Oct. 9, 1951 C. E. WHITCOMB 2,570,737

MARIONETTE ACTUATING AND CONTROLLING APPARATUS

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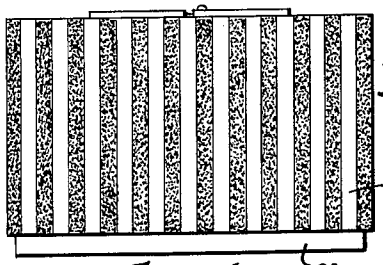


Fig. 4.

Fig. 1.

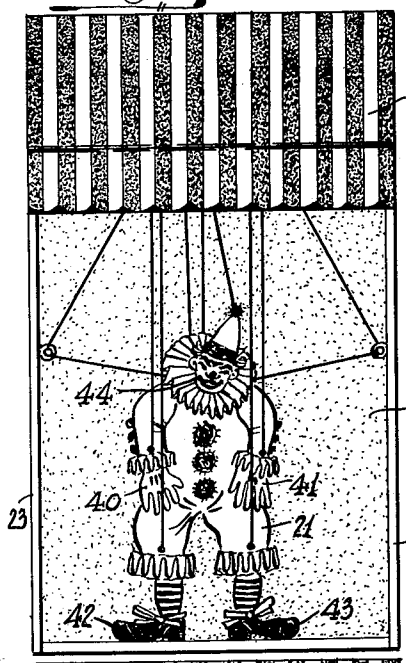


Fig. 2.

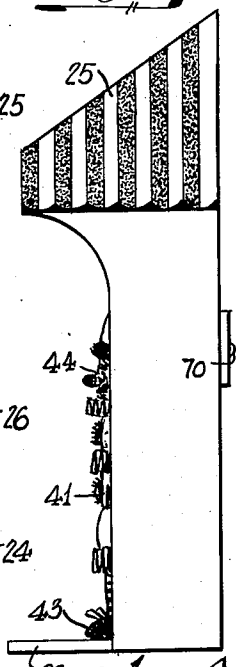
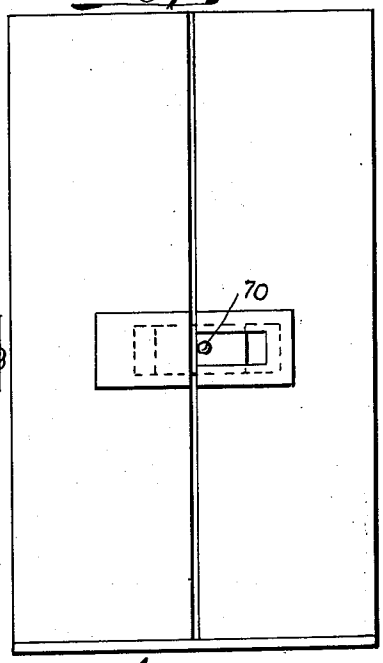


Fig. 3.



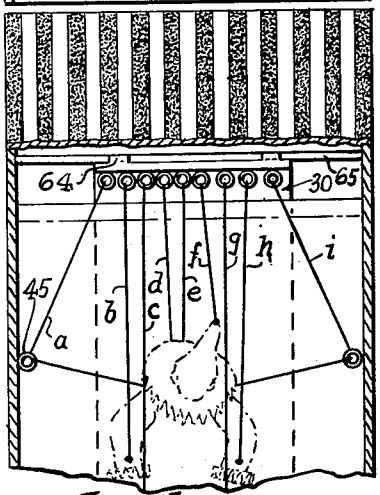


Fig. 5.

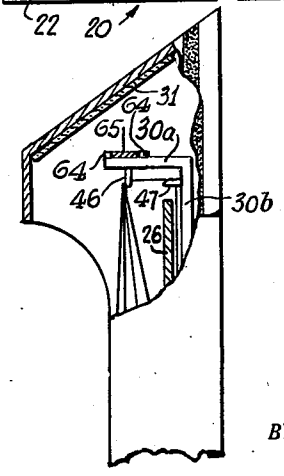


Fig. 6.

