June 11, 1957 D. SACHS 2,795,427

MAGNETIC TOY GAME

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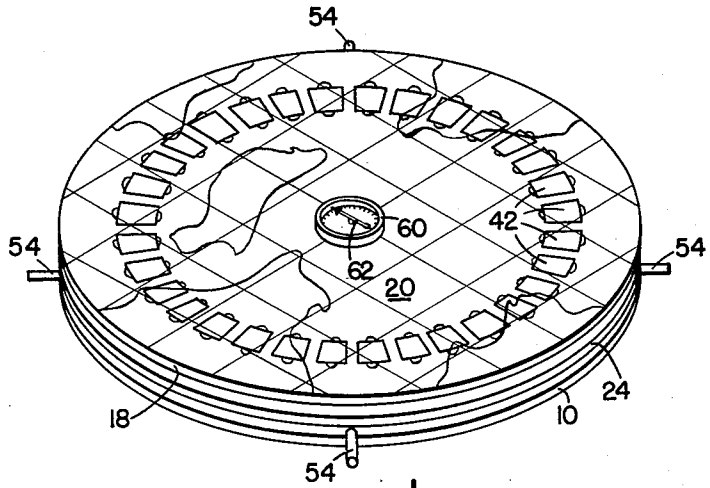


FIG. 1

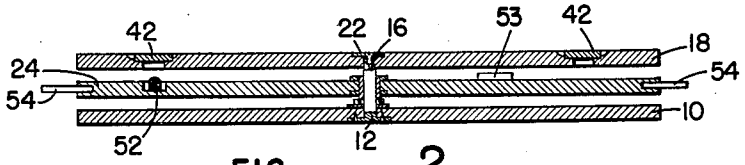


FIG. 2

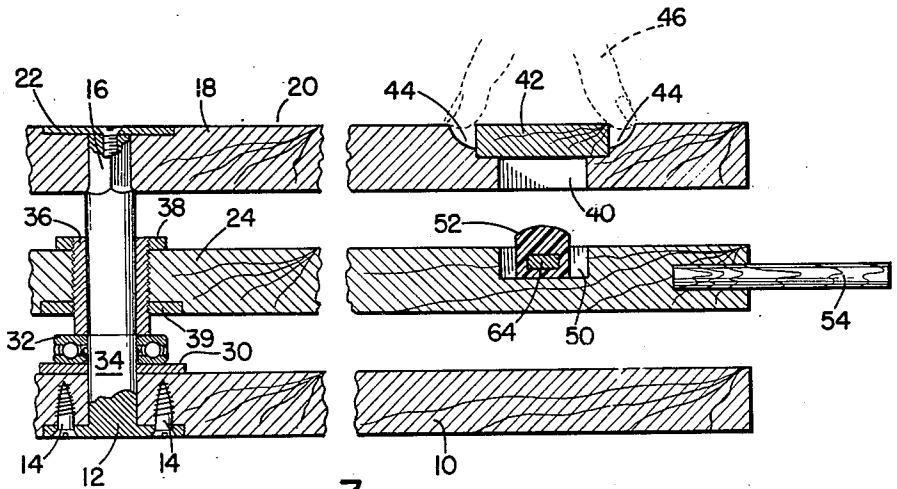


FIG. 3

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FIG. 4

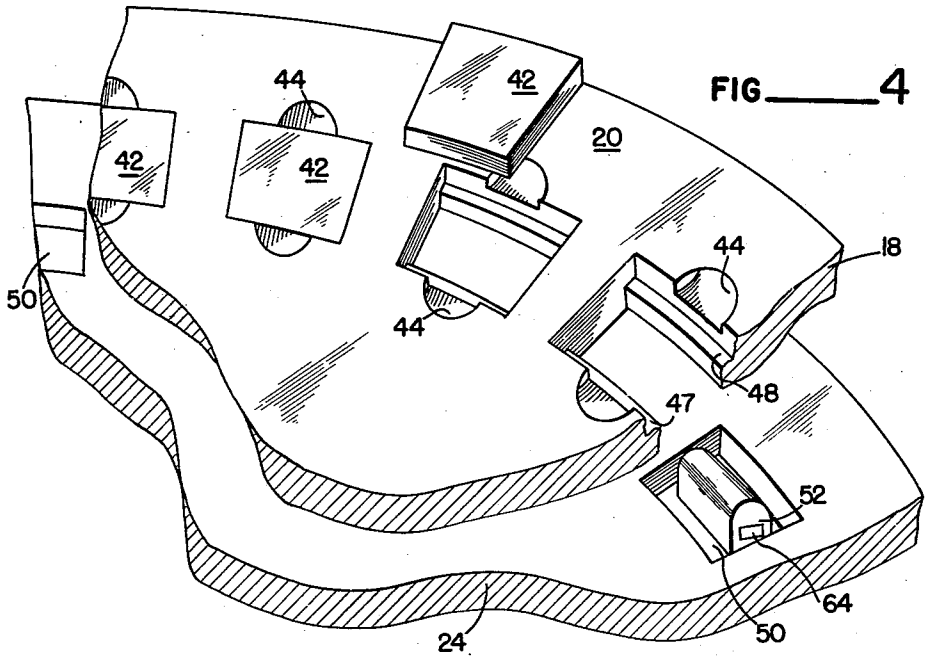
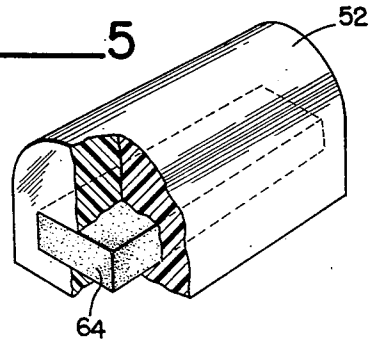


