

March 18, 1941.

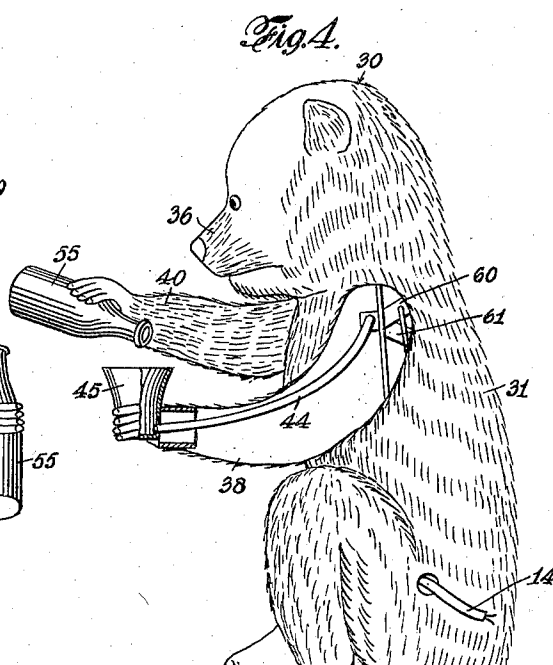
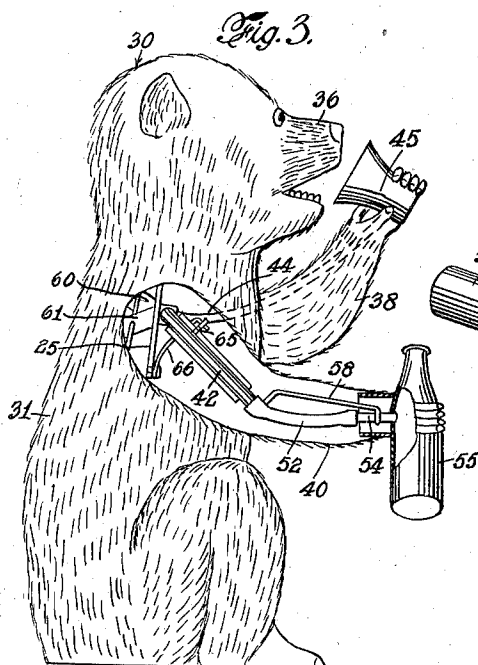
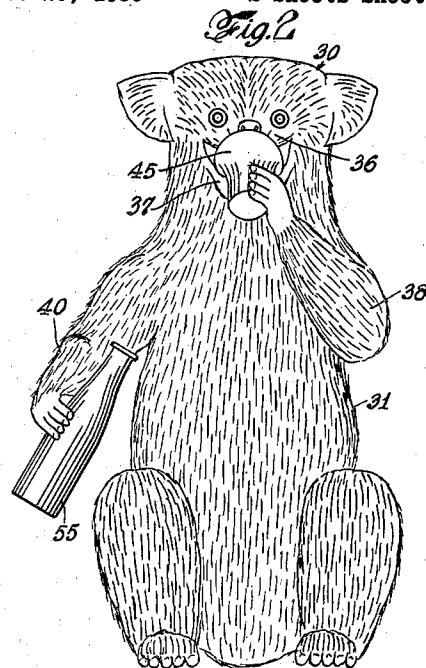
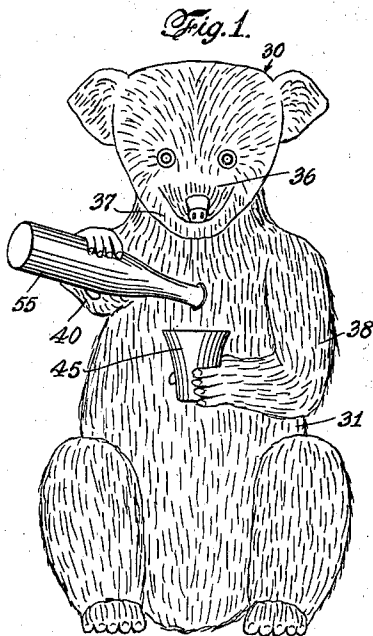
L. J. HERTE

