Jan. 16, 1945. R. L. RALSTON 2,367,373

BOOK TOY

Filed May 27, 1942 2 Sheets-Sheet 1

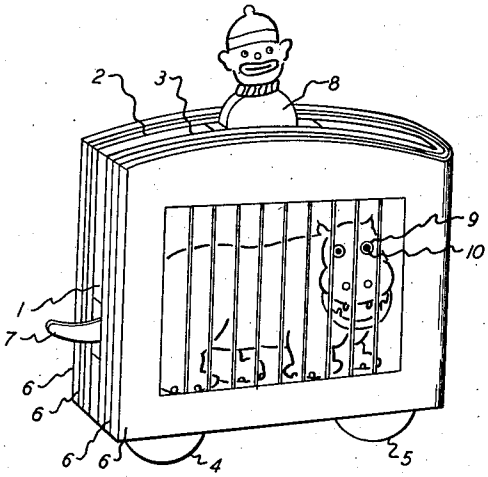


Fig. 1.

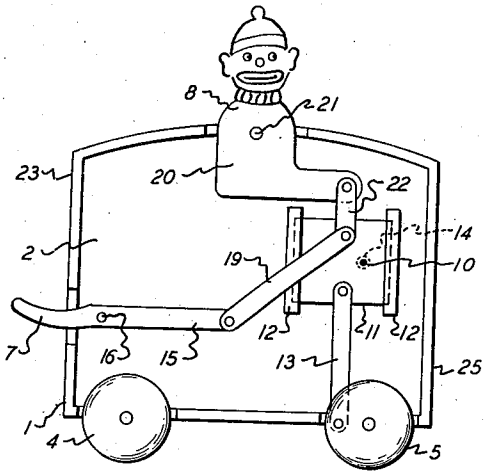


Fig. 2.

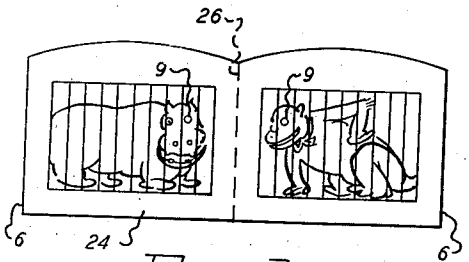


Fig. 3.

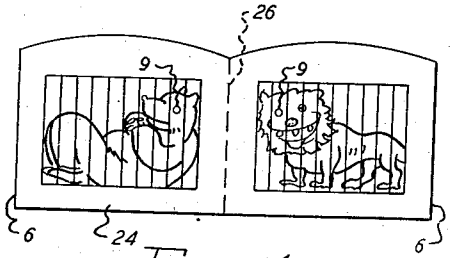


Fig. 4.

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BOOK TOY

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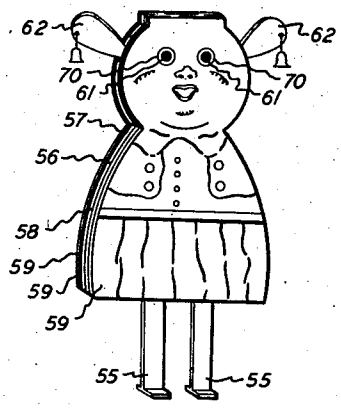


Fig. 5.

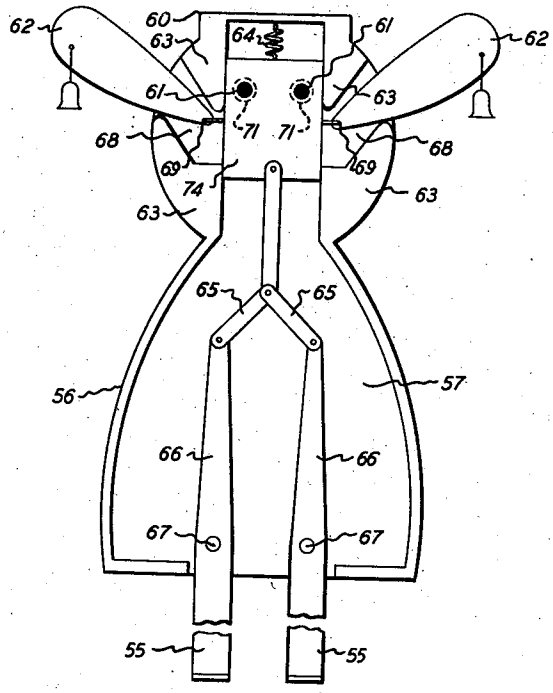


Fig. 6.

