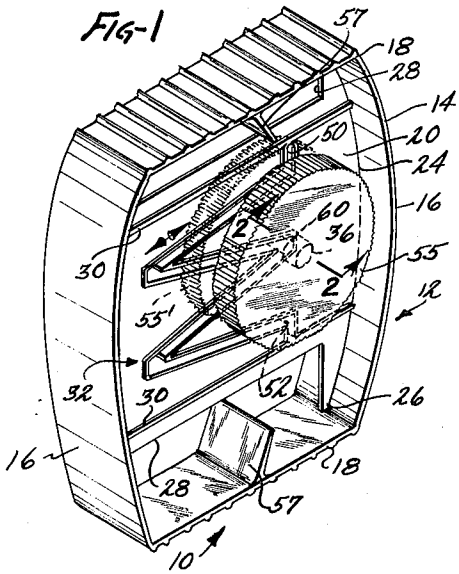
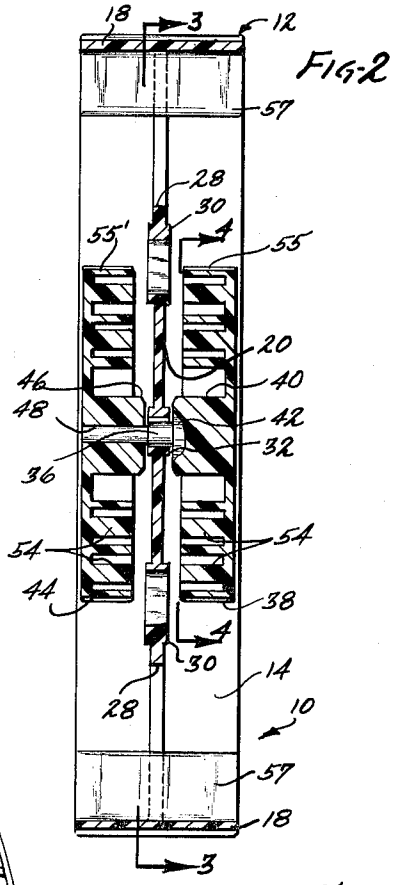
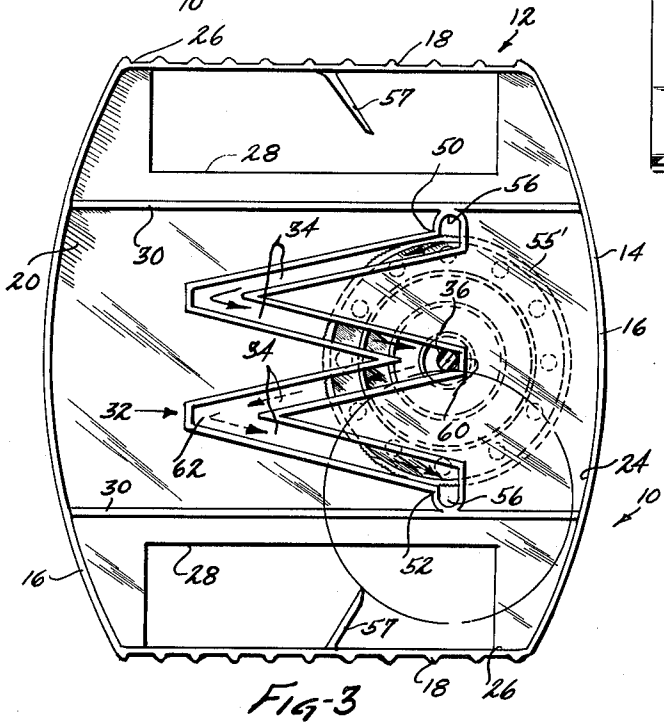
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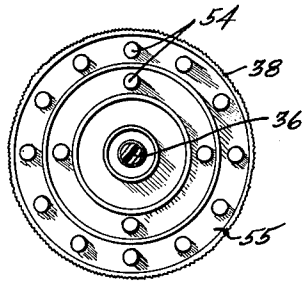
INVERTIBLE TIMING DEVICE

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INVERTIBLE TIMING DEVICE

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This invention relates to a new and improved timing device and more particularly to a mechanical device which indicates the elapse of a predetermined increment of time.

When a group of players is playing a game, it is often desirable that each player devote no more than a predetermined amount of time to a particular turn.

Since the time consumed by a particular turn may be relatively short, such, for example, as 20 seconds, conventional, inexpensive timing devices are not readily adaptable for use in timing each player's turn in a particular game.

