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(54) AMUSEMENT DEVICE

(71) I FRANK FOX a British subject of 429 Whaddon Way, Bletchley, Bucks, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention concerns an amusement device suitable for playing a number of variants of well-known game of "noughts and crosses" which can also serve for playing word-making and other games.

According to the invention there is provided an amusement device for playing the game of noughts and crosses comprising a body having an endless outer surface marked or shaped to indicate at least two 3x3 arrays of contiguous areas with at least one area common to two such arrays, each area constituting a play position within one or more fields of play each constituted by one such array, the surfaces of said areas being either curved or planar.

In a preferred form, the device comprises a sphere of which the outer surface is marked off, as by lines or grooves or ribs into six circular fields which overlap in such a way that of the nine play positions in any one field only the centre one is unique to that field, the four corner positions each being common to three different fields and the remaining four each being common to two different fields. This is achieved by the field markings forming three mutually perpendicular pairs of spaced parallel lines. The marking may be in the form of a grid of wires or the like applied to the external surface of a ball.

With a readily cleanable surface a complex form of the traditional game of noughts and crosses can be played on the device by one player marking a selected position with a cross in pencil, crayon or non-indelible ink and each other player marking a selected position with a nought in a similar manner. It is, however, preferred to provide each play position with means by which a player can attach a distinctive piece to the body in a selected position, the distinctiveness of the

pieces of the two players arising from difference of colour or of shape or of marking or of two or more of these features in combination. Any convenient means of attachment of the pieces to the body, either mechanical or magnetic, may be employed, but a snap-fastener type of attachment consisting of a simple hole in the centre of each play position and a spherical-ended stem projecting from each piece which is a snap fit in each hole in the body, is preferred.

It will be appreciated that with such a device, play commenced in one field automatically involves play in adjacent fields also, and eventually in all the fields on the device, so that each player has to consider the significance of each "move" in relation to a number of different fields thereby adding complexity and interest to the traditional game.

In a variant of the device described above, the body may be made in three parts the division of the parts following one of the three pairs of parallel lines, the two outer part-spherical portions being rotatable relative to the central part whilst maintaining the spherical form of the whole body. The two outer parts may be rotatably secured to the centre part by a snap-fastener type of connection between each and such centre part, and the confronting inner faces provided with simple indexing formations to facilitate alignment of the play positions on the outer parts with those on the central part. A ring of recesses in one such part and a ball seated half in a recess of the same size in the other such part would serve as such an indexing means.

With this variant of the device the game can be modified to introduce as an alternative "move" to the placing of a mark or piece in a play position, the rotation of one or other of the outer parts relative to the centre part by one step thereby changing the pattern of the marks or pieces already in position from previous "moves".

As a further variant, the three parts of the sphere, instead of being connected together

may be mounted on a central shaft or cord so as to be separable to a limited extent sufficient to give access to the confronting surfaces of the three parts, which surfaces are each marked to indicate a field of nine play positions.

In either of the foregoing variants the sphere may be divided into two parts rather than three with proportionally less extension of the possibilities of variation in play.

The device in any of its variants, may be cylindrical or octagonal rather than spherical and may be solid or hollow and made of wood or synthetic plastics material. The pieces, instead of being of distinctive shape colour or marking for each player, may carry letters of the alphabet and the device used in playing a word game. For example, since in the form above described the body would have twenty-six play positions on its outer spherical surface it could be used with twenty-six pieces each bearing a different letter of the alphabet and the players could position their pieces to make up words and score points for the number and/or length of words completed.

In a more complex form the sphere may be formed of twenty-six interlocking parts each constituting on its outer surface one of the play positions of the complete sphere. In such a form the sphere is hollow and has a wall thickness sufficient to accommodate interengaging formations on confronting inwardly extending faces of the various parts. All of the parts except those forming the eight "corner" positions common to three different fields have four such inwardly extending faces, the eight exceptions having only three such faces. The interengaging formations serve to lock the parts together and in a preferred embodiment of this variant of the device the formations are keys and keyways formed by tongues and grooves of "keyhole" configuration in section and of arcuate form longitudinally so that at any plane of division between the assembly parts forming an outer part spherical portion of the sphere and the assembly parts forming a central portion of the sphere, in any one of the three mutually perpendicular orientations, one of the two confronting faces presents a continuous circular groove and the other presents either an interrupted or continuous circular tongue which, when engaged in such groove locks the two portions together but permits each portion to be rotated relative to the other. Thus with the assembled sphere positioned with one such pair of dividing planes horizontal the top and bottom sections of the sphere may be rotated relative to the horizontal centre section, the left and right sections may be rotated relative to the vertical centre section and the back and front sections may be rotated relative to the vertical centre section between them.

