March 25, 1969 M. P. WATTS ET AL 3,434,234

DIVING DUCK TOY

Filed July 13, 1964

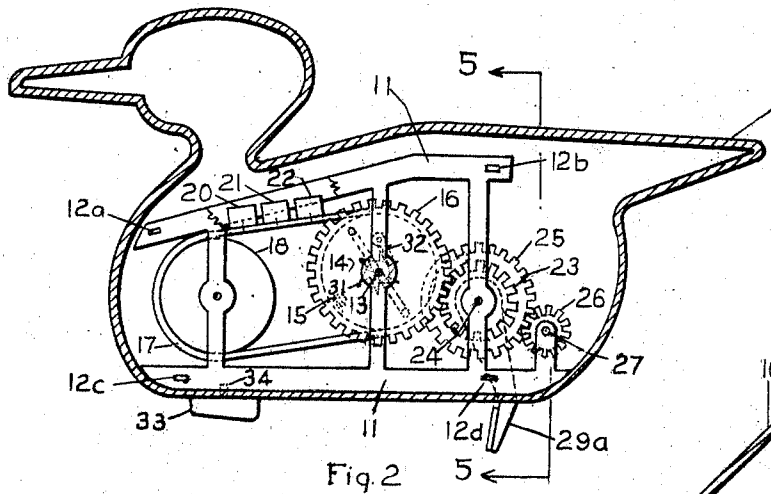


Fig. 2

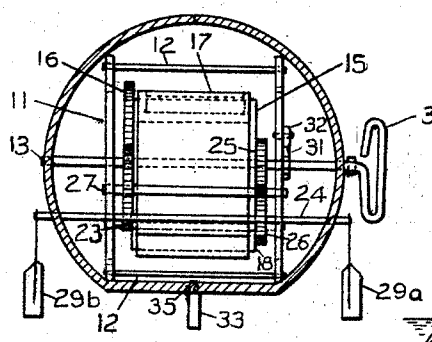


Fig. 4

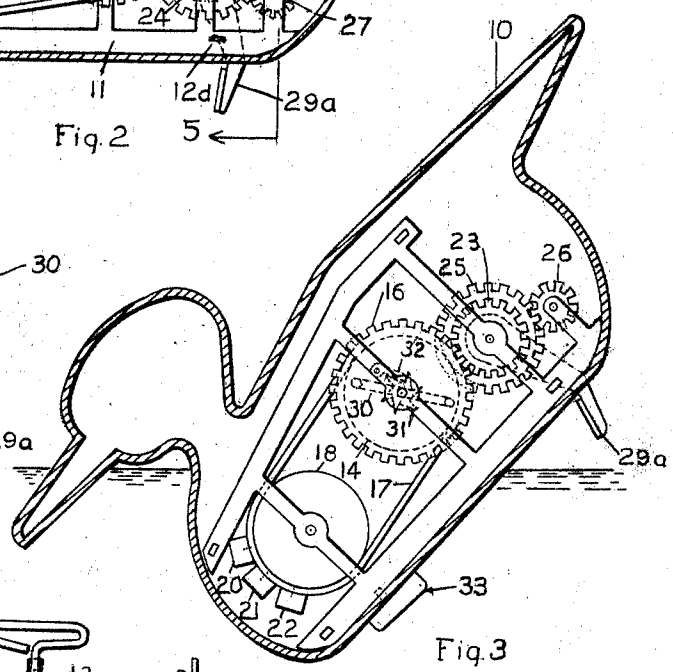


Fig. 3

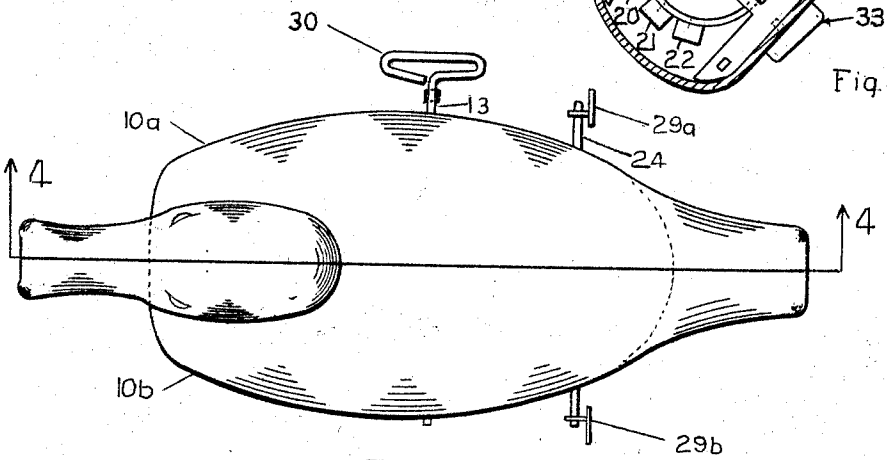


Fig 1

INVENTORS

Melvin P. Watts

George H. Schleler

United States Patent Office

3,434,234

Patented Mar. 25, 1969

3,434,234

DIVING DUCK TOY

Melvin P. Watts, Cortland, Ind. 47228, and George H. Schleter, 1110 South Ave., Pittsburgh, Pa. 15221

Filed July 13, 1964, Ser. No. 382,993

Int. Cl. A63h 23/10, 23/04

U.S. Cl. 46—92

2 Claims

This invention relates to an aquatic toy, and more particularly to a plastic like toy duck having diving as well as forward motion, adapted to be floatingly supported on water, similar to a live duck floating on water; also a means therein to manually give the toy duck actuating power and for simultaneously behaving in a manner similar to that of a live duck floating on water. This means of diving or tumbling motion in recurring cycles can be applied to other playthings.

