This invention relates to game devices of the kind employed in the playing of games of chance and the like where the chance display of certain characters or sets of characters determines certain factors of the game.

The device is of the type wherein a plurality of multifaced spinners are rotated and stopped with one face on each disposed behind a slight opening in an enclosing casing whereby characters displayed on the faces are selectively presented to view. For example, the representation of playing cards, dice faces, or numbers may form the characters and upon spinning and stopping of the spinners selected groups of these characters will be displayed for reading in connection with any number of different kinds of games. In the present disclosure dice faces are shown as the characters displayed on the spinners, though the adaptability of the device to the display of other characters will readily be understood.

It is an object of this invention to provide a gaming device of the kind described having spinning and stopping mechanism operating continuously in a periodic manner so that those engaged in playing a game by reference to the device need not be concerned with its operation. Another object of the invention is to provide a device of this kind in which the stopping position of the spinners is so affected by various indeterminate causes that any single reading of displayed characters cannot be foretold but will appear as entirely by chance. Further and more specific objects and advantages of the invention and the manner in which the objects are accomplished will become apparent upon an understanding of the following specification wherein reference is made to the accompanying drawings.

In the drawings:
Fig. 1 is a horizontal sectional view through a device embodying the present invention and illustrating the position of the various parts thereof;
Fig. 2 is a front elevation of the device partially in section;
Fig. 3 is a sectional view taken on the line III—III of Fig. 1;
Fig. 4 is a view in elevation of a switch and switch control mechanism shown in Fig. 1 of the drawings;
Fig. 5 is a fragmentary section taken through one of the spinning devices illustrated in Fig. 1;
Fig. 6 is a section taken on line VI—VI of Fig. 5;
Fig. 7 is a section taken on line VII—VII of Fig. 5; and
Fig. 8 is a wiring diagram.

Referring first to Figs. 1, 2 and 3 of the drawings, the game device of the present invention is shown as enclosed in a casing 10, which may be of any suitable material and shape. Within the casing are a plurality of aligned spinners 11 supported on a rotatable shaft 12 disposed in suitable bearing brackets 13. A motor, as shown at 14, is employed for rotating the shaft 12 and is connected thereto as by a belt, indicated at 15, and conventional pulleys. The motor is employed for imparting rotation to the shaft 12, which in turn causes the spinners to rotate freely in a manner and through mechanism presently to be described. When the circuit to the motor is broken the spinners continue to rotate but are brought to a stop each by one of a set of electro-magnets, illustrated at 16. The spinners are preferably made of plastic or other non-magnetic material and each is provided with a plurality of iron bars 17 embedded or otherwise carried at intervals agreeing with the number of character-bearing faces on each spinner. Thus when the magnets are energized each spinner is brought to a rest in a position corresponding to that illustrated in Fig. 3 with one of the iron bars adjacent the magnet and with one face parallel to the front face of the casing 10 and positioned to register with a window 18 which exposes the aligned face of the spinner to view in the manner shown in Fig. 2.

Instead of being directly connected with the shaft 12, each of the spinners 11 is freely rotatable on the shaft and is driven thereby through a fluid clutch, the construction of which is best shown in Figs. 5, 6 and 7. In Fig. 5 one of the spinners 11 is shown as mounted for free rotation on the shaft 12 and as being of hollow construction with a plurality of spaced vanes 20 formed therein. Opposite to the spinner 11 and preferably received by it is a drive member 21 secured to a shaft 12 for rotation therewith and having a plurality of spaced vanes 22, also shown in Fig. 7, similar to and arranged in opposed relation to the vanes 20 of the spinner 11. Consequently, when the shaft and the driving members 21 thereon are rotated by the motor 14, rotating motion is transmitted to the spinners through the fluid, in this case air, which occupies the space between the vanes of the driving member 21 and the vanes of the spinner. When the motor is stopped, the shaft and driving members 21 tend to come to rest through inertia, but the spinners themselves are free to rotate either faster or slower than the shaft and can be brought to a stop entirely independently of the shaft by the application of energy to the electro-magnets 16.

As the electro-magnets are energized, the tendency of the spinners will be stop in whatever position they happen to assume with one of their several iron elements 17 being drawn toward the corresponding electro-magnet 16.

