Aug. 26, 1969 S. TEPPER 3,463,487

DEVICE FOR PLAYING A WORD GAME

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Fig. 1.

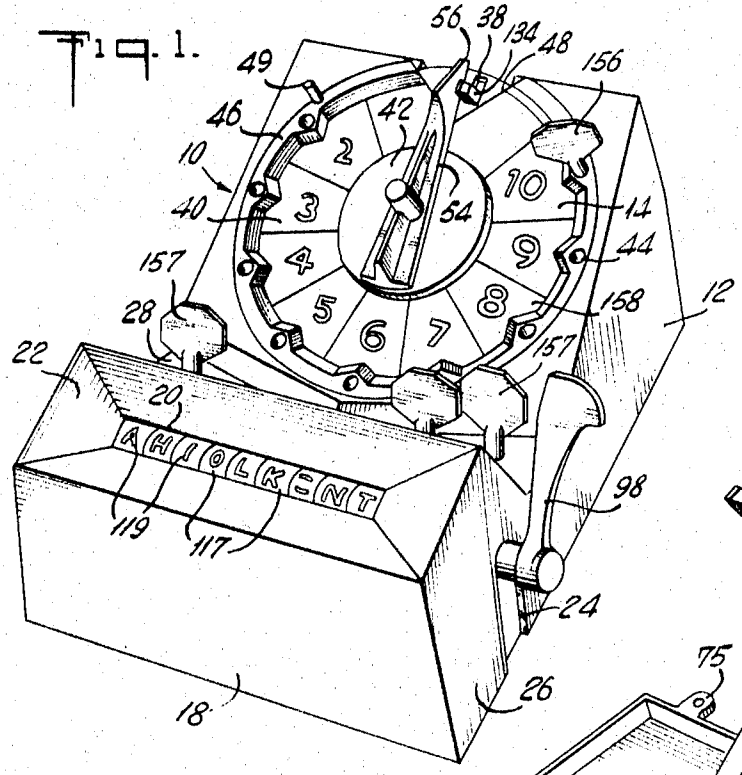
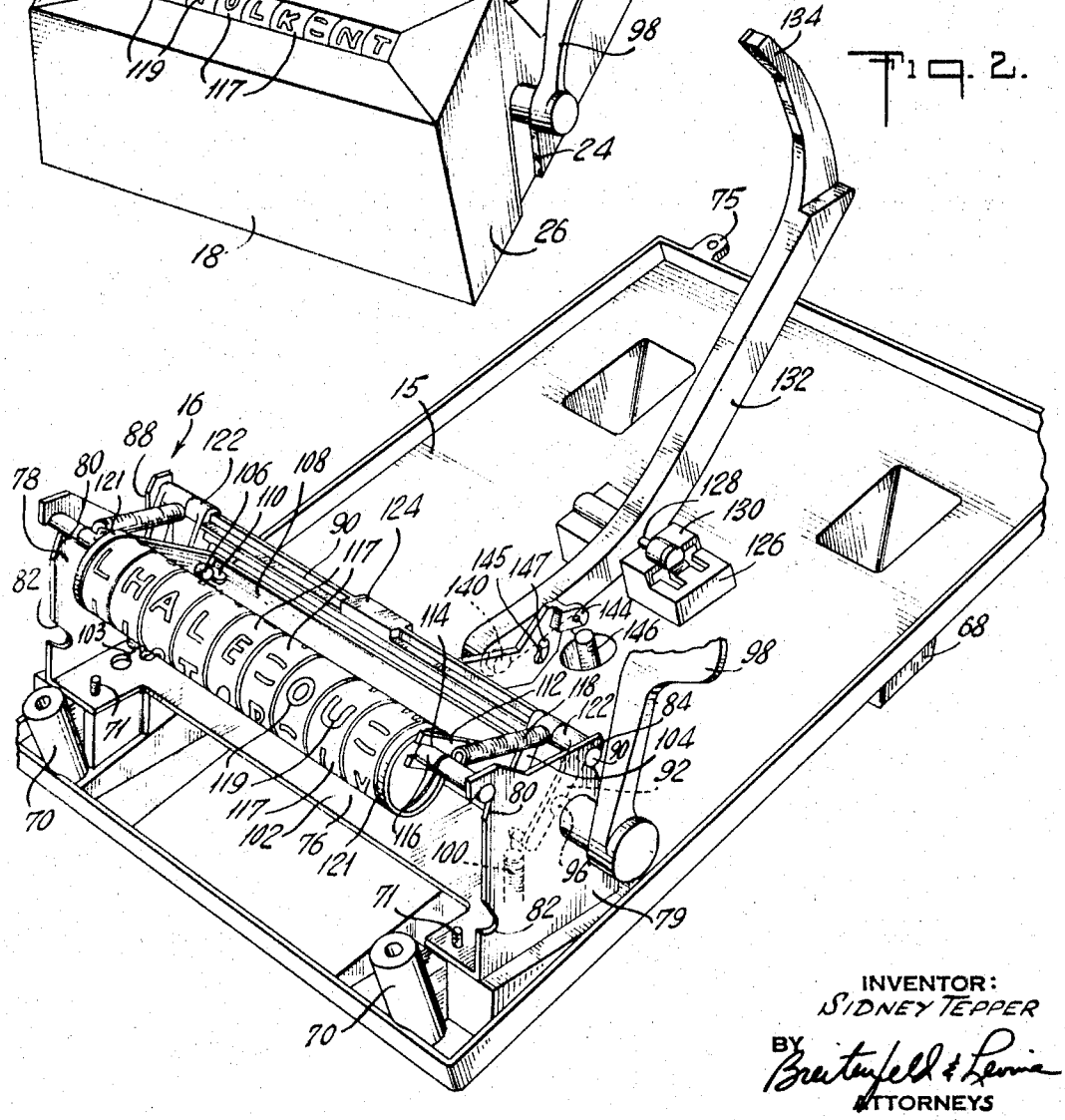


Fig. 2.