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MARIONETTE ACTUATING AND CONTROLLING APPARATUS

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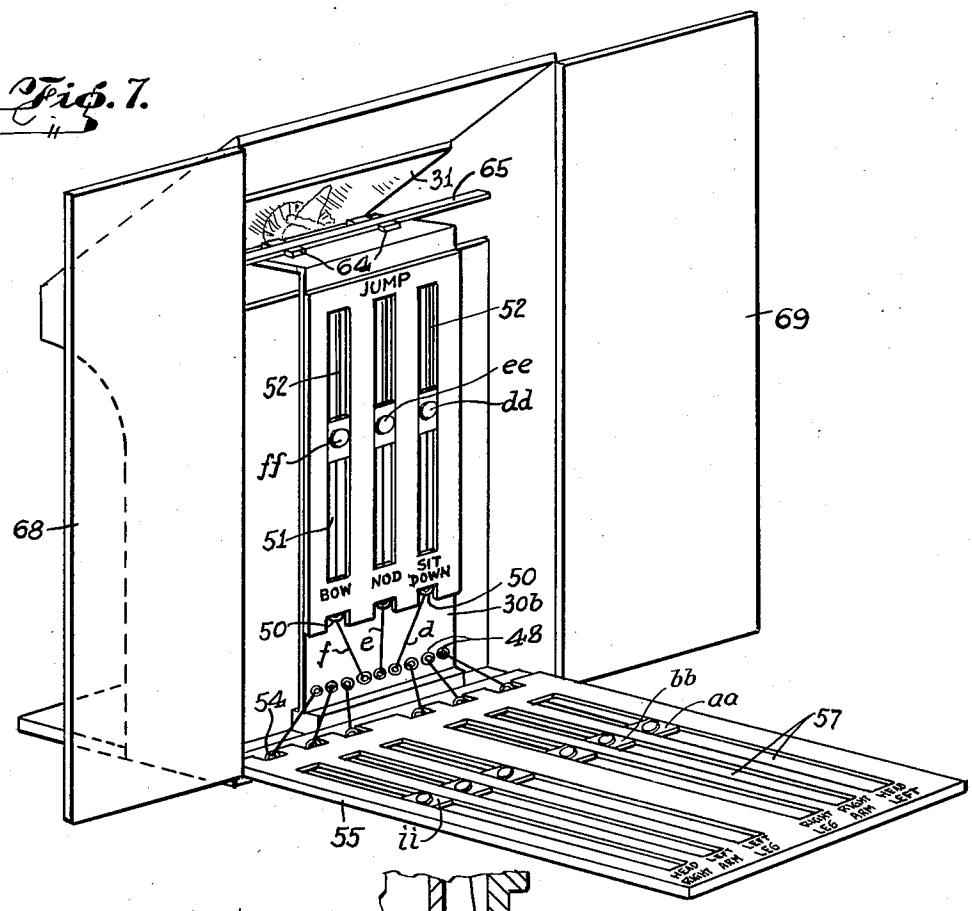
Fig. 7.



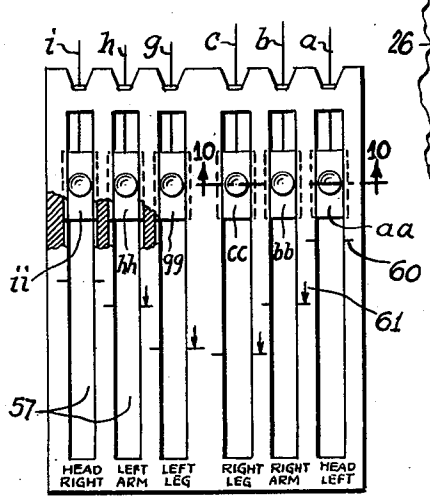


Fig. 8.

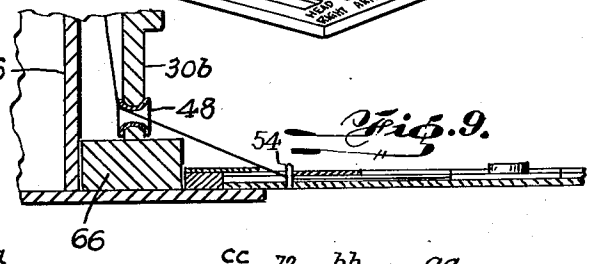


Fig. 9.

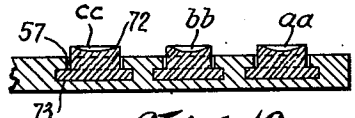


Fig. 10.

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MARIONETTE ACTUATING AND CONTROLLING APPARATUS

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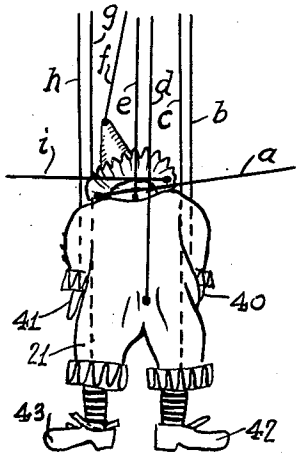

Fig. 11.

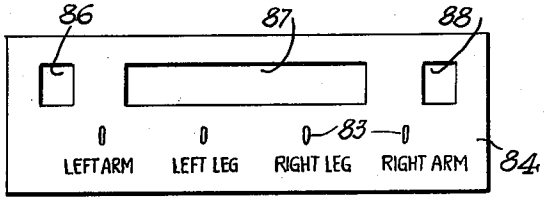

Fig. 14.

