

J. BENSON.  
GEARING.

APPLICATION FILED MAR. 2, 1911.

1,046,432.

Patented Dec. 10, 1912.

2 SHEETS—SHEET 1.

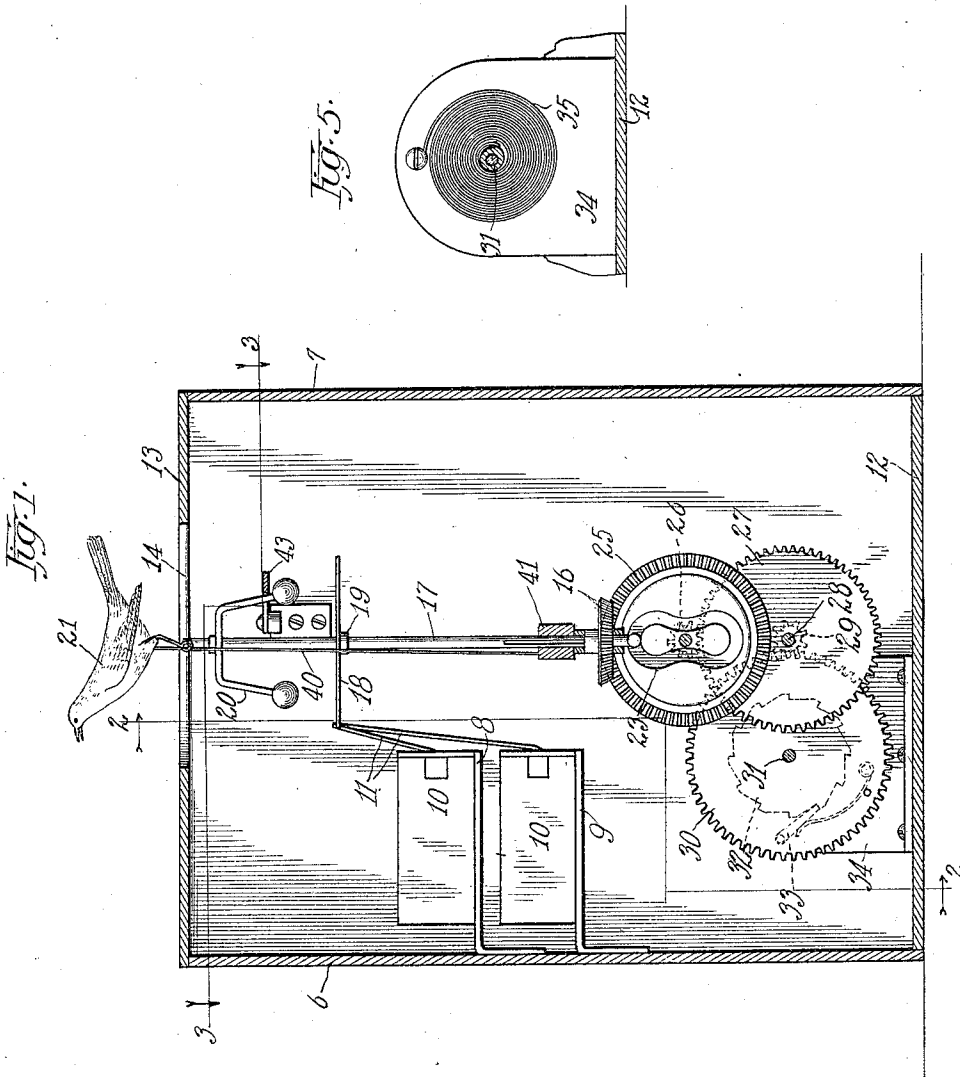


Fig. 5.

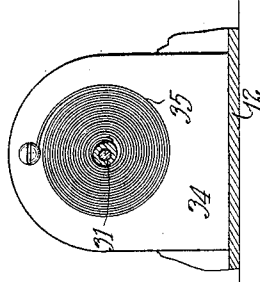
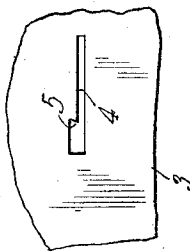


Fig. 6.



Witnesses:

