H. A. VAUGHAN.

TOY CIRCUS.

APPLICATION FILED OCT. 19, 1920.

1,429,382.

Patented Sept. 19, 1922.

6 SHEETS—SHEET 1.

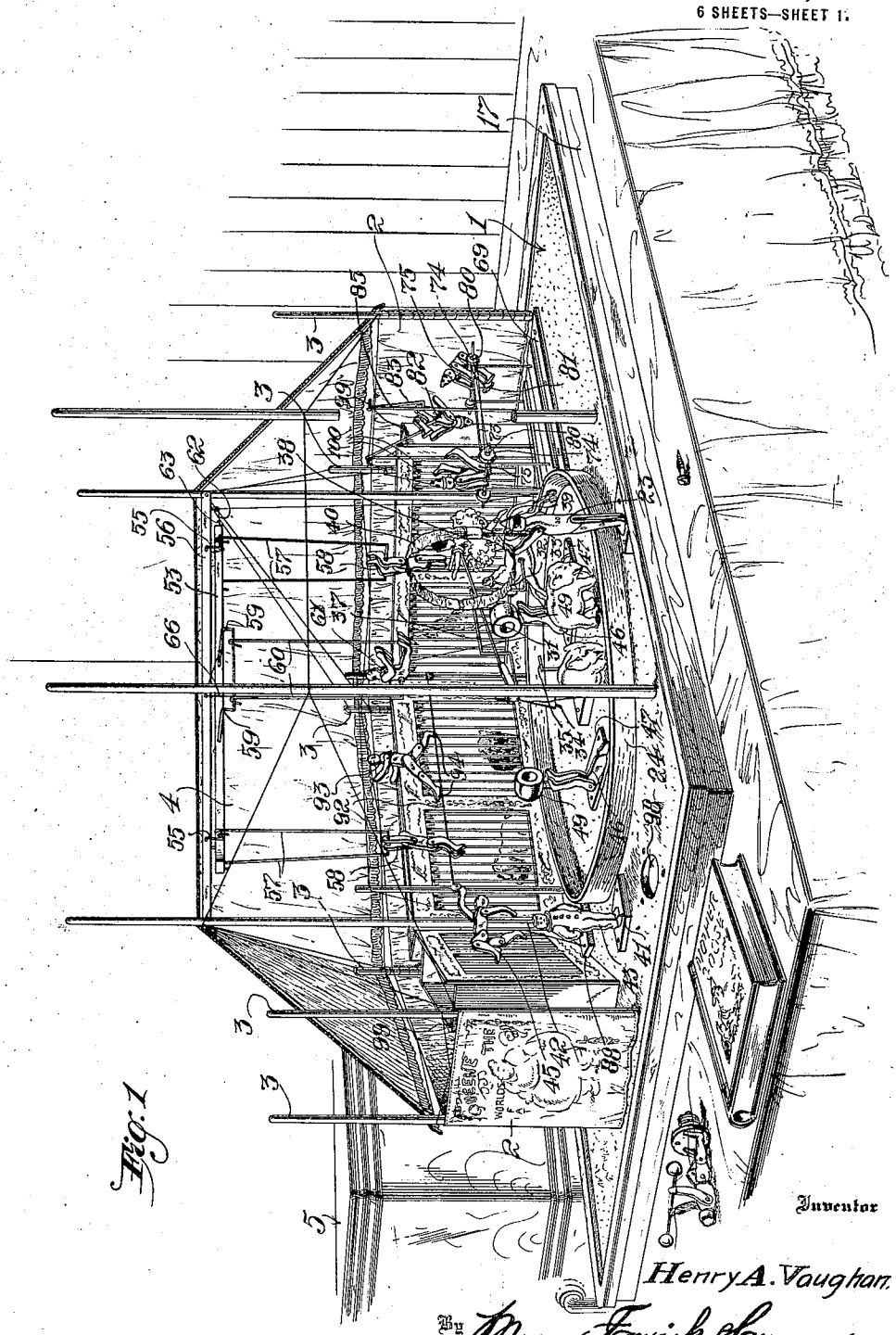


Fig. 1

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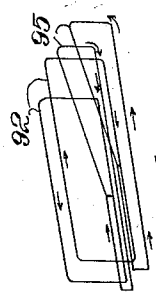


Fig. 16.

Fig. 2.

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6 SHEETS—SHEET 3.

Fig. 3.