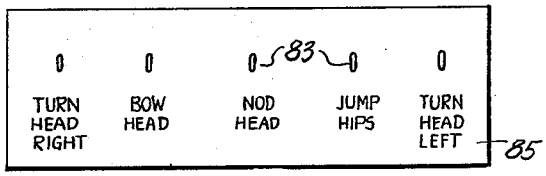

Fig. 15.

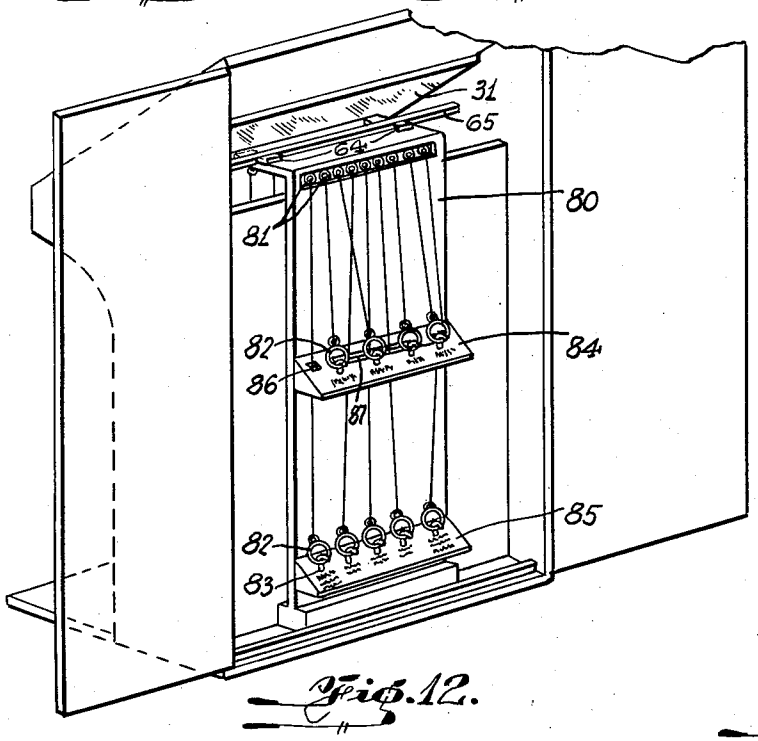

Fig. 12.

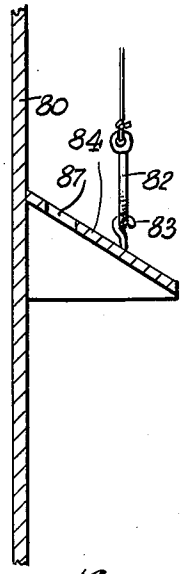

Fig. 13.

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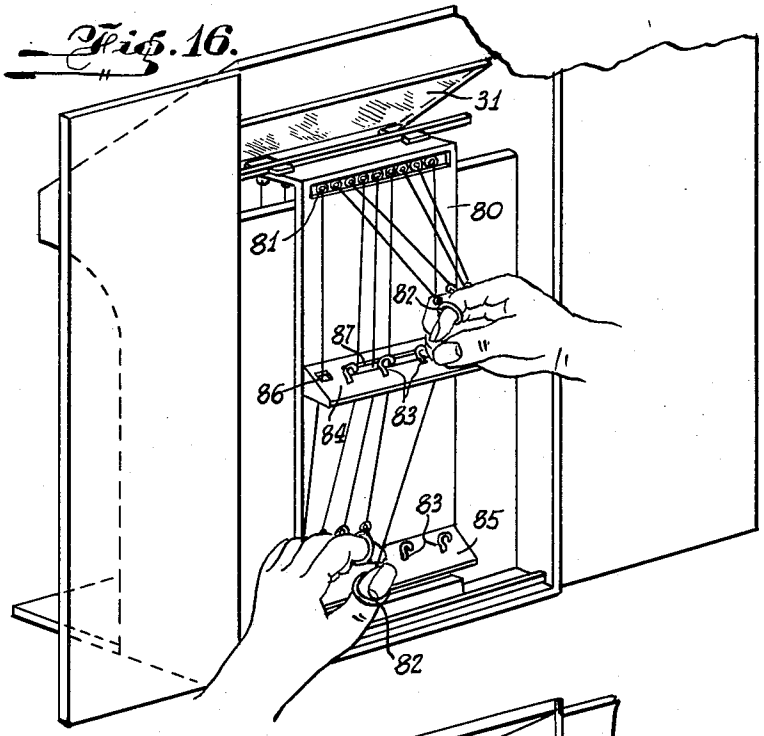
Fig. 16.