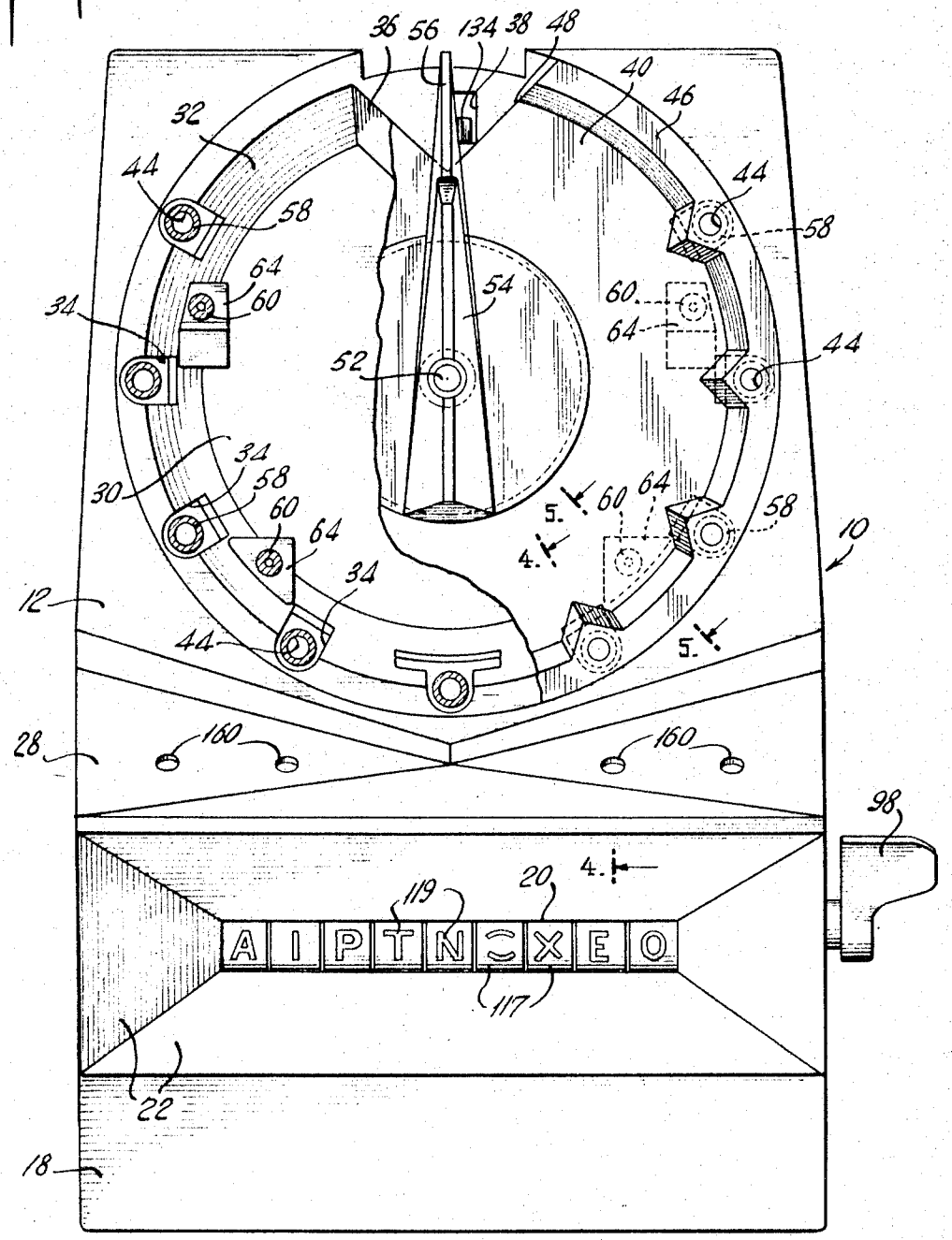
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DEVICE FOR PLAYING A WORD GAME

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Fig. 3.



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DEVICE FOR PLAYING A WORD GAME

