

No Model.)

J. NESBIT.
FLYING TOY BIRD.

No. 559,536.

Patented May 5, 1896.

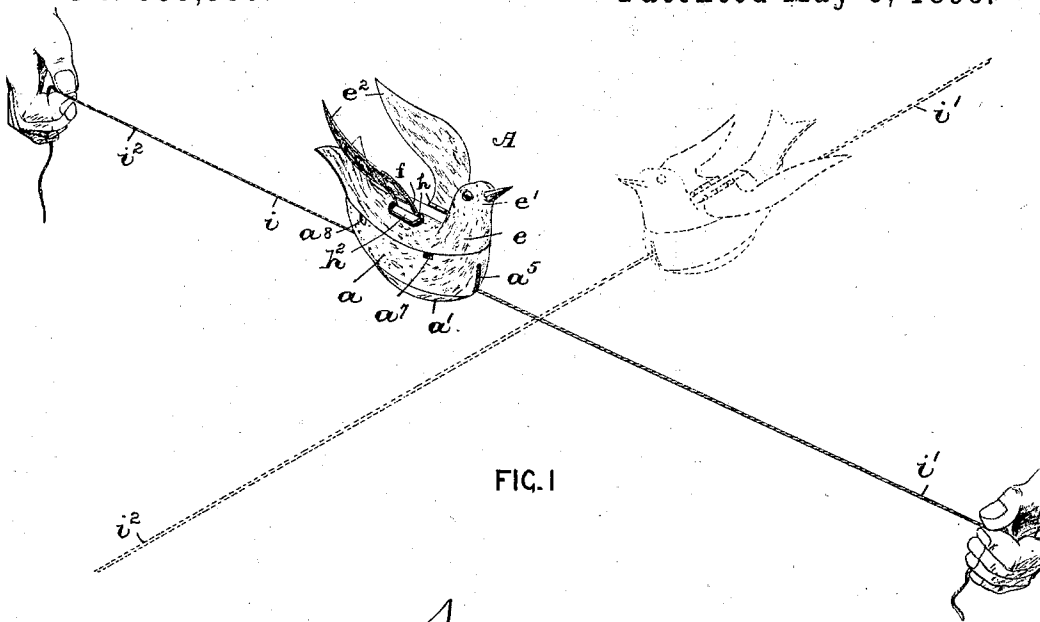


FIG. 1

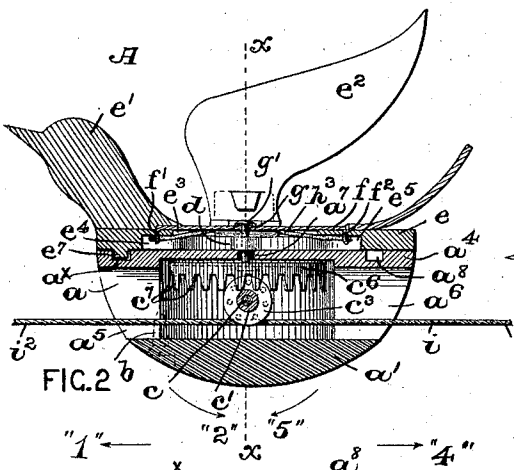


FIG. 2

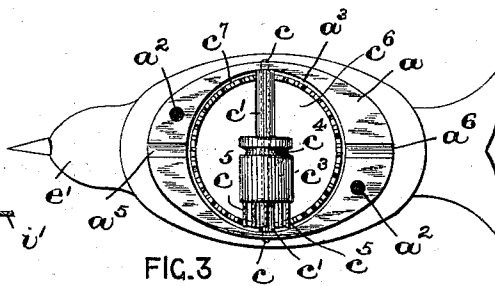


FIG. 3

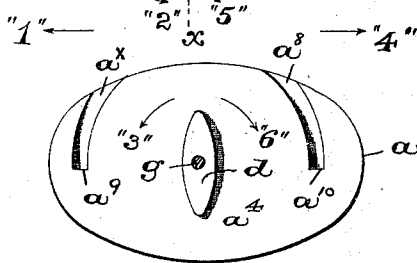


FIG. 4

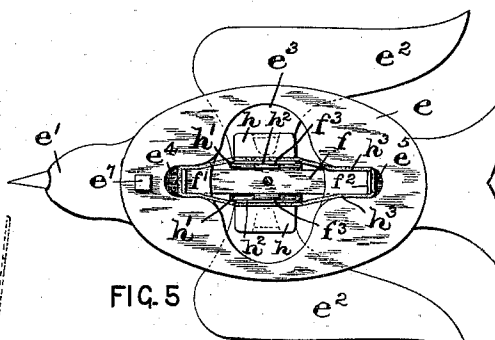


FIG. 5

WITNESSES:

Philip Henry Ward.