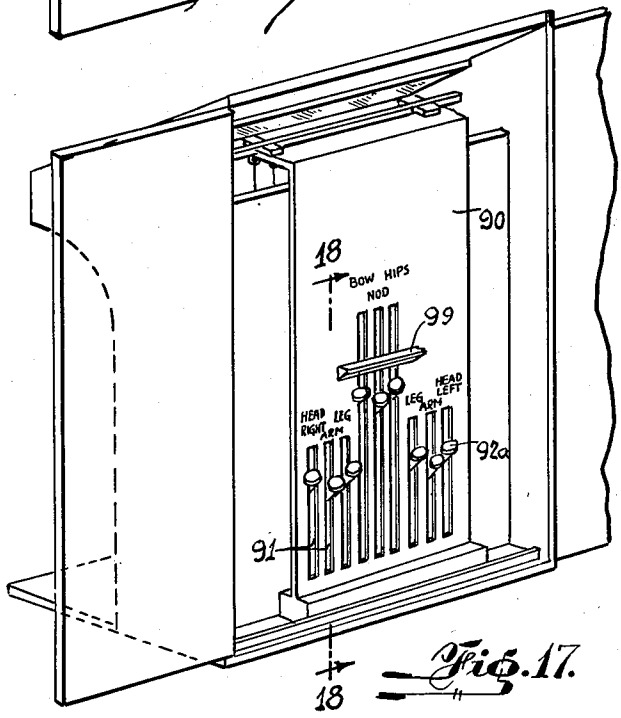
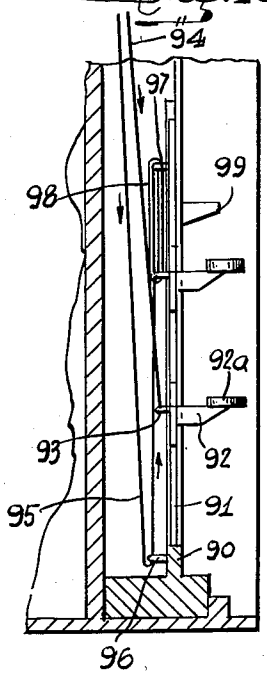


Fig. 17.

Fig. 18.



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Patented Oct. 9, 1951 2,570,737

UNITED STATES PATENT OFFICE

2,570,737

MARIONETTE ACTUATING AND CONTROLLING APPARATUS

Charles E. Whitcomb, Bayside, N. Y., assignor to himself and Harry O'Brien, New York, N. Y.

Application August 15, 1949, Serial No. 110,437

14 Claims. (Cl. 46—13)

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This invention relates to marionette actuating and controlling apparatus.

Marionette or puppet shows are generally performed by skilled and experienced artists. Conventional apparatus for actuating and controlling the marionettes is in no important respect different from the corresponding apparatus or equipment which was used many years ago. Strings or wires are attached to the several appendages or limbs, as well as to the torso, of each marionette, and means are provided for attaching the same strings or wires at their opposite ends to the performer's fingers. As each string or wire is pulled, that part of the marionette to which it is attached reacts accordingly, and as each said string or wire is released, an opposite reaction is achieved. The performer is required to master the apparatus in the same manner that a pianist must master the keyboard. As there are no identifying indicia on the keys of a piano, so are there no identifying indicia on the strings of the marionette. The performer must learn and memorize the connection of each string with the corresponding part of the marionette and he must learn to manipulate the strings without any mental effort.

The present invention is of apparatus for the actuation and control of marionettes, wherein each string is keyed and labeled to facilitate learning the operation of said apparatus. Each string is provided with identifying material which clearly indicates which part of the marionette that particular string controls so that a novice or beginner has only to read this material as he operates the apparatus in order to enable him to manipulate the several strings controlling the marionette, intelligently.

It is therefore one important object of the present invention to provide marionettes actuating and controlling apparatus which may be used for instruction and learning purposes: especially may it be used for self-instruction.

Another important object of this invention is the provision of labeled means for actuating the marionette strings. In the preferred form of this invention, each string is connected to an appropriately labeled button or slide which may readily be manipulated by the fingers of the performer. Each button or slide is mounted on its own individual tracy and all of the buttons or slides are manipulated or actuated in the same manner, that is, by moving them in one direction or the other along their respective tracks. Since the strings are attached to buttons which always remain in their respective tracks, and not to the fingers of the performer, the performer may release any one or more strings at any appropriate time or times, since it is no trouble or effort whatsoever to resume control over said released strings when and as desired. The buttons or slides may or may not be under tension compelling them to return to their normally inoperative positions. Tension controlled buttons or slides may be utilized where it is desirable to return the strings to their inoperative positions immediately upon their release by the fingers of the performer. Non-tensioned buttons or slides may be utilized where it is desired to retain certain strings on operative position even though they may be released by the fingers of the performer. In a complete marionette show both types of buttons or slides may be used.