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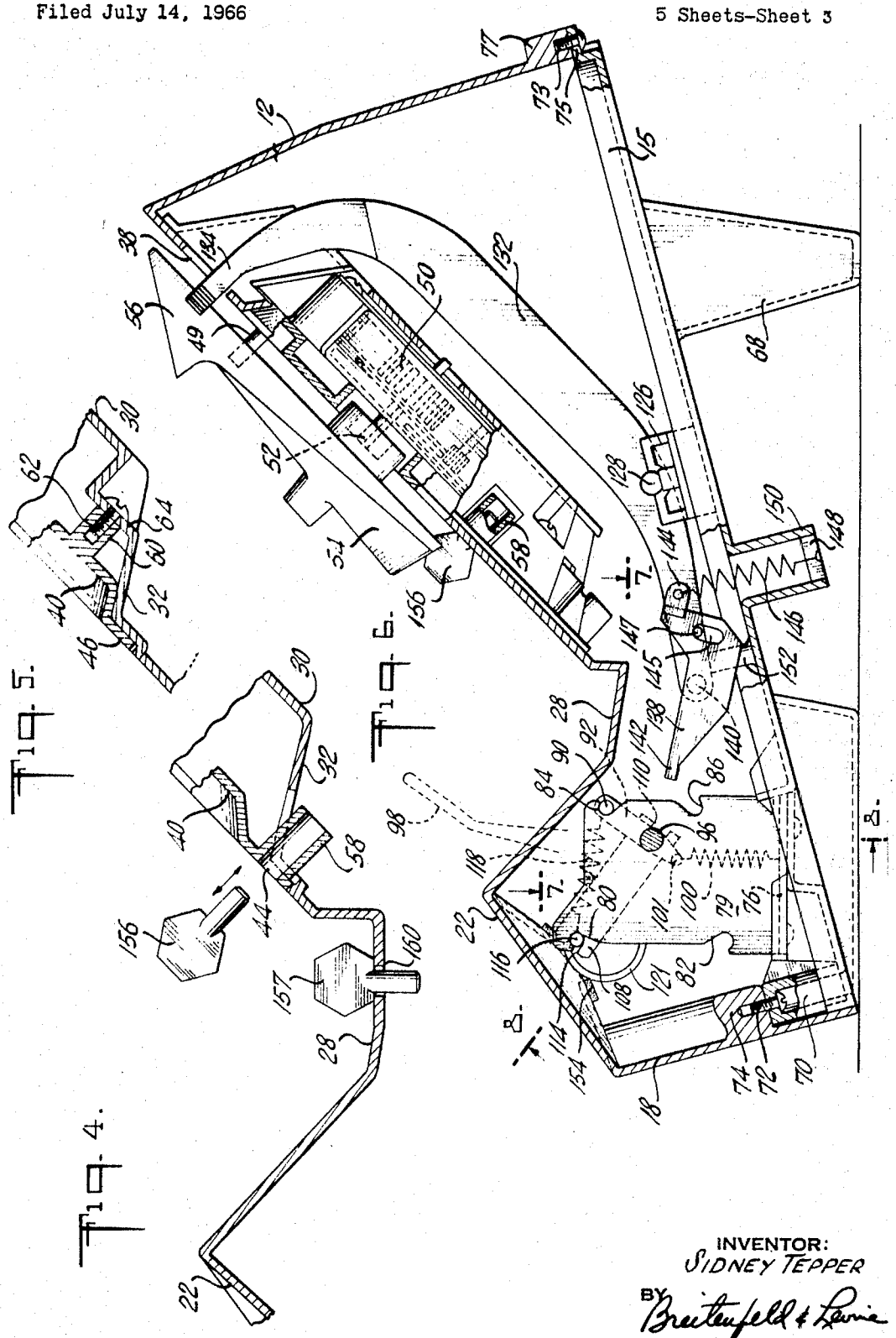


Fig. 4.

Fig. 5.

Fig. 6.

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DEVICE FOR PLAYING A WORD GAME

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Fig. 7.

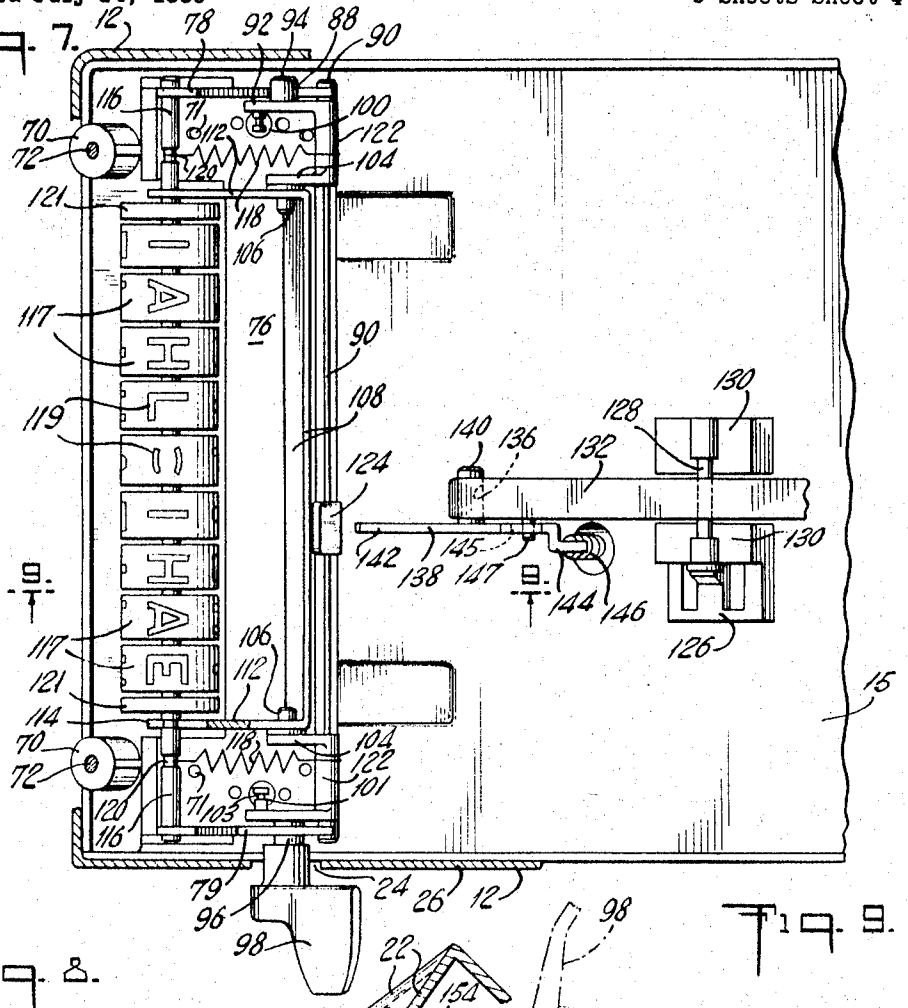


Fig. 8.

