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ILLUMINATED FOOTBALL DOWN SIGNAL

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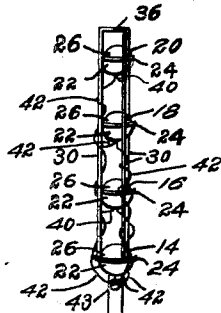


FIG. 1

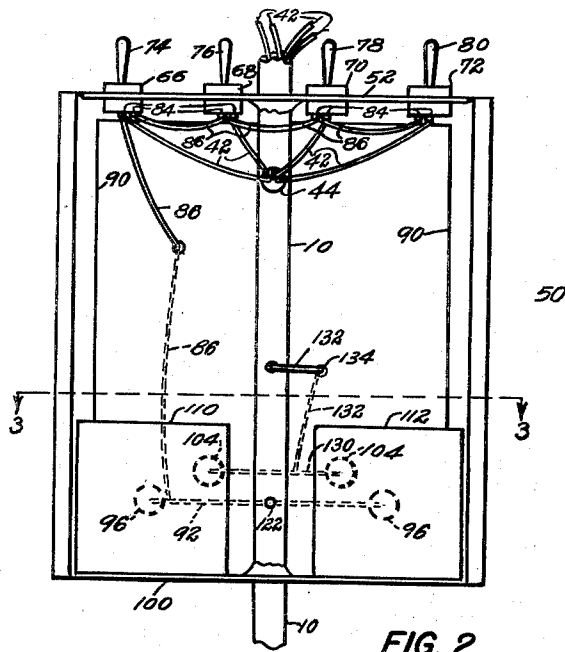


FIG. 2

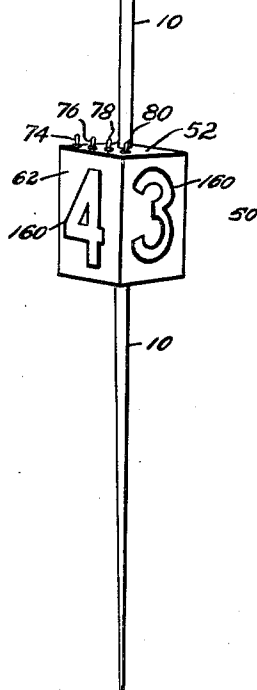


FIG. 3

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ILLUMINATED FOOTBALL DOWN SIGNAL

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5 Claims. (Cl. 177—329)

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The invention relates to the game of football and more particularly it is an object of the invention to provide a device for indicating the downs in a football game.

As is well known, in the past few years it has been becoming increasingly popular to play the game of football at night. Professional teams as well as the football teams of educational institutions are finding it possible to draw larger crowds at night games.

As is also well known, it has been the custom in both night and day football games for a linesman to indicate the downs during the progress of a football game by means of a short pole having a square box at its upper end. One end of the pole is rested upon the ground and as the game progresses, the box is rotated for alternately disposing differently numbered sides of the box facing the players and officials. By reading the number so displayed, the players and officials are able to ascertain which down is about to be played.

While these numbered boxes have been successful in the past for daylight football, they have been extremely difficult to see from the grandstand at night. A particular disadvantage has been that in the prior practice the down numbers have not been visible to the audience because the linesman usually stands between the down-box and the audience and further because the proper number has always been disposed toward the playing field only.

It is therefore an object of the invention to provide a down indicator which is visible to the audience as well as to the players and officials. It is also an object of the invention to provide an illuminated down indicator for greater visibility at night.

Another object of the invention is to provide a down indicator employing a row of spaced apart lights, the latter being more easily distinguished when the indicator is viewed at a distance than would be possible if only the numbers of the downs were themselves illuminated.

Another object of the invention is to provide a down indicator as described having lights of variegated colors each indicating a different down.

A further object of the invention resides in the provision of a down indicator having a row of spaced apart lights which are shielded from

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one another so that they do not tend to seem blurred together when viewed at a distance.

Yet a further object of the invention resides in the provision of a down indicator as described employing batteries and being of such a construction that the latter may be easily replaced at desired times.

A particular object of the invention resides in the provision of a down indicator as described which is substantially waterproof so that it is not affected by rain during use.