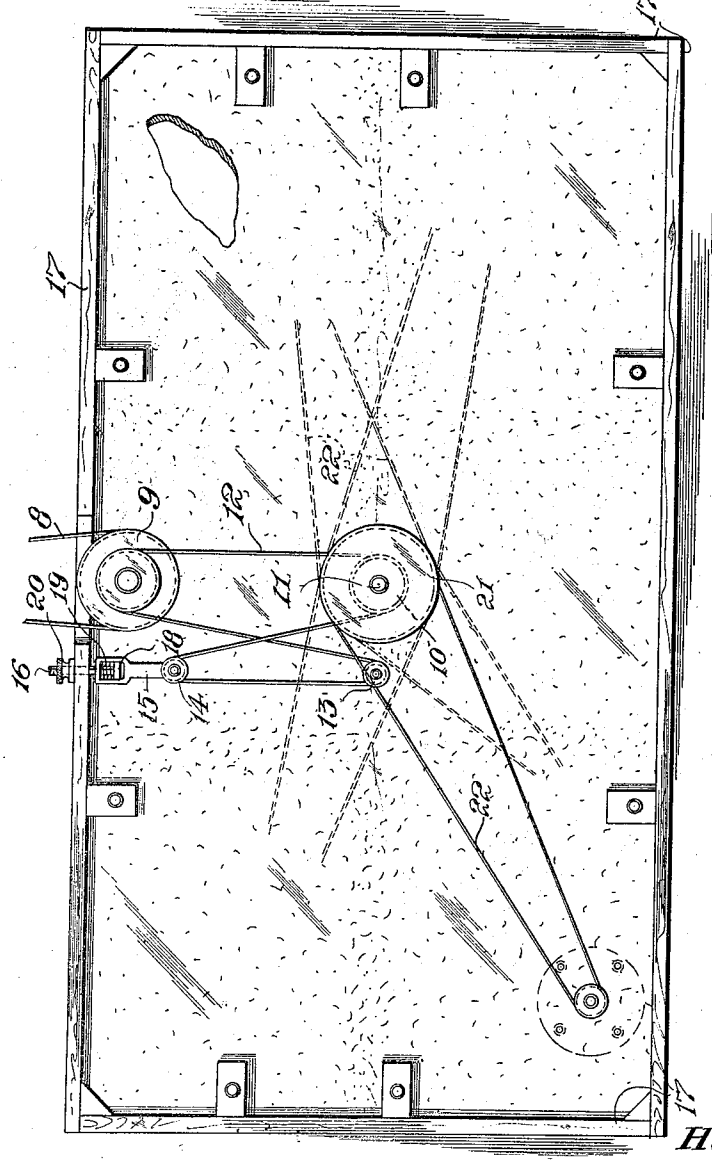


Fig. 10.

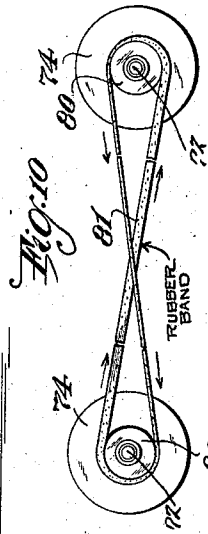


Fig. 11.

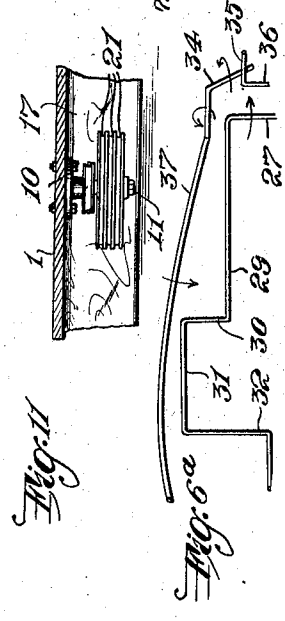


Fig. 6a.