With this variant the possible number of different "moves" is considerably increased when the device is used for playing the game of noughts and crosses but it will be appreciated that the device itself, without playing pieces, could serve as a toy not concerned with that game. For example with the twenty-six individual pieces in different colours the device can be manipulated to make up a wide variety of coloured patterns or if the individual pieces bear numbers or letters the device can be manipulated to make up desired numerical sequences or words.

For simplicity of manufacture the twenty-six pieces or segments making up the sphere can be made only in three different forms namely, a four sided segment having a tongue on each of two of its four inwardly extending faces and a groove in the other two, a four sided segment having a groove (or a tongue) in each such face, and a three sided segment having a tongue (or a groove) on each of its three inwardly extending faces.

It will be appreciated that in the device above described, in addition to the fields on the surface of the device, there are also fields extending in planes through the device so that additional complexity can be introduced into the game by taking these fields also into account when assessing the significance of a particular move. The making of the device in a transparent material facilitates this.

Some preferred embodiments of the amusement device of the invention are illustrated in the accompanying drawings, of which:

Figure 1 is a perspective view of one form of the amusement device of the invention,

Figures 2, 3 and 4, are respective perspective views of three forms of parts required to assemble the device of Figure 1 when formed of such parts, and

Figure 5 is a section through a further form of the device of Figure 1 when made up of modified forms of the parts shown in Figures 2, 3 and 4.

Figure 1 depicts a sphere on the outer surface of which are marked lines dividing such surface into twenty-six areas or play positions, any nine of which, constituting a 3x3 array, form a field of play. The sphere of Figure 1 may be a single piece, or may be formed of two or three pieces or sections, or it may be constituted by eight of the parts illustrated in Figure 4, together with twelve of the parts illustrated in Figure 2 and six of the parts illustrated in Figure 3, assembled together in the manner indicated by the references 2, 3 and 4, appearing in Figure 1.

The pieces 2, 3 and 4, may each have a bore 5 extending therethrough and terminating at each face of the piece in a circular hole such as 6, as indicated in Figure 5,

to receive a spherical-headed stem of a playing piece (not shown).

**WHAT I CLAIM IS:—**

5 1. An amusement device for playing the game of noughts and crosses comprising a body having an endless outer surface marked or shaped to indicate at least two 3×3 arrays of contiguous areas with at least one area common to two such arrays, each area constituting a play position within one or more fields of play each constituted by one such array, the surfaces of said area being either curved or planar.

15 2. A device as claimed in claim 1 wherein said surface is marked to indicate said fields of play by lines printed or otherwise applied to said surface.

20 3. A device as claimed in claim 1 wherein said surface is marked to indicate said fields of play by grooves formed in said surface.

4. A device as claimed in claim 1 wherein said surface is marked to indicate said fields of play by ribs upstanding from said surface.

25 5. A device as claimed in claim 1 wherein said surface is marked to indicate said fields of play by a grid of wires secured to or embedded in said surface.

30 6. A device as claimed in claim 1 wherein said surface is marked to indicate said fields of play by adjacent play positions being differently coloured.

35 7. A device as claimed in claim 1 wherein said surface is marked to indicate said fields of play by separation lines between contiguous discrete segments making up said body.

8. A device as claimed in any one of claims 1 to 7 wherein said body is spherical and the spherical surface is made up of twenty-six areas each constituting a play position.

40 9. A device as claimed in any one of claims 1 to 8 wherein each play position is adapted to have secured thereto a playing piece.

45 10. A device as claimed in claim 9 wherein said surface at each play position has a recess shaped to receive and retain a pin or spigot secured to or forming part of a playing piece.

50 11. A device as claimed in claim 9 wherein said surface at each play position has a fastener formation adapted to co-act with a complementary formation on a playing piece.

12. A device as claimed in claim 11 wherein said complementary formations constitute or are constituted by a snap fastener.

55 13. A device as claimed in claim 9 wherein said surface at each of said play positions is adapted for the magnetic attachment thereto of a playing piece.