Still another object of the invention resides in the provision of a down indicator as described which adds to the attractiveness of night football games as well as facilitating the understanding of the game by the spectators.

A further object of the invention resides in the provision of a down indicator employing a plurality of lights, further having convenient means for switching the latter on and off.

Yet another object resides in the provision of a down indicator as described which is strong and durable in construction, reliable and efficient in operation, and economical in its manufacture and maintenance.

Other and still further objects and advantages of the invention will become apparent from the following detailed description thereof.

In the drawings:

Figure 1 is a perspective view of the down indicator of the invention shown in the upright position of use;

Figure 2 is a frontal elevation of the mid-section of the new device with its front door-panel removed, the view being taken by removing that panel shown in Figure 1 which displays the numeral "4"; and

Figure 3 is a view in section of the device as taken along the line 3—3 of Figure 2.

The down indicator of this invention includes an elongated frame or standard 10 preferably of tapered construction, having a pointed lower end gradually increasing in diameter upwardly to an upper end of larger diameter.

The standard 10 is tapered both for purposes of appearance and for providing a pointed lower end for convenient insertion into the surface of the ground so that when desired, the lower end of the standard may be rammed into the ground for maintaining the standard upright without other support.

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At the upper end of the standard 10, a plurality of light sources, or lamps 14, 16, 18 and 20 are provided. The latter are spaced apart and are disposed in a row one above another and in alignment with the standard 10.

The lights 14, 16, 18 and 20 are preferably four in number for indicating the four downs or chances of the side possessing the ball to advance the ball 10 yards in order to retain possession of the ball.

The lights are preferably each of a different color so that they are more readily distinguished by the audience. Each light preferably comprises a shield or base 22. The bases 22 are each of hemispherical shape and contain a socket and electric light bulb. The shields 22 are opaque so that the light rays emanating from the bulb contained in each of the bases is shielded from intermingling with the light from the next lower bulb at the source of such light rays, or adjacent the down indicator.

The bases 22 are disposed with their open sides disposed upwardly, as shown in Figure 1, or transversely of the standard 10. An outwardly flared flange 24 surrounds the upper end of each of the bases 22. The flanges 24 are provided with circular grooves on their inner side for receiving a translucent dome 26.

The domes 26 are each of a different color as previously described and are firmly held by the flanges 24 in a water-tight manner so that rain cannot enter between the domes 26 and the flanges 24. If desired, the domes 26 can be made of colorless and transparent material and the bulbs contained therein can be colored.

The lights 14, 16, 18 and 20 are maintained equidistantly spaced apart above the standard 10 by means of a plurality of elongated frame members 30, preferably three in number. The frame members 30 are disposed in parallelism extending upwardly and in parallelism with the standard 10. At their lower ends, the frame members 30 are welded to and are equidistantly spaced about the circumference of the flange 24 of the lamp or light source 14.

The standards 30 are each welded to each one of the other flanges 24 in similar manner. At their upper ends, the frame members 30 extend upwardly past the upper light source 20 a short distance. The upper ends of the frame members 30 are bent inwardly toward a center and are there welded or otherwise secured together, as best shown at 36.

Each of the light bulbs in the sockets or bases 22 is provided with two terminal wires 40 and 42. The terminal wires 40 are each electrically connected to the frame members 30 for grounding them to the frame members 30 and the standard 10.

The terminal wires 42 of each of the light sources are intertwined downwardly about the frame members 30 and enter an aperture 43 in the upper end of the hollow standard 10, traveling downwardly through the latter as best shown in Figure 2. At their lower ends the terminal wires 42 emerge from the standard 10 through an aperture 44 in the standard, the aperture 44 is disposed on the inside of a display member or number-box generally indicated at 50 in all figures.

The number-box 50 is preferably four-sided having a square top 52. The edges of the top 52 are down turned and are soldered or otherwise secured to three side panels 56, 58 and 60. The other or forward edge of the top 52 is dis-

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posed forwardly toward a door panel 62 of the box 50. The said forward edge of the top 52 is doubled back upon itself, as best shown in Figure 2, for finishing the edge.

The top 52 is provided with a row of spaced apart apertures extending in parallelism and spaced inwardly from the door panel 62. The said apertures are for the purpose of receiving a plurality of switches having bases shown at 66, 68, 70 and 72.

