

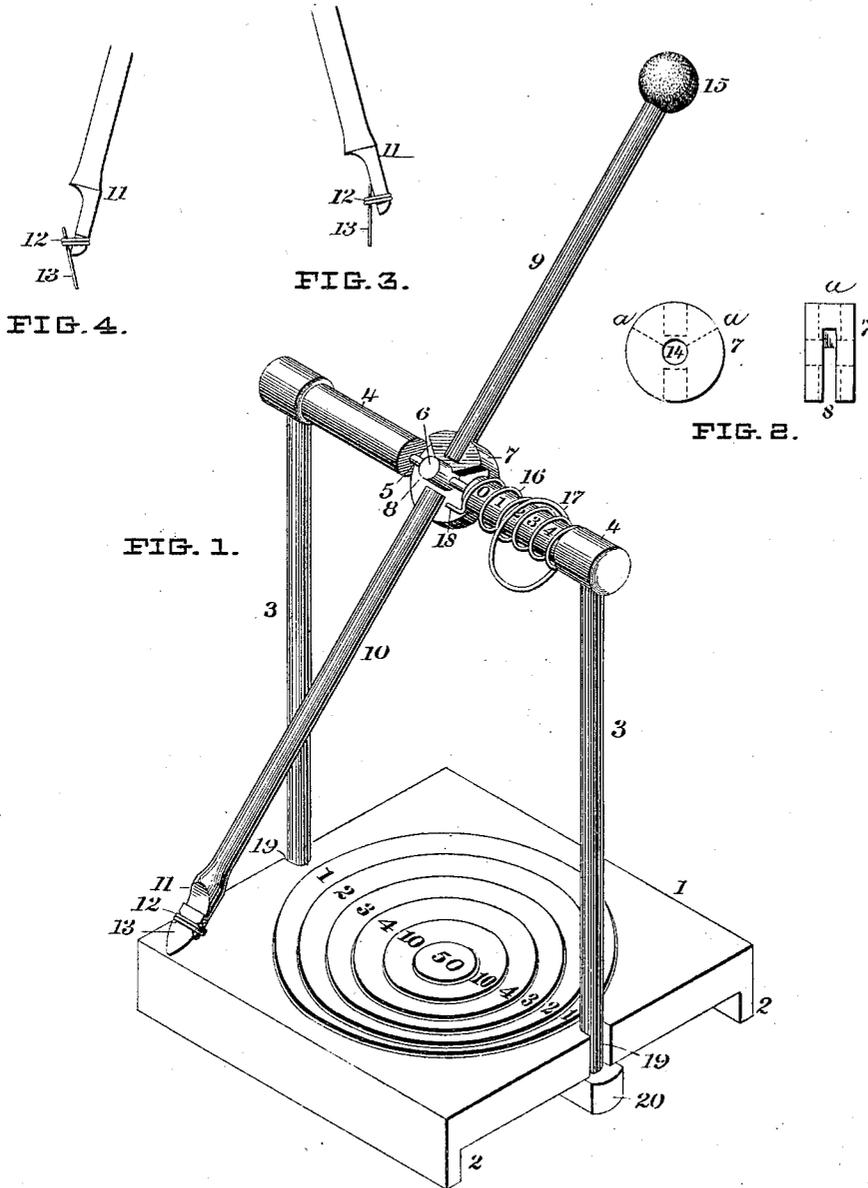
No. 719,448.

PATENTED FEB. 3, 1903.

W. G. FARNUM.
GAME APPARATUS.

APPLICATION FILED JULY 20, 1901.

NO MODEL.



WITNESSES,

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GAME APPARATUS.

SPECIFICATION forming part of Letters Patent No. 719,448, dated February 3, 1903.

Application filed July 20, 1901. Serial No. 69,098. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CARLTON FARNUM, of the town of Arlington, in the county of Bennington and State of Vermont, have invented certain new and useful Improvements in Game Apparatus, of which the following is a specification.

