June 18, 1957 J. K. BENFIELD, JR., ET AL 2,795,853

FOOTBALL YARD MARKER

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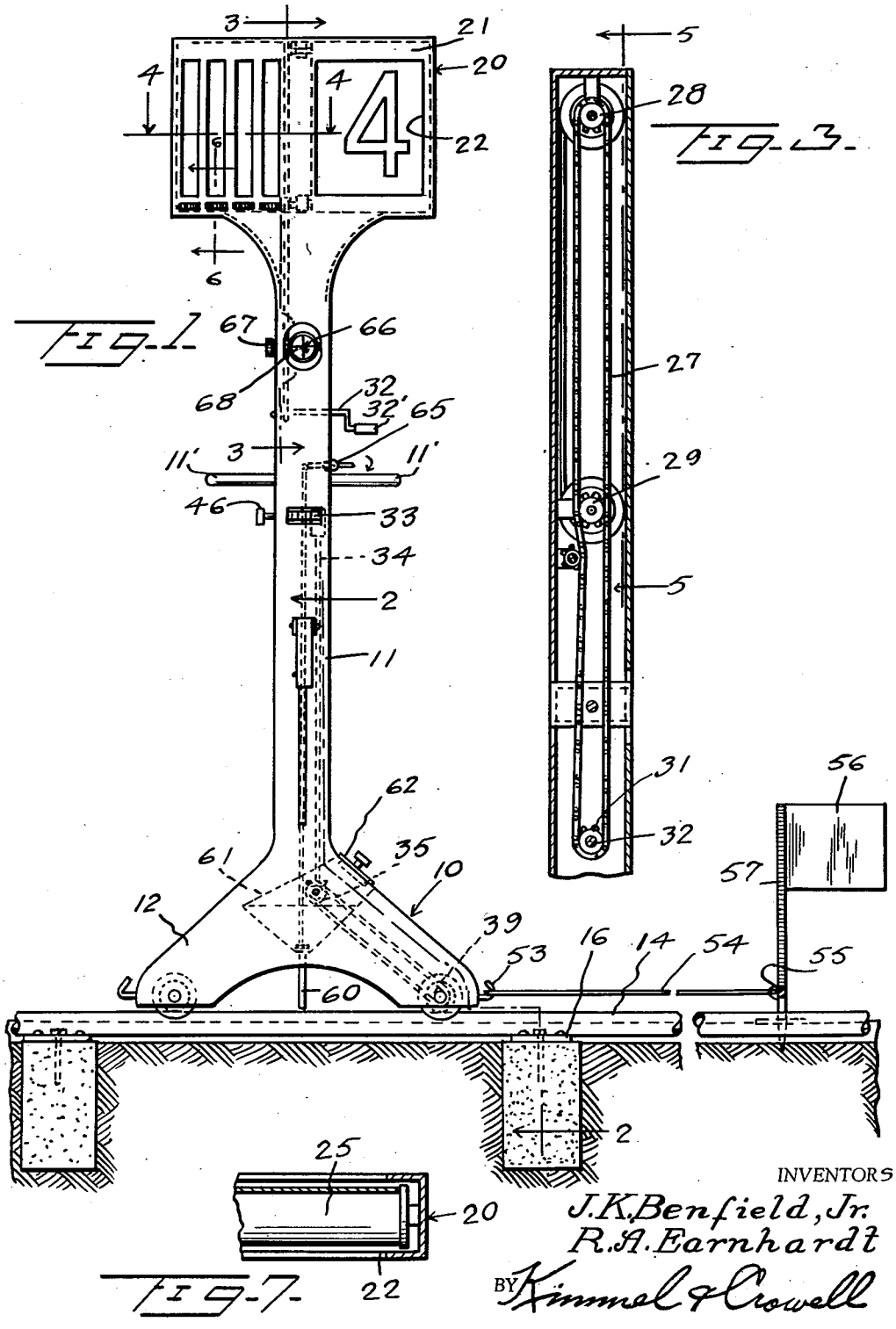


FIG. 1.

FIG. 3.

FIG. 7.

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Fig. 2.

