May 12, 1925. 1,537,236

J. J. JARVIS

APPARATUS FOR USE IN PLAYING GAMES OF THE ROULETTE TYPE

Filed Feb. 27, 1923

FIG. 1.

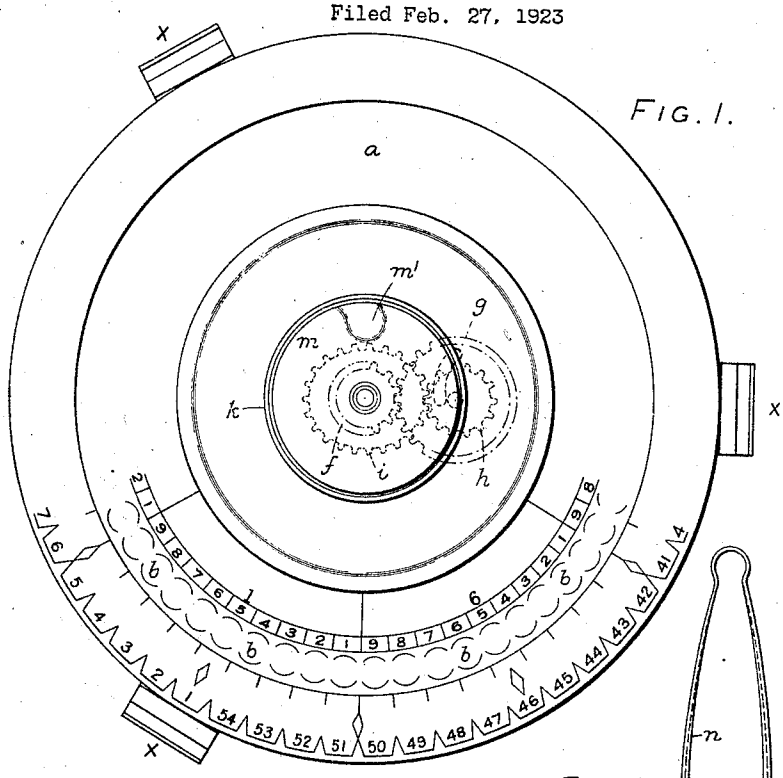


FIG. 4.

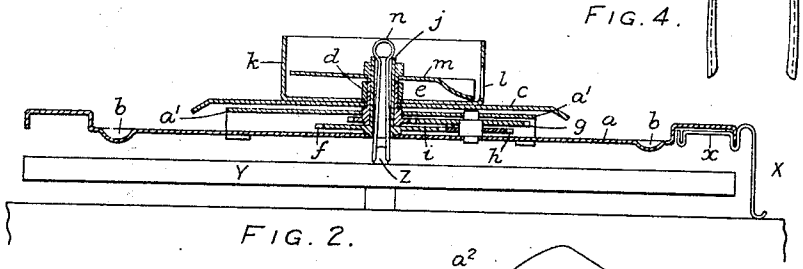
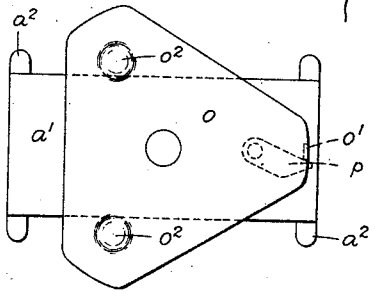


FIG. 2.

FIG. 5



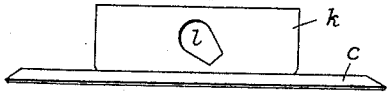
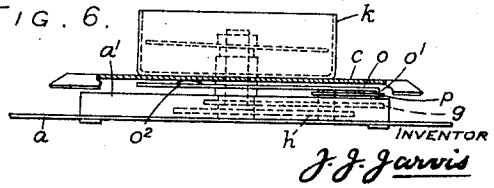


FIG. 3.

FIG. 6.



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JOHN JAMES JARVIS, OF BARNES, ENGLAND.

APPARATUS FOR USE IN PLAYING GAMES OF THE ROULETTE TYPE.

Application filed February 27, 1923. Serial No. 621,650.

To all whom it may concern:

Be it known that I, JOHN JAMES JARVIS, a subject of the King of Great Britain and Ireland, residing at 24 Ranelagh Gardens, Barnes, in the county of Surrey, England, have invented new and useful Improvements in Apparatus for Use in Playing Games of the Roulette Type, of which the following is a specification.