2,235,636

ANIMATED FIGURE

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2 Sheets-Sheet 1



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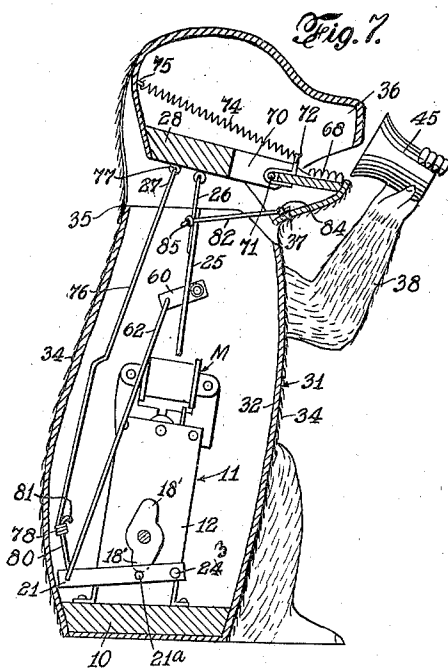
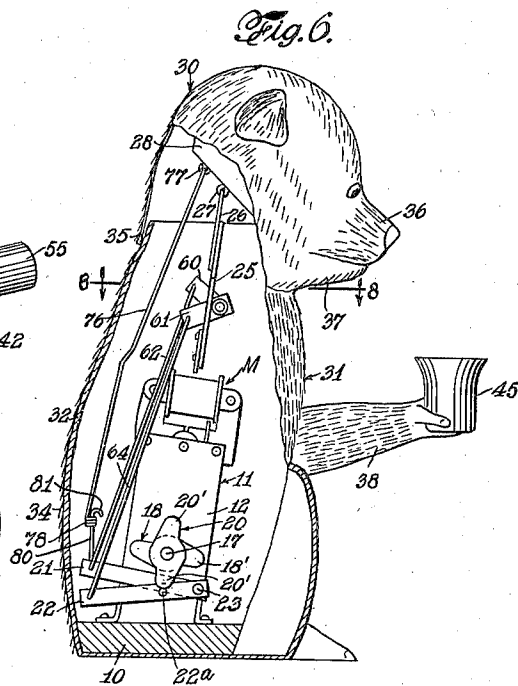
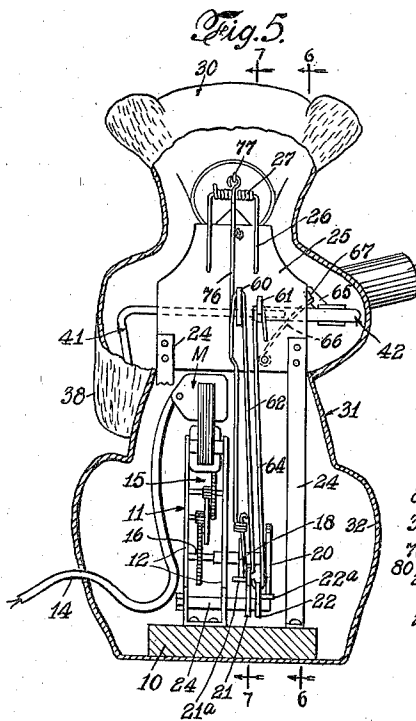
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ANIMATED FIGURE

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UNITED STATES PATENT OFFICE

2,235,636

ANIMATED FIGURE

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Application November 25, 1939, Serial No. 306,055

4 Claims. (Cl. 46—141)

This invention relates to animated figures of the type adapted for use either as a toy or as an advertising display to promote the sale of commodities such, for example, as bottled beverages, the particular figure herein illustrated being a cub bear.

An important object of the invention is to provide simple and improved operating means by which various movements of the figure may be executed in life-like fashion in order to portray a sequence of acts as, for example, the pouring of liquid from a bottle into a tumbler and the drinking of the liquid content of such tumbler.

