

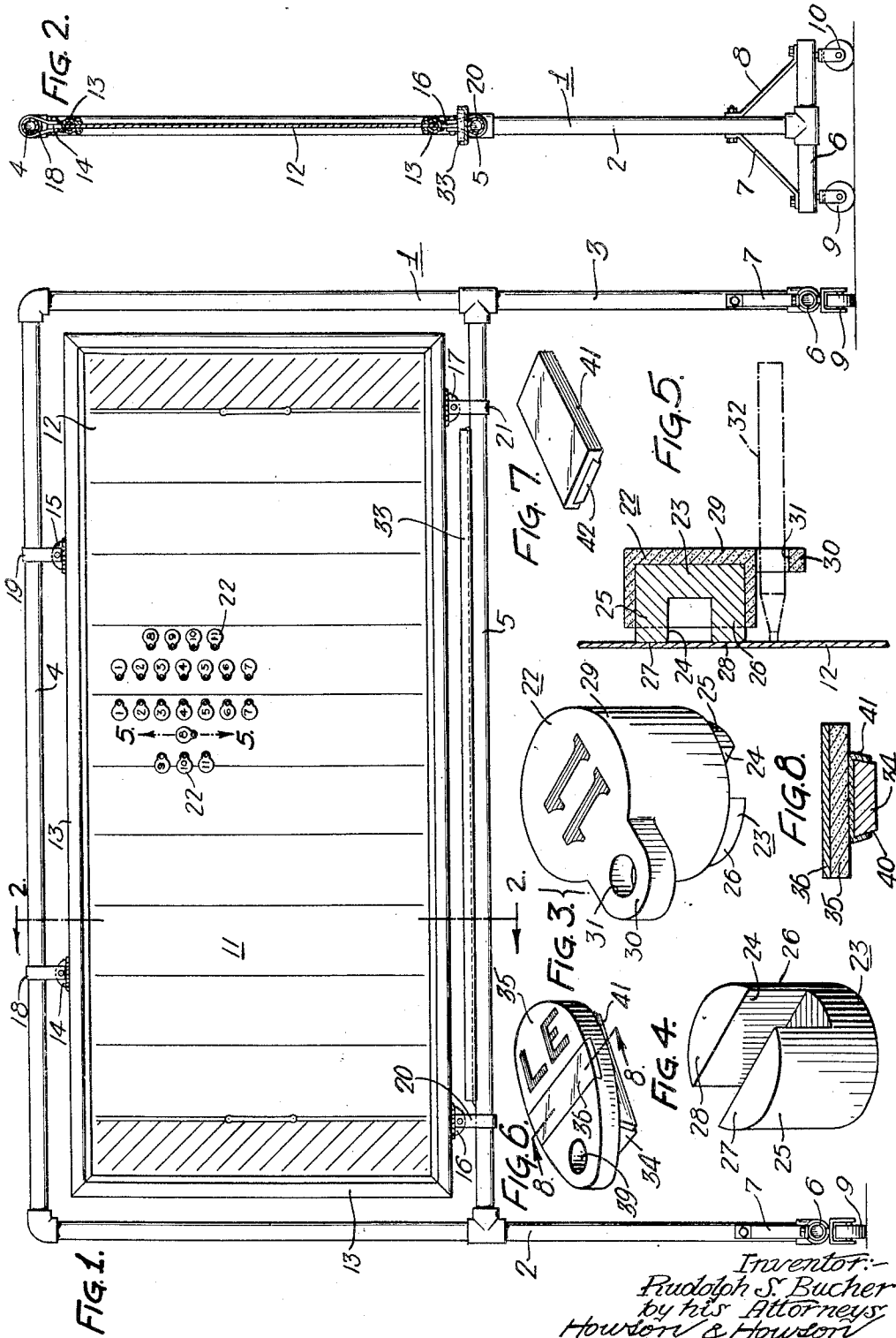
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GAME INSTRUCTION APPARATUS

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GAME INSTRUCTION APPARATUS

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This invention relates to instruction or demonstration devices for use in connection primarily with football, basketball and other field or court games, and a principal object of the invention is to provide a generally improved device of this class affording visual demonstration and analysis of plays, formations and the like.

