Sept. 27, 1960 F. COLLISCHAN 2,953,869

TOY FIGURE

Filed Feb. 28, 1956

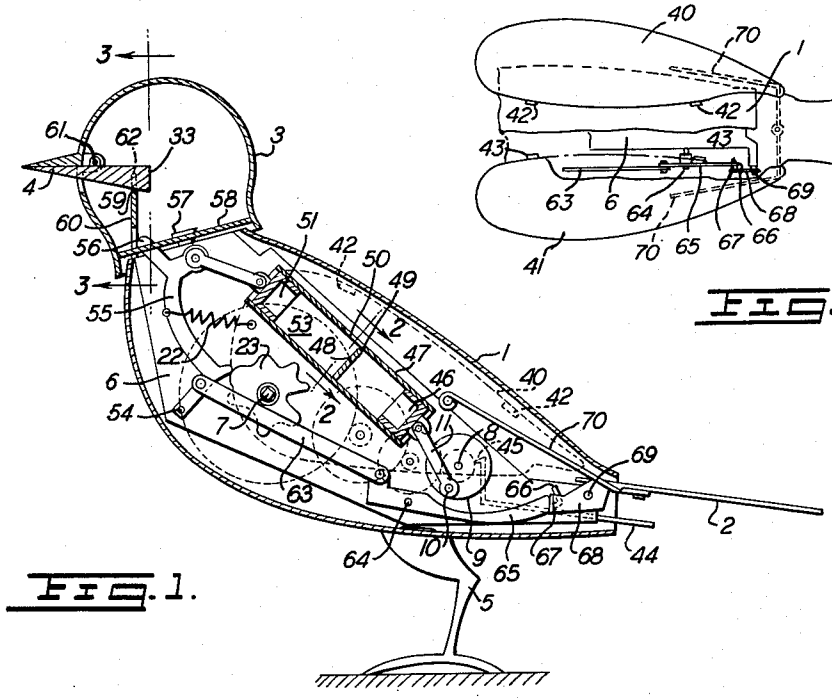

Fig. 1.

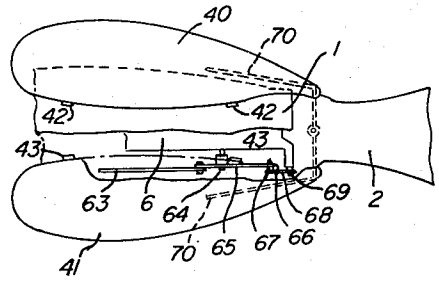

Fig. 4.

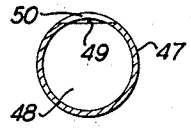

Fig. 2.

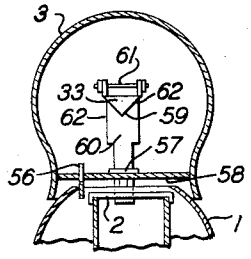

Fig. 3.

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TOY FIGURE

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5 Claims. (Cl. 46—118)

The invention relates to a toy figure, in particular to a toy bird. It concerns a figure with a driving clockwork mechanism.

The invention has a purpose of conforming such a toy figure to its natural prototype, in both sound-giving and characteristic movements of the body parts. The toy figure thus devised provides a surprising plaything and because of its close conformity with its prototype is very attractive as a toy.

According to the invention the toy figure, for instance, a toy bird comprises a mechanism producing sounds, for instance, chirping sounds, coordinated with a mechanism actuating the movable body parts, as the head, the bill, the tail, the wings etc.

The sound-producing mechanism comprises a whistle member to which air is supplied by a pump driven by a clockwork mechanism, the whistle member comprising a reciprocating piston.

It is particularly advantageous, that in the device disclosed not only will a whistling sound be obtained, but the sound produced will be intermittent in character in accordance with the operation of the reciprocating piston. As it is desirable furthermore, that not only a sound of a single pitch be obtained, a further feature of the invention consists in the fact, that the effective length of the whistle is adjustable, for instance, by providing an adjustable end for the whistle. The adjustment will be preferably made in dependence on the operating mechanism for the various movable body parts.

According to the invention the pump and the whistle are located coaxially in a common cylinder, in one end of which is disposed the pump piston, and in the other end, constituting a whistle chamber, a further piston for varying the volume of the whistle chamber. A partition separating the pump and the whistle is arranged within the cylinder adjacent an opening in the cylinder wall constituting the vent of the whistle. The partition has an opening formed preferably by a flattening of the edge.