FIG. 5



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MAGNETIC TOY GAME

David Sachs, Seattle, Wash.

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6 Claims. (Cl. 273—153)

This present invention relates to the general class of educational toys and more particularly to a toy which builds up and maintains its interest through the employment of magnetic means. The game consists of a fixed base and a spaced apart, fixed, table surface which is centrally supported from the base member; and intermediate the base member and the playing surface, is a rotatable disc which is arranged to carry one or more units which are magnetic to the extent of attracting the needle of a compass. In certain instances they may be actually permanent magnets. To complete the essential parts for playing the magnetic game, an open-faced magnetic compass is used. The interest sustaining element of the game is provided by figuring out and determining the position of the hidden magnetic elements on the rotating discs, using a compass on the upper playing surface.

Experience has proven that the game devices that will in the long run hold children's attention are those involving certain educational features. It is believed that probably a more appropriate term would be a device that gives education to the extent of familiarization to the end that the broad principles involved can be readily understood, without the tedious detail which might otherwise become burdensome, and cause children, particularly, to lose interest in the game. In this present game, the chance element is provided by the fact that the treasure chest carrying disc is revolvable so that it may be spun at the beginning of each game period. Thus it will not be known where the treasure chest actually stops. The player's application is required in using the magnetic compass. This normally will be placed at random on the board, and due to the spinning of the treasure chest carrying disc, each player is really starting from scratch, and must then determine the position of the treasure chest by moving the compass about until the treasure chest is close enough to it to affect the magnetic needle and thus point the needle to the chest. When the player believes he has made a definite location, he can then raise one of the removable blocks from the playing surface and determine whether or not the survey procedure was accurate. Following these principles, it is believed that a very entertaining and educational game has been provided for children and persons throughout a wide age range.

The principal object of my present invention is to provide a toy or game which makes use of the interest sustaining qualities of magnetism, and which requires the player's individual efforts in order that he make a solution of the game, and in this way obtain the beneficial experiences which will give him a familiarization with the principles of magnetism.

A further object of my invention is to provide a magnetic toy game which makes use of the century-old "buried treasure" hunt as the game basis and which through the use of a treasure chest and compass simulates the experiences generally associated with a treasure hunt.

A further object of my device is to provide, in a magnetic toy game, a rotary element which changes the

treasure's position for each successive player and which further may be variably arranged to require increased skill in the use of a magnetic compass.

Further objects, advantages and capabilities will be apparent from the description and disclosure in the drawings, or may be comprehended or are inherent in the device.

In the drawings:

Figure 1 is a perspective view illustrating a preferred physical embodiment of my game as made after the teachings of this present invention;

Figure 2 is a typical vertical sectional view through the game assembly of Figure 1;

Figure 3 is a fragmentary vertical sectional view in which the parts of Figure 2 are shown in increased scale so as to insure their more ready understanding;

Figure 4 is a fragmentary perspective view partly in section and illustrating in greater detail the structural features of the device; and

Figure 5 is a perspective view illustrating the manner of mounting the bar magnet in the treasure chest.