Other objects and advantages of the invention will become apparent from the following description when taken in connection with the accompanying drawings, in which—

Fig. 1 is a face view of an animated figure constructed in accordance with the present invention, the animated figure being representative of a cub bear in the act of pouring liquid from a bottle into a tumbler;

Fig. 2 is a view similar to that of Fig. 1, the cub bear as represented by the animated figure being shown in the act of drinking the liquid content of the tumbler;

Figs. 3 and 4 are side elevations of the animated figure as viewed respectively from the left in Fig. 2 and the right in Fig. 1, certain portions of the figure being removed or broken away in order to illustrate portions of its self-contained operating mechanism;

Fig. 5 is a vertical sectional view of the animated figure showing in rear elevation various parts of its self-contained operating mechanism;

Fig. 6 is a sectional view taken substantially on line 6—6 of Fig. 5 and showing in side elevation the operating mechanism as viewed from the right of Fig. 5;

Fig. 7 is a sectional view taken on line 7—7 of Fig. 5 and showing partly in section and partly in elevation various parts of the operating mechanism, and

Fig. 8 is a horizontal sectional view taken on line 8—8 of Fig. 6.

Referring to the drawings, the numeral 10 indicates a suitable base which is incorporated in the animated figure and which is of such dimensions that the figure may be supported in a sitting position. On the base 10 there is carried a motor-driven operating unit 11, which includes a pair of vertically disposed plate-like frame members 12, spaced from each other and serving to support a suitable electric motor M which may be conveniently connected to a source

of current supply, not shown, by any appropriate so-called two-conductor extension cord 14. The operating unit 11 also includes a suitable gear train 15, which is supported by the frame members 12 and by which its power take-off shaft 16 is driven by the motor M at a relatively slow speed. The power take-off shaft 16 of the gear train 15, like the remaining shafts peculiar to such gear train, is journaled in the frame members 12 of the operating unit 11. The power take-off shaft 16 differs from the remaining gear-train shafts in that it is provided with an extension 17 to which are secured a pair of cam units 18 and 20, disposed substantially at right angles to each other and respectively including a pair of diametrically opposed cams 18'—19' and 20'—20'. The cam units 18 and 20 are adapted to cooperate with a pair of operating levers 21 and 22, suitably connected at their corresponding ends to a horizontally disposed shaft 23, associated with and suitably supported by the frame members 20 of the operating unit 11. The levers 21 and 22 are provided with outwardly extending pins 21^a and 22^a which are engaged by the respective cam units 18 and 20 and are thus subjected alternately to the operating influence of the cam units.

To the base 10 there are suitably connected a pair of vertically disposed angle-like brackets 24, to the upper ends of which is suitably connected a body plate 25, to which is secured a yoke-like support 26 pivotally connected by a hinge member 27 to a head plate 28 incorporated in and forming a part of the head 30 of the animated figure.

The desired outline or configuration of the head 30 of the animated figure, as well as the body portion 31 of such figure, is attained by the use of a suitable relatively rigid material, such as papier-mâché 32, the head 30 and the body portion 31 being separate or distinct with reference to each other so as to permit relative movement therebetween under the conditions of operation hereinafter more particularly described. In order that the animated figure may present a life-like appearance, the head 30 and the body 31 are covered with a flexible fur-like material 34, that portion of the flexible material 34 which covers the head extending downwardly and being flexibly joined to the upper marginal portion of the body 31 as shown at 35. To provide for relative movement between the upper and lower jaws 36 and 37 of the head unit 30, incident to movement of that unit with reference to the body 31, the lower jaw 37 (constructed of papier-mâché with a fur-like covering material) is connected

to the body 31 only through the medium of the fur-like material which is, of course, sufficiently yieldable to permit relative, and substantially unrestricted, movement between the two jaws.