The switches are four in number and are each provided with a throw lever 74, 76, 78 and 80, respectively. Each of the switches is provided with two terminals 84, one terminal 84 of each being attached to the lower terminal end of one of the wires 42, which latter extend into the aperture 44.

The other terminal 84 of each of the switches is interconnected with a like terminal on each of the other switches by means of a wire 86. The wire 86 in turn extends downwardly in front of the back side 58 of the box 50. The wire 86 is insulated from the back side 58 by an insulation panel 88 which latter is formed of a flat sheet of insulating material extending in parallelism with the back side 58.

The wire 86 extends downwardly between the insulation panel 88 and a terminal button board 90, which latter is also formed of insulating material and extends in parallelism with the back 58, being disposed forwardly of the wire 86 and of the insulating panel 88.

At its lower end, the wire 86 extends to and is interconnected with a wire 92 which interconnects a pair of spaced apart terminal buttons 96 which latter extend through the terminal button board 90 and are disposed extending outwardly therefrom toward the interior of the box 50.

The terminal buttons 96 are spaced apart on opposite sides of the box 50 and are disposed equidistantly spaced upwardly from the bottom 100 of the box.

The button board 90 is also provided with a second pair of buttons 104 which latter are similarly equidistantly spaced upwardly from the bottom 100 with respect to each other. The buttons 104 also extend through the button board 90 toward the interior of the box 50. Any suitable means, not shown, may be employed for securing the button board 90 and insulation panel 88 to the rearward side 58 of the box 50.

The purpose of the buttons 96 and 100 is to make contact with two similar pairs of buttons 106 and 108 which latter form the terminals of a pair of batteries 110 and 112.

The batteries 110 and 112 are preferably of the common dry cell type and rest upon the bottom 100 of the box 50, being held in place against the terminal buttons 96 and 104 by means of a push-bar 120.

The push-bar 120 is elongated and is provided with an aperture at its center of a size for the reception of a bolt 122 which latter is suitably secured at one of its ends to the standard 10 at a point disposed between the batteries 110 and 112. The bolt 122 extends forwardly toward the door panel 62 and at a right angle with respect to the standard 10.

The bolt 122 is provided with a wing nut 124 thereon for the purpose of bearing against the push-bar 120 to maintain the batteries 110 and 112 in position.

A wire 130 is secured to each of the terminals 104 between the terminal board 90 and the insulation panel 88. The wire 130 is in turn secured

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to a wire 132 which extends upwardly from the wire 130 and through an aperture 134 in the terminal board 90.

The upper end of the wire 132, then is secured to the standard 10 for grounding the wire 134 and placing the latter in electrical connection with the grounded wire 40 of each of the light sources 14, 16, 18 and 20.

The bottom member 100 of the box 50 is provided with a plurality of upturned edges 140 which are welded or otherwise suitably secured to the sides 56, 58 and 60. The forward edge of the bottom 100 is turned upwardly and doubled back upon itself to form a finished edge 142, as best shown in Figure 3. The sides 56 and 60 of the box are turned inwardly at their forward ends for short uniform distances to provide parts of a vertically disposed track 150.

A pair of elongated track members 152 are provided and are constructed of a right angular shape in cross section for disposing one arm thereof spaced apart from and in oppositely disposed parallelism with one of the tracks 150. The other arm of the track members 152 is disposed between and secured to the upturned edge 140 of the bottom 100 and the adjacent side 56 or 60 respectively of the box 50.

The outside of the box 50 is provided with the numbers 1 to 4 extending sequentially about the sides 56, 58 and 60 and the door panel 62.

The top 52 of the box 50 is provided with the numbers 1 to 4 placed adjacent each of the switches 74, 76, 78 and 80 in sequential order.

In use at a night football game, a linesman will hold the standard 10 at the edge of the playing field and opposite the position of the ball. Prior to the first of four downs, the operator will throw the switch lever 74 and illuminate the lowermost of the lights 14, the upper lights being off.

Prior to a second down, the operator will then throw the switch lever 76 so that the lights 14 and 16 will be on. Prior to the third and fourth downs, the switches 78 and 80 will be respectively thrown and a resultant colorful lighting display will add to the attraction of the football game.