Robert H. Meir

W. L. Halcutt

by

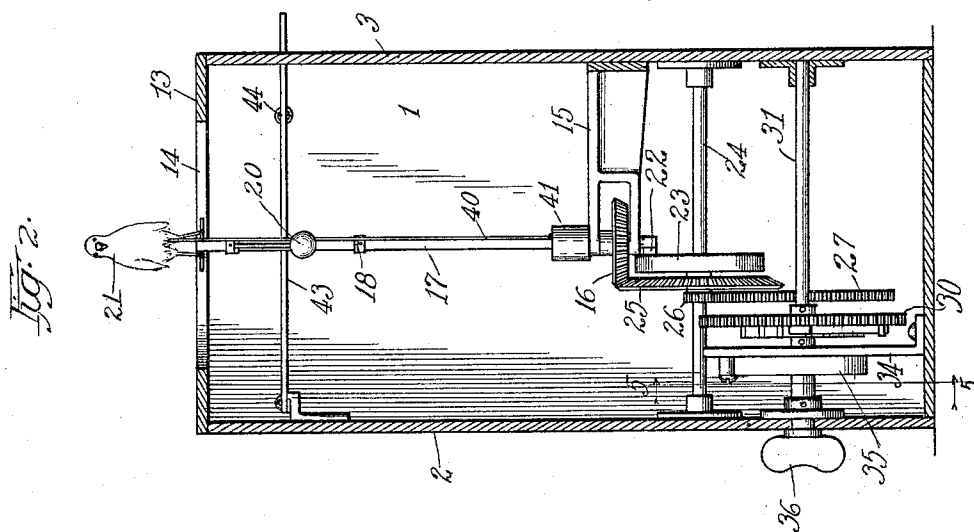
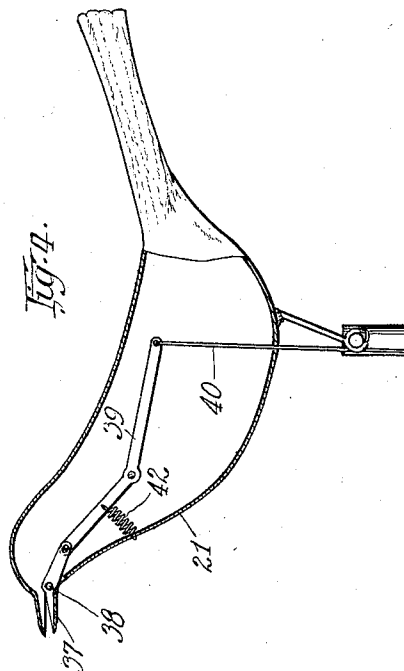
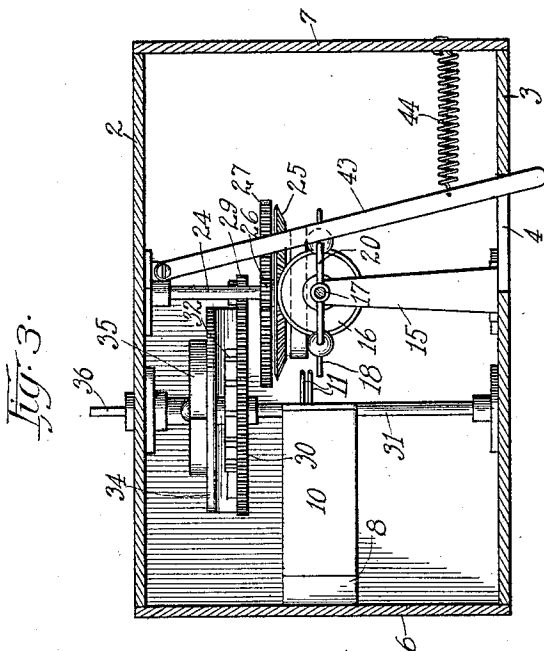
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

JOHN BENSON, OF SUGARGROVE, PENNSYLVANIA.

## GEARING.

1,046,432.

Specification of Letters Patent.

Patented Dec. 10, 1912.

Application filed March 2, 1911. Serial No. 611,860.

*To all whom it may concern:*

Be it known that I, JOHN BENSON, a citizen of Sweden, residing at Sugargrove, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Gearing, of which the following is a specification.

This invention relates to motor operated musical toys. Its object is to produce a toy that is amusing.

Another object is to produce a toy that is simple in construction and not likely to get out of order easily.

With the foregoing and other objects in view the invention consists in the combination and arrangement of parts to be hereinafter fully described in the following specification, pointed out in the claims and illustrated in the accompanying drawings which form a part of said specification and in which—

Figure 1 is a sectional side elevation of the device. Fig. 2 is a section on line 2—2 of Fig. 1. Fig. 3 is a horizontal section taken on line 3—3 of Fig. 1. Fig. 4 is an enlarged sectional view of the animated figure employed. Fig. 5 is a front view in section of the motor employed, taken on line 5—5 of Fig. 1. Fig. 6 is a detail of the slot through which the stop lever operates.

Like reference characters indicate corresponding parts throughout the several views.

1 is the housing which is oblong in horizontal cross section and comprises lateral members 2 and 3, the latter being provided with a transverse slot 4 formed with a shoulder 5 the purpose of which will be set forth subsequently; 6 and 7 indicate respectively the front and back of the housing and to the former is secured a pair of brackets 8 and 9 disposed one above the other, either of which is provided with a suitable metallic sound box 10 from one end of which extends upwardly in an oblique direction a musical reed 11.

12 is the floor of the housing and 13 the top provided with a suitable aperture 14.

