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ACROBATIC FIGURE TOY

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Fig. 1.

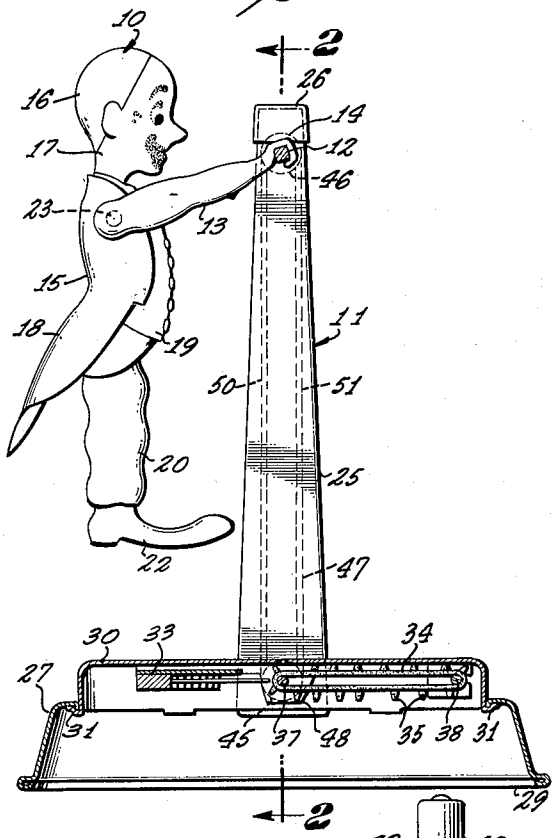
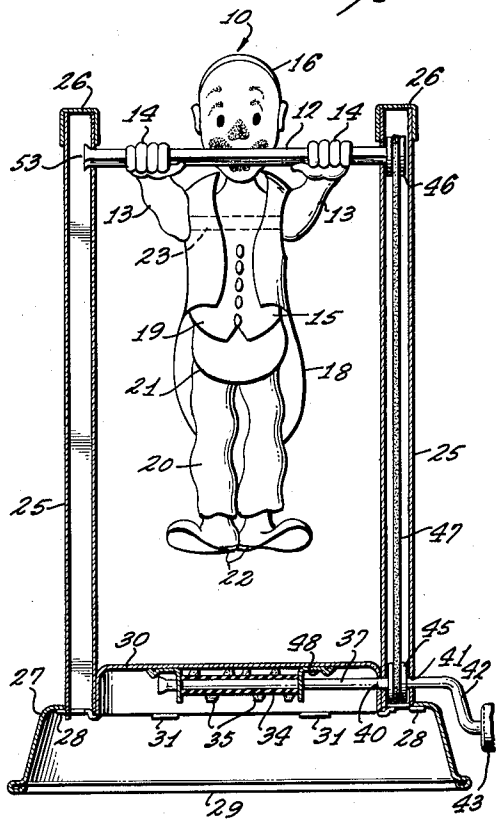


Fig. 2.



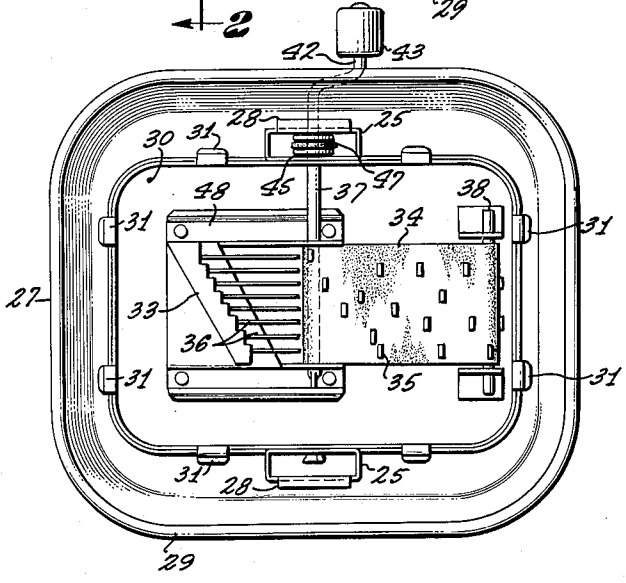


Fig. 3.

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ACROBATIC FIGURE TOY

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This invention relates to mechanical toys and more particularly to a new and improved drive means of elastic quality by which ordinarily unexpected and sometimes unpredictable action is induced. More particularly the invention as it is embodied in the device disclosed herein by way of example comprises an elongate rubber and elastic belt or the like of preferred endless type trained between pulleys, one of which is driven and the other of which is keyed to a shaft defining a horizontal bar to which a clown-like or other figurine is keyed for acrobatic rotation and movement relative to and around the bar.

Prior art devices simulating a character and construction like that herein described and claimed conventionally employ direct drive means either lacking a lost motion component or incorporating such a component in a predictable, manipulable and controllable manner.