In order to cause the electric motor to start and stop periodically, and also to effect ener-
o-2,545,644 3 gization of the magnets each time the circuit to the motor is broken, an automatic alternating switch mechanism is provided. This switch comprises a pair of mercury tube switches, one for the motor, illustrated at 24, and one for the electro-magnets, illustrated at 25. Both of the switches 24 and 25 are carried on a rocker arm 26 adapted to oscillate about a support 27. As shown in Fig. 4, one end of the rocker arm, as best shown, is connected by a link 29 to a thermosensitive element, such as, for example, as an expansible tube shown at 29 adapted to expand upon being heated and to contract upon being cooled. The opposite end of this element is fastened as by a link 30 with a stationary post 31 through an adjustable fitting 32. A heating element or lamp 33 is disposed closely adjacent the expansible element 20 and upon being energized will cause the element to expand to rock the mercury switches in one direction. As the mercury switches are oppositely disposed, causing them to rock in one direction, they will energize the heating lamp 33 and the electro-magnets 16 to hold the spinners at rest. With the heating lamp 33 energized, the expansible element 29 will expand causing the switches to rock in the opposite direction, thus de-energizing the lamp and the electro-magnets and closing the opposite switch to energize the motor.

The motor 2 carries a fan blade 35 for the purpose of causing a stream of air to flow forward and over the expansible element 29 so that while the motor is in operation the element is being cooled and will contract to again reverse the positions of the switches 24 and 25. Figuring 10 is, as shown in Fig. 1, preferably perforated as at 36 and 37 in opposite walls to provide for the free flow of air under influence of the fan blade 35. With this arrangement, as long as energy is supplied to the main circuit of the device the switches 24 and 25 will continuously and periodically reverse their positions so that the spinners are first caused to spin and then to stop, each with one of its character-bearing faces in alignment with its corresponding window 18 in front of the casing.

It is also desirable to provide lamps, indicated at 33, adjacent the windows 18 for illuminating the exposed faces of the spinners. A main switch is shown at 39 as operable from the exterior of the casing for breaking the main circuit when desired, and switches 43 are provided, one for each of the spinners, in order to establish constant energization of any one of the magnets 16, and in this manner to disable its associated spinner. By manipulation of the switches 43 any desired number of the spinners may be operated at once for playing different types of games. A rheostat 41 is also included in circuit with the heating lamp 33 so that the temperature of the same may be varied in order to accelerate or reduce the speed of the alternate operations controlled by the expansible element 29.

A wiring diagram illustrating the manner in which the several electrically actuated parts of the device are included in an electric circuit is shown in Fig. 8. In this figure the main switch 20 is controlled as controlling the entire circuit, and the illuminating lamps 33 are shown as disposed in parallel in this circuit. The motor 14 with its fan 35 is controlled by the mercury switch 24, and in the wiring diagram this switch is illustrated as tilted toward its open position. The other mercury switch 25, being tilted in the same direction, is closed and completes a circuit to the heater lamp 33, which circuit also includes the rheostat 41. With all of the selecting switches 43 closed as illustrated in Fig. 8, the magnets 16 are all energized only when the switch 25 is in its closed position. However, each of the switches 43 may be thrown to an opposite position completing an uninterrupted circuit to any desired one or more of the magnets 16, thus maintaining the desired magnets energized to hold their associated spinners against rotation when the motor 14 rotates the shaft 12.

Because of the fact that the spinners are driven through a fluid clutch with air as a fluid, the rate at which they spin and the particular position that each occupies may vary greatly from time to time. Furthermore, because of the fact that the starting and stopping switches 24 and 25 are positioned through a thermo-sensitive device, the timing of the starting and stopping will be slightly variable depending upon the temperature of the room, the direction of any draft that will vary the temperature adjacent the device, and other intermediate variable factors. Consequently, each time the device starts and stops the spinners will come to rest in different positions, or at least in positions that cannot be foretold with any degree of accuracy. When the main switch 39 is closed, the device will operate continuously, alternately starting and stopping at frequent intervals, say periods of 20 or 30 seconds, so that observers engaged in a game may without any manipulation of the device take readings of the exposed characters as often as they desire and apply the readings to the play of any game in which they are engaged.

We claim:

A game device comprising a plurality of spinners mounted for rotation on a common shaft and having peripherally arranged character-bearing faces, a motor for rotating the shaft, a fluid drive connection between the shaft and each spinner, spaced members of magnetic material carried by each spinner, an electro-magnet adjacent each spinner for stopping it by attraction of one of said members, and means for alternately energizing the motor and the electro-magnets, said means comprising a motor switch and a magnet switch, a thermo-sensitive element connected with the switches for closing one switch when the element is subjected to high temperature and the other switch when the element is subjected to low temperature, a heater adjacent the thermo-sensitive element and in circuit with the electro-magnets, and a cooling fan actuated by the motor and positioned to direct a cooling draft over the thermo-sensitive element.

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