Feb. 1, 1927. 1,616,280

A. PRINS

AMUSEMENT OR GAME DEVICE

Filed Oct. 14, 1925 2 Sheets-Sheet 1

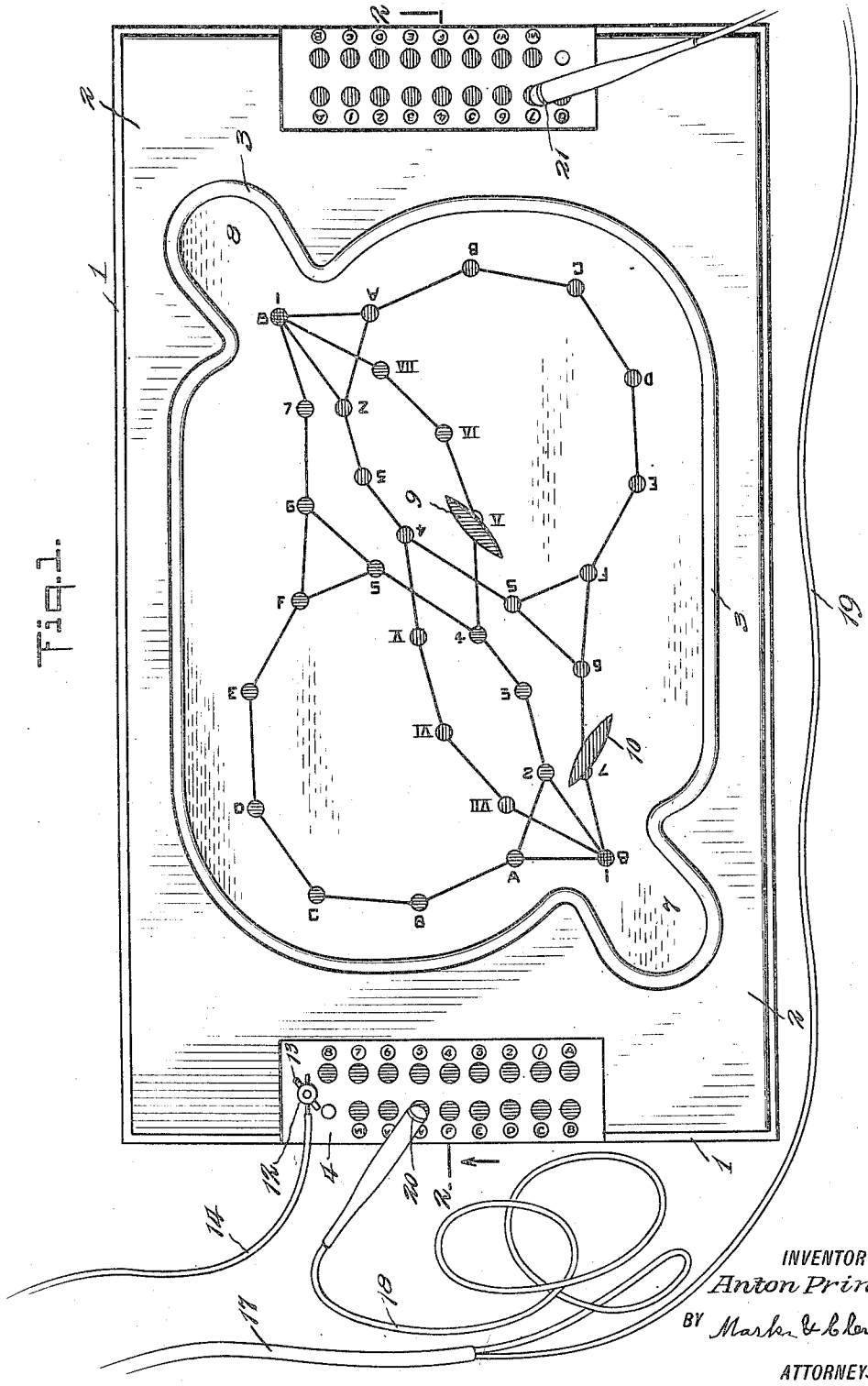

Fig. 1.