5 The fore legs, or arms, 38 and 40 of the animated figure are in the form of sheaths or coverings made of flexible material identical with the fur-like material 34 entering into the construction of the head 30 and the body 31. The
10 fore legs 38 and 40 are given their general respective shapes by reason of the fact that they include a pair of substantially rigid conduit units 41 and 42. The conduit unit 41 consists of a metal pipe 44 secured to and communicating with a tumbler 45, the tumbler being supported
15 by the tube although apparently held by the paw of the figure. The tube 44 is bent at a relatively sharp angle in the vicinity of the juncture of the leg 38 with the body 31, the tube being thus provided with a straight or pivot portion 43 rotatably supported in a pair of bearings 47 secured to the body plate 25. As to the conduit unit 42, it comprises a tube 48 similar to the tube 44, the tube 48 being contained within the fore leg 40
25 and bent, in the vicinity of the juncture of that leg with the body 31, at substantially right angles so as to provide a straight or pivot portion 50 rotatably supported within a pair of bearings 51 secured to the body plate 25. The pivot portions 46 and 50 of the respective tubes 44 and 48 are telescopically fitted to each other so as to afford a liquid-tight joint therebetween while at the same time permitting either of such tubes to be moved with reference to the other about their
35 common axis of rotation. The conduit unit 42 also includes a flexible tube 52 leading from the tube 48 to a relatively short tube 54 which is secured to and communicates with a bottle 55 apparently held in the paw of the figure. In order that the relatively short tube 54 and the bottle 55 may be adequately supported, despite the presence of the flexible tube 52, the tube 48 is provided with a pair of bracket-like bearings 56, within which is journaled an operating shaft
45 57, the offset and angular bent portion 58 of which is connected to the relatively short tube 54. The shaft 57 serves not only to support the bottle 55 but also serves, when rotated under conditions of operation hereinafter more particularly described, to rotate the relatively short tube 54 and thus cause the bottle 55 to tilt in one direction upon initiating a pouring operation and in an opposite direction incident to the completion of such pouring operation, rotation of the
55 tube 54 with reference to the tube 48 being permitted by the flexibility of the interposed tube 52.

In order that the fore legs 38 and 40 may be alternately raised and lowered in carrying out the intended acts on the part of the figure, the pivot portions 46 and 50 of the respective tubes 44 and 48 are independently rotated about their common axis, and to this end the pivot portions are provided with operating levers 60 and 61 rigidly secured thereto as by soldering and connected by links 62 and 64 to the levers 21 and 22, which are alternately subjected to the operating influence of the motor-actuated cams 18 and 20. It is thus apparent that as the cam units 18 and 20 are rotated the lever 22 is depressed, thus causing the fore leg 40 of the figure to be elevated from its position shown in Fig. 2 to its position shown in Fig. 1 while the fore leg 38 of the figure is maintained in its position shown in Fig. 1. When the fore leg 40 assumes
75 its elevated position it is maintained in that

position for a short period of time after which it moves by gravity to its position shown in Fig. 2, thus causing the lever 22 to move upwardly about the axis of its associated shaft 23. Upon further rotation of the cam units 18 and 20, the lever 21 is depressed by the cam unit 18, thus causing the fore leg 38 of the figure to move from its lowermost position shown in Fig. 1 to its uppermost position shown in Fig. 2, the fore leg 38 being maintained in its uppermost position for a period of time, after which it is returned to its position shown in Fig. 1, thereby causing the lever 21 to move upwardly about the axis of its associated shaft 23 to its position shown in Fig. 6. At or about the time the fore leg 40 approaches its uppermost position it becomes desirable to tilt the bottle 55 so that the liquid content of such bottle will be poured therefrom into the tumbler 45 while such tumbler is held in the position shown in Fig. 1.

20 Tilting of the bottle 55 is effected by rotating the associated relatively short tube 54 under the action of the operating shaft 57, which is caused to turn in its bearings by reason of the fact that it is provided with a lever 65 which is connected to the body plate 25 by the link 66. In order to obviate tilting of the bottle 55 until such time as the fore leg 40 approaches the uppermost limit of its movement, the connection afforded between the lever 65 and link 66 is such as will permit a certain amount of lost motion so as to render the link ineffective with respect to its associated lever throughout the major extent of upward movement of the fore leg 40. Such lost motion may be afforded by looping the outer end of the link 66 through a slightly elongated slot 67 formed in the outer end of the lever 65. The bottle 55 is reversely tilted to its normal position during the first part of the descent of the fore leg 40 to its lowermost position, the completion of such reverse tilting being effected at that point in the path of movement of the fore leg 40 at which tilting movement of the bottle to pouring position is initiated in the upward movement of the fore leg 40.