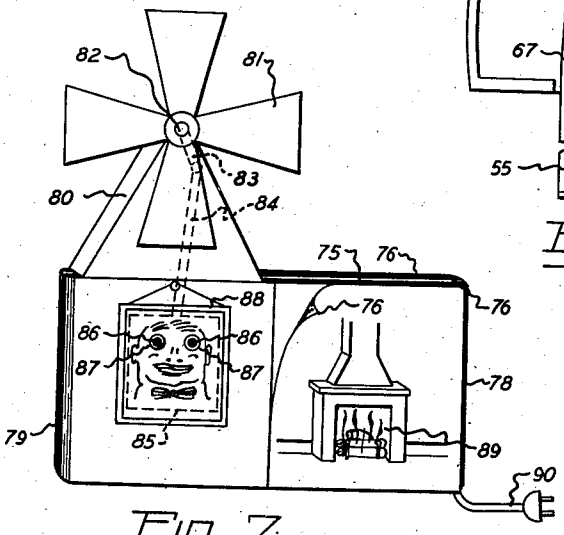


Fig. 7.

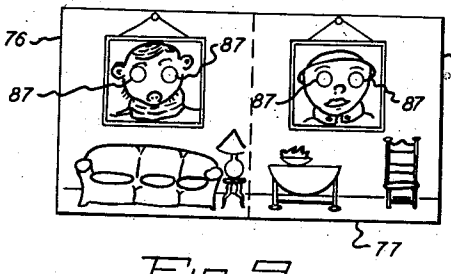


Fig. 9.

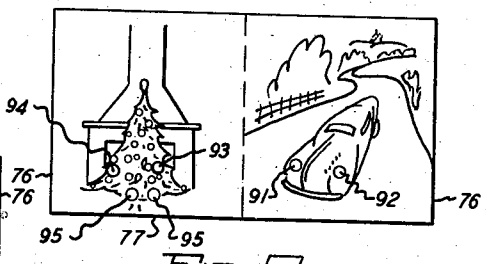


Fig. 8.

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UNITED STATES PATENT OFFICE

2,367,373

BOOK TOY

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Application May 27, 1942, Serial No. 444,631

3 Claims. (Cl. 46—34)

The present invention relates to toys and more particularly to book toy combinations having movable parts providing action.

Children's action toys have the disadvantage of consisting of single figures with the result that children soon grow tired of them. Picture books, on the other hand, present a plurality of figures, but do not provide action. According to the present invention I have combined the advantage of a book providing a plurality of figures with toys providing action, so that the toy provides not only action, but the figure of which it consists may be made to take any one of a plurality of forms by the simple expedient of turning over pages like turning over the pages of a book.

An object of the present invention is to provide a book toy.

Another object of the invention is to provide a book toy having moving parts which provide action.

Still another object of the invention is to provide a book toy having one or more projecting movable members associated therewith which are operative upon the actuation of a projecting member.

Another object of the invention is to provide a figure having front and back faces.

Still another object of the invention is to provide a figure having front and back faces, a portion of the figure being visible through openings in the faces and comprising a movable member.

A still further object of the invention is to provide a book toy in the form of a figure or object having an internal portion visible through openings in the leaves of the book so that the internal portion comprises a portion of the figure or object illustrated by each page.

These and other objects residing in the arrangement, combination and construction of the parts will be apparent from the following specification when taken with the accompanying drawings in which

Fig. 1 is a perspective view of a book toy according to the present invention,

Fig. 2 is an elevation of the base of the toy disclosed in Fig. 1, disclosing one side and the pages thereof removed and showing the operative mechanism of the toy,

Fig. 3 is a view of one side of a double page of the book associated with the toy of Fig. 1,

Fig. 4 is the reverse side of the double page disclosed in Fig. 3,

Fig. 5 is a perspective view of another embodiment of the invention in the form of a doll,

Fig. 6 is an enlarged elevation of the base of the toy of Fig. 7 having one side thereof removed and showing the operative mechanism thereof,

Fig. 7 is a perspective view of another embodiment of the invention,

Fig. 8 is an illustration of a double page of the toy disclosed in Fig. 9, and

Fig. 9 is an illustration of another double page of the toy disclosed in Fig. 9.

Referring particularly to Figs. 1 and 2 of the drawings wherein there is disclosed an embodiment of the present invention, the reference character 1 indicates a base having a back face 2 and a front face 3, the front face 3 being shown only in Fig. 1. The toy consists of a representation of a circus wagon having wheels 4 and 5. The toy has arranged thereon a plurality of pages 6, shown in Fig. 1, forming a book. Projecting from the base 1 is an animal tail 7 and a clown figure 8. As each page 6 of the book is turned over a picture of a different animal in the circus wagon is revealed. Each animal has an eye opening 9 behind which an eye pupil 10 is visible. The animal tail 7, the clown figure 8 and the eye pupil 10 are movable and are actuated by the mechanism disclosed in Fig. 2 when the wheel 5 is rotated.