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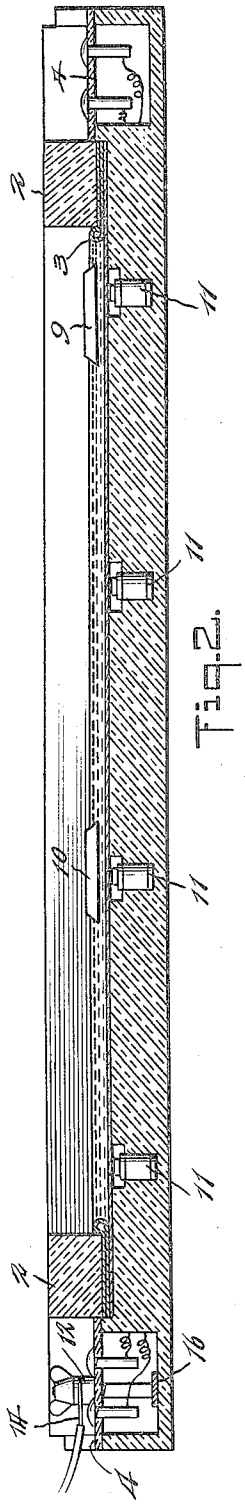

Fig. 2.

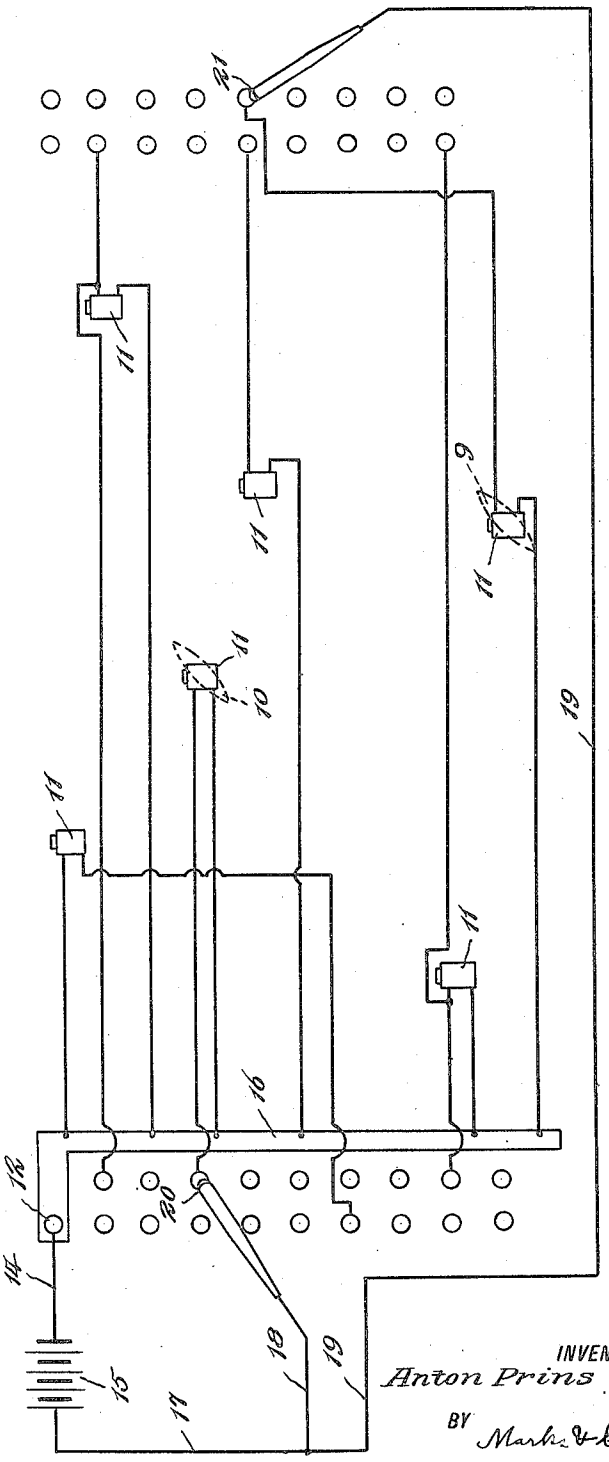

Fig. 3.