45 Referring again to the details of construction of the lower jaw portion 37 of the animated figure, it is to be observed that such jaw portion includes a form-lending tongue-like wing 68, to the outer edge or margin of which are connected the papier-mâché 32 and flexible fur-like material 34 of the lower jaw. The inner end of the wing 68 is disposed within a slot-like opening 70 formed in the head plate 28 and is pivotally connected to that head plate by a hinge pin 71, about which the wing 68 is adapted to move. The wing 68 is provided relatively near its pivot point with an upwardly extending lug 72, to which is connected one end of a tension spring 74, the other end of the spring being anchored, as at 75, to the rear portion of the head unit 30. Normally the spring 74 functions to retain the upper and lower jaw portions 36 and 37 of the head unit 30 in a closed relation.

65 In operation the head unit 30 is tilted rearwardly and the mouth of the animated figure is simultaneously opened to receive the rim portion of the tumbler 45 as the fore leg 38 assumes its uppermost position, so that the animated figure may seemingly execute in life-like fashion the act of drinking the contents of the tumbler, and to these ends the head plate 28 is connected to the lever 21 which controls the movement of the fore leg 38. The connection between the head plate 28 and the lever 21 includes a link 76, which is
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pivotaly connected to the head plate at 77 and is provided at its lower end with a loop 78 loosely embracing, and thus forming a lost motion connection with, a connector finger 80, the upper end of which is provided with a stop 81, which engages the loop 78 as the lever 21 descends under the action of the cam unit 18. By reason of the lost motion connection which is afforded between the link 76 and the finger 80, the tilting movement of the head unit 30 is initiated somewhat prior to such time as the tumbler 45 is elevated to its uppermost position and is completed simultaneously with the completion of the upward movement of the fore leg 38. Immediately prior to such time as the tumbler 45 reaches its uppermost position and immediately prior to such time as the head unit 30 assumes its extreme rearwardly tilted position, the tongue-like wing 68 (forming a part of the head unit and lending shape to the lower jaw portion 37 of the figure) is restrained against bodily movement with the head unit by reason of the fact that such lower jaw portion is anchored to the body plate 25 by a suitable flexible element such as a cord 82, the cord being connected to the lower jaw portion at 84 and to the body plate at 85. By reason of the anchorage afforded between the lower jaw portion 37 and the body plate 25, it will become apparent that when the cord 82 is placed under tension incident to backward movement of the head unit 30, the tongue-like wing 68 is moved relatively to the upper jaw portion 36 of the figure about the hinge pin 71, although the head unit is free to continue to move backwardly against the action of the spring 74 until it assumes its extreme tilted position at which time the mouth of the figure will have assumed full open position and will have received the lip of the tumbler 45.

Although it is believed that the operation of the animated figure may be fully understood from the foregoing description of the same, it may be well to here summarize the sequence of acts which are executed by the figure and to comment on certain features of the operation peculiar to the present embodiment of the invention. When the motor M is energized the levers 21 and 22 are alternately depressed under the action of the respective cam units 18 and 20, with the result that the fore legs 40 and 38 are alternately raised, the fore leg 40 being lowered as the fore leg 38 is raised and the fore leg 38 being lowered as the fore leg 40 is raised. It is to be observed, however, in connection with the raising and lowering movements of the fore legs 38 and 40 that, due to the relationship of the cam units 18 and 20 to the levers 21 and 22, each of the legs is maintained momentarily at rest in each of its extreme positions. As the fore leg 40 is elevated, the bottle 55 is tilted under the action of the shaft 57 to such a position that the liquid content of the bottle is poured into the tumbler 45, which is then positioned to receive such liquid. After the pouring of the liquid from the bottle into the tumbler has been completed, the fore leg 40 is lowered under the action of gravity to its normal position and the fore leg 38 is moved to its uppermost position. Although the tumbler 45 communicates with the bottle 55 by way of the conduit units 41 and 42, it is apparent, reference being had particularly to Figure 4, that during the pouring operation liquid cannot be transferred from either the bottle to the tumbler or from the tumbler to the bottle by way of such conduit units due to the relatively high location of the straight or pivot portions 46 and 50 of the tubes 44 and 48.

