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Wilson

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[54] **PENDULUM TIMER**

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[52] **U.S. Cl.** **58/1**; 58/106; 58/129

[51] **Int. Cl.** **G04f 1/00**; G04b 17/02

[58] **Field of Search** ..... 58/1 R, 1 M, 2, 29–32, 58/106, 129, 130, 131; 46/236, 239; 221/1, 251; 273/161

[56] **References Cited**

UNITED STATES PATENTS

2,107,673	2/1938	Lang	46/236 X
2,220,049	10/1940	Dunmore	46/239 X
3,672,149	6/1972	Howard	58/2

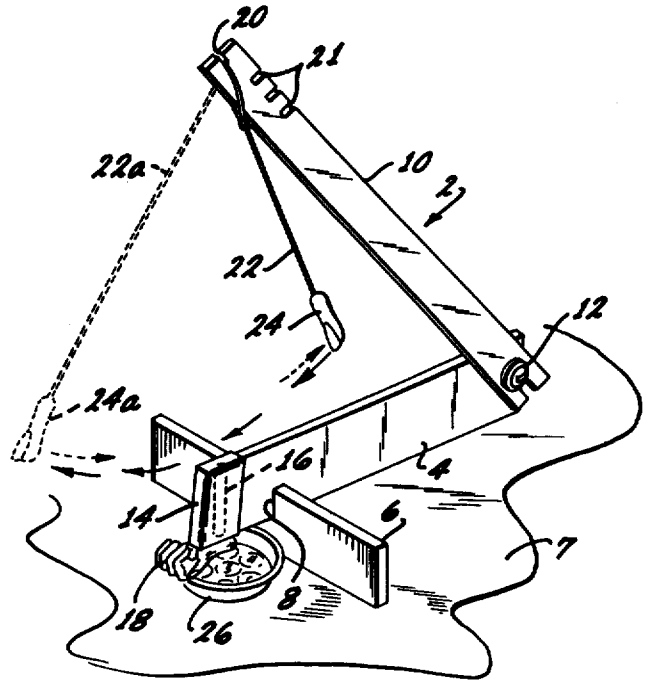
Primary Examiner—Edith Simmons Jackmon
Attorney, Agent, or Firm—Ellsworth R. Roston

[57] **ABSTRACT**

An interval timer which includes a pendulum having a bob that is supported for oscillatory movement. A closure member, which is magnetically attracted to the bob, is positioned beneath the rest point of the bob. The closure member is movable from a closed to an open position by the magnetic attraction between the bob and closure member with the bob at its rest position. Signal means are actuatable by the movement of the closure member to its open position. Thus, a signal is given when the bob comes to rest through movement of the closure member by the magnetic attraction between the bob and closure member.

The interval timer may also include a ball receiver having a passage for receipt of a non-magnetic ball. The closure member may block the passage through the ball receiver when the closure member is in its closed position. A pan may be positioned adjacent the passage to receive the non-magnetic ball from the passage when the closure member is moved to its open position, with the pan emitting an audible signal on receipt of the ball from the passage.