By this manner the advantage is obtainable, that it is unnecessary to make and install the pump and whistle as two separate parts.

The further advantage is obtained, that the piston of the whistle is reciprocated by means of an H-shaped rocking lever, one arm of which is articulated on one end to the housing of the clockwork mechanism and is actuated at its other end by a disc cam. The other arm of the longitudinal H-shaped member is pivotally connected at one end to a link controlling the piston of the whistle and the other end of this arm causes movements of the head and of the bill. A return spring engages the H-shaped cross member.

From this rocking lever the movement of the tail and/or of the wings can be derived, preferably in such a manner, that a pull rod engages swingably the articulated arm member of the rocking lever, which operates a rocking member connected to the tail through an articulated double rocking lever. On this member and on the

tail respectively a stirrup following the movements of these connected members can be mounted, the two shanks of which extend below the wings outside the housing, the upper edges of the wings being articulated to the housing, so that they will be moved up and down in a fluttering manner by the two shanks of the stirrup.

Further advantages and feature of the invention are explained in the following description and the drawings showing examples of the embodiment of the invention. The drawings show in

Fig. 1 a longitudinal sectional view of a toy bird according to the invention,

Fig. 2 a sectional view through line 2—2 of Fig. 1,

Fig. 3 a sectional view through line 3—3 of Fig. 1, and

Figure 4 is a plan view, partly broken away.

The toy bird consists apart from the driving elements described below, in particular, of the body 1, the tail 2, the head 3, the bill 4 and the legs 5. The driving mechanism as a spring clockwork 6 in the illustrated example of embodiment is located in the hollow body 1. This clockwork can be wound up by means of a key slipped over the profiled arbor 7.

A crank is mounted on the shaft 8 of the clockwork and is comprised by a flywheel 9 and a crank pin 10. The fly wheel is preferably made of plastic of high specific gravity, for instance, of lead in order to keep its diameter as small as possible.

The driving clockwork mechanism 6 is situated within the figure body 1 and provided with a profiled winding arbor 7. For stopping the clockwork a lever 44 is provided the nose 45 of which engages a moving member in usual manner, for instance, a pinion of the clockwork 6.

The piston 46 reciprocates by means of a crank gear consisting of the flywheel 9 and a connecting rod 11 and is displaceable longitudinally in the cylinder 47. The latter has about in the middle a thin partition 48 which separates the pump from the adjacent whistle and has a small opening 49 provided by a flat on the edge thereof to provide a passage for the compressed air produced by movement of the piston 46. This opening lies adjacent the whistle mouth 50.

The piston 51 is longitudinally displaceable in the opposite end of cylinder 47. This piston is actuated by a lever 55 link-connected thereto which is controlled by a return spring 22 and by a cam disc 23 mounted on the winding arbor 7 of the clockwork 6, in such a manner, that it will be pushed into the cylinder 47 in varying degrees depending on the conformation of the cam disc. Consequently the column of air in the whistle chamber 53 will be greater or smaller and also the whistle sound becomes lower or higher.

Through a lever 55 pivoted at 54 the disc 58 disposed on member 57 carried by the housing of clockwork 6 will be turned alternately in opposite directions by the nose 56 of the lever. The head 3 of the toy figure is fixed on this disc.

From a fixed part, for instance, the housing of the clockwork 6 a member 60 provided with a triangular recess 59 extends in the head 3. The end piece 33 extending to the rear of the lower part 4 of the bill rests in the recess 59 having oppositely disposed surfaces 62. This lower part is pivoted at 61. If the head 3 is turned by the nose 56 of the lever 55, the end piece 33 of the lower part 4 of the bill may engage the bottom of the recess 59 of the member 60. Upon further turning movements this piece engages and rides up on one or the other of surfaces 62 thus causing an opening movement of the bill part 4 about pivot 61. It is thus seen that the bill movements are dependent on the turning movement of the head 3.

On the lever 55 a pull rod 63 is hinged with which the lever 65, swingable about the axle pin 64, is pivotal-

ly connected. The lever engages with its hook **66** behind the cross member **67** of the rocking member **68** located on the tail **2**. The rocking member oscillates about the shaft **69**. Thus the rocking member is swung through the levers **55**, **63** and **65** and consequently the tail **2** will be moved upwards and downwards.