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UNITED STATES PATENT OFFICE.

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AMUSEMENT OR GAME DEVICE.

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This invention relates to amusement or game devices and one of its objects is to provide an apparatus of a nature requiring a certain amount of skill in operation and adapted for playing games either by an individual or by a plurality of individuals playing competitively.

In the illustrated embodiment of the invention the main board carries a tray of suitable material, such as non-magnetic material, capable of holding a certain depth of water to float objects, such as small boats, containing magnetic material and thereby adapted for actuation from one side or end of the tray to the opposite side or end by the energization in succession of suitably arranged electro-magnets immediately beneath the bottom of the tray. Indications on the bottom of the tray designate points or stations at opposite ends of the tray, each of which is the starting point of a boat travelling in one direction and the destination of a boat travelling in the opposite direction. The bottom of the tray is also marked with two symmetrically arranged branched paths one to be followed by a boat going in one direction and the other to be followed by a boat moving in the opposite direction. At regular intervals along such paths there are points designated by suitable symbols to indicate the position of the electro-magnets beneath the tray. For controlling such magnets provision is made at each end of the board of an array of contacts, in the general form of a key-board. These contacts are designated by symbols corresponding to those on the bottom of the tray and the electrical connections are such that a player at one end of the board may energize any magnet in the branched path leading to the other end of the tray by applying a contact at the end of a flexible conductor to the contact for the symbol corresponding to the magnet to be energized, and located in the adjacent array or contact board of fixed contacts. The electro-magnets along the other branched path may be energized at will by a player at the opposite end of the board. It should be understood that the electro-magnets at the common ends of the branched paths may be energized from either end of the board.

One of the main features of the game to be played in using the apparatus of the present invention is to cause a boat to pass from one end of the board to the other as rapidly as possible, subject to the rules of the game which may require certain paths to be followed. In the event that two persons are playing, the boats are started at the same time from opposite ends of the board and each of the players endeavors to cause his boat to reach its destination before that of his opponent.

Other objects and advantages will hereinafter appear.

In the drawings—

Fig. 1 is a plan view of the apparatus,

Fig. 2 is a longitudinal section on the line 2, 2 of Fig. 1, and

Fig. 3 is a schematic diagram of electric circuits to control the magnets.

The apparatus comprises a main element or board 1 comprising a frame 2 preferably of wood and cut away at its center to receive a tray 3 and at the ends to accommodate contact boards 4 and 5 respectively, the term "contact board" being used in analogy to the term "key-board" as used for other forms of apparatus. The tray 3 is formed preferably of a sheet of water-proof material arranged to comprise a bead formed of a coil of the material extending around the edge of the tray and of sufficient height to confine liquid, such as water, poured into the tray. As shown in Fig. 2, portions of the sheet of water-proof material extend beneath frame 2 and between the same and a support 6.

As shown in Fig. 1, the tray 3 is provided in its lower left hand corner with a harbor or port 7 and at the upper right hand corner with a harbor or port 8, the port 7 being the home port of a red boat 9 and the hostile port of a blue boat 10 and the port 8 being the home port of the blue boat 10 and the hostile port for the red boat 9. Marked on the bottom of the tray are red stations arranged at substantially regular intervals in branched paths leading from the station in the lower left hand corner of Fig. 1 to the upper right hand corner, and blue stations arranged at substantially regular intervals in branched paths leading from the station in the upper right hand corner (Fig. 1) to the station in the lower left hand corner.

Looking at the board from the left hand (Fig. 1) the red stations along one path are numbered 2, 3, 4, 5, 6 and 7 and the blue station in the upper right hand corner is numbered 8. Following another path from

the red station 1 we find the stations numbered A, B, C, D, E, F, the station F being comparatively near the red station 6 and also the red station 5. Starting from the red station 4 along another path provision is made of red stations V, VI, VII, the latter station being comparatively near the blue station No. 8 as looked at from the opposite end of the board.