9 Claims, 5 Drawing Figures



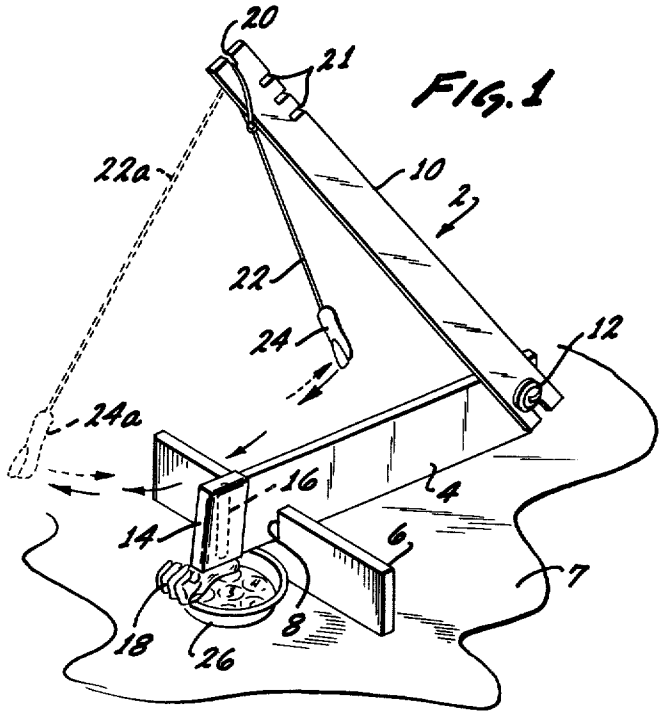


FIG. 1

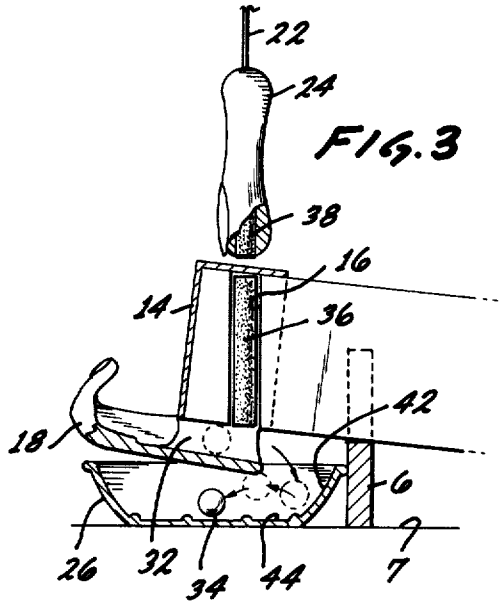


FIG. 3

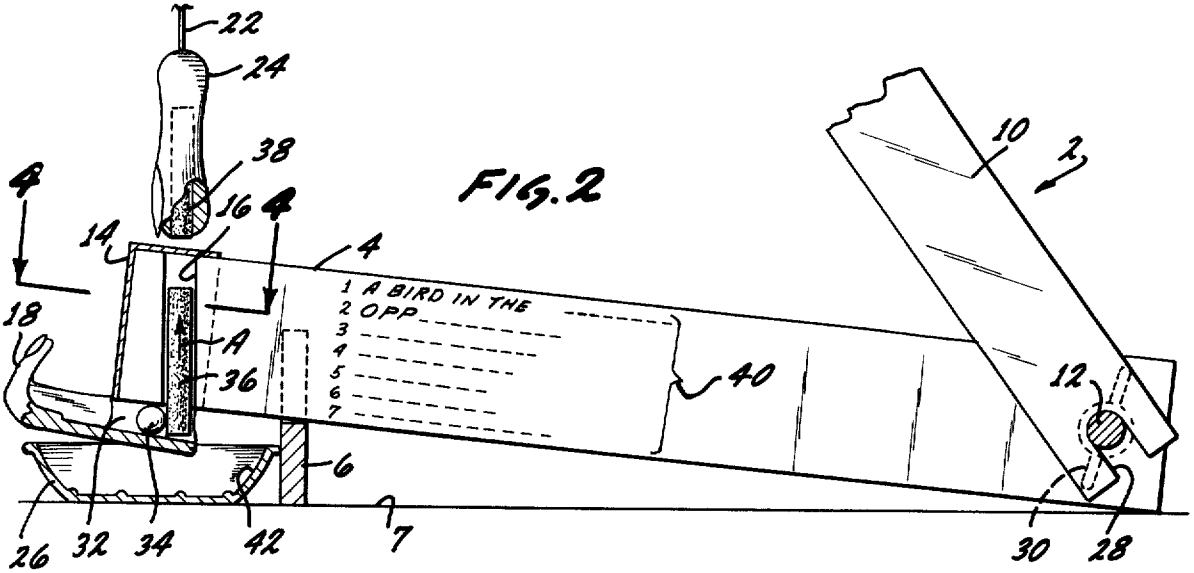


FIG. 2

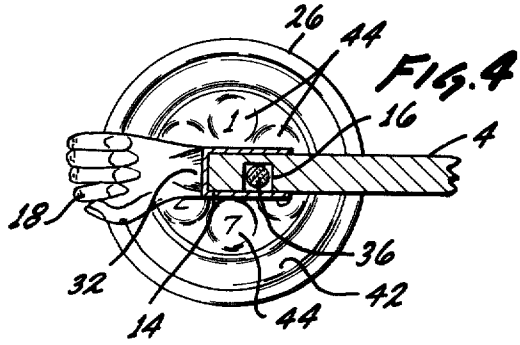


FIG. 4

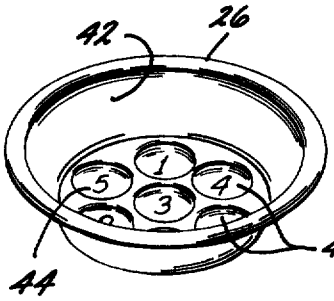


FIG. 5

PENDULUM TIMER

BACKGROUND OF THE INVENTION

The pendulum is a mechanism which has been known for many years and has been previously employed in clocks and in timing devices such as metronomes. The movement of a pendulum is an interesting thing to watch. Thus, a timing device which employs a pendulum movement, such as a clock, is not only functional but interesting to look at.

Frequently, during the course of a day, it is necessary for an individual to make a decision of some sort or another. As an adjunct to the decision making process, it would be interesting to have an interval timer which would be interesting to watch and also functional in measuring a time period for the making of a decision. Such a device could serve as a novelty toy on a busy executive's desk or it could find usage in the home in providing diversion to a busy housewife faced with decisions. Additionally, such a device could be used as an adjunct to a game in which the players' moves may be made within a given time period. Thus, for example, such a device could be utilized as an adjunct to the game of checkers with the players' moves being governed by the time required for the pendulum bob to come to rest after being set in oscillatory motion.

SUMMARY OF THE INVENTION

In accord with the invention, I have provided an interval timer with a pendulum which includes a bob supported for oscillatory movement. A closure member is positioned beneath the rest point of the bob with the closure member being magnetically attracted to the bob.

The closure member is movable between a closed and an open position through the magnetic attraction between the closure member and the bob with the bob at its rest position. Signal means are actuatable by movement of the closure member to its open position. Thus, a signal may be given when the bob has come to rest through movement of the closure member by the magnetic attraction between the bob and closure member.

In providing magnetic attraction between the bob and closure member, the bob may include a permanent magnet with the closure member being made of a magnetic material. Alternatively, the closure member may include a permanent magnet which is attracted to a bob formed of a magnetic material or both the bob and closure member may include permanent magnets with the poles of the magnets being positioned in attractive relation when the bob is at rest above the closure member.