It is intended by the instant invention to incorporate a drive means in association with an elastic drive so as to provide play in the joints of the apparatus and thereby incorporate a relatively free, sportive and to some extent at least uncontrolled random motion, and wherein an optional musical device directly connected to the drive is playable with a speed or variation—in those embodiments where the drive means is under manual control—according to the whim of the operator. By the latter combination of free play and controlled musical action a device or toy having a high interest level of potentially indefinite duration is obtained.

It is among the objects of this invention to provide a new and improved toy or the like device embodying the desired features and mode of operation above described, either individually or collectively.

It is another object of the invention to provide a new and improved drive means for incorporation into a toy or other device of the general character described.

Another further object of the invention is to provide in such a new and improved device of any desired character, but particularly an amusement or toy device, a primary driving means, a music-making mechanism preferably under the control of an operator, and a second spectacular means driven by the primary means including the interposition of a new and improved driving means between said primary and secondary means for producing sportive activity in the spectacular means.

This invention also has among its objects the provision of improvements over prior art devices heretofore intended to accomplish generally similar purposes.

With these and other objects in view, the invention consists in the construction, arrangement and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter set forth, pointed out in the appended claims and illustrated in the accompanying drawings.

In the drawings:

Figure 1 is a side elevational view of an acrobatic toy embodying this invention.

Figure 2 is a front view thereof in vertical section as on a line 2—2 of Figure 1.

Figure 3 is a bottom view thereof.

Referring more particularly to the drawings there is shown by way of illustration as stated, but not of strict limitation, a clown-like figurine generally designated at

10 supported for movement upon and relative to a stand generally designated at 11 including a horizontal bar 12 rotatably mounted upon the stand and to which the arms 13 of the clown are respectively keyed in any desired conventional manner as by squaring the bar, as shown in transverse section in Figure 1 at least in the area in which the hands 14 of the clown grip the same.

The clown preferably comprises a body 15 integral with a head 16 and neck 17. The body may be clothed in any suitable manner as with a fabric coat and vest 18 and 19, respectively. The legs 20 of the figurine in their main body portion are preferably merely the fabric of a pair of pants 21 comprising a part of the vestment of the figurine and secured in any desirable manner to the body 15 thereof. A pair of shoes 22, most desirably formed of some material such as lead or other metal or plastic, are secured to the fabric legs 20 in any conventional manner as by gluing. Thereby the legs 20 are individually free to swing and dangle from the body 15.

The arms 13 are pivoted as at 23 upon opposite sides of the body but always radial to the bar 12, and the body 15 is normally vertically disposed in a depending aspect from the bar 12, except when under the influence of a centrifugal force tending to rotate the same over and around the bar, at which latter time the figurine is also free to rotate relative to the arms 13 around the horizontal pivot 23 for the body .

The stand 11 preferably comprises two uprights 25 comprising spaced individually hollow and upwardly tapered members, most desirably of sheet metal optionally closed at the top as by a sheet metal cap 26. The uprights 25 are mounted in said vertical spaced relationship as upon a sheet metal base or the like 27 by means of any suitable shoulders and ears 28 so that when the bottom edge 29 of the base is placed upon a flat surface the device is vertically supported in a position for use as shown in Figures 1 and 2.

A dome 30 positioned between the uprights 25 has ears 31, for example, adapted to engage through corresponding slots 32 in the base for containing a musical comb 33 riveted thereto and a musical belt 34 with protuberances 35 thereon for playing and plucking the wires 36 of the comb.

The belt 34 is mounted for rotation upon an axle 37 and shaft 38, the latter extending through suitable apertures at 40 and 41 in the dome 30 and also through one of the uprights 25 for journalled rotation therein. The axle 38 at its outer end 42 is shaped to form a crank having a preferred rotatable knob 43 thereon driving the axle 38 and the musical belt 34.

Also keyed to the shaft 38 is a pulley wheel 45 corresponding with a similar pulley wheel 46, the latter being keyed to the bar 12.

An elastic endless belt 47 preferably having a circular cross-section is trained around the pulleys 45 and 46 with sufficient tension that it will not slip upon rotation of the crank 42 despite the weight of the body of the clown. Such belt 47 is most desirably of rubber or similar resilient, elastic material.

In the use of the instant toy the crank 42 is rotated in a predetermined direction thereby turning the belt 34 whose plucking protuberances 35 pluck the free ends of the wires 36 to create a musical melody which is transmitted through the frame 48 and by rivets supporting the same through the dome 30 which thereby can function as a sounding board to amplify the tone.

Simultaneously, said rotation of the crank 42 in a clockwise direction, for example, relative to Figure 1, places the upward-moving run 50 of the belt 47 in tension and relieves tension upon the downward-moving run 51, due to the weight of the body 15, legs 20 and shoes 22 of the clown.

The amount of tension in the upward-moving run 50 required to move the clown body upwardly so that it will somersault over the bar 12 can be adjusted or predetermined depending upon the weight of the clown and the elasticity and strength of the belt 47. It will be found that the clown can be made to somersault over the bar with a sudden movement on account of the loaded and tensioned condition of the upwardly moving run 50 of the belt (which is frictionally held from losing its tension by its engagement with the grooves of the pulleys 45 and 46) sometime prior to the time when the horizontal pivot 23 is in top dead center position. This is because the run 50 of the belt normally forces the clown into sudden somersaulting action at a point counter-clockwise, but less than 180 degrees, from the top dead center position of the pivot 23 over the bar 12.

