Nov. 7, 1950 S. KRAKOWSKI 2,528,759

CROWING TOY COCK

Filed June 23, 1948

Fig. 1

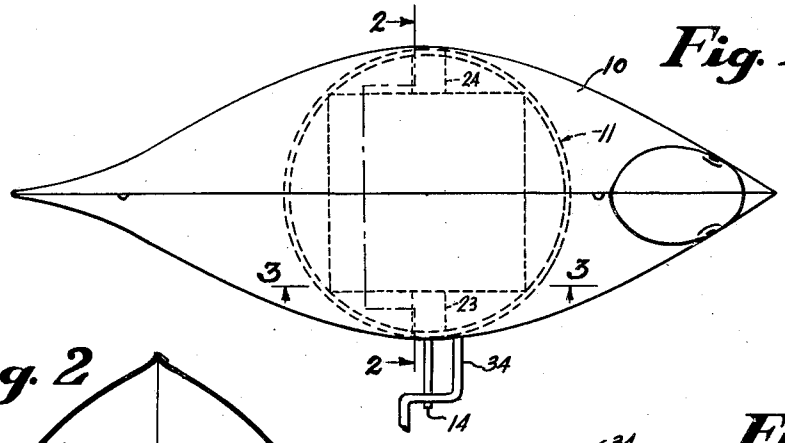


Fig. 2

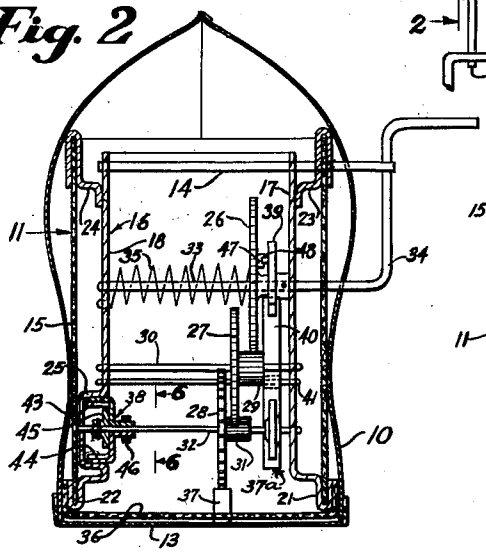
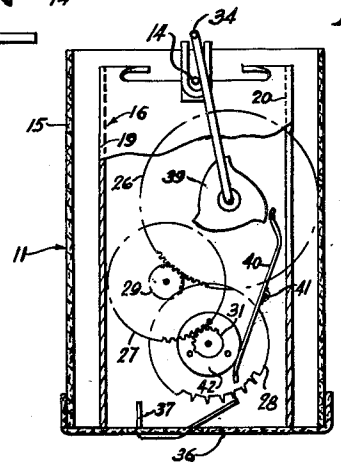


Fig. 3



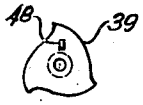


Fig. 7

Fig. 4

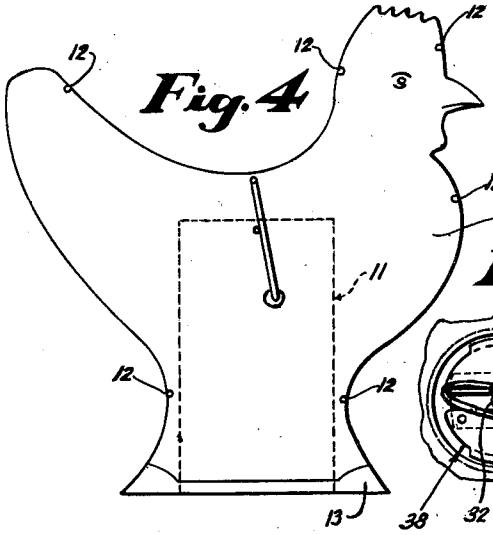


Fig. 5

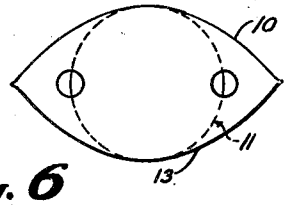
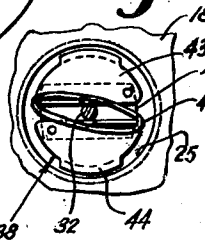


Fig. 6



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Patented Nov. 7, 1950 2,528,759

UNITED STATES PATENT OFFICE

2,528,759

CROWING TOY COCK

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Application June 23, 1948, Serial No. 34,696

3 Claims. (Cl. 46—117)

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This invention relates to a mechanical toy simulative of a cock and adapted to imitate the crow thereof.

It is an object of the instant invention to provide a mechanical toy of simple and rugged construction.

A further object is to provide a relatively inexpensive toy.

Other objects of the instant invention will become apparent in the course of the following specification.