The interval timer may include means to vary the period of the pendulum such that the time period measured by oscillatory movement of the pendulum may be varied. Also, the timer may include a ball receiver having a passage for receipt of a non-magnetic ball. The closure means may then be positioned to block the passage when the closure member is in its closed position. A pan may be positioned adjacent the passage to receive a non-magnetic ball from the passage when the closure member is moved to its open position with the pan being actuated to emit an audible signal on receipt of a ball from the passage. Thus, when the pendulum bob comes to rest above the closure member, this event may be signaled by an audible signal emitted by the pan.

The pan may include recesses with the recesses being shaped and positioned so that a ball discharged into the pan will randomly lodge in one of the recesses. The recesses may be numbered such that the receipt of the ball within a particular recess designates a specific numbered saying or event. The random choice of a specific numbered recess by the ball may then be utilized, in conjunction with the time span measured by the oscillatory movement of the pendulum, in arriving at a decision.

DESCRIPTION OF THE DRAWING

In the drawing, which is merely illustrative of an embodiment of the invention:

FIG. 1 is a pictorial view of the interval timer showing the oscillatory movement of the pendulum bob;

FIG. 2 is a side view, partially in section, of the interval timer with the closure member in position to retain a ball within a passage;

FIG. 3 is a side sectional view of the interval timer, similar to FIG. 2, illustrating the upward movement of the closure member to release the ball such that the ball is free to fall into a pan;

FIG. 4 is a top sectional view taken along the line 4—4 of FIG. 2 and illustrating the position of the closure member within a slot positioned above a pan having pockets therein for receipt of a ball, and

FIG. 5 is a pictorial view of a pan which may be utilized for receiving a ball when it is released by upward movement of the closure member with the pan having pockets defined on its interior surface for random receipt of a ball in one of the pockets.