A more specific object of the invention is to provide a device of this class adapted for outdoor as well as indoor use and preferably of mobile form permitting ready transfer from one desired position to another.

Another object of the invention is to provide a device of the stated character comprising relatively movable elements representing individual players freely movable on a surface representing the playing field or court, said elements being of special construction, as hereinafter set forth, and including means for facilitating movement of the elements and for simultaneously marking on the field surface the course taken in such movement.

The invention resides also in certain novel and useful structural details hereinafter described and illustrated in the attached drawings wherein:

Fig. 1 is a face view of an instruction unit made in accordance with the invention;

Fig. 2 is a vertical sectional view on the line 2-2, Fig. 1;

Fig. 3 is a view in perspective of one of the player indicator elements;

Fig. 4 is a view in perspective of one of the parts of the player element shown in Fig. 3;

Fig. 5 is a section on the line 5-5, Fig. 1;

Fig. 6 is a view in perspective of a modified form of marker;

Fig. 7 is a view in perspective of still another form of marker, and

Fig. 8 is a sectional view on the line 8-8, Fig. 6.

With reference to the drawings, the device, in a preferred form, comprises a pipe frame 1 of substantially rectangular form having side up-rights 2 and 3, a top cross bar 4, and a lower cross bar 5. Each of the side up-rights 2 and 3 has at the bottom thereof a transverse base member 6, see Fig. 2, which is braced by struts 7 and 8 and in which are installed suitable caster or wheel elements 9 and 10. The pipe frame as a whole is supported upon the four wheels, two at each end of the frame.

Supported in the frame within the space between the cross bars 4 and 5 is a board 11. This board is composed in the present instance of a

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sheet 12 of ferrous metal, preferably steel, which is mounted in a frame 13. This frame has a pair of lugs 14 and 15 at the top edge, and corresponding lugs 16 and 17 at the lower edge, to which are secured straps 18, 19, 20 and 21, respectively, which embrace the cross bars 4 and 5, as shown in Figs. 1 and 2 and support the board 12 in the frame. Preferably, the steel or other ferrous metal sheet 12 is treated so as to render it substantially free from oxidation and to afford a surface suitable for receiving markings of a character produced by crayon, chalk or other suitable marking medium. If desired, the metallic board may be coated with a suitable protective coating having the marking properties mentioned above.

In the present instance, one face of the board 11 is marked off, see Fig. 1, to represent a football field, and the opposite side may be suitably marked to represent the playing field or court for another sport, such for example, as basketball, baseball, lacrosse, hockey or soccer; or, if preferred, one side of the board may be left entirely unmarked.

In conjunction with the structure described above, I provide a plurality of markers 22 of the form illustrated in Figs. 3, 4 and 5. Each of these markers comprises a permanent magnet 23, which, for example, may be of the generally cylindrical form illustrated in Fig. 4, with the cylindrical body of the magnet slotted at 24 to define the poles 25 and 26, and with the terminal ends 27 and 28 of these poles lying in a common plane. This magnet is secured within a cylindrical recess in an envelope 29 which may be made of plastic or other suitable material, and this envelope 29 has a lug 30 projecting transversely from the side thereof, as best shown in Figs. 3 and 5, the lug 30 having an aperture 31 which functions for a purpose described below.