At the outset, and by a way of review, it will be noted that very few aquatic toys that float on water have incorporated in them any means of diving, especially by a simple safe mechanical actuating means.

Several methods are used to motivate the floating devices, but none for mechanical means for the diving action employed in them.

One of the primary reasons is to procure the diving action in aquatic devices, more especially, in a duck type water fowl or similar animals, together with the forward and circular motions.

Another object is that it be a simple and safe means of procuring the diving, swimming and circular actions, this means of action to be safely initiated by the operator at the start of the cycle of operation.

Still another object of the invention is that the directions of the swimming and diving can be easily done by a rudder being set at the beginning of each cycle.

These and other objects may be attained by the means herein described and as disclosed in the accompanying drawings in which:

FIGURE 1 is a top view of the diving duck.

FIG. 2 is a sectional elevation view through the duck in its floating position embodying the teaching of the present invention on line 4—4 of FIG. 1.

FIG. 3 is a similar sectional elevational view of the duck in its lower diving position.

FIG. 4 is a rear view cross-sectional of spring actuating mechanism on the line 5—5 of FIG. 2, certain internal construction details and the actuating means which changes the center of gravity changing means.

With reference now to FIG. 1 the numeral **10** denotes the body with its two complementary hollow halves **10***a* and **10***b*, joined to form a floatable body, which can dive and swim like a water fowl, spring powered means is housed in frame **11**, held in together by webs **12***a*, **12***b* **12***c*, and **12***d*, also holds the drum **14** or propeller actuating pulley, shaft **13**, to which driving spring **15** is fastened, handle **30**, a pawl **32** on the frame **11** to hold spring from unwinding, against ratchet **31** on shaft **13**, gear **16** on drum **14**, belt **17** goes over drum **14** then to idler drum **18**, or transverse idler pulley, weights **20**, **21** and **22**

are clustered on one end of belt **17**, gear **23** meshes gear **16** that drives, is on shaft **24**, gear **25** at other end and it engages gear **26**, on a friction shaft **27**. Two paddle-like feet **29***a* and **29***b* are at each end of shaft **24**, they extend beyond the body **10** and when rotating strike the water like natural duck's feet. Rudder **33** is attached to body **10** by means of pin **34** into hole **35** where it is held by friction.

To operate the toy duck body **10** wind spring **15** with handle **30** which turns shaft **13** on which is gear **16** that engages gear **23** to drive shaft **24** and the paddle-feet **29***a* and **29***b* to give swimming action, while the above action is going on the spring **15** is driving drum **14** with its belt **17** and idler drum **18**. Weights **20**, **21** and **22** which are closely grouped together on belt **17** move from the center of gravity of body **10** into the chest of the duck or very front part of body **10**. This means of action at given intervals causes the duck or body **10** to tilt over and dive as the heavy weights **20**, **21** and **22** change the center of gravity from center of body **10** to the very front or chest of duck body **10**. The rudder **33** or fin means is attached to body **10** by means of a frictionally adjustable pin **34** in hole **35**. By setting this rudder the duck can be made to swim and dive in a circular path or straight forward before it is placed on the water.

We claim:

1. A toy duck comprising a hollow body adapted to float, and an actuating mechanism mounted inside of said body, said actuating mechanism comprising: a duck-propelling means for moving the duck forwardly, a transverse propeller-actuating pulley, a power-supplying means for driving said propeller-actuating pulley, a mechanical connection between said propeller-actuating pulley and said duck-propelling means, a transverse idler-pulley disposed in front of said propeller-actuating pulley, a belt connected between the two pulleys, a weight carried by said belt whereby to shift the center of gravity forward sufficiently to cause a forward diving action of the duck at given intervals when the belt is in such a position that said weight is in the front part of the duck, while the duck is swimming in water.

2. The invention as defined in claim **1**, in combination with a frictionally adjustable direction-controllable fin-means which can be manually preset to cause the duck to swim either in a straight line, or to circle to the right or left, during its swimming movement.

References Cited

UNITED STATES PATENTS

636,106	10/1899	Biddle	46—92
2,003,193	5/1935	Hirose	46—92

ANTON O. OECHSLE, *Primary Examiner.*

THOMAS ZACK, *Assistant Examiner.*

U.S. Cl. X.R.

46—94