This apparatus comprises a long slender rod, centrally pivoted, which serves as an indicator and is attached to a hub through which passes a fixed spindle transversely to the axis of the indicator, the hub being laterally slotted for the passage of the spindle and also centrally bored for the reception of a center pin, which is mounted on the spindle so as to turn thereon. Thus the indicator may have both a rotatory and a vibratory compound motion. It carries at one end a pointer of special construction which coöperates with a concentrically grooved or marked dial which carries marks of registration. The ends of the spindle are fixed in cylinders, one at each end. These cylinders are supported on standards carried or set in a cross-bar for a base. Around one or both of these cylinders a loose coil of wire is carried, the spirals of which are sufficiently separated to admit of a wire ring resting freely between them on the cylinder. The inner end of the coil enters an aperture in the hub, so that when the hub is rotated the coil will also be rotated on the cylinder. This will cause the ring to travel along the cylinder longitudinally in one direction or the other, according to whichever way the hub is rotated. The interstices or intervals between the convolutions of the coil are also numbered. By a revolution of the indicator two registrations can be effected, one by the point on the indicator on the disk and the other by the position of the ring on the cylinder when the indicator comes to rest.

The invention is fully illustrated in the drawings, wherein—

Figure 1 shows a perspective view of the apparatus with one cheek of the hub removed, so as to show the intersection of the spindle, center pin, and hub. Fig. 2 shows a plan and edge view of the hub. Fig. 3 shows an edge view of the point of the indicator as it appears when it is dragged across the disk in one direction, and Fig. 4 as it appears when dragged in the opposite direction.

The base of my apparatus is seen at 1 and is a flat table, on the upper surface of which appear a series of concentric grooves, rings, ridges, or annular depressions, (marked "1," "2," "3," "4," and "10,") and a central bull's-eye, (marked "50.") These markings, however, may be varied at pleasure. They are concaved, so as to be spherically concentric with the intersection of the axis of the center pin 6 and the axis of spindle 5. There may be any number of these rings, and the field they occupy may be subdivided by grooves or lines into any number of sections. For packing purposes the base has two side flanges 2 2, which serve as feet when the apparatus is erected for use. The other two sides of the base are recessed, as at 19 19, to receive the standards 3 3. These standards are set in a cross-bar 20 and at their tops support the two cylinders 4 4. Cylinders 4 4 are connected by a spindle 5, which is coaxial therewith and passes through a center pin 6, which pin can turn on the spindle. The hub 7 may be of any suitable external shape and is centrally perforated, as at 14, to receive the pin 6 and transversely slotted, as at 8, to afford a passage for the spindle 5 and also the end 18 of the rotary spiral 16. Slot 8 extends more than half-way through the hub, its boundaries being shown by the radial lines *a a*. Thus when mounted as in Fig. 1 the hub can turn in the plane of the spindle 5 around pin 6 and in the plane of pin 6 around spindle 5. In this way a universal movement can be imparted to the indicating-arm 10 about its center of motion. From opposite sides of the hub project the indicating-arm 10 and the actuating-arm 9, the latter terminating in a weight 15, which is arranged to balance the opposite arm and its attachments. The indicating-arm is provided with an index-clip 13, which consists of a thin plate of any suitable material, which is held to its position on a flattened seat 11 of the arm by an elastic band 12, of rubber or any other suitable material, which lies in a groove provided therefor in the end of the arm, as seen in Figs. 3 and 4, and in notches in the edges of the clip 13. The upper end of the clip is squared off, as shown, and preferably extends about the same distance above the band 12 as the end of the arm extends below it. The

end of the arm is similarly squared off, so as to leave a corner for the clip to rock over or across. When in use, the point of the clip encounters resistance if the arm is swinging in one direction, as to the left, Fig. 4. The momentum of the arm will force the clip to the inclined position shown, the spring-band 12 yielding and the clip rocking on the end of the arm and its top swinging away from its seat, as shown; but if the arm is swung in the reverse direction the momentum of the arm will cause the band to stretch, the end of the arm swinging away from the clip, which rocks on its upper end, as shown.