As shown in Fig. 2, the eye pupil 10 is marked on a plate 11, the plate 11 being guided for vertical reciprocation in ways 12. The plate 11 is connected by a link 13 eccentrically to the wheel 5 so that as the wheel 5 rotates, it serves as a crank to constitute the link 13 a connecting rod to reciprocate the plate 11 in the ways 12. A second eye pupil 10 is marked on the reverse side of the plate 11 directly opposite the eye pupil 10 shown in Fig. 2 and is visible from the opposite side of the base 1 through an opening 14 in the back face 2, the opening 14 being shown in dotted outline in Fig. 2.

The tail 7 constitutes one end of a lever 15 pivoted to the back face 2 of the base 1 by a pin 16. The inner end of the lever 15 is pivotally connected to a link 19 which in turn is pivotally connected to the plate 11. Likewise, the clown figure 8 constitutes one end of a lever 20 pivoted to the back face 2 of the base 1 by a pin 21. The inner end of the lever 20 is pivotally connected to a link 22 which in turn is pivotally connected to the plate 11. Thus, as the wheel 5 is rotated as by urging the edge of the same against a flat surface and moving the

toy in the direction of the plane of the wheels, the eye pupils 10 are reciprocated and the tail 7 and clown figure 8 are rocked. There is provided an edging 23 around the back face 2, spaces being provided for the wheels 4 and 5, the tail 7 and the clown figure 8, for spacing the faces 2 and 3.

In Fig. 3 is disclosed a double page 24 which constitutes two of the pages 6. The double page 24 is connected along the dotted line 26 to the edge 25 of the base 1. Each of the animal figures illustrated on the double page 24 is provided with an eye opening 9. The reverse side of the double page 24 is disclosed in Fig. 4. It will be noted that on the reverse side there are different animal figures from those shown in Fig. 3, but that the eye openings 9 of Fig. 3 are the eye openings 9 of Fig. 4. When the pages 6, including those of double page 24, are assembled on the base 1 as described, the eye openings 9 are positioned so as to be in alignment and in register with the eye pupils 10 on the plate 11, respectively. Furthermore, the animals should be so drawn as to cause the movable tail 7 to be in register with each of them. Thus, when the wheel 5 is rotated there is provided action by the movement of the clown figure 8, and the movement of the tail 7 and of the eye pupils 10, each of the latter appearing to be a part of the animal on the page viewed. It will be clear that as the pages are leafed over a different animal will appear on each side of the wagon and that when operated as described each animal will have a movable eye and tail.

From the foregoing description it will be apparent that, while I have indicated animals may be shown as in cages on the side of a wagon, other illustrations may be provided. For instance, instead of illustrating a circus wagon, some other arrangement could be disclosed wherein the tail 7 could constitute a policeman's club, for instance. Also, when used as a circus wagon the same animals could be shown simultaneously on opposite sides of the wagon rather than different animals.

Another embodiment of the invention is disclosed in Figs. 5 and 6 wherein the toy is in the form of a doll having legs 55. The doll is provided with a base 56 having a back face 57 and a front face 58. The base 56 is provided with pages 59 corresponding to the pages 6 in the embodiment of the invention disclosed in Figs. 1 through 4. The pages 59 are secured to the base 56 along the upper edge 60 thereof.

The operation of the toy disclosed in Figs. 5 and 6 is such that when the legs 55 are squeezed inwardly the eye pupils 61 and the ears 62 move. The pages 59 may be designed with figures on both sides thereof so that as the pages are turned over an effect may be obtained corresponding to that obtained with the other embodiments of the invention.

The mechanism for actuating the toy of Figs. 5 and 6 constitutes a plate 74 vertically reciprocable in ways 63. The plate 74 is resiliently urged upwardly by a spring 64 and is moved downwardly by a pair of links 65 pivotally connected to arms constituting inward extensions 66 of the legs 55. The legs 55 are pivoted to the back face 57 of the base 56 by pins 67. The ears 62 are supported in loose ways 68 and are connected to the plate 74 at their inner ends by pivotal connections 69.

In operation, as the legs 55 are urged together they pivot about the pins 67 to urge the lower ends of the links 65 apart to draw the plate 74 downwardly. It will be understood that the eye pupils 61 are marked on both sides of the plate 74 and that in the back face 57 there are eye openings 71 corresponding to the eye openings 70 which it will be understood appear in each of the pages 59. When the plate 74 is reciprocated vertically the eye pupils 61 and the ears 62 move. Different types of figures may be presented to view by leafing over the pages 59 in a manner which will be understood from the description of the previously described embodiments of the invention.