Wm. C. Camfield, Jr.

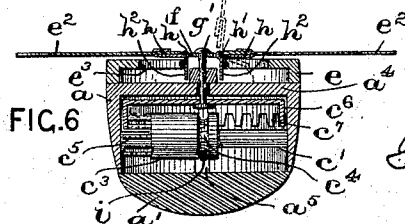


FIG. 6

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FLYING TOY BIRD.

SPECIFICATION forming part of Letters Patent No. 559,536, dated May 5, 1896.

Application filed June 26, 1895. Serial No. 554,076. (No model.)

To all whom it may concern:

Be it known that I, JOHN NESBIT, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Flying Toy Birds; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The subject-matter of this invention pertains to a novel form of toy to represent the actions of a flying bird, adapted to move upon a string, and mechanism so arranged as to cause a flying motion of its wings in passing from one end of the string to the other, and when the end of the string is reached causing a rotation of the upper portion of the body of the toy bird, whereby the bird can be made to return in the opposite direction on the string without its removal therefrom.

The invention therefore consists in the novel flying toy herein set forth, and also in the details of construction and novel combinations of parts, such as will be hereinafter fully described, and finally embodied in the clauses of the claim.

The invention is illustrated in the accompanying sheet of drawings, in which—

Figure 1 is a perspective view of my novel toy movably arranged on a string, illustrating its flying operation in one direction, said view also indicating in dotted outline the position of the toy bird on its return movement on the string. Fig. 2 is a longitudinal vertical section of the parts of the toy bird; and Fig. 3 is a view of the upper portion of the casing or body of the toy bird with the lower part of said body removed, both of said views illustrating one form of operating mechanism to produce the natural flying motion of a bird. Fig. 4 is a plan view of the lower body portion of the said toy with the upper and rotatively-arranged bird portion detached, and Fig. 5 is a bottom view of said upper bird portion. Fig. 6 is a cross-section of the toy, taken on line *x* in Fig. 2.

Similar letters of reference are employed in

each of the above-described views to indicate corresponding parts.

Referring to the said drawings, A designates the main frame or body of the toy, comprising therein two parts *a* and *a'*, said part *a'* being secured by means of screws *b* (see Fig. 2) in the holes *a²* to said part *a*. The upper part *a* of said body is hollow, forming a suitable chamber *a³* beneath its closed top *a⁴*, and is slotted, as at *a⁵* and *a⁶*, as will be seen from Figs. 2 and 3. Within said chamber *a³* I have arranged the operating mechanism, which consists, essentially, of a suitable pin or rod *c*, on which is rotatively arranged between suitable sleeves or collars *c¹* a wheel *c²*, having a circumferential groove *c⁴* and any suitable number of pins or teeth *c⁵* in one side thereof.

In the closed top *a⁴* of the body portion *a* I have arranged a vertical pin *g*, which projects above said top and also beneath the same into the chamber *a³*, as clearly illustrated in Fig. 2. On the lower portion of said pin I have fixed or secured a horizontal disk *c⁶*, from which depend the circumferential teeth *c⁷*, which are in operative engagement with said pins or teeth *c⁵* on the one end of the said wheel *c²*. Said pin *g* is rotatively arranged in a perforation *a⁷* in said top *a⁴* and is held in place by a suitable cam-arm *d*, fixed to said pin *g*, but also rotatively arranged on the upper surface of said part *a⁴*, as will be clearly seen from Fig. 4. Upon said upper part of the frame or body portion *a* is a bird-like portion or top piece *e*, made with a bird's head *e'*, the wings *e²*, and a suitable tail, which may be suitably painted or ornamented with feathers in perfect imitation of a bird. The central part of said portion *e* is left open, as at *e³*, and over the same I have arranged a narrow strip *f*, of sheet metal or any other suitable material, provided with a centrally-arranged hole or perforation, into which the upper end of said pin *g* extends and is provided with a head *g'* for loosely arranging said pin in said perforation and holding the said parts in their operative positions. The said portion *e* is slightly cut away on its under side to form recesses *e⁴* and *e⁵*, (see Figs. 2 and 5,) and forced through the material above said recesses and extending into the same are the two fingers or projecting ends *f¹* and *f²* of said strip *f*, formed