DETAILED DESCRIPTION

As shown in FIG. 1, an interval timer 2 has a supporting frame composed of a base member 4, a T-member 6, and an angle support member 10. A slot 8 within the T-member 6 engages the base member 4 to provide a stable support structure for positioning the interval timer 2 with respect to a supporting surface 7.

The angle support member 10 is pivotally positioned with respect to the base member 4 through a pivotal connector 12. On pivoting of the angle support member 10 about the pivotal connector 12, the position of the angle support member may be varied with respect to that of the base member 4.

A cap 14, which may be formed of a non-magnetic material, is positioned over the end of the base member 4 with a slot 16 being defined in the side of the base member. A ball receiver 18 is positioned outwardly of the base member 4. The receiver 18 is illustrated as having the shape of a hand. However, the shape of the receiver may be, of course, varied in any desired manner in the construction of the interval timer 2.

A slot 20 formed at the end of the angle support member 10 engages a cord 22 from which is supported a pendulum bob 24. In adjusting the period of the pendulum, the position of the angle support member 10 may be varied with the cord 22 being shortened or lengthened, as desired, and the cord being positioned in any of a plurality of slots 21 which may be formed along the length of the support member. The pendulum bob 24 may have any desired shape and, as illustrated, has the shape of a finger. A pan 26 is positioned beneath the receiver 18.

The pendulum bob 24 and the supporting cord 22 are shown in solid line drawing in FIG. 1 and are also indi-

cated in phantom line drawing by the numerals 24*a* and 22*a*. The relative movement of the cord and pendulum bob during oscillation of the bob may be observed by comparing the movement of the bob between its solid line position 24 and its phantom line position 24*a* coupled with movement of the cord from its solid line position 22 to its phantom line position 22*a*.

As will be described, the oscillation of the pendulum bob 24 serves the function of a timer in the present invention in which the interval timer 2 may be utilized as a novelty toy. For example, the pendulum timer 2 may be used as an "executive decision maker" in which the time allotted for a decision is determined by the length of time required for the pendulum bob 24 to come to rest over the slot 16. As will be described, when the pendulum bob 24 comes to rest, a ball is released from the receiver 18 into a pan 26 positioned below the receiver with the pan emitting an audible signal on receipt of the ball.

Turning to FIG. 2, which is a side view in partial section of the interval timer 2, the angle support member 10 may be positioned relative to the connector 12 by a slot 28 which surrounds the shank of the connector 12 with the angle support member positioned between the head of the connector and the side face of the base member 4. A wing nut 30, shown in phantom line drawing, may be positioned on the other side of the base member 4 in threadable engagement with the connector 12. Thus, the support member 10 may be positioned at any desired position with respect to the base member 4 by loosening the wing nut 30, rotation of the support member 10 about the connector 12 to a new position, and tightening of the wing nut to hold the support member in its new position.

The passage 32 defined by the receiver 18 may be positioned beneath the base member 4 with a non-magnetic ball 34 being retained within the passage through contact with a closure member 36 formed of a magnetic material. With the closure member 36 slidably received within the slot 16 and resting on an upper surface of the receiver 18, the closure member effectively blocks the passage 32.

A magnetic 38 may be carried by the pendulum bob 24 to attract the closure member 36. When the bob 24 comes to rest at the end of its oscillatory movement, the bob is positioned above the slot 16. This brings the magnet 38 in line with the closure member 36 which causes the closure member to move upwardly in the direction of the arrow. If desired, the closure member 36 may be a permanent magnet whose poles are positioned in attractive relation to the poles of the permanent magnet 38 carried by the bob 24. To provide magnetic attraction between the closure member 36 and the bob 24, it is only necessary that the bob or closure member contain a magnet. Thus, the bob 24 need not contain a permanent magnet but may be formed of a magnetic material which attracts the closure member 36 when it is a permanent magnet.