In the accomplishment of these objectives, the body of the toy is made in the form of a cock from any suitable material and is designed to stand upright. The crowing mechanism is inserted upwardly through the base of the body which may be hollow and comprises a gear train, the teeth of the last member of which is in contact with the free end of a vibrator, the opposite end of the vibrator being attached to a sounding board forming the base of the crowing mechanism. A spring under unwinding tension maintains the gear train operative, the velocity of which is varied by a dual braking mechanism which in coaction with a handle for winding the spring varies the amplitude of the vibrations of the sounding board to give out the sound simulative of the cock's crow.

The invention will appear more clearly from the following detailed description when taken in connection with the accompanying drawing showing by way of example a preferred embodiment of the inventive idea.

In the drawings:

Figure 1 is a top plan view of the toy cock constructed in accordance with the principles of this invention.

Figure 2 is a sectional view along the line 2—2 of Figure 1.

Figure 3 is a sectional view along the line 3—3 of Figure 1.

Figure 4 is a side elevational view of the toy cock, on a reduced scale.

Figure 5 is a plan view of the base of the toy cock shown in Figure 4.

Figure 6 is a sectional view along the line 6—6 of Figure 2.

Figure 7 is an elevational view of the cam.

Referring now in greater detail to the drawings in which like reference numerals indicate like parts, reference numeral 10 indicates the body of the toy cock, and 11 the crowing mechanism.

The body of the toy cock 10 may be hollow formed from any suitable material, in two parts, if desired, and joined by any suitable means at

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the front and back at such points as 12 (Fig. 4). The base of the toy cock 10 is open and covered by the elliptical base cap 13 (Fig. 5) which is designed to fit over the periphery of the base of the toy cock 10 as shown in Figure 4 to maintain it upright.

The crowing mechanism 11 is inserted upwardly into the hollow body 10 through the open base and is maintained therein by the previously mentioned base cap 13 and prevented from moving by the inside surface portion of the body 10 and the pin 14 described later. The crowing mechanism 11 comprises an outer cylindrical housing 15 and an inner rectangular housing 16 inserted therein. The outer cylindrical housing 15 may be made of any suitable material such as cardboard having a diameter adapted for insertion through the open base of the body 10, sufficient height to extend upwardly therein as shown in Figure 4, and with open top and bottom. The inner rectangular housing 16 may be made of metal or the like to provide suitable bearings for the later described gear train of the crowing mechanism 11 and of appropriate dimensions for insertion in the cylindrical housing 15 as shown in Figures 2 and 3. The inner rectangular housing 16 is formed with the opposed front member 17 (Fig. 2), the opposed back member 18, and the opposed end members 19 and 20 (Fig. 3). At the base, the opposed front and back members 17 and 18 are extended downwardly and outwardly to provide the supports 21 and 22 for the base of the outer cylindrical housing 15 as shown in Figure 2. At the top, the opposed front and back members 17 and 18 of the inner rectangular housing 16 are attached to the cylindrical housing 15 by the clips 23 and 24 (Fig. 2) which at one end are attached to the members 17 and 18 by any suitable means and at the opposite end turned down to fit over the top of the cylindrical housing 15 as shown also in Figure 2. In the opposed back member 18, at the base in Figure 2, is the cylindrical protuberance 25 which forms a part of the subsequently described centrifugal braking mechanism.

Within the inner rectangular housing 16 is a gear train formed with the driver 26, the intermediate gear 27, and the driven gear 28, the rotary motion of the driver 26 being imparted to the intermediate gear 27 through the pinion 29 keyed to the shaft 30, and the rotary motion of the intermediate gear 27 being imparted to the driven gear 28 through the pinion 31 keyed to the shaft 32. The driver 26 rotatably mounted on the shaft 33 which shaft is extended for-

wardly through the opposed front member 17 of the inner rectangular housing 16, the wall of the outer cylindrical housing 15, and the body of the toy cock 10 to form a handle member 34. The spiral spring 35 is inserted around the shaft 33 and secured at the back to the opposed back member 18 of the inner rectangular housing 16 and attached at the front to the driver 26 which is placed under the unwinding tension of the spiral spring 35 when the driver 26 is wound by the handle member 34 revolving the cam 39 as later shown. Over the base of the outer cylindrical housing 11 the sounding board 36 is fitted and through which one end of the vibrator 37 is inserted as shown in Figure 3 while the opposite end of the vibrator 37 is turned upwardly in contact with the teeth of the driven gear 28 which sets the vibrator 37 in to vibration.

The crowing sound is attained by varying the amplitude of the vibrations of the vibrator 37 which, in turn, is attained by a dual braking mechanism and the handle member 34 coacting with the gear train to vary the angular velocity thereof. The dual braking mechanism comprises the cam brake 37a and the centrifugal brake 38.

The cam brake 37a comprises the cam 39 (Figs. 2 and 3) which is keyed to the shaft 33, the cam follower 40 pivotally mounted on the shaft 41, the top of which bears under tension against the cam 39 and the base against the brake wheel 42 keyed to the shaft 32 to apply a variable braking pressure to the rotary motion of the gear train. The cam 39 also serves as the winding mechanism and on which the lug 48 protrudes outwardly to coact with a corresponding lug 47 on the driver 26 so that as the handle member 34 is rotated, the lug 48 in contact with the lug 47 on the driver 26 places the spiral spring 35 under unwinding tension.