at right angles, or approximately so, at the ends of the same, substantially as shown. Said strip f is provided on its opposite sides, directly above the opening e^3 in the part e , with perforated ears or eyes f^3 , with which are pivotally connected certain ears h' of the small metallic hinge-plates h , as clearly shown in Fig. 5, and to which I have secured the wing portions e^2 of the toy bird. Each plate h is provided with a downwardly-extending lip or projection h^2 , and said plates h are held in their normal positions in the opening e^3 of the part e by a suitable elastic band h^3 or other suitable means adapted to engage with said projections h^2 , as will be clearly evident from an inspection of Figs. 2, 5, and 6.

When the bird-like portion e has been arranged in its operative position on the closed top a^4 of the body a , a lug or projection e^7 on said part e can be made to slide in either of the curved grooves or slots a^x and a^8 in the upper surface of said closed top, in the manner and for the purposes as will be hereinafter fully described.

Of course it will be evident that I do not limit my invention to the exact construction of the hinge-plates h , as they may be differently made, and the body a and the lower part a' may be made in one piece, if desirable, being made of wood, or cast in metal, it being necessary, however, that the lower part of the body be made sufficiently heavy, so that when the groove c^4 in the wheel c^3 is placed on the string i , passing through the slots a^5 and a^6 , the toy will be evenly balanced, representing a bird perched in position upon the string. Now when the end i' of the string is slightly raised the toy will move in the direction of the arrow 1, (see Fig. 2,) the wheel c^3 turning in the direction of the arrow 2, at the same time causing the rotation of the disk c^6 and the cam-arm d , which will move in the direction of the arrow 3 in Fig. 4, and as the end portions of the cam d are brought against the edges of said downwardly-extending lips or projections h^2 on the respective hinge-plates h said plates will be slightly moved on their hinge-joints, and with it the wings e^2 will receive a reciprocatory motion representing the flying of a bird. As soon as the cam-arm d has operatively passed beneath the said lips or projections h^2 the elastic band h^3 exerts sufficient pressure or tension upon said plates h to cause said wings to return to their normally inoperative or resting positions, as will be clearly understood. All this time the lug or projection e^7 on the under side of the part e rests in the slot or groove a^x in the top a^4 against the stop a^9 , whereby the bird-like portion e is lightly held with its head extending forwardly, as clearly shown in Fig. 2. Now suppose the toy has nearly reached the end i^2 of the string i . The operator quickly raises the said end of the string and lowers its opposite end i' . The result will be that the wheel c^3 will now be caused to rotate upon the string i in the direction of the arrow 5,

causing the cam-arm d to move in the direction of the arrow 6. As soon as the ends of said cam-arm d come in contact with the edges of said lips h^2 there will be nothing to hinder the partial rotation of the entire part e on its pin g , thereby turning its bird-like head in the direction of the arrow 5, while the lug or projection e^7 moves from the groove or slot a^x into the other groove or slot a^8 in said top a^4 until it strikes the edge a^{10} , which acts as a stop, while the head points and the body A of the toy moves in the direction of arrow 6 and the ends of the cam-arm come in sliding and operative engagement with the said lips or projections h^2 of the hinge-leaves to cause the flying motions of the wings e^2 .

Of course it will be evident that many changes may be made in the details of the minor arrangements and combinations of parts without departing from the scope of my invention, and hence I do not limit myself to the exact arrangements and combinations of the parts herein shown, claiming, broadly, as my invention, first, a toy in the shape of a bird movable upon a string and mechanism connected therewith for producing a flying motion of the wings of the toy bird, and, secondly, the toy bird movable in either direction upon a string and means for rotating part of the body of the toy bird to cause its head at all times to point in the flying direction.

My invention provides a simple mechanical toy for the amusement of children, the construction and operation of the parts thereof being very lifelike in all particulars.