However, as the fore leg 38 is raised, the liquid content of the tumbler 45, together with such liquid as may have accumulated within the tube 44 during the pouring operation, is permitted to flow by gravity to the bottle 55 by way of the conduit units 41 and 42, such flow being initiated at that point in the upward movement of the fore leg 38 corresponding to the horizontal plane in which the straight or pivot portions 46 and 50 of the tubes 44 and 48 are disposed. By such time as the foreleg 38 reaches its uppermost limit of movement, the liquid content of the tumbler 45, or at least the major portion of such liquid content, will have returned to the bottle 55 by way of the conduit units 41 and 42, thus conditioning the bottle 55 for a subsequent pouring operation. Although the liquid content of the tumbler 45 is returned to the bottle by way of the conduit units 41 and 42, the illusion is carried out to the effect that the animated figure engages in the drinking of the contents of the tumbler pursuant to the lifting of the tumbler to its uppermost position, the illusionary effect concerning the consumption of the liquid content of the tumbler being especially emphasized by reason of the fact that the head-like unit 30 of the figure is tilted and the mouth of the figure is opened and receives the lip of the tumbler as it assumes its uppermost position. At or about the time of completion of the transfer of the liquid content of the tumbler 45 to the bottle 55, the fore leg 38 of the figure is moved to its lowermost position, whereupon the cycle of operation is repeated beginning with the pouring of the liquid from the bottle into the tumbler.

Although only one form of the invention is herein shown and described, it will become apparent that various changes may be made without departing from the spirit of the invention or the scope of the following claims.

What is claimed is:

1. An animated figure comprising a body, a limb member pivotaly supported for upward and downward movement with relation to said body, a liquid-dispensing receptacle carried by said limb member, conduit means for effecting transfer of liquid to said receptacle and including a pair of tubes which are substantially rigid in themselves and with one of which said receptacle directly communicates, actuating means connected to that tube with which said receptacle directly communicates and operable incident to upward movement of said limb member for rotating said tube whereby said receptacle is tilted to pouring position, said actuating means including a shaft pivotally supported with reference to one of said tubes and rigidly connected to that tube with which said receptacle directly communicates, and a link and lever unit associated with said shaft and rendered effective to impart rotation to said shaft incident to upward movement of said limb member.

2. In an animated figure comprising a body, a pair of upwardly and downwardly movable limb members pivotaly supported with relation to said body, a pair of receptacles carried by said limb members and from one to the other of which liquid is poured at such time as said limb members assume definite positions in their respective paths of movement, conduit means leading from one receptacle through its associated limb member and thence through said body to the other of said receptacles by way of its associated limb member, said conduit means including a pair of tubes having limb portions confined within said

limb members and pivot portions telescopically disposed with respect to each other within said body and adapted for rotation about their common axis incident to upward and downward movement of said limb members.

3. In an animated figure comprising a body, a head unit pivotally supported on said body for tilting movement and including relatively movable upper and lower jaws, a pair of upwardly and downwardly movable limb members pivotally supported with relation to said body, a pair of receptacles carried by said limb members and from one to the other of which liquid is poured at such time as said limb members assume definite positions in their respective paths of movement, motor-actuated means for effecting upward and downward movement of said limb members alternately and including a pair of pivotally supported levers, a pair of cams for effecting pivotal movement of said levers, link connections operatively connecting said levers to said limb members, a lost-motion-connecting device operatively connecting one of said levers to said head unit whereby said head unit is tilted rearwardly subsequent to the initiation of upward movement of one of said limb members, namely, that limb member

which depends for its operation on said one lever, and tension means rendered operative pursuant to the initiation of a tilting movement of said head unit and thereupon functioning to effect relative movement of said jaws to open-mouth position prior to that instant at which said one limb member reaches its uppermost extent of travel.

4. An animated figure comprising a body, a limb member pivotally supported for upward and downward movement with relation to said body, a liquid-dispensing receptacle carried by said limb member, conduit means for effecting transfer of liquid to said receptacle and including a pair of tubes of rigid material spaced from one another, one of said tubes communicating directly with said receptacle, a flexible tube connecting said spaced tubes and forming a part of said conduit means, a shaft having an offset angularly disposed end fixed to that tube with which the receptacle directly communicates and a straight portion pivotally supported by the other tube of said pair, and actuating means for rotating said shaft upon upward movement of said limb member.

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