This invention relates to machines or apparatus of the character referred to in the specification to my British patent, applied for on the 15th October, 1919, No. 139,434, and intended for use in playing games of the roulette type; my present objects being to simplify the construction of such apparatus, and to render same applicable for use in playing a greater variety of games.

Apparatus adapted for use in carrying my present invention into effect is illustrated in the accompanying drawings, whereof Fig. 1 is a plan view, and Fig. 2 a transverse section. Figs. 3, 4, 5 and 6, illustrate minor details hereinafter particularly referred to.

The apparatus may be operated manually or by the connection to any convenient source of mechanical power; such, for example, as the clock-work or electric motor of a gramophone. In the present instance, Fig. 2 shows the apparatus supported by means of detachable legs X above the record-platform Y of a gramophone, and connected to the spindle Z thereof.

The table *a* of the game apparatus is subdivided, as shewn in Fig. 1, by radial lines into variously coloured segments, which in turn are subdivided by arcs struck with various radii; each such sub-division being suitably numbered or otherwise distinguished. The table, thus coloured and marked off, serves as the playing board, and is formed, at any suitable distance from its centre, with a number of depressions or pockets *b* adapted to trap and retain the balls with which the games are played; each such pocket being marked with a particular value for scoring purposes.

In a central orifice formed in the table *a* is freely mounted a tubular stem *j*, and on this stem is fitted a loose sleeve *e* surmounted by an upper sleeve *d*. Fast upon the stem *j* is a pinion *f* which meshes with an eccentrically mounted pinion *g*, and concentric with the latter is a third pinion *h*, which latter may be freely mounted, upon its stud, in which case, a light feather spring is interposed between the pinions *g*, *h*. The third pinion *g* also meshes with a fourth pinion *i*, fast upon the stem *j* which centrally traverses the floor of a cup-shaped ball-receptacle *k*. The latter is formed with a lateral ball-escape orifice *l*, so shaped as to permit, without jamming, the easy passage of a ball from an inclined floor *m* situated within the cup-shaped ball-receptacle. The inclined floor *m* is attached to the upper sleeve *d* and derives rotative motion from the tubular stem *j*, the latter being in connection with the motor-spindle Z, preferably by means of a spring clip *n*, such as shewn on an enlarged scale in Fig. 4. The inclined floor *m* is formed at one point in its periphery with a depression m^1, such as shewn in Fig. 1, which serves as a ball-chute on arriving opposite the orifice *l* in the side of the receptacle *k*. Beneath the ball-receptacle *l* is arranged a circular plate *c* which serves to convey the balls, as they issue from the orifice *l*, to the outer portion of the table.

Above the gear train is arranged a plate a^1 (shewn in plan in Fig. 5) the sides of which are turned down to rest upon the table or plate *a* and are formed with ears a^2 which pass through slots in the plate *a* and are then turned laterally to engage with the under side thereof; the two plates *a*, a^1, being thereby securely fastened together. The plate a^1 is moreover utilized to afford a bearing for the upper extremity of the stud on which the eccentrically disposed gear wheels *g*, *h* are mounted.

From the foregoing it will be understood that the clip *n*, when engaged with the motor-spindle Z, drives the tubular stem *j*. This stem drives the pinion *i*, and, through the eccentrically mounted pinions *h* and *g*, the sleeve *e*, whence the ball-receptacle *l* derives rotative motion by frictional contact with the shoulder *e* upon which it rests. The inclined floor *m* of the ball-receptacle is attached to the upper sleeve *d;* derives

rotative motion by reason of its resting upon the upper extremity of the sleeve *e*, and consequently is also driven frictionally.

The legs X are capable of attachment to the edge of the table or plate *a* at different distances from the centre with a view to adapting the apparatus to gramophone tables of different diameters. As may be seen in Fig. 2, the horizontally projecting arm X of the leg X is formed with two folded loops, in either of which the edge of the table or plate *a* may be engaged.