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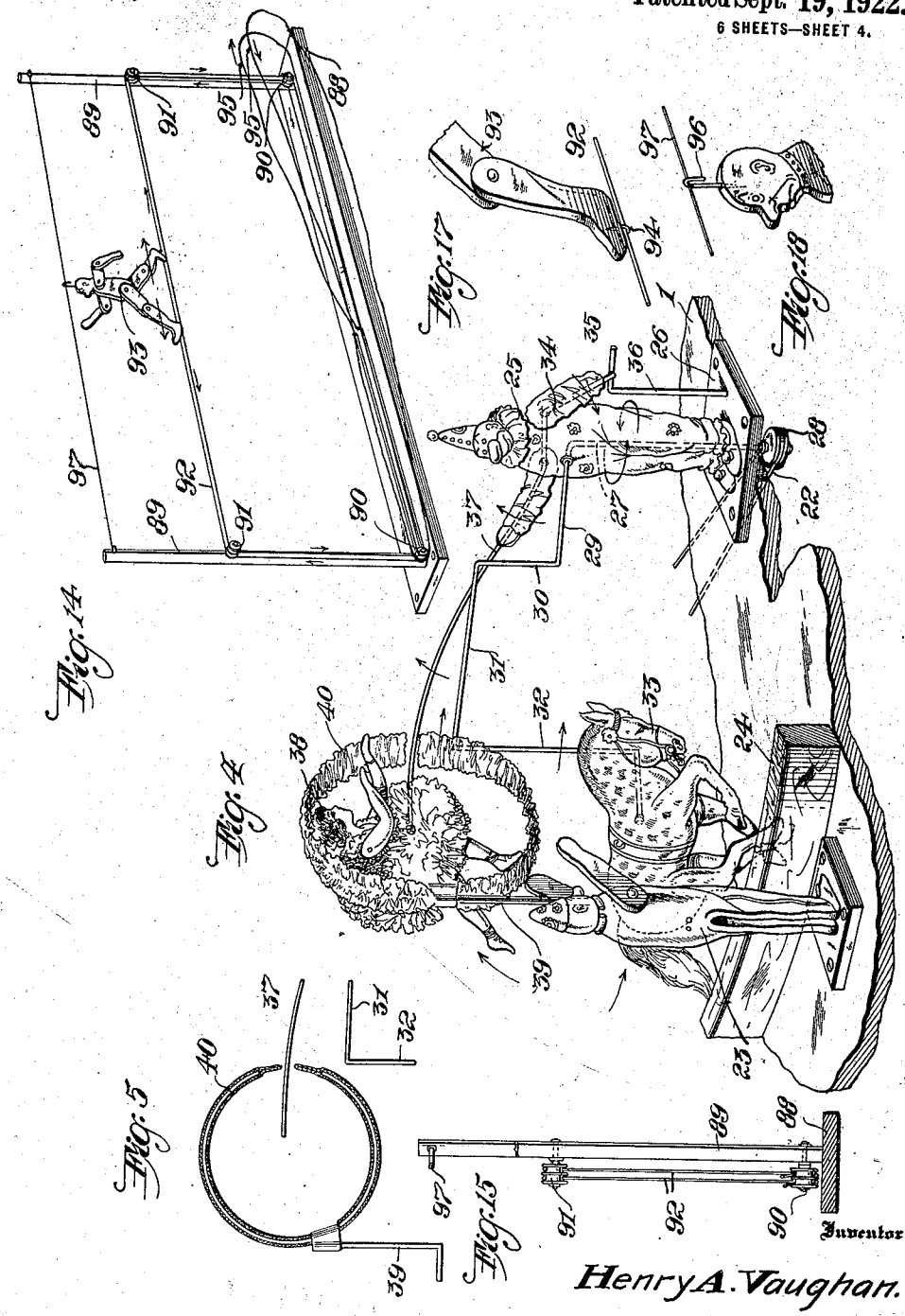
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6 SHEETS—SHEET 4.



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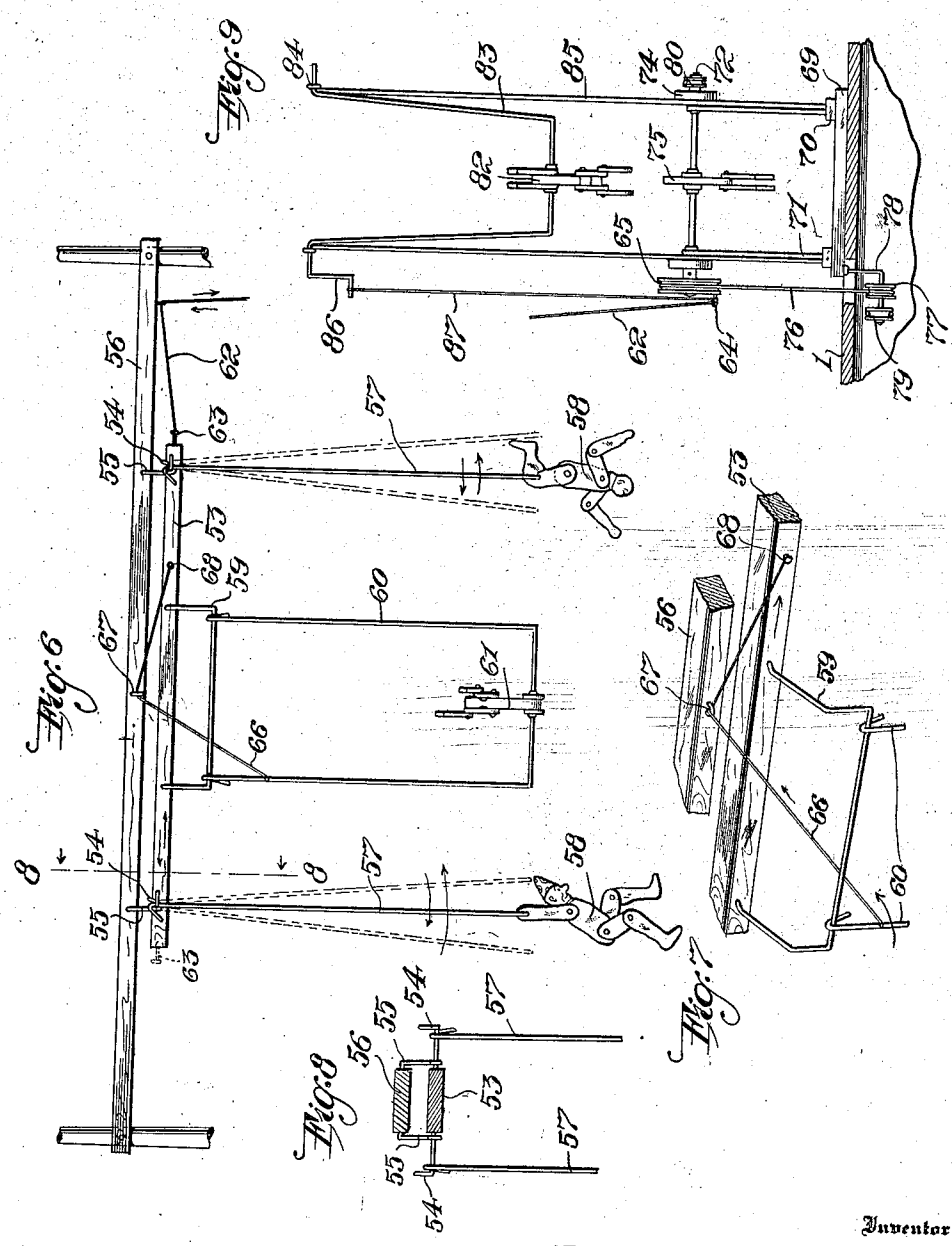
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6 SHEETS—SHEET 5.