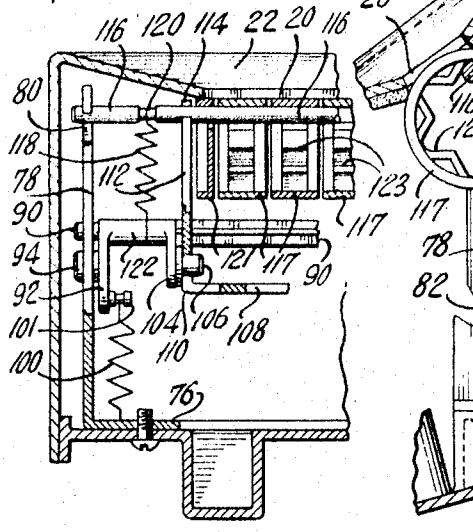
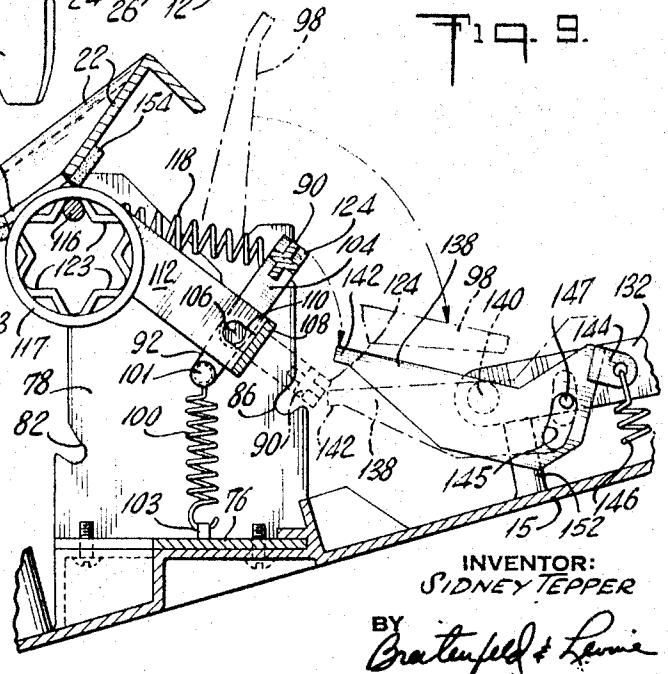


Fig. 9.



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DEVICE FOR PLAYING A WORD GAME

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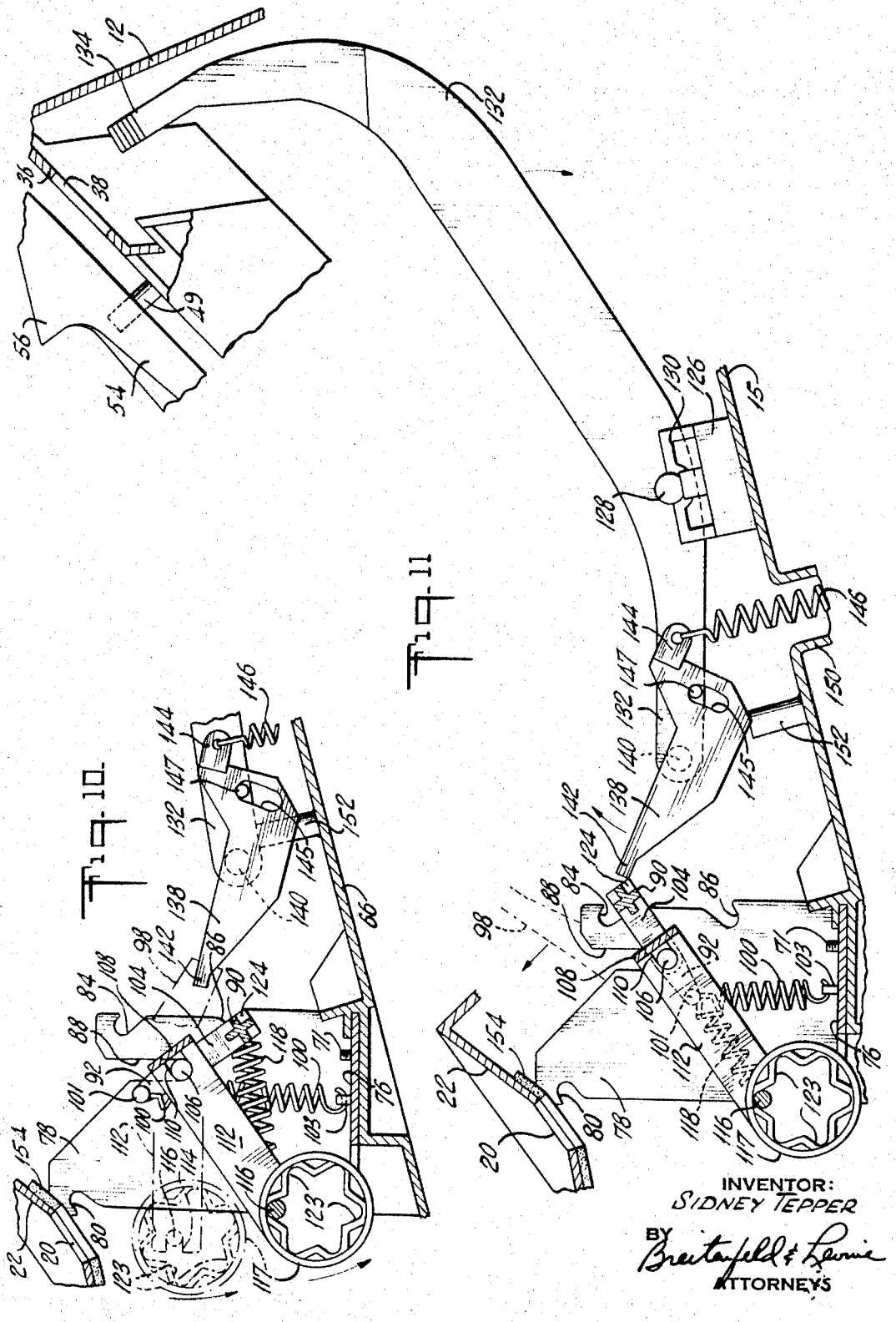


Fig. 10.