When working the apparatus from the spindle of an ordinary gramophone, it is desirable to effect a considerable increase in the speed of rotation of the ball-receptacle *k* in relation to the said spindle. The pair of spur wheels *i h* are accordingly proportioned to effect one increase in speed, whilst the pair of gear wheels *g f* are so proportioned as to effect a further increase. The former pair consist moreover of eccentric and elliptical wheels, which have the further effect of varying the speed at different portions of their rotation; it being desirable to produce irregularity, rather than regularity, in the speed of rotation of the ball-receptacle *k* in addition to the irregularities which occur owing to slip taking place in the driving parts; the "drive" being merely dependent on friction of a very moderate character.

It will moreover be understood that, owing to slip at the spring disposed between the second and third pinions of the gear-train, when such spring is employed, or to slip between the under surface of the plate a^1 and the boss on which it rests, the relative rotative speeds of the ball-receptacle and of the inclined floor therein arranged frequently vary; with the effect that the intervals of time between the successive periods of coincidence between the discharge point m^1 in the revolving floor and the orifice *l* in the ball-receptacle undergo constant variation. The form of the orifice *l* which I have found best adapted to prevent the balls jamming therein is shewn in Fig. 3.

With a view to further increasing the irregularity with which the balls are delivered from the ball-receptacle, means of the character illustrated in plan view in Fig. 5 and in vertical section in Fig. 6 may be employed. Beneath the ball-receptacle *k* and cover plate *c* and above the gear-train is arranged a loose plate *o*, capable of rotating freely about the axis of the spindle Z. The edge of this plate is at one point formed with a turned down finger o^1. Fast upon the stud of the eccentrically mounted gear wheels *g h* is mounted a radial arm *p* so arranged that its outer extremity traverses the path of rotation of the finger o^1. The upper surface of the plate *o* is formed with slight humps o^2 which contact with the underside of the cover plate *c* and cause the plate *o* to rotate therewith. The plate *c* and the gear-wheel *g* rotate, however, at different speeds, with the effect that the turned down finger o^1 sometimes comes into contact with the radial arm *p*, whilst in the course of other revolutions the finger o^1 passes clear of the arm *p*. When the two collide, the rotative movement of the plate *o* suffers a momentary check, which check is conveyed to the ball-receptacle *k*, but without necessarily arresting the rotative movement of the latter, its momentum causing it to slip in relation to the plate *o*.

I claim:—

1. Apparatus for use in playing a game of the roulette type, comprising a ball-receptacle formed with a lateral orifice, a slightly inclined floor arranged within the ball-receptacle and formed with a chute at its lower edge, the receptacle and floor mounted for rotation about a common axis, driving gear positioned beneath the receptacle and operatively connected to it and the floor whereby to rotate both the ball-receptacle and the floor, the former at a different speed than the latter, and a surrounding play-table, formed with pockets for the reception of the balls ejected from the rotating ball-receptacle.

2. An apparatus of the class described comprising a drive shaft, a sleeve mounted thereon, a ball supporting disc having a discharge chute carried by the sleeve, a non-circular pinion carried by the shaft, a gear train operatively connecting the pinion to the sleeve whereby to rotate the sleeve at a variable speed, a ball receptacle, and means to frictionally mount the same on the sleeve whereby the receptacle is caused to slip with respect to the disc during periods of acceleration and deceleration to discharge the balls therefrom.

3. An apparatus of the class described comprising a drive shaft, a sleeve carried by the shaft, a disc having a discharge chute carried by the sleeve, a pinion carried by the shaft, a gear train operatively connecting the pinion with the sleeve and including an eccentrically mounted pinion whereby the sleeve is driven intermittently, a receptacle having a lateral opening formed therein, and means to frictionally mount the receptacle on the sleeve and surrounding the disc whereby the receptacle is caused to slip with respect to the disc by the variations in the speed of the latter to discharge balls supported thereon through the opening in said receptacle.

4. An apparatus of the class described comprising a drive shaft, a non-circular pinion carried thereby, a sleeve mounted on the shaft, a disc carried by the sleeve and provided with a discharge chute, a second shaft, a pinion carried thereby and mesh-

ing with said non-circular pinion, a pinion carried by the sleeve, a second pinion eccentrically mounted on said second shaft and meshing with the pinion on the sleeve, whereby the sleeve is driven intermittently at a variable speed, a receptacle having a lateral opening registering with the discharge chute of the disc, and means to frictionally mount the receptacle on the sleeve whereby the receptacle is caused to slip with respect to the disc during periods of acceleration and deceleration to cause balls supported by the disc to be discharged through the opening in the receptacle.

JOHN JAMES JARVIS.