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The use of these string controlling buttons or slides provides important advantages over conventional marionette controlling apparatus. In the first place, it enables experienced performers to handle a greater number of marionettes than is at all possible with conventional equipment. In the second place, it opens the marionette art to greater numbers of people who would normally be unable to master conventional apparatus currently and in the past used in marionette shows.

Still another object of this invention is the provision of marionette controlling apparatus of the character described which is compactly contained in a box that simulates and resembles a theater stage. The marionette or marionettes are mounted on one side of a partition which simulates the backdrop of a stage and the control apparatus is situated on the opposite side of the partition. The control apparatus may be mounted on the back of the partition or it may be mounted on a back cover which is provided for the box, said back cover being hingedly connected to the back of the box so that it may be swung into comfortable operating position.

A further object of this invention is the provision of marionette controlling apparatus of the character described which operates through a movable carriage in the marionette box so that the marionette or marionettes may be moved bodily from one part of the stage to another part without disturbing the relative positions of their several parts, if that be desired. The use of a movable carriage also renders it possible to walk the marionettes across the stage or perform similar feats.

Preferred forms of this invention are shown in the accompanying drawing in which:

Fig. 1 is a front or stage view of the box containing a marionette and the apparatus for con-

trolling said marionette, made in accordance with one form of this invention.

Fig. 2 is a side view thereof.

Fig. 3 is a back view showing the back doors in closed position.

Fig. 4 is a top view.

Fig. 5 is a fragmentary front view, partly in vertical section and with the roof partly broken away to expose so much of the marionette controlling strings as may be found in front of the backdrop of the stage, also showing the eyes which support said strings.

Fig. 6 is a side view similar to that of Fig. 2 but showing part of the side wall broken away to expose the marionette controlling strings.

Fig. 7 is a perspective view of the back of the entire box, showin the back doors thereof in open position and a hinged back cover or panel lying in supine position, said back cover or panel being provided with some of the marionette controlling apparatus.

Fig. 8 is a plan view of said back cover or panel.

Fig. 9 is a vertical section through said back cover or panel and through a part of the movable carriage through which the marionette controlling strings pass.

Fig. 10 is a section on the line 10—10 of Fig. 8, showing some of the string controlling buttons or slides and the tracks in which they are disposed.

Fig. 11 is a back view of the marionette showing some of the strings attached thereto.

Fig. 12 is a back view of a marionette box in which the control apparatus is made in accordance with a second form of this invention.

Fig. 13 is an enlarged, fragmentary vertical section through one of the panel boards of said control apparatus.

Fig. 14 is a plan view of one of said panel boards.

Fig. 15 is a plan view of a second panel board.

Fig. 16 is a view similar to that of Fig. 12 showing how the fingers of the performer engage the rings which control the strings in the second form of this invention.

Fig. 17 is a view similar to that of Fig. 12 showing marionette controlling apparatus made in accordance with a third form of this invention.

Fig. 18 is a sectional view on the line 18—18 of Fig. 17.

Referring now to the first form of this invention and to the first 11 figures of the drawing it will be seen that a box 20 is provided in which both the marionettes 21 and the apparatus which controls the marionette are mounted. Box 20 has a floor 22 which simulates the floor of a stage and side walls 23 and 24 respectively, a roof 25 and a backdrop 26 which, combined, give the effect of a simulated or miniature theater stage. The marionette performs either on or above the stage floor 22 and in front of the backdrop 26. The roof 25 slopes forwardly and downwardly above the marionette to conceal as much of the marionette controlling apparatus as possible, and especially carriage 30 and mirror 31. The mirror projects at an angle of approximately 45° with respect to the vertical, or at any other suitable angle, to enable the performer to view the performance of the marionette from the back. The backdrop 26 does not extend the full distance to the top of the roof so that a space or window is thereby provided above the backdrop through which the mirror may be viewed from the back.

It will be noted that nine strings *a*, *b*, *c*, *d*, *e*, *f*, *g*, *h*, and *i* respectively are attached to nine different parts of the marionette. Figs. 5 and 11 will show that string *a* is attached to the left side of the head of the marionette, string *b* is attached to the right arm or forearm, string *c* is attached to the right leg, string *d* is attached to the lower back of the torso, string *e* is attached to the back of the head or possibly to the nape of the neck, string *f* is attached to the top of the marionette's hat, string *g* is attached to the left leg, string *h* is attached to the left arm or forearm and string *i* is attached to the right side of the marionette's head. When, by the means hereinafter described, string *a* is pulled, the marionette's head is turned to the left; when string *i* is pulled, the head is turned to the right; when string *b* is pulled, the marionette's right arm is raised; when string *h* is pulled, his left arm is raised; when string *c* is pulled, the right leg is raised; when string *g* is pulled, the left leg is raised; when string *d* is pulled together with string *e*, the entire marionette may be lifted, and other bodily movements may be provided by pulling strings *d* and *e* individually or alternately; and when string *f* is pulled, the head may be caused to raise up or bob. Hands 40 and 41 and feet 42 and 43 are each weighted so that when the appropriate strings which control the arms and legs of the marionette are released, said arms and legs will drop downwardly to their lowermost positions and carry the strings along with them. The head 44 may also be weighted so that the marionette will tend to nod unless the head or hat controlling string is held in taut or raised position.