In addition, prior art timing devices do not lend themselves readily to becoming a part of the game being timed.

Accordingly, it is a primary object of the present invention to provide a new and improved device for timing each turn of a group of players participating in a game.

Another object of the present invention is to provide a timing device of the type described which will add to the excitement of a game being played by a group of players, and which will visually and audibly signal the end of each player's turn.

Yet another object of the present invention is to provide a timing device which may be readily passed from one player to another.

A further object of the present invention is to provide a new and improved timing device which may be used to indicate the elapse of a predetermined time period or the elapse of portions of the predetermined time period.

A still further object of the present invention is to provide an attractive, inexpensive timing device which may be readily packed with parlor games and supplied as a part thereof.

According to the present invention, a light, semi-rigid plastic frame carries a suitable trackway having a number of sloped runs doubling back on each other. Two circular disks straddle the trackway and are connected together with a pin which is free to roll along the runs of the trackway much in the manner that a Yo-yo rolls up and down a string. The slope and length of each run of the trackway and the mass of the disks determine the amount of time required for the disks to roll from one end of the trackway to the other. Preferably, each run of the trackway is of approximately the same length so that the time required for the disks to negotiate each run is a predetermined, equal fraction of the total elapsed time. The disks spin when they reach the end of the trackway and may be provided with serrated edges which click against a reed mounted adjacent the end of the trackway to provide an audible signal.

The feature of the present invention which are believed to be novel are set forth with particularity in the appended claims. The present invention, both as to its organization and manner of operation, together with further objects and advantages thereof, may best be understood by reference to the following description, taken in connection with the accompanying drawings in which like reference characters refer to like elements.

In the drawings:

FIGURE 1 is a perspective view of a timing device of the present invention;

FIGURE 2 is a cross-sectional view, on an enlarged scale, taken along line 2—2 of FIGURE 1;

FIGURE 3 is a cross-sectional view, on a reduced scale, taken along line 3—3 of FIGURE 2; and

FIGURE 4 is a cross-sectional view, on a reduced scale, taken along line 4—4 of FIGURE 2.

Referring again to the drawings, the timing device constituting a presently preferred embodiment of the invention, generally designated **10**, includes a frame **12** having an encompassing side wall **14**. The side wall **14** includes curved side members **16** and ribbed members **18**.

A partition **20** is mounted in the frame **12**. The partition **20** includes sides **24** which are rigidly affixed to the sides **16** of sidewall **14** and ends **25** which are rigidly affixed to the ends **18** of sidewall **14**. Openings **28** are provided in the ends **26** of the partition **20** to enhance the appearance of the timing device **10** and to facilitate gripping the ends **18** of sidewall **14**. The partition **20** is reinforced by a pair of spaced-apart, parallel ribs **30**. An M-shaped trackway **32** is provided in the partition **20** and includes a plurality of runs **34** which are of approximately equal lengths and which double back on one another in a downwardly sloping pattern.

A shaft **36** extends through the partition **20** within the trackway **32** and is free to roll down each run **34**. A first disk **38** has a hub **40** which is affixed to the head **42** formed on one end of the shaft **36**. A second disk **44** has a hub **46** which is provided with a bore **48**. The bore **48** frictionally engages the other end of shaft **36**. The disks **38** and **44** constitute a weighted mass which is free to roll from the upper end **50** to the lower end **52** of trackway **32**. The time it takes the disks **38** and **44** to roll from end **50** to end **52** is determined by the mass of the disks and the combined length and slope of the individual runs **34**. A plurality of counter-bores **54** may be provided in the respective disks **38** and **44** to reduce their mass. On the other hand, the counter-bores **54** may be filled with a weighted material, not shown, to increase their mass. The disk **44** may be removed from the shaft **36** and the disk **38** then removed from the frame **12** when it is desired to fill some of the bores **54** with a weighted material. Also, a number of different sets of disks **38**, **44** may be provided. In this case, each set may have a different mass so that the timing device **10** can be used to indicate various elapsed intervals of time by removing one set of disks and installing another. The peripheries of disks **38** and **44** may be provided with serrations or transverse ribs **55** which coact with means to be hereinafter described to produce an audible signal indicating the elapse of the predetermined interval of time.

The ends **50** and **52** of trackway **32** are each provided with an arcuate recess **56** so that the shaft **36** can drop into a recess **56** and spin freely when the disks **38** and **44** reach the end of their run. Of course, the spinning shaft will impart rotation to the disks **38**, **44** adding to the excitement of the game being timed by the timing device **10**. Also, the period of time to be timed by the device **10** can be extended by a rule that the time period does not end until the disks stop spinning at the end of their travel. In addition, a reed **57** may be affixed to each ribbed member **18** in opening **28** to coact with the ribs **55** on disks **38**, **44** to produce an audible signal when the disks spin, as heretofore described.