The centrifugal brake 38 comprises the two brake shoes 43 and 44 pivotally mounted on the plate 45 which is keyed to the shaft 32 and designed to rotate therewith within the cylindrical protuberance 25 previously described. At the front, the pivotally mounted brake shoes 43 and 44 protrude outwardly and are held together by the elastic member 46. As the angular velocity of the shaft 32 increases, the brake shoes 43 and 44 rotate outwardly and press against the inside surface portion of the drum 25 until the angular velocity is reduced to a point where the tension of the elastic member 46 is sufficient to rotate the brake shoes 43 and 44 away from the inside surface portion of the protuberance 25 serving as the brake drum.

The pin 14 (Fig. 2) is passed through the opposed front and back members 17 and 18 of the inner rectangular housing 16, the wall of the outer cylindrical housing 11 and is extended outwardly to contact the handle member 34 when revolved through some 360 degrees.

The operation is as follows:

The handle member 34 is revolved one turn until in contact with the pin 14 which movement revolves the cam 39 keyed to the shaft 33 and the driver 26 rotably mounted thereon through the coaction of the protuberances 48 and 47 on the cam and driver, respectively. The spring member 35 disposed around the shaft 33 and connected between the apposed back member 18 of the rectangular housing 16 and the driver 26 is then placed under unwinding tension by the rotary movement of the handle member 34. From the wound position, the handle member 34 is moved back to the unwound position. The driver 26 under the unwinding tension of the spring 35 imparts rotary motion to the pinion 29 and the intermediate gear 27 keyed to the shaft 30. The intermediate gear 27 in turn imparts rotary motion to the driven gear 28 through the pinion 31 both of which are keyed to the shaft 32. The rotary motion imparted to the teeth of the driven gear 28 against the vibrator 37 under the limitations of the centrifugal brake 38 and the cam brake 37a wherein sufficient movement is given to the cam 39 by the handle member 34 to raise the follower 40 over the cam surfaces produces the variations in the vibrations which give the sound simulative of the cock's crow.

It is apparent that the specific illustrations shown above have been given by way of illustration and not by way of limitation and that the structures above described are subjected to wide variation and modification without departing from the scope or intent of the invention, all of which variations and modifications are to be included within the scope of the present invention.

What is claimed is:

1. A toy cock adapted to simulate a cock's crow and comprising a hollow body simulative of a cock, a crowing mechanism for the hollow body, the crowing mechanism comprising a vibrating diaphragm, a reed for the diaphragm, a gear train coacting with the reed, the gear train comprising at least a driver and a driven member, a rotatable shaft for each of said members, means keying the driven member to the shaft, the driver being free to rotate on the shaft, a cam keyed to the shaft of the driver and in operable engagement with the driver at one point, means placing the gear train under unwinding tension, manually operated cam brake means between the shafts of the driver and driven members, and centrifugal brake means for the shaft of the driven member.

2. A toy cock adapted to simulate a cock's crow comprising a hollow body with open bottom simulative of a cock; the toy cock further comprising a crowing mechanism, the crowing mechanism comprising a hollow cylindrical housing disposed through the open bottom of the hollow body, a hollow rectangular housing for the cylindrical housing, means securing the rectangular housing in the cylindrical housing, both housings having open tops and bottoms, a base member for the open bottom of the cylindrical housing, a base cap for the open bottom of the hollow body spaced from the base member of the cylindrical housing; the crowing mechanism further comprising a vibrator, means securing one end of the vibrator to the base of the cylindrical housing, the other end of the vibrator extending upwardly therein, and a gear train coacting with the vibrator, the gear train comprising at least a driver and a driven member, a shaft for each of said members rotatably disposed in the rectangular housing, the driver being rotatably disposed on one shaft, and the driven member keyed to the other shaft, the teeth of the driven member being in operable engagement with the upwardly directed end of the vibrator, a spring disposed around the shaft of the driver, one end of the spring being attached to the rectangular housing and the opposite end to the driver, the driver having a protuberance on the side opposite the spring and ex-

tended outwardly therefrom; the crowing mechanism further comprising a cam braking mechanism and a centrifugal braking mechanism; the cam braking mechanism comprising a cam and a follower and a brake wheel, the cam being keyed to the shaft of the driver and having a protuberance thereon coacting with the protuberance on the driver, the shaft of the driver and cam being extended through the housings and hollow body, the extended end being bent in the form of a handle, a brake wheel keyed to the shaft of the driven member in the plane of the cam, and a follower pivotally disposed between the brake wheel and cam; the centrifugal braking mechanism comprising a cylindrical brake drum formed in the rectangular housing and aligned with the shaft of the driven member, at least one brake shoe pivotally disposed on the shaft of the driven member coacting with the brake drum, and means automatically disengaging the brake shoe from the drum below a predetermined R. P. M. of the driven shaft.

3. A toy cock according to claim 2 in which the rectangular housing is characterized by having at least one integrally formed and upwardly directed support at the bottom coacting with the bottom of the cylindrical housing, and further characterized by having at least one downwardly directed clip at the top coacting with the upper rim of the cylindrical housing.

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