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6 SHEETS—SHEET 6.

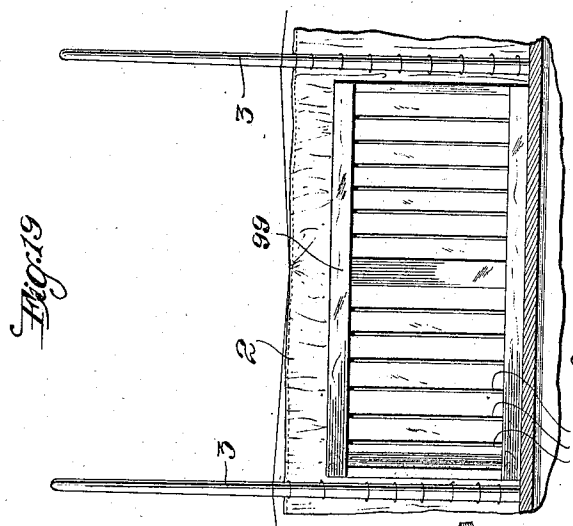


Fig. 19

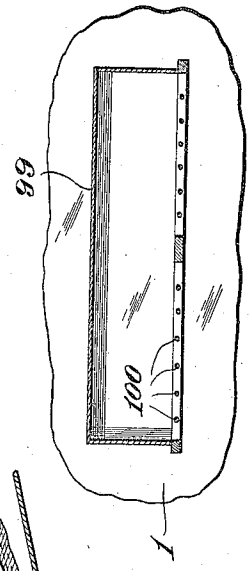


Fig. 20

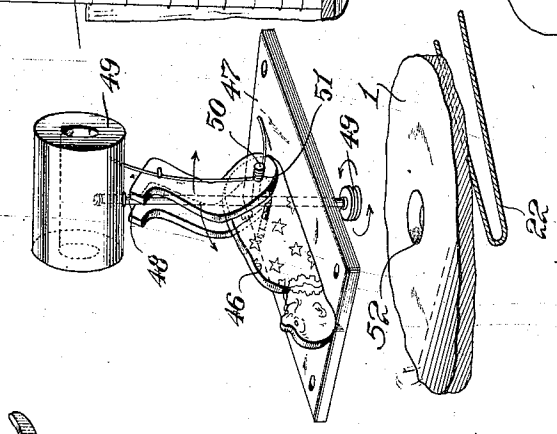


Fig. 13

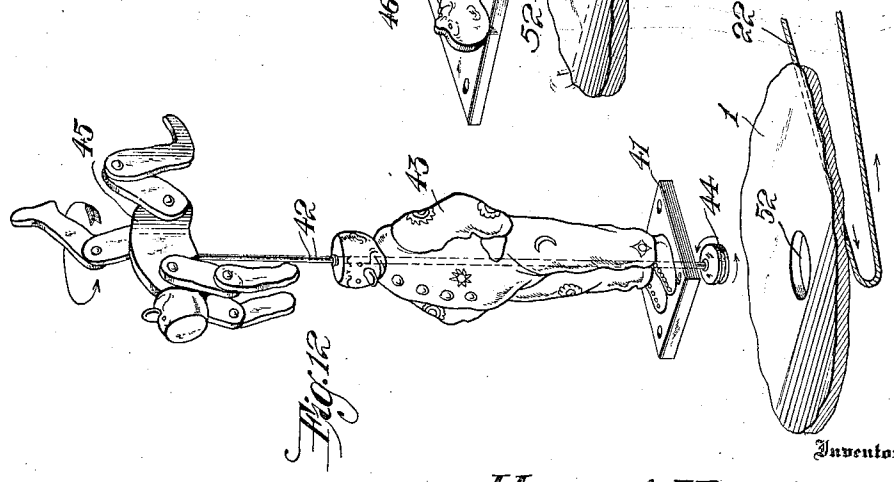


Fig. 12

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UNITED STATES PATENT OFFICE.

HENRY ALBERT VAUGHAN, OF SELMA, ALABAMA, ASSIGNOR OF ONE-HALF TO GEORGE F. COTHRAN, OF SELMA, ALABAMA.