Once the clown has moved over the bar 12, and depending upon the elasticity and tension of the belt 47 relative to the weight of the clown, one or several somersaults can be made to occur in rapid succession. These somersaults can also, if desired, be caused to overrun the belt 47 and thereby load the opposite run 51 thereof due to the fact that unless such continued clockwise rotation of the crank then rapidly and instantaneously follows, the clown will, by its rapid rotation around the bar 12, overtake the normal rotation of the pulley 45 by means of the crank 42.

But, in the event the crank at the above-mentioned instant of release of the clown is reversed in its rotation, the run 51 will be overloaded more rapidly.

Again if the rotation of the crank 42 is stopped at the instant or shortly after the release of the clown, an intermediate amount of rotation or number of revolutions of the clown around the bar will occur before the belt is overloaded in the opposite direction.

It can be appreciated that if the belt 47 is sufficiently overloaded in said opposite direction the figurine will then, without further cranking, reverse its direction of rotation around the bar.

The crank 42 is also rotatable in a reverse direction in a manner to play the tune upon the musical belt 34 backwards and thereby reverse rotation of the clown around the bar can be made to occur to the tune of an unfamiliar musical accompaniment.

The erratic and usually unpredictable forward and reverse gyrations, somersaults, and other activities of the clown thereby produce a toy of unusual interest.

By way of illustration and as previously stated, the shoes 22 of the clown may be of metal, plastic or any other suitable material even including leather or ceramic clay. The pants, coat and vest are most advantageously of fabric while the body and head of the clown may be of plastic or ceramic with or without headgear or other material. The bar 12 is preferably of metal while the arms 13 of the clown may be of metal, plastic or other preferably, though not necessarily, rigid material.

The bar at its end 53 may be upset to prevent its withdrawal through its journalled opening 41 in the upright 25. Said upright in all other parts of the device except the belts 35 and 47 may be of metal. The pulleys 45 and 46 are, however, preferably of hard rubber, wood or plastic, as is the knob 43, to improve their frictional engagement with the belt 47. Such belts 35 and 47 are of preferred resilient rubbery nature and these characteristics are of course indispensable to the operation of this toy in the manner above described.

While we have herein shown and described our invention in what we have conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of our invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices.

Having described our invention, what we claim as new and desire to secure by Letters Patent is:

1. In an amusement device comprising frame means,

primarily rotatable means including musical means mounted on the frame means and operable by said primary means, said primary means further including crank means for manual operation of said primary means, and secondary rotatable, driven spectacular means rotatably mounted in the frame in spaced relationship to said primary means, said spectacular means including a weighted means constituting the greater part of the mass of the spectacular means and normally adapted to retain said secondary means in a predetermined rotative position wherein said weighted means depends therefrom; the novelty comprising: friction pulley means secured to said primary and secondary means in driven relationship to the primary means and in driving relationship to the secondary means, an elastic endless belt trained in tension around and drivingly interconnecting said pulley means, the center of gravity of the weighted means being spaced radially from the axis of rotation of the spectacular means and the weight of the weighted means being sufficient to cause a stretching of the belt means in the arcuate lifting of said weighted means by means of said secondary and belt means, the belt means having sufficient tensile strength to overcome the weight of said weighted means in a stretched condition of the belt means.

2. An amusement device comprising a base, crank means rotatable in the base, a pulley coaxial with and non-rotatably mounted on said crank means, two spaced apart upright members mounted on the base, spectacular means positioned between and rotatably mounted on the upright members and spaced above the base, the center of gravity of said spectacular means being spaced radially from the axis of rotation thereof, a pulley coaxial with and non-rotatably mounted on the spectacular means, and an endless rubber belt trained around and drivingly interconnecting said pulleys, the weight of the spectacular means being sufficient to cause stretching of the belt during that part of a complete rotation of the spectacular means on its axis when the center of gravity of the spectacular means travels upwardly from the base the belt means having sufficient tensile strength to overcome the weight of said weighted means in a stretched condition of the belt means.

3. An amusement device comprising a base, primary rotatable means including musical means mounted in the base and crank means for manual operation of the musical means, a pulley non-rotatably fixed on the crank means, two spaced apart upright members mounted on the base, spectacular means positioned above the base and consisting of a horizontal bar and a jointed and weighted figurine fixed at one end thereof on the bar whereby the figurine depends from the bar, said bar being rotatably mounted between and on the upright members and constituting the axis of rotation of the spectacular means, said figurine constituting the greater part of the mass of the spectacular means whereby the center of gravity of the spectacular means is spaced radially from the axis of rotation of the spectacular means, a pulley coaxial with and non-rotatably mounted on the bar, and an endless rubber belt trained around and drivingly interconnecting said pulleys, the weight of the figurine being sufficient to cause stretching of the belt during that part of its rotation around said axis of rotation when the figurine travels upwardly from the base the belt means having sufficient tensile strength to overcome the weight of said weighted means in a stretched condition of the belt means.

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