Still another embodiment of the invention is disclosed in Figs. 7, 8 and 9. In this form of the invention there is disclosed a house. This embodiment of the invention is similar in operation and effect to the others previously described. There is provided a base 75 on which are mounted book pages 76. The book pages 76 are in the form of double pages 77 disclosed in Figs. 8 and 9. The attachment of the book pages 76 differs somewhat from the attachment of those described in the other embodiments of the invention in that the double pages are secured along the respective dotted lines to opposite ends 78 and 79 of the base 75. Thus, the pages 76 of the front and back of the base 75 open in the manner of double doors, swinging outwardly. It will of course be understood that when the page is swung outwardly from one side of the base 75 it is immediately folded about the opposite side of the base 75 and in the manner described with respect to the above described embodiments of the invention will present new views on each side of the base 75.

Considering the structure more particularly as shown in Fig. 7, the toy is in the form of a house having a windmill 80 on the top thereof. The windmill 80 is provided with vanes 81 rotatably mounted about a shaft 82. The shaft 82 is provided with a crank 83 shown in dotted outline which is pivoted to a connecting rod 84 which is in turn pivoted to a plate 85 shown in dotted outline and which is suitably guided for reciprocation in the base 75. On opposite sides of the plate 85 are provided eye pupils 86 which register with eye openings 87 which are provided in each of the pages 76. Also not shown are suitable openings in the front and rear faces of the base 75 registering with the eye openings 87 for permitting the eye pupils 86 to be seen through the eye openings 87. The vanes 81 may be rotated by hand or by a fan to reciprocate the plate 85 to cause the eye pupils 86 to move. In the particular illustration of the invention as viewed in Fig. 7, the eye openings 87 are arranged to be a part of a portrait in a picture frame 88 hanging on the wall of a room. The picture in the picture frame may be a cartoon or the picture could be arranged to be a photograph pasted within the borders of the frame.

On the opposite side of the house is disclosed a room having a fireplace therein. The fireplace is provided with a pane 89 of transparent or translucent material on which is illustrated the interior of a fireplace including the fire therein. In the base 75 there is provided an electric light not shown connected to a source of electric power by a conventional cord 90. Thus, the light from the base 75 which it will be understood is visible from either side of the base 75 lights up the fireplace shown at the right side of Fig. 7.

In Fig. 8 there is disclosed a double page 77 for connection along the edge 78 of the base 75. The illustrations on this double page 77 are of a character which could be used over the double

page shown in Fig. 7. Thus, with the double page 77 of Fig. 8 connected along the edge 78 on one side of the base 75, the light would shine first through the fireplace and then through the openings 93, 94 and 95 in the Christmas tree representing lights of a Christmas tree. At the opposite side of the base, wherein there is shown a scene illustrating an automobile, the light in the base 75 shines through the pages on the opposite side of the base 75 and through the openings corresponding to the headlights of the car. Note is made of the fact that the automobile headlight openings 91 and 92 will register with the Christmas tree light openings 93 and 94, respectively, when the page illustrating the automobile is folded over the page illustrating the fireplace.

In Fig. 9 a corresponding double page is shown for attachment along the side 79 of the base 75. It will be observed that the eye openings 87 in the pictures shown in Fig. 9 are positioned to register with the eye pupils 86 as shown in Fig. 7.

From the foregoing specification it will be apparent that the invention is not limited to any one particular type of construction, but may take various forms. For example, the pages may be loose and suitably guided for movement with respect to the base rather than hinged as shown. Also, light may be employed otherwise than as shown, as for example for lighting eyes. In the claims it is contemplated that the expressions "faces" and "features" be accorded a specific as well as broad interpretation. For instance, it is intended that "faces" designate the faces of persons or the faces of an object. "Features," for instance, is to be construed as meaning not only facial features of a person, but also broadly as features of a construction.

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

1. A book comprising a base and a plurality of pages, each page having a design thereon, each page having a light transmitting area, said areas being in alignment and registering with a predetermined portion of said base, and means on said portion of said base visible through said areas for effecting a change in said design, whereby as said pages are turned over said means effects a change in the appearance of each design.

2. The invention as defined in claim 1 wherein the base has means visible from opposite sides thereof, and the pages have designs on both sides thereof, whereby when a page is adjacent one side of the base one of said means is visible through one of said areas, and when the same page is on the opposite side of said base, another of said means is visible through the same area.

3. A toy in the form of a book consisting of a plurality of leaves, supporting structure for the book and leaves including supporting wheels, and common animation means co-operating with each leaf of the book.

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