To the lateral member 3 of the housing is secured a bracket 15 bifurcated at one extremity and in whose forks is carried a crown wheel 16 which is keyed to a perpendicular shaft 17 with which it rotates but which shaft is capable of vertical movement independently thereof. The shaft 17 is provided with a horizontally disposed sounding rod 18 supported upon a collar 19

which rod, when the shaft 17 rotates, is adapted for contact with the musical reeds 11. A suitable ball governor 20 the purpose of which is to steady the mechanism is also carried upon the shaft 17 and a bird-like figure 21 supported upon the upper extremity of said shaft which projects through the aperture 14 in the top of the housing. The lower extremity of the shaft 17 is provided with a roller 22 adapted to ride in a cam 23, which thus supports the said shaft, which turns with its shaft 24 which is journaled in the sides 2 and 3 of the housing. It will be seen that the cam 23 imparts vertical motion to the shaft 17. Upon the transverse shaft 24 is also arranged a large crown wheel 25 meshing with the wheel 16 thus transmitting rotary motion to the shaft 17. A small pinion 26 is also disposed upon the shaft 24 and meshes with a gear wheel 27 which is arranged on a transverse shaft 28 directly beneath the shaft 24 which shaft 28 is provided with a pinion 29 and is journaled in the sides of the housing. The pinion 29 meshes with a gear 30 loosely arranged upon a shaft 31 which is arranged in front of the shaft 28 and approximately in the same plane therewith and is journaled in the sides of the housing. A ratchet 32 is located adjacent one face of the wheel 30 and made fast upon the shaft 31 and is provided with a spring actuated pawl 33 as shown.

34 is a standard secured to the floor of the housing and to which one end of the spring motor 35 is secured, the opposite end of said spring being secured to the shaft 31.

36 is a key for turning the shaft 31 thus winding the spring and rotating the ratchet 32 away from the pawl 33 but when the spring unwinds the tension of the same rotates the shaft 31 in the opposite direction and the pawl 33 transmits power to wheel 30 which transmits it to the train just described.

Referring to the member 21 which is a figure in imitation of a bird the lower jaw 37 thereof is pivoted at 38 and is free to oscillate in a vertical plane.

39 is a toggle train having one extremity secured to the jaw 38 in a manner to actuate the same while its lower link is secured to a rod 40 that extends down through the housing parallel with the shaft 17 and is secured to a block 41 that is keyed to said

shaft and rotates therewith but which is not capable of vertical motion therewith. When the shaft 17 carrying the bird is raised vertically a strain is exerted upon the rod 40 which will cause the toggle train to open the mouth of the bird making the same appear to chirp and this is made more realistic by the musical sounds occasioned by the bar 18 striking upon the reeds 11 as it revolves.

42 is a spring having one extremity secured to the toggle train and the opposite extremity to the wall of the bird figure beneath that train, its purpose being to close the jaw just opened by the toggle train.

43 is a lever secured to the side 2 of the housing near the top thereof and extending across the same and out through the aperture 4 in the side 3. It is normally held out of contact with the revolving governor 20 by means of a spring 44 that engages it with one extremity while the opposite end of said spring is secured to the end 7 of the housing. When it is desired to stop the machine the lever 43 is moved in the slot until it rests against the shoulder 5 in which position it is in the path of the governor 20 and so prevents rotation of the same thus stopping the entire mechanism.

What I claim is:—

1. In a toy, the combination with a suitable housing, provided with an aperture in the top thereof, a motor driven shaft 31 journaled therein, a transmission shaft approximately in the horizontal plane of said motor driven shaft, another transmission shaft in the vertical plane of the aforesaid transmission shaft and transmission mechanism connecting the shafts, of a cam disposed upon the last described transmission shaft and a rotative shaft suitably supported in the housing and having one extremity adapted to travel in the said cam.

2. In a toy, the combination with a suitable housing, provided with an aperture in the top thereof and a motor driven shaft journaled therein, a transmission shaft approximately in the horizontal plane of said motor driven shaft, another transmission shaft in the vertical plane of the last mentioned transmission shaft and transmission mechanism connecting the shafts, of a cam disposed upon the last described transmission shaft, a gear likewise disposed upon the same shaft, a vertical shaft suitably supported in the housing and having one extremity adapted to travel in the said cam and a crown wheel keyed to said vertical shaft and adapted to mesh with the gear of the last mentioned transmission shaft.

3. In a toy, the combination with a suitable housing provided with an aperture in the top thereof and a motor driven shaft 31 journaled therein, a transmission shaft approximately in the horizontal plane of said motor driven shaft, another transmission shaft in the vertical plane of the last mentioned transmission shaft and transmission mechanism connecting the shafts, of a cam disposed upon the last described transmission shaft, a gear likewise disposed upon the same shaft, a ball governor mounted on a vertical shaft suitably supported in the housing and having one extremity adapted to travel in the said cam, a bevel gear slidably keyed to said vertical shaft and a lever secured to one side of the housing for contact with the said ball governor to arrest the motion of the mechanism.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two subscribing witnesses.

JOHN BENSON.

Witnesses:

HARRY FIRTH,  
ALICE M. LOWE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."