Referring more particularly to the disclosure in the drawings, the numeral **10** designates the base element of my game which might be any peripheral shape; the preferred form is a circle of the same size as the other two elements of the board. Secured concentrically with base member **10** is bearing member **12**. This is preferably secured as by screws **14** to the underside of base member **10** in a manner so that the bottom surface will be a flat plane. Bearing member **12** terminates in its upper extent in a squared or otherwise deformed end, as indicated at **16**, so that the playing board **18**, which provides the map surface **20**, may be fixedly secured to post **12** as by means of the clamp plate **22** and the necessary holding screws. Disposed intermediate the upper board **18** and the lower board **10** is the revolving board **24**.

One convenient construction to insure the free revolving of board **22** is detailed in Figure 3 in which a bearing plate **30** is provided upon which is disposed a thrust washer **32**, preferably of the ball bearing type, so that friction will be kept at a minimum. This bearing is centered by a slightly enlarged portion **34** of the pillar portion of post **12**. Disposed above bearing **32** is an externally threaded bushing member **36** which is held in tight engagement with board **24** by the two lock collars **38** and **39**.

The playing board **18** is provided on its upper suface, in addition to the pirate map **20**, with a plurality of concentrically disposed through openings **40**, each of which is provided with an appropriate cover member **42**. Preferably, as noted in Figure 3, it has been found desirable to provide finger notches as **44** so that the thumb and forefinger of the player, as is indicated in dashed lines at **46**, may conveniently lift the cover member **42** off of ledges **47** and **48** and permit the player to look downwardly through the opening **40**.

Revolving disc **24** is provided with niches as **50** adapted to provide a rest or seat for the magnetic treasure chest **52**. It is preferred that a plurality of niches **50** be provided to the end that the position of the treasure chest might be changed so that it could not be identified as being associated with some handle, as **54**, for instance. It is a requirement, however, that niches **50** be concentrically disposed with the center of rotation and be of the same radius as the through openings **40** in disc **18**. Thus the treasure would always be viewable from the proper opening **40**. To provide variety and to call for a more accurate determination of position by the means of compass **60**, treasure chest **52** may be made of magnetic iron or it may contain a magnet of the permanent bar type and may be placed in various other niches **50**. Also secured to the upper surface of board **24** may be

magnetic iron pieces, as 53, preferably not magnets, which will serve to attract the compass needle to a degree, and thus the determination of the location of treasure chest 52 will not be the simple routine of merely setting down the compass and seeing which way it is pointing. The peculiarity of flux flow is that it varies greatly with distance. Consequently a small magnet or a piece of magnetic iron close to the compass would appear to attract it more firmly than the heavier permanent magnets with much greater attractive power but at a greater distance. It therefore follows that the placement of the magnetic material will have a very determining influence on the performance of the compass and the difficulties of playing the game.

Method of play

In playing my game in its simplest form, such as is suitable for younger children, disc 24 is spun, in either direction by means of one of the handles 54. When the revolving disc has come to rest, which normally would take some time due to its frictionless mounting, the first player places compass 60 on the upper surface of playing board 18 and allows the needle 62 to come to rest. The needle will come to rest pointing in the direction of treasure chest 52 provided it is made of magnetic material but is not magnetized to have polarity. It is also necessary that the compass be placed sufficiently close to the treasure chest so that the lines of force of the magnetized needle will pick up the magnetic material. The player then, by shifting the compass about on the surface of the playing board, will finally be reasonably assured that the treasure chest is immediately under one of the cover members 42. The cover member is then lifted, and if the treasure chest is visible through opening 40, the player has won a point.

For children of an older age group, say 10 to 15 years of age, the game may be greatly complicated by having the treasure chest made after the teachings of Figure 5 in which a bar magnet 64 is embodied in the chest, giving the bar magnet appreciable length so that the north and south poles are spaced apart somewhat. Remembering that the compass needle is in effect a bar magnet with a north and a south pole, basically it follows that the like poles repel each other and the unlike attract. Therefore, if the south pole of the treasure chest should be pointed in the general direction of the compass, it will attract the north point end and give the intelligence normally sought. If on the other hand the poles are reversed or an opposite approach made, the south end of the compass needle will be attracted and the compass needle will then point in a direction opposite that which would assist in locating the treasure chest. Certain other phenomena of course are present when the two magnets are substantially parallel when they get within attracting range and this will cause considerable wonderment on the part of the players. Experience has indicated that with such a prelude the practical determination of certain of the physical laws relating to magnetism will be thought out and remembered by the student so that this game may truly be considered an educational game. With the prevalence of small bar magnets which have commercial use, as in pot holders and holders for pencils, knives, and the like, magnets have been made in small bar form, and if these are stuck, as by adhesive tape, to the surface of the board 24, they will be additional hazards to the quick solution of the game. However the main magnet in the treasure chest should be of considerably greater strength than any of the auxiliary magnets so used. Other variations to the game can be made by the application of bits of soft iron which have the faculty of attracting the compass needle.