Having thus described my invention, what I claim is—

1. A mechanical toy, made to represent a bird, comprising a hollow body or frame, a bird-like top thereon, having a pair of wings provided with hinge-plates, having downwardly-extending lips or projections h^2 , and means in said hollow body, consisting essentially, of a wheel c^3 having pins or teeth extending from one side thereof, a toothed disk meshing with said wheel, and a cam-arm d adapted to be brought into operative engagement with said lips or projections h^2 to produce a flying motion of said wings, substantially as and for the purposes set forth.

2. A mechanical toy, made to represent a bird, comprising a hollow body or frame, and an upper bird-like portion e , having an opening e^3 , a strip across said opening, hinge-plates h on said strip having downwardly-extending lips or projections h^2 , wings secured to said hinge-plates, an elastic band connected with said portion e and passed over said projections or lips h^2 , and means in said hollow body adapted to engage with said lips or projections to produce a flying motion of said wings, substantially as and for the purposes set forth.

3. A mechanical toy, made to represent a bird, comprising a hollow body or frame, and an upper bird-like portion e , having an opening e^3 , a strip across said opening, hinge-plates h on said strip having downwardly-extending

lips or projections h^2 , wings secured to said hinge-plates, an elastic band connected with said portion e and passed over said projections or lips h^2 , and means in said hollow body, consisting, essentially, of a wheel c^3 having pins or teeth extending from one side thereof, a toothed disk meshing with said wheel, and a cam-arm d adapted to be brought into operative engagement with said lips or projections h^2 to produce a flying motion of said wings, substantially as and for the purposes set forth.

4. A mechanical toy, made to represent a bird, comprising a hollow body or frame, a bird-like top rotatively arranged on said body or frame, a pair of pivoted wings on said top, and mechanism in said hollow body adapted to engage with said wings to rotate said top and to produce a flying motion of the wings, substantially as and for the purposes set forth.

5. A mechanical toy, made to represent a bird, comprising a hollow body or frame, a bird-like top rotatively arranged on said body or frame, a pair of pivoted wings on said top, having hinge-plates provided with downwardly-extending lips or projections h^2 , and means in said body or frame, adapted to engage with said lips or projections to rotate said top and to produce a flying motion of the wings, substantially as and for the purposes set forth.

6. A mechanical toy, made to represent a bird, comprising a hollow body or frame, a bird-like top rotatively arranged on said body or frame, a pair of pivoted wings on said top, having hinge-plates provided with downwardly-extending lips or projections h^2 , and means in said body or frame, consisting, essentially, of a wheel c^3 having pins or teeth extending on one side thereof, a toothed disk meshing with said wheel, and a cam-arm d adapted to be brought into operative contact with said lips or projections h^2 to rotate said top and to produce a flying motion of the

wings, substantially as and for the purposes set forth. 45

7. A mechanical toy, made to represent a bird, comprising a hollow body or frame, having a closed top and grooves a^x and a^8 forming stops, a bird-like top e rotatively arranged on said body, having an opening e^3 , and a lug or projection on its under side adapted to fit into said grooves, a strip across said opening e^3 , hinge-plates h on said strip having downwardly-extending lips or projections h^2 , wings secured to said hinge-plates, and means in said hollow body, adapted to engage with said projections or lips h^2 to turn said bird-like top and produce a flying motion of the wings, substantially as and for the purposes set forth. 60

8. A mechanical toy, made to represent a bird, comprising a hollow body or frame, having a closed top and grooves a^x and a^8 forming stops, a bird-like top e rotatively arranged on said body, having an opening e^3 , and a lug or projection on its under side adapted to fit into said grooves, a strip across said opening e^3 , hinge-plates h on said strip having downwardly-extending lips or projections h^2 , wings secured to said hinge-plates, an elastic band connected with said bird-like top e and passed over said projections or lips h^2 , and means in said hollow body, consisting, essentially, of a wheel c^3 having pins extending from one side thereof, a toothed disk meshing with said pins, and a cam-arm d adapted to be brought into operative engagement with said lips or projections h^2 to rotate said bird-like top e and produce a flying motion of the wings, substantially as and for the purposes set forth. 80

In testimony that I claim the invention set forth above I have hereunto set my hand this 24th day of June, 1895.

JOHN NESBIT.

Witnesses:

FREDK. C. FRAENTZEL,
WM. H. CAMFIELD, Jr.