It will be seen in Fig. 5 that the several strings above described extend either sidewardly and then upwardly, or simply upwardly before they pass behind the backdrop. Strings *a* and *i* extend through eye screws 45 in the side walls of the box and then these strings as well as all of the other strings pass through similar eye screws 46 affixed to carriage 30. Carriage 30 has a horizontally extending portion which projects forwardly over the top of the back stage and it has a vertically extending portion which projects downwardly behind the back stage. Eye screws 46 are affixed to the horizontal portion of the carriage and additional eye screws 47 are fastened to the vertically extending portion of the carriage, immediately behind said eye screws 46. See Fig. 6. The strings project backwardly from eye screws 46 to eye screws 47 and then downwardly between the back of the backdrop 26 and the front of vertically extending portion 30*b* of the carriage. A plurality of hollow rivets or eyes 48 is provided at the bottom of vertical portion 30*b* and it will be noted in Fig. 9 that the strings pass outwardly from the space between said vertical portion 30*b* and the backdrop 26, through said hollow rivets 48. See Figs. 6 and 9, and also Fig. 7. It will be seen in said Fig. 7 that three of the strings, to wit strings *d*, *e* and *f*, then project upwardly and through eyes 50 which are fastened to the back of vertical portion 30*b* of the carriage. These strings are then attached to button slides *dd*, *ee* and *ff* respectively which are slidably mounted in tracks 51 provided on the back of vertical portion 30*b* of the carriage, vertically thereof. The three vertical tracks 51 are all parallel to each other and hence the three button slides are vertically movable along parallel lines. Elastic members 52 are attached at their lower ends to said button slides and at their upper ends to the top of the carriage and they act upon the button slides to draw them up-

wardly in their respective tracks. In other words, elastic members **52** maintain strings *d, e* and *f* in normally taut condition and hence pulling upwardly upon those parts of the marionette to which they are affixed. These button slides may be pushed downwardly by the person operating the apparatus in order to release said strings *d, e* and *f* and to allow the marionette parts to which they are attached, to drop.

Strings *a, b, c, g, h* and *i* extend downwardly after they issue from hollow rivets **48** and they then pass through eye screws **54** fastened to back panel or cover **55** of the box. This back panel is hingedly connected at its lower end to the bottom of the box and it may be swung into closed vertical position or into open horizontal position. See Figs. 7 and 9 where the open horizontal position of the back panel is shown. Strings *a, b, c, g, h* and *i* are then attached to button slides *aa, bb, cc, gg, hh* and *ii* respectively which are slidably mounted in tracks **57** formed in said back panel **55**. These button slides and their respective tracks are similar to the button slides and tracks of the carriage above described. Tracks **57** are parallel to each other and they extend vertically when the back panel is in its closed vertical position and they extend horizontally when said back panel is in its open horizontal position. There are no elastic members similar to members **52** attached to button slides *aa, bb, cc, gg, hh* and *ii*. Instead these latter slides are manually movable in either direction, that is, either forwardly or backwardly on a common horizontal plane. When they are moved forwardly, that is in the direction of the marionette stage, they release the strings to which they are attached and the marionette parts to which said strings are fastened are thereby allowed to drop by reason of the attraction of gravity upon the weights which they carry. When the button slides last mentioned are pulled backwardly, that is away from the marionette stage and toward the performer, the strings to which they are attached are thereby pulled and the marionette parts to which said strings are fastened are thereby raised or elevated. This is particularly true of strings *b, c, g* and *h*. Strings *a* and *i* are attached to the sides of the marionette's head and so when string *a* is pulled the marionette's head is caused to turn to the left, and when string *i* is pulled the marionette's head is caused to turn to the right.

Indicating lines **60** and indicating arrows **61** may be provided on back panel **55** adjacent tracks **57** formed therein. These indicating marks may be utilized to determine or indicate the direction of movement which the button slides are to take and also the extent of their movement. The several tracks of the back panel as well as the tracks of the carriage may be labeled to indicate which parts of the marionette the several button slides control. These labels may also indicate the nature of the action of the marionette when the button slides are respectively moved.