In the use of the apparatus, the markers are placed with the poles of the magnets against the surface of the plate 12 which thereby acts as an armature to hold the magnets and hence the markers firmly in place as illustrated in Fig. 5. For football twenty-two such markers will normally be employed, eleven for each of the opposing teams, and the markers of one team may be distinguished by color from the markers representing the opposing team. The markers of each team may bear on their top surfaces different numbers from one to eleven, see Fig. 1, and these numbers may be identified with particular playing positions; or the markers may bear letters indicating playing position, such for

example as L. E., see Fig. 6, indicating left end. It will be apparent that each marker, by reason of the magnetic attraction, will maintain any position in which it may be placed or to which it may be moved upon the playing field. Each of the markers may be readily moved from place to place on the field by means of the lug 30, the aperture 31 being adapted to receive the marking end of a crayon or pencil 32 which may then be used, as illustrated in broken lines in Fig. 5, both to move the marker from one point to another on the field and to simultaneously mark upon the field a line corresponding to path of movement. A tray 33 may be provided in the frame, at the top, for example, of cross bar 5, see Figs. 1 and 2, for holding erasers, extra crayon, spare markers and other adjuncts.

The manner in which the device may be used for instruction or demonstration purposes will be apparent. The teams are initially lined up in the opposed formations preparatory to play, and the play itself may then be developed by moving the markers in the respective theoretical paths and by simultaneously marking the paths on the playing surface. The lugs 30 may be used to indicate the direction in which each of the players is facing at any given moment. The resulting visual analysis affords a highly effective medium for instruction. The playing board being upright and elevated is visible from relatively remote points and may be viewed readily by large groups of individuals; and the entire structure, being substantially immune to weather damage, may be used and stored in the open without material deterioration. Obviously, the markers may be moved by means other than a crayon where marking of the path of travel is not desired.

It may be found expedient at times to employ an extra marker representing the ball, and in order that the ball may be identified with an individual marker representing, for example, a ball carrier or pass receiver, marker of the form shown in Fig. 6 may be utilized. In this case the magnet 34 is of rectangular form with beveled edges 40, 40 for engagement in a dovetailed pocket in a retainer 41 at the underside of a lozenge shaped cap 35. The cap 35 and retainer 41 may be made of plastic and be cemented together. The cap 35 has a dovetailed recess in the top in which is set a strip 36 of ferrous metal with its upper surface flush with the upper surface of the cap. The cap contains an aperture 39 for a crayon or pencil, as previously set forth, and carries identifying letters at the opposite side of the strip 36 as previously described.

The marker 41 representing the ball may consist of a simple plastic plate, see Fig. 7, having a dovetailed recess for reception of flat magnet 42 capable of adhering magnetically to the strip 36 if placed on the top of the cap 35 of one or other of the player markers of the form shown in Fig. 6. The two markers will then be united by magnetic attraction so that in effect the one representing the ball will ride the other and will thereby indicate the carrier or receiver as stated above.

While the device is well adapted for game analysis and instruction, as described above, it may find useful application in other fields such, for example, as for visual demonstration of military, naval or air maneuvers and tactics using markers of appropriate form. In any of its uses it is well adapted for televised transmission.

- I claim:
1. For use in game instruction apparatus of a type comprising a flat metallic body member having a surface representing a play area, and a plurality of magnetic markers slidably adjustable and magnetically retainable in adjusted positions on said surface and representing individual players, a magnetic marker comprising a magnetic core, and a non-metallic envelope embracing the said core and including a projecting lug having an aperture, and a combined actuating and marking element insertable through said aperture and operative manually to move the marker in the play area and to simultaneously mark the path of movement on said surface.
 2. A magnetic marker according to claim 1 including an element of ferrous metal secured to the said non-metallic envelope and exposed at the upper surface of said envelope.
 3. A magnetic marker according to claim 2 including an individual second marker having magnetic properties and adapted to be superimposed upon the marker first named in operative contact with said ferrous element so as to be held thereon by said magnetic properties.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,605,703	Brown	Nov. 2, 1926
1,927,695	Andreas	Sept. 19, 1933
2,158,368	Hurt	May 16, 1939
2,254,810	Will	Sept. 2, 1941
2,330,951	Burmester et al.	Oct. 5, 1943