Simultaneously with the throwing of each of the switches, the operator will rotate the standard 10 about its axis for displaying the proper numeral 100 for indicating a down to those spectators sitting near enough to see the numerals.

Since the levers 74, 76, 78 and 80 are disposed in a row, the operator may quickly throw all levers at once for shutting off all lights after a fourth down. This may easily be done by a single motion of the hand, the switches being spaced apart so as to extend no greater distance than the length of the average man's palm.

At a time when it is necessary to remove the batteries 110 and 112 for replacement, the door panel 62 may be slid upwardly between the tracks 150 and the track members 152 and removed from the box. The box will then be as shown in Figure 2. The wing nut 124 may then be loosened and the push-bar 120 and the batteries 110 and 112 removed and replaced by fresh batteries.

The door panel 62 may be provided at its upper end with an inwardly turned flange extending in parallelism therewith and extending a desired short distance across the top 52 of the box 50 to prevent rain from entering the box 50.

It will be seen that this invention has provided a down indicator particularly adapted to add to the understanding and attractiveness of night

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football games; and of durable, economical and substantially waterproof construction.

From the foregoing description, it is thought to be obvious that a down indicator constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated and it will also be obvious that my invention is susceptible of some change and modification including variations in the shape and size of the parts, without departing from the principles and spirit thereof and for this reason, I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice, except as claimed.

I claim:

1. A device for the purpose described comprising an elongated standard pointed at one of its ends; a plurality of spaced apart signal lights disposed in a row extending in alignment with said standard and mounted on the other end of said standard, each of said lights being of a different color for indicating the downs of a football game; means for shielding said lights from each other; a hollow box-shaped portion secured to said standard between the ends of the latter, said portion having a front door panel disposed during operation in parallelism with said standard, said box-shaped portion having track means for slidably receiving said panel, said box-shaped portion also having three sides disposed in parallelism with said standard and a top and bottom secured to said sides and disposed at a right-angle thereto; a different numeral indicating a down of a football game being displayed on each of said sides and said door panel; at least one battery disposed in and secured to said box; means including switches for electrically interconnecting said battery and said lights at desired times, said switches being secured to the top of said box-like portion and being disposed spaced apart in a row in parallelism with an edge of said top, said switches each being provided with a pivotally mounted control lever upwardly extending from said top.

2. A device for the purpose described comprising an elongated standard; a plurality of spaced apart light sources mounted on said standard said sources each being distinguishable from the others; a numeral-bearing portion secured to said standard between the ends of the latter, said numeral-bearing portion having a plurality of sides disposed in parallelism with said standard; a different numeral indicating a down of a football game being displayed on each of said sides; means for independently actuating each of said light sources.

3. A device for the purpose described comprising an elongated standard pointed at one of its ends; a plurality of signal lights mounted on the other end of said standard; a hollow box-shaped portion secured to said standard medially thereof, said box having a front door panel disposed during operation in parallelism with said standard, said box-shaped portion having track means for slidably receiving said panel, said box-shaped portion having three sides in parallelism with said standard and a top and bottom secured to said sides and disposed at a right-angle thereto; numerals indicating the downs of a football game being displayed on said sides and door panel; at least one battery disposed in said box; and means including switches for electrically

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interconnecting said battery and said lights at desired times.

4. A device for the purpose described comprising a standard; a display member secured to said standard, said member having four surfaces disposed facing four different directions, a first two of said surfaces being disposed in parallelism with each other, the other two of said surfaces being disposed in parallelism with each other and at a right angle with respect to said first two surfaces; numerals one to four inclusive disposed one each on said surfaces; a plurality of spaced apart light sources mounted on said standard, said sources each being distinguishable from the others; and means for independently actuating said light sources.

5. A device as described in claim 4 in which

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said display member is hollow and substantially waterproof, and said actuating means includes at least one battery disposed between said surfaces.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,236,647	Alt	Aug. 14, 1917
1,510,188	Mattke	Sept. 30, 1924
1,554,469	Thomson	Sept. 22, 1925
2,375,121	McClellan	May 1, 1945
2,401,940	Lange	June 11, 1946