On upward movement of the closure member 36 to the position shown in FIG. 3, the ball 34 is released and rolls downwardly into the pan 26. On striking the interior surface 42 of the pan 26, the pan gives off an audible signal such as the sound of a gong which indicates that the period for decision making is over. The ball 34 may then roll into one of several pockets 44 which are defined within the pan 26.

The positioning of the pockets 44 within the pan 26 is illustrated in FIG. 4 which is a top sectional view taken along the line 4—4 of FIG. 2. As shown, the pockets 44 may be numbers, for example, with numbers from 1 to 7. Indicia 40, as shown in FIG. 2, may be printed on the side surface of the base member 4 and include various numbered sayings ranging, for example, from 1 to 7 to correspond with the numbering of the pockets 44. Thus, when the ball 34 randomly comes to rest within a particular numbered pocket 44, the number of the pocket may indicate a printed expression of the same number in the indicia 40 which is used in the decision making porcess.

The position of the slot 16 formed in the base member 4 is shown in FIG. 4 with the opening into the slot being covered by the cap 14 which conveniently fits around the end of the base member. As stated, the closure member 36 is slidably received in the slot with the closure member being free to move upwardly through magnetic attraction by the magnet 38. As the pendulum bob 24 swings over the slot 16 during each oscillation, the attraction of the magnet 38 for the closure member 36 may cause a clicking sound due to slight movement of the closure member within the slot. This clicking sound may be used to accentuate the passage of time occurring with each oscillation of the pendulum bob and may serve to create a feeling of suspense in the user. As the oscillations of the pendulum bob become shorter and shorter, the frequency of the clicking sound may become more rapid which further serves to provide suspense for the user who is made aware that the time for making a decision is rapidly drawing to a close. Finally, when the pendulum bob 24 comes to rest over the slot 16, the upward movement of the closure member 36 releases the ball 34, as described, to produce an audible sound when the ball strikes the pan 26 to signal that the time for decision making is over.

The pan 26 is shown in pictorial view in FIG. 5 which illustrates the pan interior 42 and the pockets 44 formed in the bottom of the pan. As shown, the pockets 44 may be closely positioned with respect to each other so that they cover the entire bottom of the pan 26. Thus, when the ball 34 enters the pan, it must fall in random fashion into one of the pockets 44.

As described, the interval timer of the invention may be utilized as a novelty toy such as a so-called "executive decision maker." Also, the timer may be used as an adjunct to any type of game in which a player's move may be timed. Thus, for example, the interval timer may be employed as an adjunct to the game of checkers with the time for each player's moves being regulated by the timer.

I claim:

1. An interval timer comprising:

a pendulum including a bob supported for oscillatory movement about a fixed point;

a closure member which is magnetically attracted to said bob;

said closure member being positioned beneath the rest point of the bob; and

said closure member being movable from a closed to an open position by the magnetic attraction between the bob and closure member when the bob is in its rest position, and

signal means actuatable by movement of the closure member to its open position,

whereby a signal is given when the bob has come to rest through movement of the closure member by magnetic attraction between the bob and closure member.

2. The interval timer of claim 1 wherein the bob includes a permanent magnet.

3. The interval timer of claim 2 wherein said closure member includes a permanent magnet with poles positioned in attractive relation to the poles of the permanent magnet in the bob.

4. The interval timer of claim 1 including means to vary the period of the pendulum.

5. The interval timer of claim 1 including:

a ball receiver having a passage for receipt of a non-magnetic ball;

said closure member being positioned to block said passage when the closure member is in its closed position;

a pan positioned adjacent the passage to receive a non-magnetic ball from the passage when the closure member is moved to its open position, and

the pan being constructed to emit an audible signal on receipt of a ball from said passage.

6. The interval timer of claim 5 wherein the bob includes a permanent magnet.

7. The interval timer of claim 6 wherein said closure member includes a permanent magnet with poles positioned in attractive relation to the poles of the permanent magnet in the bob.

8. The interval timer of claim 4 wherein the means to vary the period of the pendulum includes an adjustable support member for the pendulum.

9. The interval timer of claim 7 including means to vary the period of the pendulum.

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