It is believed that it will be clearly apparent from the above description and the disclosure in the drawings that the invention comprehends a novel construction of a magnetic toy game.

Having thus disclosed the invention, I claim:

1. A magnetic toy game, comprising: three superimposed circular boards in closely spaced parallel relationship, the lowermost board forming a base and having an upstanding standard with a non-circular upper end and the uppermost board forming a playing surface and having an opening fitting said non-circular end and fastening means securing the end in the opening whereby said playing board is fixedly positioned, said standard having an anti-frictional thrust bearing positioned between said base and the intermediate board and said intermediate board having a central opening in which is positioned an externally threaded central bushing member resting on said thrust bearing and positioned on a reduced diameter portion of said standard and lock washers on upper and lower surfaces of said intermediate board securing said bushing member whereby said intermediate board is supported as a rotor disc, said playing board having a multiplicity of marginal openings each having a manually removable opaque cover plate, said rotor having a niche therein positioned to rotate in a path of travel under said marginal openings which are spaced closely together so that said niche will be viewable through one of said openings in all positions, a game object having a magnet positioned in said niche, and a movable compass disposed on said playing board for determining the location of said object magnet by magnetic coaction therewith when said cover plates are closed.

2. A magnetic toy game, comprising: three superimposed circular boards in closely spaced parallel relationship, the lowermost board forming a base and having an upstanding standard with a deformed upper end and the uppermost board forming a playing surface and having means engaging said deformed end fixedly positioning the playing board, said standard having anti-frictional thrust bearing means supporting the intermediate board for rotation thereby forming a rotor disc and the rotor having a plurality of identical outstanding handles for manual rotation of the same, said playing board having a multiplicity of marginal openings with interior ledges and each marginal opening having an opaque cover plate sitting on said ledges and opposite sides of the marginal openings having finger receiving notches for manual removal of the covers, said rotor having a niche therein positioned to rotate in a path of travel under said marginal openings which are spaced closely together so that said niche will be viewable through one of the openings in all positions, a game object resembling a treasure chest having a magnet embedded therein positioned in said niche, a plurality of magnetic iron pieces disposed on the surface of said rotor of less magnetic attraction than said game object for producing a complex magnetic field, and a movable compass disposed on said playing board for determining the location of said object magnet by magnetic coaction therewith when said cover plates are closed.

3. A magnetic toy game, comprising: a pair of superimposed boards the uppermost of which forms a playing board and covers the lower board in parallel relationship thereto, supporting means for said boards supporting one of said boards to rotate relative the other about an upright axis in the central portion of said boards, said playing board having a multiplicity of radially disposed openings outside of its central portion and each having a manually openable opaque cover, the lower board having a plurality of niches therein aligned with the area of said marginal openings in said playing board and said marginal openings being spaced closely together so that each niche will be viewable through one of the openings in all positions, a first magnet forming the game object positioned in one of said niches selected at random by the players, a second magnetic object on said lower board of less strength than said magnet for producing a complex magnetic field, and a movable compass disposed on said playing board for determining the location of

said game object by magnetic coaction therewith when said covers are closed.

4. A magnetic toy game, comprising: a pair of superimposed boards the uppermost of which forms a playing board and covers the lower board in parallel relationship thereto, supporting means for said boards supporting one of said boards to rotate relative the other about an axis in the central portion of said boards, said playing board having a multiplicity of radially disposed openings outside of its central portion and manually openable opaque cover means for said openings, the lower board having a niche therein aligned with the area of said marginal openings in said playing board and said marginal openings being spaced closely together so that said niche will be viewable through one of the openings in all positions upon removal of said cover means, a magnetic member, forming the game object, positioned in said niche and a movable compass disposed on said playing board for determining the location of said game object by magnetic coaction therewith when said cover means are closed.

5. A magnetic toy game, comprising: a pair of superimposed boards the uppermost of which forming a playing board and covering the lower board in parallel relationship thereto, supporting means supporting the lower

board for rotation about an axis in the central portion of said boards, a first magnetic member forming a game object supported on said lower board and beneath said playing board at a point spaced from the axis of rotation of said playing board, said playing board being opaque thereby normally concealing the location of said game object and having manually operable means removable to reveal said game object, and a movable compass disposed on said playing board for determining the location of said game object by magnetic coaction therewith when said manually operable means is in place and the game object is concealed.

6. The subject matter of claim 5 in which there is a second magnetic object on said lower board of less strength than said first magnetic object for producing a complex magnetic field.

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