TOY CIRCUS.

Application filed October 19, 1920. Serial No. 417,944.

To all whom it may concern:

Be it known that I, HENRY A. VAUGHAN, citizen of the United States, residing at Selma, in the county of Dallas and State of Alabama, have invented certain new and useful Improvements in Toy Circuses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in amusement devices and more particularly to what will be hereinafter known as a toy circus, the main object of the present invention being the provision of an amusement device wherein a plurality of manikins are operated to carry out a predetermined performance, through the medium of suitable operating mechanism, controlled by the mechanism of a musical instrument, such as a phonograph or the like, the operating mechanism of the toy circus being connected directly to the operating mechanism of the musical instrument.

Another object of the present invention is the provision of a toy circus wherein the several manikins to be operated are suitably connected to a single source of supply, whereby the manikins will be operated simultaneously to carry out a predetermined performance.

A further object of the invention is the provision of a toy circus, wherein the plurality of manikins are so constructed and arranged with respect to the main portion of the device that the arrangement of several of the manikins can be altered, as each individual manikin is mounted on a separate base, detachably connected with the main platform and each manikin is provided with means whereby the same is connected to the main source of power.

A further object of the present invention is the provision of an individual manikin operated in the form of a tight-rope walker, this manikin being operated independent of the simultaneously operated manikins and preferably manually operated in connection with the operation of the mechanically operated manikins.

With the above and other objects in view, the invention consists in the novel features of construction, the combination and arrangement of parts hereinafter more fully set forth, pointed out in the claims and shown in the accompanying drawings, in which—

Figure 1 is a detailed perspective view of a circus constructed in accordance with my invention,

Figure 2 is a perspective of the exterior, showing the arrangement of a musical instrument with respect to the circus and illustrating the connection between the musical instrument and the circus mechanism,

Figure 3 is a bottom plan view of the platform supporting the toy circus,

Figure 4 is a detailed perspective view of a group of manikins, illustrating the action to be performed by this group of manikins,

Figure 5 is a detailed elevation relating to certain parts of the group shown in Figure 4,

Figure 6[a] is a detailed elevation showing the particular operating means for the group illustrated in Figure 4,

Figure 6 is a side elevation, illustrating the relative positions of another group of manikins,

Figure 7 is a detailed perspective, illustrating the manner of operating certain of the manikins illustrated in the group in Figure 6,

Figure 8 is a transverse sectional view, taken on the line 8—8 of Figure 6, looking in the direction of the arrows,

Figure 9 is a detailed end elevation, illustrating another group of manikins and the means for operating the same,

Figure 10 is a detailed side elevation of the connection between certain of the manikins illustrated in Figure 9,

Figure 11 is a detailed elevation of the several pulleys attached to the main operating shaft,

Figure 12 illustrates still another group of manikins, the same being removed from the main base member,

Figure 13 illustrates in perspective one of the individual manikins and the means of operating the same,

Figure 14 illustrates in perspective the individual manikin operated as a tight-rope walker and illustrates the means for operating the same,

Figure 15 is a transverse section, taken through the device illustrated in Figure 14, adjacent one of the end poles,

Figure 16 is a diagrammatic view of the operating mechanism for the device shown in Figure 14,

Figure 17 is a detailed side elevation of one of the supporting limbs, illustrating the manner of attaching the same to the operating wires,

Figure 18 is a detailed side elevation, illustrating the manner of supporting the manikin illustrated in Figure 14,

Figure 19 is a detailed front elevation of one of the animal cages, and

Figure 20 is a horizontal sectional view.

In carrying out my invention, it will be apparent that while I have shown and described the device as arranged for use in connection with the operating mechanism of a musical instrument, it will be understood that any suitable source of power supply may be utilized for operating the several parts of the device. In the accompanying drawings, which clearly illustrate the several features of my invention, the numeral 1 indicates the main platform or base member of my improved toy circus, having arranged upon its upper face a suitable enclosure shown in the form of a miniature circus tent, as indicated at 2, having the usual supporting poles 3 and the canvas 4 mounted upon these poles and so arranged upon the poles that it can be readily removed when desired.

In Figures 1 and 2, I have illustrated in perspective my improved circus suitably connected with a musical instrument in the form of a victrola 5, the operating shaft 6 of the victrola being provided with a pulley 7, which is connected by means of the belt 8 to the drive pulley 9 arranged beneath the base member 1. This drive pulley 9 is connected to a pulley 10 on the main operating shaft 11 by means of a belt 12. This belt 12 is of suitable length whereby it may be extended and passed around the pulley 13 mounted upon one of the reenforcing strips of the base member and thence around the adjustable pulley 14. This pulley 14 is connected to a bracket 15 having a movable rod 16 adjustably connecting the bracket with the side wall 17 of the base 1. The inner end of this rod 16 is provided with a head portion 18 and disposed between the end of the bracket 15 and the head 18 is a coil spring 19, the outer end of said rod having a thumb nut 20 adjustable thereon to adjust the tension of the belt 12 by manipulating this nut. From this, it will be apparent that the tension of the belt 12 can be readily adjusted and by having the spring 19 arranged in the bracket 15, the belt 12 will be yieldably mounted and permitted to give to a certain extent.