On one of the cylinders 4 a spiral coil of wire 16 is mounted, so as to be free to turn thereon. This spiral terminates at the end next to the hub in a bent terminal 18, which enters the slot 8 of the hub, so that when the hub is rotated in the spindle the spiral will turn or revolve around the cylinder. On the same cylinder is mounted the ring 17, which normally rests on the cylinder between the convolutions of the spiral. Thus when the hub is rotated in one direction the revolution of the spiral will cause the ring to follow its path between the coils to one end of the spiral, while if the hub is oppositely rotated the ring will take the opposite course. By these means the ring can be driven to either end of the spiral, according to whichever way the hub is rotated. The ring 17 is made large enough to pass freely over the coils of the spiral 16 and can be set back to the first or zero coil-space of spiral 16 while the coil is at rest. Cylinder 4 carries numbers on its surface, as shown, spaced to correspond to the pitch of the spiral. These numbers constitute a factor in the game, as well as the numbers on the table.

From the foregoing it appears that arm 10 may be swung in any direction over the field of the grooved table and if the hub be rapidly rotated the clip will drag across the field, its point yielding to the obstructions offered by the ridges, so as to pass over them, the band 12 at all times keeping the point of the clip down in contact with the dial.

Two objects are primarily sought in using this apparatus. One is by means of the arm 9 to impart such a rotary impulse to the indicating-arm as will cause the clip to come to rest in the spot on the dial most advantageous to the player—ordinarily the center. The other is to so regulate the number of these revolutions as to carry the ring 17 and cause it to come to rest in the most advantageous position, as indicated by the numbers on the cylinder 4, or to combine both objects and efforts of the player. Any scheme for a game may be devised in which the capacities of the apparatus and its numbers or registrations can be combined.

Ordinarily the apparatus is constructed in the knockdown form, comprising these parts: the table, (one piece,) bar 20, standards 33, cylinders, hub, indicating-arm, spiral and ring,

(one piece,) and actuating-arm, (one piece.) The indicating-arm is fixed in the hub, but the actuating-arm is removable. The standards 33 may be proportioned so as to lie between the ribs 22 of the table when inverted. By removing the arm 9 and placing it between the standards 33 as they lie on the inverted table the whole makes up a compact assemblage for packing purposes.

The apparatus is used by setting it up, as shown, with the ball 15 in the fingers, when by giving it a whirl with a view of bringing the clip at rest on whichever ring or spot may be desired and the ring 17 to any position with reference to the spiral registration desired a definite result will be indicated by the positions of the ring and clip.

I therefore claim as my invention, and desire to secure by Letters Patent, the following:

1. A rotary hub pivoted on a dead-axis and provisions connected therewith which confer upon it capacity for universal movement about its center of rotation, an indicating-arm projecting therefrom, and a registry-dial spherically concentric with the center of movement of said hub, substantially as specified.

2. The combination of the fixed axis, the center pin pivoted so as to rotate thereon, the hub pivoted on said pin and adapted to rotate thereon and therewith about the fixed axis, an indicator connected with said hub, all mounted in a frame, and a concentrically-concave registry-dial, substantially as specified.

3. As a registry device in a game apparatus, a fixed cylinder having indicia marked thereon, a spiral having open convolutions between which said indicia are visible and adapted to revolve thereon, a ring capable of traveling between said convolutions as said spiral may be revolved, and means for rotating said spiral, substantially as specified.

4. A registry-dial inscribed with indicia, spherically concave about a fixed center, in combination with a rotary member pivoted on said fixed center and having capacity for universal movement thereabout, an arm projecting from said member carrying an index which coöperates with the face of said dial, all constructed and arranged to operate substantially in the manner described and for purposes specified.

5. In combination with the dial and the indicating-arm, the described rocking clip and the spring-band connecting the two members, arranged to operate substantially as described.

In witness whereof I have hereto subscribed my name, at the town of Arlington, in the county of Bennington and State of Vermont, this 17th day of April, A. D. 1901, in the presence of two witnesses.

WILLIAM CARLTON FARNUM.

Witnesses:

EMILY SCOTT,
FRANKLIN SCOTT.