60 14. A device as claimed in any one of the preceding claims wherein said body is a hollow sphere of which the outer surface presents twenty-six play positions and which is made up of a plurality of spherical sections secured together in a manner permitting

relative rotation between said sections about at least one common axis passing through the centre of the sphere. 65

15. A device as claimed in any one of claims 1 to 13 wherein body is a hollow sphere made up of twenty-six truncated spherical segments the outer surface of each one of which constitutes a play position on the outer surface of the sphere and each bearing interlock formations by means of which it can be attached to adjacent segments in the assembly of the sphere. 70 75

16. A device as claimed in claim 15 wherein said interlock formations are of tongue and groove type, a tongue on one segment interlocking in a groove formed in an adjacent segment. 80

17. A device as claimed in claim 16 wherein at least some of said interlock formations are arcuate in extent forming parts of a circle centred on a diameter of the sphere and having a diameter between the internal and external diameter of the hollow spherical body. 85

18. A device as claimed in claim 17 wherein the segments are assembled to form a plurality of spherical sections of which at least one has a continuous circular groove formed by the interlock formations of its constituent segments and at least one other has a continuous or discontinuous circular tongue formed by the interlock formations of its constituent segments so that with said circular tongue engaged in said circular groove the two sections are relatively rotatable about a common axis passing through the centre of the sphere perpendicularly to the planes of section of the sphere. 90 95 100

19. A device as claimed in claim 18 wherein the segments are assembled to form a sphere consisting of a set of one parallel-faced central spherical section and two outer spherical sections each having one face parallel to and abutting one of the faces of said central section, one of each of the resultant two pairs of confronting parallel faces having a circular grooves formed therein by said interlock formations and the other of each pair having a circular tongue engaging in the circular groove of the one face of the pair formed by said interlock formations whereby each said section is rotatable relative to the others. 105 110 115

20. A device as claimed in claim 19 wherein the segments of the sphere are assembled to form two of said sets of spherical sections with faces parallel to mutually perpendicular planes through the centre of the sphere and with the interlock formations of the segments arranged to permit relative rotation of the spherical sections of each set. 120 125

21. A device as claimed in claim 19 wherein the segments of the sphere are assembled to form three of said sets of

- spherical sections with faces parallel to three mutually perpendicular planes through the centre of the sphere and with the interlock formations of the segments arranged to permit relative rotation of the spherical sections of each set. 20
22. A device as claimed in any one of claims 19 to 21 wherein the segments making up said central section each have four side faces extending radially of the sphere and are of two types one type having a groove or other female interlock formation on each of two of its side faces and having a tongue or other male interlock formation on each of the other two side faces and the other type having either a groove on each of its side faces or a tongue on each of its side faces. 25
23. A device as claimed in claim 22 wherein segments not forming part of any central section have three side faces extending radially of the sphere each having a tongue or other male interlock formation, or each having a groove or other female interlock formation. 30
24. A device as claimed in any one of claims 15 to 23 wherein each said spherical segments carries an alphabetic or other character on the play position thereof.
25. An amusement device substantially as herein described.

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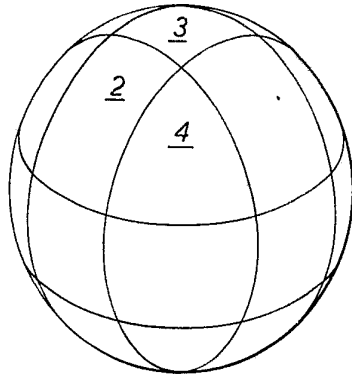


FIG. 1.

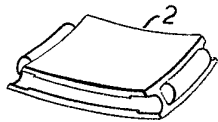


FIG. 2.

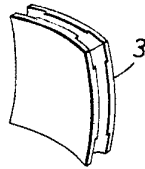


FIG. 3.

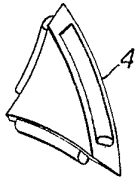


FIG. 4.

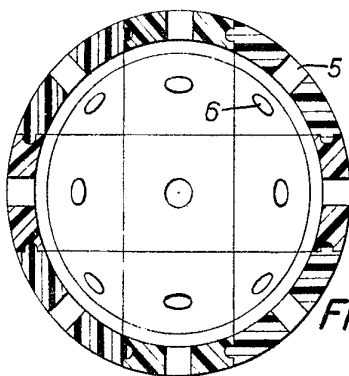


FIG. 5.