The main drive shaft 11 has mounted thereon a plurality of superimposed pulleys, generally indicated by the numeral 21 and adapted to be connected to the several manikins to be operated by means of a plurality of belts 22 extending around the pulleys 21 and connected with the several manikins to be operated.

In mounting the several manikins in the base member it is preferred to have each manikin mounted on an individual base removably attached to the main base member and in carrying out this idea, the group of manikins illustrated in Figure 4 consists of a stationary manikin 23 arranged upon the exterior of a ring 24. A movable manikin 25 is arranged in the center of this ring and mounted upon a removable base member 26 which is attached to the main platform or base 1 in any suitable manner so that the same can be readily detached. Extending up through the center of this base 26, is a shaft 27, on the lower end of which is mounted a pulley 28, having one of the belts 22 passed around the same and extended to one of the superimposed pulleys 21. This shaft 27 extends upwardly centrally of the manikin 25 and is then bent at right angles to provide a horizontal portion 29 and thence extended upwardly to provide a vertical portion 30. The upper end of the vertical portion 30 is extended toward the ring 24, forming a horizontal portion 31. A crank 32 is formed upon the outer end of the horizontal portion 31 and connected to a miniature horse 33.

Extending transversely through the manikins 25 is the horizontal portion of a crank 34, the vertical portion of said crank being adapted to engage the horizontal portion 35 of the post 36 which is stationed in the base 26 and arranged in such a position that the lower end of the crank 34 will engage the horizontal portion 35 upon each revolution of the manikin 25. Connected with the crank 34, is a supporting rod 37 which extends out through the rod of the manikin and supports at its outer end a manikin 38, which is normally positioned upon the back of the miniature horse 33. The manikin 23 is provided with a supporting rod 39 upon the upper end of which is mounted a split ring 40, the ends of said ring being disposed a suitable distance apart at the inner side thereof whereby the rod 37 may readily pass the ring and the manikin 38 pass through the ring. From the above description, it will be readily apparent that the rod 37 may readily pass the ring and the manikin 38 pass through the ring. From

the above description, it will be readily apparent that upon rotation of the shaft 27, the miniature horse 33 and the manikins 25 and 38 will be rotated about the ring 24 and upon each revolution of the manikin 25, the crank 34 will engage the horizontal portion 35 of the crank 36 and actuate the rod 37 to raise the manikin 38 so that it will pass through the ring 40, thus carrying out a distinct imitation of a bareback rider. In Figure 12, I have illustrated one of the individual manikins, showing the same in its detached position and provided with the removable base member 41, having extended up through the center thereof a shaft 42 which also extends up through the manikin 43. The lower end of this shaft is provided with a pulley 44 adapted to be connected by means of one of the belts 22 to one of the pulleys in the series 21. The manikin 43 is stationary, while the manikin 45, secured to the upper end of the shaft 42 rotates with the shaft and provides an imitation of a person balancing himself upon a suitable supporting member arranged a suitable distance above the surface of the main platform 1.

In Figure 13, I have illustrated another individual manikin 46, mounted upon a suitable base member 47, said manikin being arranged in a position upon its back and extending up through the base 47 and the manikin is a shaft 48, upon the lower end of which is mounted a pulley 49 connected by means of one of the belts 22 to one of the pulleys in the series 21 to impart movement to the shaft 48. Mounted upon the upper end of the shaft 48 is a roll member 49', preferably resembling a barrel or other article and adapted to rotate with the shaft 48. The limbs of the manikin are mounted upon a transverse shaft 50 and mounted upon the shaft is a coil spring 51, one end of which bears against the base member 47, while the other end thereof is connected with one of the limbs of the manikin and extended out beyond the foot of the manikin and adapted to be engaged by the roll 49 upon the rotation of the same, so as to actuate the limbs of the manikin to imitate the juggling of the roll 49 by the feet of the manikin.

In each case of the individual manikins illustrated in Figures 12 and 13, the base or platform 1 is provided with a suitable opening 52, whereby the pulleys may be passed through the base member 1 and the individual bases of the manikins be arranged upon the upper surface of the base or platform 1 and detachably secured thereto in any suitable manner.

In Figure 6, I have illustrated a plurality of manikins mounted upon swinging supports and preferably adapted to produce in miniature the imitation of a number of trapeze performers. In carrying out this particular arrangement, I provide a longitudinally movable bar 53 mounted for swinging movement and having the rods 54 extended through the bar and supported within the loops 55 upon opposite sides of the bar. The loops 55 are formed upon the outer ends of a transverse shaft which extends through the supporting bar 56. These shafts which extend through the bar 56 are mounted for rotation whereby to impart a swinging movement to the loops 55 upon longitudinal movement of the bar 53. Suspended from the outer ends of the rods 54 are the U-shaped trapeze members 57, having mounted upon their horizontal portions the manikins 58, said manikins being mounted for swinging movement whereby the movement of the members 57 will impart movement to the manikins 58, in view of the fact that the manikins are loosely mounted upon the horizontal portions of the members 57. From this, it will be apparent that upon longitudinal movement of the bar 53, movement will be imparted to the members 57 which, in turn, will impart a swinging movement to the manikins 58.