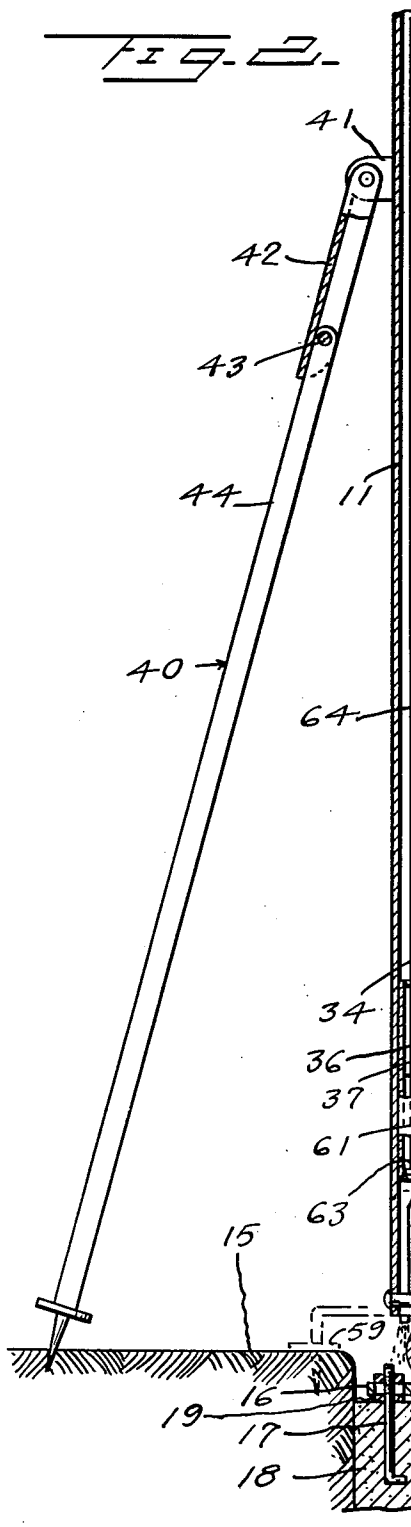


Fig. 4.

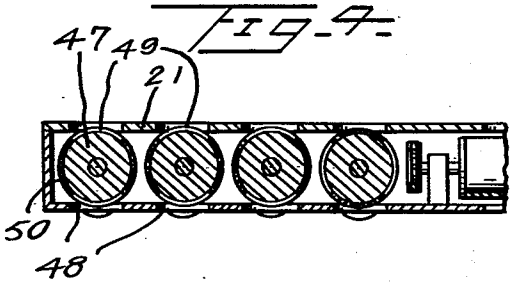


Fig. 5.

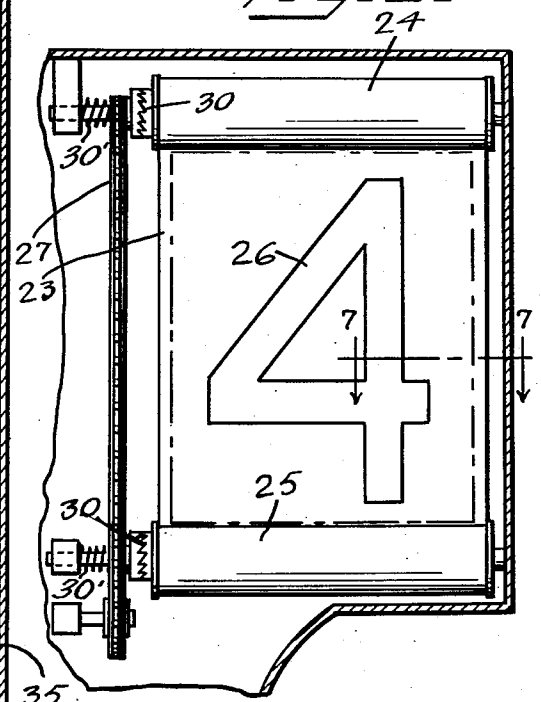
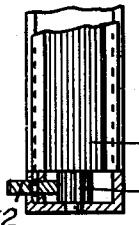


Fig. 6.



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FOOTBALL YARD MARKER

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Application September 27, 1954, Serial No. 458,376

2 Claims. (Cl. 33—46)

This invention relates to a marker for use in playing football.

An object of this invention is to provide a marker for use in indicating the progress of the offensive team during the course of the game, so that the spectators can follow the game more closely. However, the primary purpose of this invention is to provide a means for accurately controlling the placement of the ball and accurately measuring first downs, penalties and the various factors where accurate notations by the officials are required.