Further a stirrup **70** is provided with two nearly parallel shanks and mounted on the tail **2**, the shanks being bent somewhat outwardly and extending beyond the housing **1** below the wings **40** and **41**. The stirrup **70** follows the movement of the tail **2** and transfers it to the wings **40** and **41** which are pivoted at **42**, **43** at their upper edges to the housing **1**, and they are consequently rocked upwards and downwards in a fluttering movement.

It is further desirable, that the operation of the legs not provided for in the illustrated example of embodiment of the invention can be also derived from the driving clockwork. In this case on both the ends of a clockwork shaft can be mounted a crank for oscillating the legs to-and-fro and up and down by means constituted for example by a curved rocking member. Each crank pin can be engaged in a longitudinal hole in the rocking member so that the legs, in particular in the range of the foot, execute a movement following the outline of an elongated longitudinal oval, the longitudinal axis of which extends in the direction of movement.

What I claim is:

1. A portable toy comprising in combination, a body, a movable tail, a movable head, a motor, a whistle, a generally H-shaped rocking lever, spring means, a disc cam driven by said motor, a piston slidably disposed in said whistle, said H-shaped rocking lever having a first generally longitudinally extending portion and a second generally longitudinally extending portion, said spring means biasing said first generally longitudinally extending portion of said H-shaped lever against said cam disc, said second generally longitudinally extending portion of said H-shaped lever connecting said piston at one end and said head at another end, said disc cam transmitting motion through said generally H-shaped rocking lever for oscillating said head.

2. A portable toy as set forth in claim 1, having a linkage mechanism, said linkage mechanism connecting said movable tail and said generally H-shaped rocking lever for transmitting motion from said generally H-shaped rocking lever to said movable tail.

3. A portable toy as set forth in claim 2 comprising wings, a stirrup mounted on said tail, said stirrup having a pair of shanks, said shanks extending beyond said body and below said wings, said wings being articulated at the upper edges whereby motion from said movable tail is being transmitted via said stirrup to said wings.

4. A portable toy bird having relatively movable body parts comprising in combination, a head, a bill, a tail and wings, mechanical means for individually actuating said relatively movable body parts, associated mechanical means for producing musical chirping sounds consisting of a plurality of different notes, and means for driving said mechanical means and said associated mechanical means, said mechanical means for producing chirping sounds comprising a pump and a whistle connected together by a conduit, said whistle being operated by said pump and having means for adjusting the effective length thereof, said whistle and said pump being coaxial and comprising a common tubular element, reciprocable pistons in said tubular element, said pistons being in spaced relationship to each other, a partition interposed between said pistons, said partition being apertured, and means forming an opening in the wall of said tubular element being in closely spaced relationship to said partition.

5. A portable toy bird having relatively movable body parts comprising in combination a head, a bill, a tail and wings, mechanical means for individually actuating said relatively movable body parts, associated mechanical means for producing musical chirping sounds consisting of a plurality of different notes, and means for driving said mechanical means and said associated mechanical means, said mechanical means for producing chirping sounds comprising a pump and a whistle connected together by a conduit, said whistle being operated by said pump and having means for adjusting the effective length thereof, said whistle and said pump being coaxial and comprising a common tubular element, reciprocable pistons in said tubular element, said pistons being in spaced relationship to each other, a partition interposed between said pistons, said partition being apertured, and means forming an opening in the wall of said tubular element being in closely spaced relationship to said partition, said means forming an opening in the wall of said tubular element having a planar portion and an arcuate portion.

References Cited in the file of this patent

UNITED STATES PATENTS

712,595	Reutlinger et al.	Nov. 4, 1902
1,512,283	Fritsche	Oct. 21, 1924
1,782,843	Derus	Nov. 25, 1930
1,886,442	Wimmer	Nov. 8, 1932
2,277,762	Irenius	Mar. 31, 1942
2,294,241	Rober	Aug. 25, 1942
2,314,153	Marcus	Mar. 16, 1943
2,514,450	Kopf	July 11, 1950
2,575,252	Berger	Nov. 13, 1951
2,613,080	Dow	Oct. 7, 1952
2,616,216	Fraysur	Nov. 4, 1952
2,695,472	Ardolino	Nov. 30, 1954
2,700,247	Cohn	Jan. 25, 1955