A substantially U-shaped supporting bracket 59 is disposed at right angles to the bar 53, the ends of said bracket being secured to the bar while the intermediate portion supports a swinging trapeze member 60 having mounted upon its horizontal portion a swinging manikin 61.

In order to impart movement to the members 57 and 60 through the medium of the bar 53, a cord 62 is connected to the end of the bar 53 by means of a pin 63, the other end of said cord being connected to a crank 64 on a pulley 65. From this, it will be apparent that upon rotation of the pulley 65, a swinging longitudinal movement will be imparted to the bar 53 to thus actuate the members 57 and the manikins 58. In order to impart movement to the members 60 and 61, a cord 56 is connected to one of the side portions of the member 60 and extended up through a loop 67 on the support 66 and thence downwardly at an angle of 45° and attached to a pin 68 on the movable bar 53. From this, it will be apparent that as the movable bar 53 moves longitudinally, the cord 66 will be drawn through the loop 67 and impart a swinging movement to the trapeze member 60. This particular feature of the invention is clearly illustrated in Figure 7, where it is shown in detail in a perspective view.

In Figure 9, I have illustrated an end elevation of a group of manikins and in carrying out the particular performance for these manikins, I construct a base member 69 upon which are mounted the longitudinal members 70 and extending up from

these members 70 are the supports 71 connected at their upper ends by means of the transverse shafts 72 and the longitudinal rods 73 which form a substantially rigid frame member and in order to retain the transverse shafts 72 in position within the bearings at the upper ends of the standards 71, discs are mounted upon the shafts 72 and arranged adjacent the upper ends of the standards 71, to thus prevent any lateral movement on the part of the shafts 72.

Connected to the central portion of the shafts 72 and arranged between the standards 71 are the manikins 75 which are adapted to rotate with the shafts 72. Suitable balance or stop wheels are mounted upon the ends of the shafts 72 whereby to prevent lateral movement of the shafts when mounted within the standard 71. It will be noted that one of the shafts 72 has mounted upon its outer end the pulley 65, which is connected by means of a belt 76 to a pulley 77, supported upon the horizontal portion of a bracket 78. Mounted upon the horizontal portion of the bracket 78 is a second pulley 79 which is connected by means of one of the belts 22 to one of the series of the pulleys 21. From this, it will be apparent that movement will be readily imparted to one of the shafts 72 and in order to impart movement to the other shaft, each of the shafts is provided upon one of its ends with a pulley 80, said pulleys being connected by means of a belt 81, preferably of yieldable material such as a rubber band or the like. It will be noted that when the belt 81 is mounted upon the pulleys 80, the belt is twisted so that by the rotation of the pulleys, they will be rotated in opposite directions. From this, it will be apparent that upon rotating movement of the pulley 65, both of the shafts 72 will be rotated in opposite directions.

An additional manikin 82 is supported above the frame-work which supports and operates the manikins 75. This manikin 82 is mounted upon the horizontal portion of a U-shaped trapeze member 83, the upper ends of which are loosely mounted within the loops 84 formed at the upper ends of the spaced standards 85, said standards having their lower ends mounted in the longitudinal members 70 on the base 69 and disposed midway between the two sets of standards 71 which support the two manikins 75 so that through the swinging movement of the several manikins, they will not interfere with the operation of each other.

In order to impart movement to the trapeze member 83, one of the ends of the trapeze member is extended beyond the loop 84 and provided with a crank 86 which is connected, by means of a cord 87, to the pin 64 on the pulley 65, whereby upon rotation of the pullley 65, movement will be imparted to the trapeze member 83 through the operation of the crank 86. From this, it will be apparent that when the pulley 65 is rotated through the medium of the belt 76, the manikins 75 will be rotated with the shafts 72 and movement will be imparted to the manikin 82, so that the several manikins in this group will be operated simultaneously with the same motive power.

In Figure 14, I have illustrated in perspective the miniature of a tight-rope walker which includes in its construction a base member 88 having the post members 89 extending upwardly from each end thereof, each of said posts being provided with a pair of pulleys 90 at its lower end and with a second pair of pulleys 91 arranged in spaced relation with the pulleys 90 and preferably at a point above the center of the post over which the cords 92 are movable. A manikin 93 is mounted upon the cords 92 between the two posts 89, each foot of the manikin being secured to one of the cords so that the feet are operated independent of each other. In order to connect the cords 92 with the feet of the manikin, staples 94 are used and driven into the feet of the manikin, engaging the cord 92 to retain the same in connection with the feet of the manikin.