Another object of this invention is to provide a rail longitudinally of the field and at one side thereof on which a movable marker engages, with the marker having changeable data for indicating the yards-to-go for the particular series of downs, and also including a sighting element whereby the marker may be positioned exactly in line with the leading end of the fotball.

A further object of this invention is to provide a football marker which is relatively simple in construction and at least partly automatic in operation so that the data displayed by the device will be accurate.

With the above and other objects in view, our invention consists in the ararngement, combination and details of construction disclosed in the drawings and specification and then more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a detail side elevation of a football yard marker constructed according to an embodiment of this invention.

Figure 2 is a fragmentary vertical section taken on the line 2—2 of Figure 1.

Figure 3 is a fragmentary vertical section taken on the line 3—3 of Figure 1.

Figure 4 is a fragmentary horizontal section taken on the line 4—4 of Figure 1.

Figure 5 is a fragmentary vertical section taken on the line 5—5 of Figure 3.

Figure 6 is a fragmentary vertical section taken on the line 6—6 of Figure 1.

Figure 7 is a fragmentary sectional view taken on the line 7—7 of Figure 5.

Referring to the drawings, the numeral **10** designates generally a hollow base of substantially inverted V-shape which has fixed thereto a tubular column **11**. The column **11** is provided with opposed handles **11'**. The base **10** has rotatably disposed in the two divergent arms **12** thereof a pair of grooved wheels **13** which are adapted to ride on a horizontal guide rail **14**. The guide rail **14** is disposed slightly above the normal ground surface **15** and has fixed to the lower side thereof at spaced intervals a plurality of base plates **16** which are fixed by anchor bolts **17** to embedded concrete blocks **18**.

The base plates **16** may be levelled by inserting shims **19** between the plates **16** and the upper sides of the blocks **18**. The tubular column **11** has mounted on the upper end thereof a substantially rectangular housing **20** which

is formed in the opposite side walls **21** thereof with window openings **22**. A flexible indicia-carrying web **23** is mounted on upper and lower rollers **24** and **25** disposed in the housing **20**, and the web **23** has indicia **26** disposed on the opposite faces thereof for exposure through the window openings **22**. The rollers **24** and **25** are rotated to wind or unwind the web **23** by means of a chain **27**. The chain **27** is trained about a sprocket **28** fixed relative to the upper roller **24**, and chain **28** also engages a roller sprocket **29** fixed relative to the lower roller **25**.

As shown in Figure 5, the sprockets **28** and **29** are for resetting purposes detachably coupled to the rollers **24** and **25** by means of complementary tooth clutch members **30** normally biased to engaged position by springs **30'**. The chain **27** extends downwardly into the column **11** as shown in Figure 3 and engages about a driving sprocket **31** fixed on a crank shaft **32** having a handle **32'** exteriorly of column **11**. The indicia **26** is adapted to indicate the yards-to-go for the offensive team.

A counter **33** is fixed to the column **11** betwen the upper and lower ends thereof and is operated by movement of the device along the rail **14** by means of a vertically disposed shaft **34** which is connected with a sprocket **35** through a pair of bevelled gears **36** and **37**. The sprocket **35** is operated by means of a chain **38** which is trained about a lower sprocket **39** fixed relative to one of the grooved wheels **13**.

The column **11** is adapted to be supported in substantially upright or vertical position by means of a collapsible leg or brace **40** which is secured between a pair of ears **41** carried by the column **11**. The leg **40** includes an upper short leg member **42** pivoted as at **43** to the lower long leg **44**. When the leg or brace **40** is collapsed, the leg member **42** is swung upwardly against the column **11**.

The counter **33** is adapted to indicate the correct yardage which is to be made by the offensive team, and the yard indication carried by the counter **33** is duplicated by the larger indicator formed by the web **23** and the indicia **26**. The counter **33** is of the reset type having a resetting member **46** whereby the indications of the counter **33** may be reset to zero or any other desired numeral.