Looking at the board from the right hand end (Fig. 1) the board is marked with blue stations arranged at substantially uniform intervals along branched paths leading from the blue station 1 corresponding to red station 8 and extending to the red station 1 which would correspond to blue station 8. The blue stations are numbered correspondingly to the red stations and the two sets of stations are arranged symmetrically on the bottom of the tray. It will also be seen that certain parts of the paths having red stations intersect certain branches of the paths having blue stations.

Mounted beneath each station is an electro-magnet 11, the electro-magnets under the red stations being energized from the contact board 4 and the electro-magnets under the blue stations being energized from the contact board 5. With the exception of the electro-magnets for the terminal stations common to both red and blue paths, each electro-magnet can be energized from only one of the contact boards, the electro-magnets corresponding to the terminal stations may, however, be energized from either contact board for reasons to be set forth more fully hereinafter.

As shown in Fig. 1, the red contact board has two rows of contacts, those in one row being designated by A, 1, 2, 3, 4, 5, 6, 7, 8 and those of the other row being designated respectively by B, C, D, E, F, V, VI, VII. The contact board 5 has a corresponding set of contacts similarly arranged and designated.

The contact board 4 is provided with a terminal 12 having a wing nut 13 to facilitate the connection therewith of a conductor 14 connected with any suitable source of current, such as a battery 15. It should be understood that the electrical connections may be of any suitable form or arrangement but for convenience the system is shown as comprising a conductor 16 connected with the terminal 12 and to which the one end of the coil of each electro-magnet is connected. The other end of the coil of each electro-magnet corresponding to a red station is connected with a correspondingly designated contact in the red key-board 4 and the other end of the coil of each electro-magnet under a blue station is connected with the correspondingly designated terminal in the blue contact board 5. As indicated in the lower left hand corner and the upper right hand corner of Fig. 3, the electro-magnets at the terminal ports have their coils connected with the 1 station of the adjacent contact board and the 8 contact of the opposite contact board. Connected with the other terminal of the battery 15 is a conductor 17 having two branches 18 and 19 respectively, the branch 18 being provided at its end with a movable contact 20 to be applied to any of the contacts of the contact board 4 as desired and the branch 19 being provided with a contact 21 to be brought into engagement at will with any one of the contacts of the contact board 5 to energize the corresponding electro-magnet.

In connection with each game provision is made of a suitable transformer for use if necessary between the terminal 12 and the lighting system or other sources of current, and two magnets, such as ordinary horse-shoe permanent magnets for bringing a ship into the range of one of the magnets controlled from the contact boards. Provision may also be made of one or more wedges for leveling the apparatus.

According to one manner of using the apparatus, each player has one ship or boat and the object of the game is for each player to get a ship out of his own or home port and into the other home port as rapidly as possible. To position the ships at the starting point each player takes his horse-shoe magnet and keeping it above the ship draws the latter into the neighborhood of magnet No. 1 adjacent his home port. When a signal is given for starting, the horse-shoe magnets are withdrawn and each player puts the corresponding magnet No. 1 in operation. Then by actuation of successive magnets the players cause the corresponding ships to travel as desired. As illustrated, there are three different ways in which a ship may be made to pass from its own home port to that of the opposing player:

(*a*) The way around what may be referred to as a main loop, which although a long run, is perfectly safe since no magnets of the opposed party are close enough to draw the ship out of its course.

(*b*) Through the paths at the inner sides of the loops which are the shortest but also the most dangerous since many of the opposed magnets are close enough to divert the ship from its course or even draw the ship over to the other course.

(*c*) Through a path which passes between the loops and joins the first path before reaching the final port. The players may agree beforehand whether they are to disturb each other or not.

According to another manner of using the apparatus both parties may play with one and the same ship. After determining who is to begin, the player decided upon tries

to go as fast as possible and exclusively between the loops while the opposing party tries to prevent this and to seize the ship for navigation by himself. If the opposing party has succeeded in seizing the ship, he may have the right to go around the loop and when the first party recovers his ship he gets the same right.

Obviously the game may be played in other ways if desired.