Fig. 11

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United States Patent Office 3,463,487
Patented Aug. 26, 1969

3,463,487

DEVICE FOR PLAYING A WORD GAME

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Filed July 14, 1966, Ser. No. 565,158
Int. Cl. A63f 9/18
U.S. Cl. 273—1 16 Claims

ABSTRACT OF THE DISCLOSURE

Device includes letter scrambler, and a timer which begins operation upon actuation of the scrambler. Scrambler includes plurality of letter-bearing wheels carried by a rod, and toggle mechanism for jarring rod to arbitrarily reposition wheels. Rod-jarring mechanism actuates pawl to permit movement of timer pointer upon completion of letter scrambling.

This invention relates to a device for playing a game, such as a word game, wherein a group of symbols, such as letters of the alphebet, are randomly arranged, the players being required to select symbols from the random arrangement and form a recognized composite, such as a word, therefrom.

The invention will be described in terms of a word game, but it is to be understood that games in which composites other than words may be played with the present invention.

In word games of the type to which this invention relates, each player must form a recognized word of a predetermined minimum number of letters, from the various letters made available to him by a letter scrambler. One of the most effective manners to score such a game is to determine the number of words formed in a given time interval. Another effective means of scoring is to note the amount of time required to form a given number of words. Other forms of scoring are available, but it will be appreciated that the element of time will be an essential factor in almost any method of scoring the word game.

It is, therefore, a general object of the invention to provide a device for playing a word game in which a timer operates along with the mechanism for randomly arranging, or scrambling, the letters.

It is a more specific object of the invention to provide a word game apparatus in which the mechanism which scrambles the letters also serves to initiate the operation of the timer.

It is also an object of this invention to provide a word game which includes a self-contained timing mechanism.

To achieve these objects, the invention provides a letter-scrambling mechanism, and an independent timer, such as a spring driven clock mechanism. Means cooperable with the letter-scrambling mechanism are provided for initiating the operation of the timer at the moment a newly scrambled set of letters appears before the players.

A feature of the invention is the letter-scrambling mechanism itself. This mechanism includes a plurality of wheels rotatably mounted on an axle or rod. Each wheel bears a series of letters or other symbols on its outer periphery, and the rod upon which the wheels are mounted is pivotable about an axis spaced from the rod. A handle is operatively connected to the rod by means of a toggle spring, so that when the handle is moved to an advanced position, the snap action of the toggle spring rapidly pivots the rod, causing the latter to strike against a stationary stop member. The impact force of

the rod against the stop member jars the letter wheels, causing them to rotate about the rod in a haphazard fashion. When the pressure on the handle is released, a return spring moves the handle back to its released position, and the toggle spring now causes the rod to snap back to its original position, where it once again strikes a stationary stop member. The impact of this second striking causes the letter wheels to rotate again whereupon the letters become further rearranged and scrambled. Although the present invention provides for two impacts of the wheel-carrying rod for each operation of the handle to insure thorough scrambling of the letters, it is contemplated that a single impact might under some circumstances suffice.

Another feature of the invention resides in the letter wheels being provided with a notched or star-shaped inner periphery to maintain the letter wheels in a stationary position on the rod, when the rod is at rest, and to insure that the wheels each come to rest, after they are rotated, in one of several predetermined positions.

Prior to the letter scrambling operation, the timer is kept inoperative by means of a finger arranged to block the rotation of the pointer which is urged to rotate over the face of the timer by the timer mechanism. The finger is carried by a pivotally mounted lever which is actuated during the return movement of the handle, immediately prior to the snapping of the rod and letter wheels into the position in which the scrambled letters are viewed by the players. In this manner, the timer is automatically set in motion at the moment that a freshly scrambled set of letters is presented to the players. For the purpose of determining which player responds fastest after completion of the scrambling operation, the face of the timer is provided with spaced-apart apertures around its periphery, and each player is provided with an identifying peg which fits into the apertures. By inserting a peg into an aperture which has not yet been passed by the pointer of the timer, the timer will be stopped when the pointer strikes the peg.

The invention is described below with reference to the accompanying drawings illustrating a preferred embodiment of the invention.

In the drawings:

FIG. 1 is a perspective view of the word game device of this invention shown in its assembled condition;

FIG. 2 is a perspective view of the device of FIG. 1, with the housing cover and timing mechanism removed;

FIG. 3 is a plan view of the device of FIG. 1 with a portion of the timer face broken away;

FIG. 4 is a fragmentary section taken along the line 4—4 of FIG. 3;

FIG. 5 is a fragmentary section taken along the line 5—5 of FIG. 3;

FIG. 6 is a vertical cross-sectional view of the device of FIG. 1, some parts being broken away;

FIG. 7 is a horizontal cross-sectional view taken along line 7—7 of FIG. 6;

FIG. 8 is a fragmentary cross-sectional view taken along the line 8—8 of FIG. 6;

FIG. 9 is a vertical cross-sectional view taken along line 9—9 of FIG. 7, illustrating, in the dot-dash lines, the position of some of the parts in their advanced positions and just prior to the snapping of the wheel-carrying rod to its retracted position;

FIG. 10 is similar to the view of FIG. 9 showing the positions of the various parts when the handle is fully depressed to its advanced position, and the rod has snapped over into its retracted position; and

FIG. 11 is a view similar to FIG. 6 showing the position of the parts when the handle is almost returned to its released position.

The embodiment of the word game device chosen to illustrate the features of this invention is shown in its assembly form in FIG. 1. The device generally referred to by reference numeral **10**, is formed of three sections, two of which, the housing cover **12**, and timing mechanism **14**, are shown in FIG. 1. The third, the scrambler apparatus **16**, is illustrated in FIG. 2 mounted on the housing base **15**.

Housing cover **12** may be formed integrally of plastic, and comprises a forward viewing section **18** in which a rectangular viewing slot **20** is formed in a rearwardly and upwardly sloping wall **22**. A vertical slot **24** is formed in a side wall **26** of cover **12**, the slot **24** extending to the lower edge of the side wall.