The downs of the play are indicated by means of a plurality of manually adjustable down-indicating rollers **47** which are carried by the housing **20**. These down-indicating rollers **47** are vertically disposed and are positioned between the walls **21** which are formed with window openings **48**. Each roller **47** is provided with pairs of differentiating colors or stripes **49** and **50** which are adapted to be exposed through the window openings **48**. The lower ends of the rollers **47** have a toothed wheel **51** secured thereto which is engaged by a manually operable roller-adjusting wheel **52**.

As an example, the stripes **49** and **50** may be colored black and white respectively or any other color which differentiates from the color of the housing **20**. When one down has been completed, the first or outer roller **47** is turned so as to expose the differentiating color; and as the downs proceed, the succeeding rollers **47** are also turned.

The structure hereinbefore described has a pair of hooks **53** secured to the opposite ends of the base **10** with which a flexible yard-marking line **54** is adapted to be connected. The line **54** is a ten-yard line, and the outer end of the line **54** has a U-shaped member **55** secured thereto which includes a flag **56** secured to a spring or flexible staff **57**. The staff **57** is secured to the horizontal portion of the anchoring member **55**. As shown in Figure 2, the vertical ground-piercing points **58** of the anchoring member **55** have plates **59** secured

thereto so as to limit the projection of the legs **58** into the ground.

The position of the marker hereinbefore described is spotted by means of a spotting powder which is released from a delivery tube **60**. Tube **60** extends downwardly from the base **10** and from a powder receptacle **61** disposed in the upper portion of base **10**. The receptacle **61** includes a cover plate **62** disposed on the outer upper portion of the base **10**.

Delivery valve **63** is disposed at the upper end of the tube **60** within the receptacle **61**, and the valve **63** is secured to the lower end of a valve-operating rod **64** which extends vertically and upwardly in the center of column **11**. The upper end of the rod **64** has secured thereto a valve-operating lever or trigger **65** which is spring pressed so as to maintain the valve **63** in normal closed position.

In the use and operation of this device, the guide rail **14** is mounted in a channel laterally of one side line of the playing field. When the football is placed on the ground at the end of a play, the ball is spotted by means of a spotter or sighting member **66** which is mounted on a horizontal shaft **67** extending through the column **11**. The exact position of the ball is determined by means of a pair of crossed wires **68** disposed in the tubular spotting member **66**. When the correct position of the ball has been determined, the flexible line **54** is extended outwardly to its full length which is ten yards from the marking tube **60**, and the anchoring member **55** is then pressed downwardly into the ground with the flag **56** held by the flexible or spring staff **57**.

In the event the play progresses forwardly, the structure hereinbefore described is moved progressively forwardly after first spotting the initial ball position by discharging powder through the pipe **60**.

If the offensive team should lose ground so that more than ten yards must be made in the series of downs, the yard-marking line **54** is uncoupled from the adjacent hook **53** and the structure embodying the base **10** and the column **11** is then moved backward until the device is in direct line with the forward or leading end of the ball which is spotted through the sighting member **66**.

As the device is moved forward or backward on the rail or guide **14**, the counter **33** will indicate the correct yards to be gained and the operator of the device will then turn the crank shaft **32** so that the yards indicated by the counter **33** will be duplicated by the indicia **26**.

What is claimed is:

1. A football marker comprising a horizontal rail disposed lengthwise of the playing area, a hollow base member, a pair of grooved wheels carried by said base member and engaging over said rail, a hollow column rising from said base, a changeable exhibitor carried by the upper end of said column, said exhibitor comprising upper and lower horizontal rollers, a flexible indicia-bearing web wound about said rollers, an operator for said rollers disposed in said column, a flexible connection between said operator and said rollers, a plurality of down-indicating rollers disposed in vertical side-by-side relation, and a separate adjusting means for each of said down-indicating rollers, and a ball-sighting member carried by said column.

2. A football marker comprising a horizontal rail disposed lengthwise of the playing area, a hollow base member, grooved wheels carried by said base member engaging said rail, a tubular column carried by said base member, a rectangular housing at the upper end of said column, said housing having opposed vertical sides formed with a plurality of window openings, a vertical indicia-bearing web exposed through a pair of said openings, a plurality of vertical down-indicating rollers rotatably carried by said housing and exposed thorugh the remaining ones of said openings, upper and lower winding rollers for said web, a roller operator carried by said column, a flexible connection between said operator and said rollers, a linear indicator carried by said column, and an operative connection between said linear indicator and one of said wheels.

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