said slits.

20. An animated puppet comprising, in combination, a puppet figure including a plurality of overlapping correlated sections constructed of sheet material, pivot elements connecting the overlapping sections together and about which they are free to turn, a control bar, a plurality of suspension threads, means connecting the upper ends of the threads to said bar at spaced apart distances therealong, and means for connecting the lower ends of the threads to said sections whereby oscillatory movements imparted to the control bar will cause the figure to swing in pendulum fashion wherein each thread swings taut upon a different center thereby exerting alternate repetitious pulling forces upon the pivotally connected sections, the means for connecting the lower ends of the threads to the respective sections comprising J-shaped slits provided in the respective sections extending inwardly from the edges thereof, the lower ends of the threads being knotted and inserted into the respective slits to seat therein at the closed end thereof.

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