On the other side of an intermediate section **28** from the wall **22**, an upwardly sloping bowl-shaped section **30** (FIG. 3) is provided to accommodate timing mechanism **14**. Bowl-shaped section **30** is provided with a downwardly tapering, conical circumferential wall **32** in which a plurality of equally spaced slots **34** are arranged. A wedge-shaped block **36** is formed at the upper end of section **30**, and a slot **38** is formed in its upper face slightly to the right of the center of block **36**.

Timing mechanism **14** includes a generally circular plate **40**, the outer face of which represents the face of the timer, the plate **40** having a central opening **42** (FIG. 6). A plurality of equally spaced holes **44** is formed in a ridge **46** circumferentially disposed about plate **40**. A V-shaped notch **48** is formed in plate **40**, matching the contour of wedge-shaped block **36**. A slender pin **49** projects from ridge **46** adjacent to the hole **44** nearest to the left side of notch **48**. A conventional spring driven clock mechanism **50**, shown in dotted lines in FIG. 6, is secured to the rear of plate **40**. Clock mechanism **50** is of conventional construction, and comprises a conventional group of reduction gears and a coil driving spring. As the specific construction of clock mechanism **50** does not form a part of this invention, it will not be further described. The output shaft **52** (FIG. 6) of the clock mechanism **50** extends through the opening **42** in plate **40**, and a pointer **54** is securely attached to shaft **52**. Pointer **54** is provided with one attenuated end **56**.

A plurality of hollow extensions **58** (FIGS. 3 and 4), one being assigned with each hole **44** project rearwardly from plate **40** at points corresponding to the locations of the slots **34** in bowl-shaped section **30** of housing cover **12**. In addition, a group of internally threaded hollow bosses **60** (FIGS. 3 and 5) extend from the rear face of plate **40**. When timing mechanism **14** is placed in position within bowl-shaped section **30**, V-shaped notch **48** is placed over block **36**, each extension **58** fits into one of the slots **34**, and a set of fastening screws **62** (FIG. 5) extend through holes in ledges **64** (FIGS. 3 and 5) formed in section **30**. Screws **62** threadably engage the interior bore of bosses **60** to securely retain timing mechanism **14** within bowl-shaped section **30** of housing cover **12**.

The scrambler apparatus **16** is mounted on housing base **15** from which two rearward legs **68** (FIG. 6) depend. The base **15** is also provided with two wedge-shaped feet **69** near its front end. A pair of unstanding hollow posts **70** (FIGS. 2 and 6) project from the front of base **66**, and a fastening screw **72** extends through post **70** to threadably engaged an internally threaded post **74** formed in housing cover **12** to retain cover **12** to base **66**. Similarly, a screw **73** passes through each of two tabs **75** projecting from the rear edge of the base **15** and is threaded into an extension **77** projecting from the housing cover **12**.

A U-shaped support bracket **76**, secured to base **15** by screws **71**, comprises opposed upstanding support members **78** and **79**. The front edge of each member **78** and **79** is provided with an upper notch **80** and a lower notch **82** (FIGS. 6 and 9–11). Similarly the rearward edges of support members **78** and **79** are provided with an upper cutout **84** and a lower cutout **86**. A vertical slot **88** (FIGS. 2, 10, and 11) extends down from the upper edge of the left support member **78**. A bar **90** having a cruciform cross section is pivotally mounted on support member **76**, by means of a pair of arms **92** projecting perpendicularly from the bar **90** near its ends. A pin projects outwardly from each arm **92**, the pin **94** being rotatably arranged in slot **88**, and pin **96** fitted for rotation through an opening in support member **79**. The pins, and thus bar **90**, are free to rotate with respect to the bracket **76**. An operating handle **98** is securely mounted on the free end of the pin **96**. Handle **98** is thus pivotable, along with bar **90**, about the axis of the pins **94** and **96**. A return spring **100** (FIGS. 2, 6, and 8–11) is connected at one of its ends to a button **101** extending from the lower end of each arm **92**. Spring **100** is connected at its other end to an eye **103** formed in the base **102** of support **76**.

A second pair of spaced apart arms **104** (FIG. 7) extends from an inner portion of bar **90**, each arm **104** lying in the same plane as arms **92**. Arms **104** are shorter than arms **92**, and have lateral pins **106** at their lower ends extending toward each other. The axis of pins **106** lies along the axis of pins **94** and **96**, and thus lies along the axis of rotation of handle **98**.

A U-shaped bracket **108** has openings **110** formed along its bend sections. Pins **106** freely extend into openings **110**, so that bar **90** and bracket **108** are free to rotate with respect to each other. The free ends of legs **112** of bracket **108** are each provided with notches **114** into which a letter-wheel-carrying rod **116** is inserted. A toggle spring **118**, which produces a smaller force than return spring **100**, is connected between a reduced diameter section **120** (FIGS. 7 and 8) of rod **116** and a thickened section **122** of bar **90** formed intermediate arms **92** and **104**. A rectangular section **124** is formed along rod **90** intermediate the arms **104**.

Rod **116** loosely carries a plurality of letter wheels **117**. Each wheel **117** bears on its outer surface a series of symbols such as letters **119** of the alphabet, or arbitrary insignias **115**. In the present example, the symbols are imprinted on the surfaces of the wheels, and each wheel carries six symbols around its periphery. A spacing ring **121** may be mounted on rod **116** between the outer letter wheels and the legs **112** of bracket **108**. Each letter wheel **117** is provided or formed with an insert **123** in the shape of a six pointed star, one point for each letter **119** printed on the letter wheel **117**. Insert **123** is secured to the inner periphery of letter wheels **117**. Each of the apices or points of insert **123** fits over rod **116** to prevent rotation of the letter wheels about rod **116** when the rod is at rest, i.e., in its viewing position (FIG. 9).