It will be apparent from the fact that all of the strings pass through eye screws fastened to the carriage, that movement of the carriage either to the right or to the left will cause the marionette to move across the stage accordingly. To facilitate such sideward movement of the carriage in either direction, the top horizontal portion **30***a* of the carriage is provided with a plurality of spaced lugs **64** which are fastened to said horizontal portion of the carriage on both

sides of a crossbar **65**. The ends of the crossbar are fastened to the two side walls of the marionette box and said crossbar serves as a guide or track along which the carriage may travel from side to side. The bottom end of the vertically extending portion **30***b* of the carriage is provided with a base **66** which is slidably movable from side to side in the space between the backdrop **26** and the back panel **55**. See Fig. 9. Since the back panel **55** does not move sidewardly, movement of the carriage from one side to another will effect corresponding changes in the relative positions of the several button slides mounted on said back panel. Marks **60** or similar marks may be used to indicate the changed positions of the several button slides.

The horizontal position of the back panel **55** is its operative position and when the marionette show comes to an end said back panel may be swung upwardly into its closed or inoperative vertical position. The back of the box may further be provided with a pair of doors **68** and **69** respectively which are hingedly mounted on the two side walls of said box. Fig. 7 shows the open position of said doors and Fig. 3 shows their closed position. A latch or locking member **70** may be provided to lock the two doors in closed position. Since these doors are backed up against the back panel **55** they are instrumental in holding said back panel in its closed or inoperative vertical position.

Fig. 10 shows one way in which the button slides and their respective tracks may be constructed. Although only button slides *aa, bb* and *cc* are shown in Fig. 10, they are representative of all of the button slides hereinabove referred to. Each button slide comprises a button portion **72** and a slide portion **73** to which the button portion is connected or with which it is integral. The slide portion is wider than the button portion and it projects sidewardly into longitudinally extending grooves which comprise tracks **57**. In effect this is a tongue-in-groove construction which enables the button slides to move along their respective tracks but prevents them from leaving their said tracks.

Reference to Figs. 12 to 16 inclusive will disclose the fact that the second form of this invention is similar to the first form except that the strings are attached to different finger manipulating means. In place of eye screws **47**, carriage **80** of the second form of this invention is provided with hollow rivets or eyes **81** through which the strings extend from the front of the carriage to the back. The strings then project downwardly and each string is connected to a finger ring **82** which may be held by a finger for the purpose of manipulating the string to which it is attached or which may be attached to a hook **83** when the apparatus is idle. In other words, there are as many finger rings as there are strings and as many hooks as there are finger rings. Carriage **80** is provided with a pair of panel boards **84** and **85** respectively. The upper panel board **84** has holes **86, 87** and **88** formed therein to allow five of the strings to pass therethrough and to reach the lower panel board **85**. Four hooks **83** are fastened to the top panel board to engage the rings of four strings and five hooks **83** are fastened to the lower panel board to engage the rings of five strings. Each hook is labeled in the same manner that the tracks of the first form of this invention were labeled, indicating the marionette parts to which the several strings are attached and the type

of action which would result from manipulating said strings.

The fingers of the performer are thrust through the several rings in the manner shown in Fig. 16 and the strings may be pulled by simply pulling upon the appropriate rings. The rings may be pulled either downwardly or backwardly or at an angle somewhere between the horizontal and the vertical.

In the third form of this invention, shown in Figs. 17 and 18, carriage 90 is provided with a plurality of vertically extending tracks 91. Each track has a key 92 slidably mounted therein as Fig. 18 clearly shows. Keys 92 may be mounted in tracks 91 in the same manner that button slides *aa*, *bb*, etc. are slidably mounted in tracks 57, that is, by means of a tongue-and-groove construction. Keys 92 project outwardly at right angles to the vertical tracks and they are provided with horizontally extending buttons 92*a* which the fingers engage to actuate the keys. The keys and especially their respective buttons are disposed on the operator's side of the carriage 90. Projections 93 are also formed on said keys but these projections extend into the space between the carriage 90 and the backstop of the stage. See Fig. 18. The strings project downwardly into the same space as witness the strings in Fig. 6, and they are tied or otherwise fastened to said projections 93. Six of the strings, to wit strings 94, are attached directly to projections 93 of the six lowermost keys shown in Fig. 17. Three of the strings, to wit strings 95, are attached indirectly to projections 93 of the three upper keys shown in Fig. 17, that is, they are first looped around eye screws 96 which are fastened to the bottom of the carriage and they are then swung upwardly to meet projections 93 of the three upper keys. Above said three projections of the three upper keys are three eye screws 97 and elastic bands 98 interconnect said eye screws 97 with projections 93 of the three upper keys. The tendency of these elastic bands is, of course, to pull the three upper keys upwardly and hence to place strings 95 under tension.