Should it be desired to work with a time period one-half of that required for the disks to travel from the end **50** to the end **52**, the disks may be started from the mid-point **60** shown in FIGURES 1 and 2 and permitted to travel downwardly toward the end **52**. Also, one-fourth the total time could be reckoned by starting the disks at the upper end **62** of the bottom run **34**.

In use, the timing device **10** may be employed to indicate

the end of an allotted time which each player of a particular game has for his individual turn. The timing device **10** may be passed from one player to another by rolling it over from one end **18** onto one of the curved sides **16** and thence onto the other end **18** thus starting the timing cycle anew.

Assuming that the disks **38**, **44** are at the end **52** when one player finishes his turn, this player could then signal the start of the next player's turn by rolling the device **10** toward the second player. When the device **10** has rolled far enough to bring the end **52** uppermost, the timing period begins, thus signalling the start of the second player's turn which continues until the disks arrive at the end **50** which is then the lowermost end. As the disks arrive at the end of each run **34**, the shaft **36** will thump against partition **20** signalling the end of a predetermined increment of the total interval of time required to negotiate trackway **32** completely. Then, when the disks arrive at end **50**, they will spin against the reed **57** emitting another audible signal indicating the end of the total time period.

While the particular timing device herein shown and described in detail is fully capable of attaining the objects and providing the advantages hereinbefore stated, it is to be understood that it is merely illustrative of the presently preferred embodiment of the invention and that no limitations are intended to the details of construction or design herein shown other than as defined in the appended claims.

What is claimed is:

1. A timing device comprising:

a partition having an upper end and a lower end;

a trackway provided in said partition, said trackway having one end adjacent the upper end of said partition and another end adjacent the lower end of said partition, said trackway having a predetermined length and slope; and

rotatable means mounted in said partition for travel along said trackway by gravity, said rotatable means having a predetermined mass, whereby said rotatable means will travel from said one end to said other end of said trackway in a predetermined increment of time, said rotatable means comprising a shaft mounted on said trackway at right angles to the major axis thereof for rolling on said trackway, said shaft having an end disposed on one side of said trackway and a weighted disc affixed to said one end of said shaft.

2. The timing device of claim **1** wherein said trackway includes a plurality of runs doubling back on one another, each of said runs having substantially the same length and slope.

3. The timing device of claim **1** including means mounted in said frame for producing a signal when said rotatable means reaches said other end of said trackway.

4. The timing device of claim **3** wherein said signal means comprises reed means engageable by said discs for vibration thereby.

5. A timing device comprising:

a frame having an encompassing sidewall;

a partition mounted in said frame;

a trackway provided in said partition, said trackway having a predetermined length and slope, said trackway also having a first end and a second end;

a shaft mounted on said trackway at right angles to the major axis thereof for rolling along said trackway from said first end to said second end, said shaft extending through said partition and having one end disposed on one side of said partition and another end disposed on the other side of said partition; and

a weighted disc connected to each end of said shaft, whereby one of said discs will be disposed on one side of said partition and the other disc will be disposed on the other side of said partition, said discs and said shaft being adapted to rotate freely at the end of their travel along said trackway.

6. The timing device of claim **5** including reed means mounted in said frame adjacent one of said ends, said reed means being engageable by said discs to emit a signal when said discs reach said one end.

7. A timing device comprising:

a frame having an encompassing side wall formed by upstanding, curved side members and horizontal end members;

a vertical partition mounted in said frame;

a trackway provided in said partition, said trackway having a predetermined length and slope, said trackway also having a first end and a second end;

a shaft mounted on said trackway at right angles thereto for rolling along said trackway from said upper end to said lower end, said shaft extending through said partition and having one end on one side of said partition and another end on the other side of said partition;

a weighted disk connected to each end of said shaft, whereby one of said disks will be disposed on one side of said partition and the other disk will be disposed on the other side of said partition, each of said disks including a serrated periphery, said disks being adapted to rotate freely at the end of their travel along said trackway; and

a reed mounted in said frame adjacent each end of said trackway for vibration by said serrations when said disks rotate at the end of their travel along said trackway from said first end to said second end and from said second end to said first end.

8. The timing device of claim **7** wherein said trackway includes a plurality of runs doubling back on one another.

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