A yoke assembly **126** (FIGS. 2, 6, 7, and 11) is mounted on the base **15** to the rear of support bracket **76**, and a pivot pin **128** is carried by the legs **130** of yoke assembly **126**. Pin **128** extends through an opening in a lever **132**, a portion of which lies in the space between legs **130** of yoke **126**. Lever **132** is thus free to pivot about pin **128**. At the end of lever **132** farthest from bracket **76**, the lever is formed with an integral finger **134**. An opening **136** is formed at the other end of lever **132**, and an arm **138** (FIGS. 2, 6, 7 and 9–11) from which a pin **140** projects, is pivotally secured to lever **132** by placing pin **140** through opening **136**. Pin **140** is swaged at its free end to prevent it from sliding out of opening **136**.

Arm **138** is provided with a tapered finger **142** (FIG. 6) at one of its ends and an apertured tab **144** (FIG. 2) projects from its other end. An arcuate slot **145** is formed in arm **138**, and a pin **147**, laterally projecting from lever **132**, extends through slot **145**. In the position of arm **138** and lever **132** shown in FIG. 6 pin **147** lies against the top wall of slot **145**. A lever spring **146** is connected at one of its ends to tab **144**, and at its other end to a bridge **148** formed at the lower end of a hollow cylinder **150** depending from base **15**. Spring **146** tends to maintain

lever **132** in the normal position shown in FIG. 6 wherein lever **132** rests upon an upstanding stop **152** (FIGS. 6 and 11) projecting from base **15**.

To assemble the device **10**, the timing mechanism **14** is first secured to the housing cover **12** in the manner described above. This combined assembly is then positioned over the scrambler **16**, and screws **72** and **73** are inserted into posts **74** and extensions **77**, respectively. In the completed assembly of FIG. 1, the shank of handle **98** is fitted within slot **24** (FIG. 1), and finger **134** extends through slot **38**.

The device **10** is shown in FIG. 1 prior to the beginning of play. A series of letters **119** of the letter wheels **117** are directly beneath viewing slot **20** where they can be readily seen by all the players. The spring of clock mechanism **50** has been wound by rotating the pointer **54** in a counterclockwise direction in FIG. 1, but pointer **54** is prevented from rotating in a clockwise direction by the abutment of its end **56** against finger **134**. Handle **98** is in its released position (FIGS. 1, 2, 6, and 7) and rod **116**, carrying letter wheels **117**, is in its viewing position wherein the ends of rod **116** are maintained within upper notches **80** of bracket support members **78** and **79** by the force exerted by toggle spring **118**. The force exerted by spring **118** also maintains the ends of bar **90** securely within upper cutouts **84**.

To initiate the operation of the device, downward pressure is applied to handle **98** to rotate handle **98** in a clockwise direction to its advanced position, i.e. the lower of the two dot positions shown in FIG. 9. Bar **90**, which is secured to handle **98**, pivots in the same direction along with handle **98**, causing toggle spring **118** to stretch. During the pivoting of bar **90**, the orientation of the center line of spring **118** is moved downwards from its nearly horizontal initial position (FIG. 9). As the handle **98** is rotated to its advanced position, the center line of spring **118** passes through the plane containing the rod **116** and pins **106**. Further downward motion of handle **98** to its fully depressed or advanced position causes the center line of toggle spring **118** to pass below pins **106**. In this position the direction in which the force of toggle spring **118** tends to rotate rod **116** is suddenly reversed, causing rod **116** and bracket **108** to rapidly pivot around pins **106** downwardly in the direction of the arrow in FIG. 10. The extent of the pivoting of rod **116** from its viewing position (FIGS. 6 and 9), to its retracted position (shown in solid lines in FIG. 10) is limited by rod **116** striking against lower notches **82** in support members **78** and **79**. The rotation of bar **90** is limited by coming to rest within lower cutouts **86**. At the completion of its downward pivoting, the rod **116** slams against support members **78** and **79** of bracket **76**, thus jarring the letter wheels **117** and causing them to rotate haphazardly about the rod.

During the downward motion of handle **98** and bar **90**, rectangular section **124** of bar **90** is brought into contact with the tapered finger **142** of arm **138** (see FIG. 9). Further downward pivoting of bar **90** causes arm **138** to pivot about the axis of pin **140** in a counterclockwise direction as viewed in FIGS. 9–11. During the pivoting of arm **138**, slot **145** rides along pin **147** on lever **132**. When section **124** is disengaged from finger **142**, arm **138** is returned to its original position by the force exerted by lever spring **146**. It will be appreciated, that lever **132** does not pivot during this pivoting of arm **138**. At this point in the operation of the word game device, external pressure is removed from handle **98**. The return spring **100**, which was stretched during the downward rotation of handle **98**, exerts a force on arm **90** and thus handle **98** to return handle **98** to its released position. As a result of the greater force of return spring **100**, as compared to that of toggle spring **118**, the return spring snaps bar **90** and handle **98** to their rest or released position. Toggle spring **118**, which is connected at one end to bar **90**, is once again carried above the pins **106**, at which point the force exerted by toggle spring rapidly pivots rod **116** back to its viewing position. At the top of its return swing rod **116** slams against notches **80** in support members **78** and **79**. This slamming action further rotates the wheels and scrambles the order of the letters **119** which are now viewable through viewing slot **20**. The inner surface of the housing wall **22** is covered, adjacent to the opening **20**, by felt pads **154** (FIGS. 6 and 9–11) to prevent the letter wheels **117** from being marred as they are thrown upwardly upon the completion of the return stroke of the bar **116**.

When bar **90** pivots upwardly, due to the urging of return spring **100**, rectangular section **124** contacts the underside of tapered finger **142**, to raise arm **138** in a clockwise direction (FIG. 11). Since pin **147** is already contacting the upper wall of slot **145**, arm **138** cannot pivot around pin **140**. As a result, arm **138** is raised, against the restraining force of lever spring **146**, thereby causing lever **132** to pivot in a clockwise direction about pivot pin **128**. Finger **134**, which has been restricting the motion of pointer **54**, is pivoted downwards, out of the path of rotation of pointer **54**, so that the pointer can be rotated by the clock mechanism output shaft **52**, and the operation of timing mechanism **14** is thereby initiated.