From the above, it will be apparent that by operating the cords 92 over the pulleys 90 and 91, the manikin 93 will be moved between the two posts 89. In order to operate the cords 92 so that first one of the cords and then the other can be moved, the operating cords 95 are connected to the cords 92 at a point between the posts 89 and at a point on the cords 92 where they operate along the base member 88. From this, it will be apparent that by pulling first upon one cord and then upon the other of the cords 95, the cords 92 will be operated intermittently to move the feet of the manikin to represent an imitation of walking so that the manikin will be moved the distance between the two posts 89 in one direction and by pulling upon the cords 95 in the other direction, the manikin will be moved in the opposite direction by pulling first one cord and then the other.

In order to support the manikin 93 in an upright position, a loop 96 is attached to the head of the manikin and engaged with the supporting rod 97, said loop 96 being loosely engaged with the cord 97 so that it can readily move along the same as the manikin 93 is moved from one post to the other.

In Figure 1, I have illustrated one of the manikins removed from the base platform 1, illustrating the manner in which the manikins are mounted upon this base or platform 1. It will be noted in this construction that a suitable opening 98 is provided for the reception of a pulley attached to the mani-

kin to operate the same, said opening being closed by means of the base upon which the manikin is supported, this base member being detachably connected to the main base or platform 1 in any suitable manner.

In Figures 19 and 20 I have illustrated the relative positions and construction of a plurality of miniature animal cages, these cages being disposed around the side wall of the tent and arranged between the side supporting posts and in their construction include a substantially rectangular body member 99, the front portion of which is provided with a plurality of spaced bars 100, giving in miniature an animal cage and it will be apparent that several types of animals in miniature can be displayed within these cages to present a realistic appearance to the circus.

From the above description, taken in connection with the accompanying drawings, it will be readily apparent that I have provided a miniature toy circus, depicting the original well-known circus in miniature in a very realistic manner and wherein the several features of the circus are operated simultaneously with the exception of the miniature tight-rope walker, which is operated independent of the remaining parts of the circus.

What I claim is:

1. A device of the class described including a stationary bar, a reciprocating bar disposed beneath the stationary bar, a movable figure suspended at each end of the movable bar, an additional figure supported intermediate the ends of said movable bar and disposed at right angles to the figures at the ends of the bar, means for imparting reciprocating movement to the movable bar for moving the figures at the ends thereof in the same general direction and means dependent upon the reciprocating movement of the movable bar for imparting movement to the central figure.

2. A device of the class described including a stationary bar, a reciprocating bar disposed beneath the stationary bar, a plurality of figures suspended for swinging movement from said bars and disposed at different angles with respect to each other, means for imparting reciprocating movement to the movable bar for actuating certain of said figures and means for forming connection between the movable bar and the other figure and dependent upon the relatively stationary position of the stationary bar for imparting movement to said other figure.

3. A device of the class described, including a platform, a base member thereon, spaced standards mounted in the base, transverse shafts at the upper end of the standards, movable figures supported upon the central portion of the shafts, means for imparting movement to the shafts for actuating the figures, spaced uprights disposed midway between the two sets of standards, a movable figure supported between said uprights and means for imparting movement to said figure simultaneously with the movement of the first mentioned figures.

4. A device of the class described, including a platform, a ring mounted upon the platform, a movable figure arranged centrally of the ring, supporting members carried by said figure, additional figures arranged upon the outer ends of the supporting members, means for imparting movement to the first figure for rotating the same, whereby the figures on the supports will be moved in a circle concentric with the ring and means engaged by the inner end of one of said supports upon each revolution of the figure for actuating said support to raise and lower the figure upon the outer end thereof.

5. A toy circus comprising a platform having openings therein, a plurality of movable figures, a base member attached to each of said figures and removably secured to the platform above the opening, each of said figures having an operating shaft extending through the base and through the openings in the platform, a pulley upon the lower end of said shaft, a main shaft arranged beneath the platform, means for connecting said pulley with the main shaft and means for connecting said main shaft with a source of power whereby to impart movement to the figures.

6. A toy circus including a platform, having openings therein, a base member arranged above one of the openings and removably secured to the platform, a manikin mounted upon the base member, a shaft extending upwardly through the base member and manikin, said shaft projecting beyond the upper end of the manikin, said shaft being rotatable within the base and manikin and a second manikin secured to the upper end of the shaft and adapted to rotate therewith, an operating shaft and means connecting the first mentioned shaft with the operating shaft to impart movement to the manikin upon the outer end of the first shaft.

7. A toy circus including a platform, a movable figure mounted for rotation thereon, supporting members carried by said figure, additional figures arranged upon the outer ends of the supporting members, means for imparting movement to the first figure for rotating the same and means actuated through the rotation of the additional figures for raising and lowering one of said figures with respect to the others.

8. A toy circus of the class described in-

cluding a platform, a movable figure arranged upon the platform, supporting members carried by said figure, additional figures arranged upon the outer ends of the supporting members, means for imparting movement to the first figure for rotating the same whereby the figures on the support will be moved around the first figure and means engaged by the inner end of one of said supports upon each revolution of the first figure for actuating said support to raise and lower the figure upon the outer end thereof.

In testimony whereof I affix my signature.

HENRY ALBERT VAUGHAN.