It will be apparent that numerous difficulties arise in playing the game satisfactorily. If a ship has gone off a magnet for a distance greater than its own length, it is almost useless to try to draw it back to that magnet. It is necessary to energize each magnet at the right moment to draw the ship thereto and it is also necessary to deenergize the magnet at the proper moment to permit the ship to be drawn to another magnet. The manner in which the ship is directed is also a matter of considerable importance.

It should be understood that the particular forms as disclosed herein of the apparatus and parts thereof are merely illustrative of the invention and that various changes may be made therein without departing from the spirit of the invention.

I claim:

1. An amusement device comprising a play area having thereon indications of separate sets of paths along which magnetic objects are to be raced in generally opposite directions, electro-magnets arranged along said sets of paths, and means at opposite positions with reference to said play area, for control by said competitors for selectively energizing the electro-magnets arranged along the corresponding sets of paths.

2. An amusement device comprising a suitable support, a set of electro-magnets immediately beneath the upper surface of said support to determine paths or branches thereof along which a device of magnetic material may be caused to move, a set of contacts at one end of the support, conductors connecting a source of power with each of the magnet coils of which the other ends are connected with the contacts of said set, and means for completing a circuit through each of the magnet coils comprising a conductor connected with the other terminal of the source of power and a contact on the last mentioned conductor for attaching the contacts of said set as desired to energize the corresponding electro-magnets.

3. An amusement apparatus comprising a play field having thereon indications of separate paths along which magnetic objects are to be raced in opposite directions by competitors at opposite ends of the field, electro-magnets arranged along said paths, and means controlled by each competitor for selectively energizing the electro-magnets arranged along the corresponding path.

4. An amusement apparatus comprising a play field having thereon indications of separate paths along which magnetic objects are to be raced in opposite directions by competitors at opposite ends of the field, electro-magnets arranged along said paths, and means controlled by each competitor for selectively energizing the electro-magnets arranged along the corresponding path and the first magnet on the other path.

5. Game apparatus comprising a basin to receive a body of liquid, floating bodies of magnetic material, sets of electro-magnets beneath the basin and immediately below stations marked on the bottom of the basin and arranged in paths extending across the board in opposite directions, sets of contacts at opposite ends of the basin, and connection between the contacts of each set and the electro-magnets of the corresponding path to enable the corresponding floating body to be moved therealong by completing the circuit through the coils of the corresponding magnets.

6. Game apparatus comprising a basin to receive a body of liquid, floating bodies of magnetic material, sets of electro-magnets beneath the basin and immediately below stations marked on the bottom of the basin and arranged in paths extending across the basin in opposite directions, sets of contacts at opposite ends of the basin, and connection between the contacts of each set and the electro-magnets of the corresponding path to enable the corresponding floating body to be moved therealong by completing the circuit through the coils of the corresponding magnets, each of the single electro-magnets at opposite ends of the basin being energized through one contact of each group.

7. Game apparatus comprising a basin to receive a shallow body of liquid, floating bodies of magnetic material, said basin having separate branched paths joining common initial and terminal points which together with points at uniform distances along said paths are marked with identifying symbols, sets of contacts at opposite ends of the basin and having designations corresponding to the points on said paths and means for moving said floating bodies along said paths comprising electro-magnets beneath said points in the paths and including coils, each having one end connected with a source of power and the other with a corresponding contact in one of said sets for control therethrough, the separate branched paths being so arranged that each competitor may interfere with the floating body controlled by the other.

8. Game apparatus comprising a play field, groups of contact devices at opposite

ends of the play field, electro-magnets arranged beneath the play field at intervals in a path extending from one end of the field to the other and connected with one group of contact devices to be energized therethrough to move an object of magnetic material from one end to the other, and additional electro-magnets controlled from the other group of contacts to interfere with the action of said object under the control of the first group of contacts.

9. Game apparatus comprising a play field, groups of contact devices at opposite ends of the play field, electro-magnets arranged beneath the play field at intervals in a path extending from one end of the field to the other and connected with one group of contact devices to be energized therethrough to move an object of magnetic material from one end to the other, and additional electro-magnets controlled from the other group of contacts to influence the movement of objects of magnetic material over the surface.

In testimony whereof I affix my signature.

ANTON PRINS.