The apparatus last above described may be actuated in much the same manner as the apparatus first above described is actuated. Each key is labeled in the manner that the button slides of the first form of this invention are labeled and it may be actuated by simply placing a finger thereon and pressing downwardly. When the three uppermost keys are released, elastic bands 98 return them to their original positions; when the six lowermost keys are released, they are returned to their original positions either by the weights of the several limbs of the marionette (as in the case of the keys controlling the arms and legs) or manually in the case of the head control keys. A cross bar 99 may be provided to actuate all of the three upper keys simultaneously, as for example, to cause the marionette to jump. This cross bar may be attached to the three upper keys in any suitable way.

The foregoing is descriptive of preferred forms of this invention and modifications may be incorporated into these forms and other forms may be had within the broad scope and spirit of the invention.

I claim:

1. Marionette control apparatus comprising a stage for the marionette, a backdrop behind the stage, a carriage movably mounted behind the backdrop for movement transverse of the stage and having means extending in front of the backdrop above the stage, a plurality of strings attached to the movable parts of the marionette and supported above said marionette by said carriage means and a plurality of keys attached to said strings for manipulating the same and thereby actuating the movable parts of the marionette, said carriage being movable to move the marionette as a whole from side to side on said stage.

2. Marionette control apparatus in accordance with claim 1 wherein each key comprises a slidably mounted button which is manually slidable to manipulate the strings and actuate the movable marionette parts.

3. Marionette control apparatus in accordance with claim 1 wherein each key comprises a finger ring which may be engaged by one of the fingers of the performer so that the performer may manipulate the strings and actuate the movable marionette parts by simply moving his fingers.

4. Marionette control apparatus in accordance with claim 1 wherein identifying indicia are provided for the several keys to identify them with the marionette parts to which their respective strings are attached.

5. Marionette control apparatus in accordance with claim 1 wherein some of the keys are maintained under tension which resists movement in a direction necessary to manipulate their respective strings and the movable marionette parts actuated thereby.

6. Marionette control apparatus in accordance with claim 1 wherein the carriage includes a vertically disposed panel and some of the keys are slidably mounted on said panel, vertically thereof.

7. Marionette control apparatus in accordance with claim 1 wherein a mirror is provided above the marionette stage, projected at an angle to allow an operator behind the backdrop of the stage to view the performance of the marionette.

8. Marionette control apparatus in accordance with claim 1 wherein at least some of the keys are slidably disposed on tracks provided in the carriage, vertically thereof.

9. Marionette control apparatus in accordance with claim 1 wherein a panel is hingedly connected behind the marionette stage for swingable movement upwardly to a vertical position immediately behind the carriage and downwardly to a horizontal position, also behind the carriage, said panel being provided with tracks for at least some of the keys so that said keys may be brought into operative position when the panel is swung downwardly to horizontal position and into inoperative position when the panel is swung upwardly to vertical position.

10. Marionette control apparatus in accordance with claim 1 wherein the stage is provided with a roof and with side walls and wherein said walls have a pair of doors hingedly mounted thereon behind the carriage, so that the working parts of the control apparatus may be concealed and protected by swinging said doors to closed position, a latch being provided for holding them in closed position.

11. Marionette control apparatus for a marionette having a plurality of movable parts, said control apparatus comprising a plurality of strings attached to said movable parts of the marionette, said strings being supported by a carriage which is movable transversely of the direction of movement of said strings, whereby

the marionette as a whole may be moved from one place to another, and a plurality of keys, one attached to each said strings, some of said keys being slidably mounted on said carriage and some of the keys being slidably mounted on a panel which is normal to said carriage, said keys being actuable by the fingers of the performer to manipulate the strings and thereby to actuate the movable parts of the marionette.

12. Marionette control apparatus for a marionette having a plurality of movable parts, said control apparatus comprising a plurality of strings attached to said movable parts of the marionette, said strings being supported by a carriage including a vertically disposed panel, said carriage being movable transversely of the direction of movement of said strings, whereby the marionette as a whole may be moved from one place to another, a plurality of keys attached to said strings, some of said keys being slidably mounted on said vertically disposed panel, vertically thereof, and a second panel, said second panel being disposed on a horizontal plane and having the remaining keys slidably disposed thereon on substantially the same horizontal plane, said keys being actuable by the fingers of the performer to manipulate the strings and thereby to actuate the movable parts of the marionette.

13. Marionette control apparatus for a marionette having a plurality of movable parts, said control apparatus comprising a plurality of

strings attached to said movable parts of the marionette, said strings being supported by a carriage including a vertically disposed panel, said carriage being movable transversely of the direction of movement of said strings, whereby the marionette as a whole may be moved from one place to another, a plurality of keys attached to said strings, said keys being slidably disposed on said vertical panel, vertically thereof, and actuable by the fingers of the performer to manipulate the strings and thereby to actuate the movable parts of the marionette.

14. Marionette control apparatus in accordance with claim 13 wherein the keys are provided with horizontally projecting finger portions to facilitate engagement and manipulation by the fingers of the performer.

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