It will therefore be appreciated that by merely depressing the operating handle **98** and then releasing it, a newly scrambled set of letters **119** is made to appear in the viewing slot **20**, and the pointer **54** of the timing mechanism **14** is caused to start rotating over the face plate **40**.

One manner in which the word game device **10** may be used involves the division of plate **40** into numbered regions **158** such as those shown in FIGS. 1 and 3. When one of the players has formed one or a predetermined number of words from the letters displayed in slot **20**, he places a peg **156** assigned to him into one of the spaced holes **44** in the path of rotation of pointer **54** (FIGS. 1 and 4) to stop the rotation of pointer **54**. Preferably, the pegs **156** and **157** are of different colors so that the position and identifying color of the peg **156** in the hole **44** identifies the player and indicates his score, since each hole **44** is positioned adjacent one of the numbered regions **158** on plate **40**. The numbers of the regions **158** should decrease along the clockwise path of rotation of pointer **54** so that the score which a player can achieve decreases with time. When the pegs are not in use, as is the case with pegs **157**, they may be stored in storing holes **160** (FIGS. 1 and 4) formed in intermediate section **28**.

If none of the players can form the required words during the time allotted for one rotation of pointer **54**, the pointer will come to rest against pin **49**. The clock mechanism is then rewound by rotating pointer **54** in the reverse, i.e. counterclockwise, direction. Pointer **54** is once again placed to the left of projecting finger **134**, and the handle **98** is once again depressed to rescramble the letters to begin a new round of the game.

Alternate manners of using the described word game device will be limited only by the imagination of the players. Modification of the features of the described embodiment may be made without departing from the spirit and scope of the invention as described in the appended claims.

What is claimed is:

1. A word game device, comprising:

(a) a plurality of elements each bearing a plurality of symbols which differ from one another,

(b) means for scrambling said elements to produce a random sequence of symbols,

(c) a timer means operative, when initiated, for at least several seconds, and

(d) means automatically responsive to the action of said scrambling means (b) for initiating the action of said timer means (c).

2. A device as defined in claim 1 wherein said elements are in the form of a plurality of rotatable wheels, each of said wheels bearing a series of symbols on its outer periphery, and including a single rod carrying all said wheels.

3. A device as defined in claim 2, said rod being pivotable about an axis spaced from the rod between a viewing position and a retracted position and including:

a pair of stop means located in the path of pivoting of said rod for defining said viewing and said retracted position,

a handle pivotable between a released and an advanced position, and

a toggle spring connected at one of its ends to said rod, and operatively connected at its other end to said handle, said end connected to said handle being on one side of said axis when said handle is in its released position and on the other side of said axis when said handle is in its advanced position,

whereby the pivoting of said handle from its released position to its advanced position causes said rod to rapidly pivot away from said viewing position stop means and to snap against said retracted position stop means to jar and thus scramble said wheels causing the symbols on said wheels to become rearranged in a random fashion.

4. A device as defined in claim 3 further comprising a return spring for returning said handle to its released position, after said handle has been pivoted to its advanced position, said return spring exerting a greater force on said handle than that exerted by said toggle spring.

5. A device as defined in claim 4 wherein said timer includes a rotatable pointer and means constantly tending to rotate said pointer, a finger positioned in the path of rotation of said pointer to thereby prevent its rotation, and said means for starting said timer includes means for momentarily moving said finger out of the path of said pointer.

6. A device as defined in claim 5 further comprising a pivotably mounted lever, said finger being carried by one end of said lever, and means secured to said handle and pivotable along with said handle for pivoting said lever, and thereby moving said finger out of the path of rotation of said pointer, during the movement of said handle from its advanced to its released position.

7. A device as defined in claim 6 further comprising a lever spring operatively connected to said lever for causing said finger to return to its normal position within the path of rotation of said pointer once said handle reaches its position.

8. A device as defined in claim 6 further comprising means for preventing said lever-pivoting means from actuating said lever during the movement of said handle from its released to its advanced position.

9. A device as defined in claim 8 wherein said last-mentioned means comprises an arm pivotally mounted on said lever in the path of movement of said lever-pivoting means, said arm having a slot formed therein, and a transverse pin projecting from said lever accommodated within said slot, and said arm being resiliently braced against said pin, whereby during the movement of said handle to its advanced position said arm is pivoted with respect to said lever, but during the movement of said handle to its released position said arm and lever are moved together.

10. A device as defined in claim 9 wherein said lever-pivoting means is a bar, and further comprising a U-shaped bracket pivotally mounted on said bar, said rod being carried by the legs of said bracket.

11. A device as defined in claim 10 including a pair of spaced-apart arms projecting laterally from said bar, and a pin extending laterally from each of said arms, said U-shaped bracket having a slot formed in each of its legs for receiving one of said pins, said pins thereby defining the axis of rotation about which said rod is pivoted.

12. A device as defined in claim 11 further comprising two spaced-apart upstanding support members pivotally supporting said bar between them and wherein said rod stop means comprise spaced-apart notches formed along one edge of each of said support members.

13. A device as defined in claim 12 wherein each of said support members is further provided with a set of spaced-apart cutouts along another edge constituting means for limiting the pivoting of said bar and thus said handle, thereby defining the released and advanced positions of said handle.

14. A device as defined in claim 13 wherein said handle is pivotally mounted on one of said support members about an axis extending colinear with the pivoting axis of said rod.

15. A device as defined in claim 2 further comprising means within said wheels for causing them to assume one of several predetermined positions.

16. A device as defined in claim 15 wherein said positioning means comprises a star-shaped member fixed to the inner periphery of said wheel, each of the apices of said star-shaped member being formed to receive said rod.

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