United States Patent

Mathis

[15] **3,700,238**

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[54] **OFFENSIVE TRAINING COORDINATOR**

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[52] **U.S. Cl.** ..... **273/55 R**
[51] **Int. Cl.** **A63b 67/00**
[58] **Field of Search** ..... 273/55 R, 55 A

[56] **References Cited**

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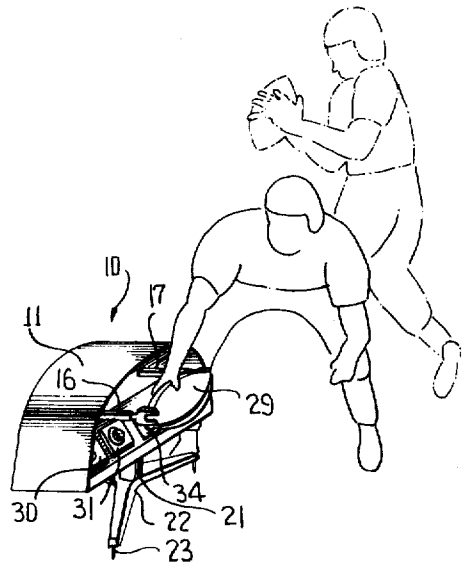
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[57] **ABSTRACT**

A machine for developing proficiency of a quarterback and pass receivers in football including a structure resembling the center of a football team and having a pair of arms adjacent the buttocks of the simulated center for supporting a football and having timing devices associated with the arm for sounding audible signals upon removal of the football from the arms by the quarterback preparatory to releasing the ball in response to timed signals.

11 Claims, 6 Drawing Figures



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SHEET 1 OF 2

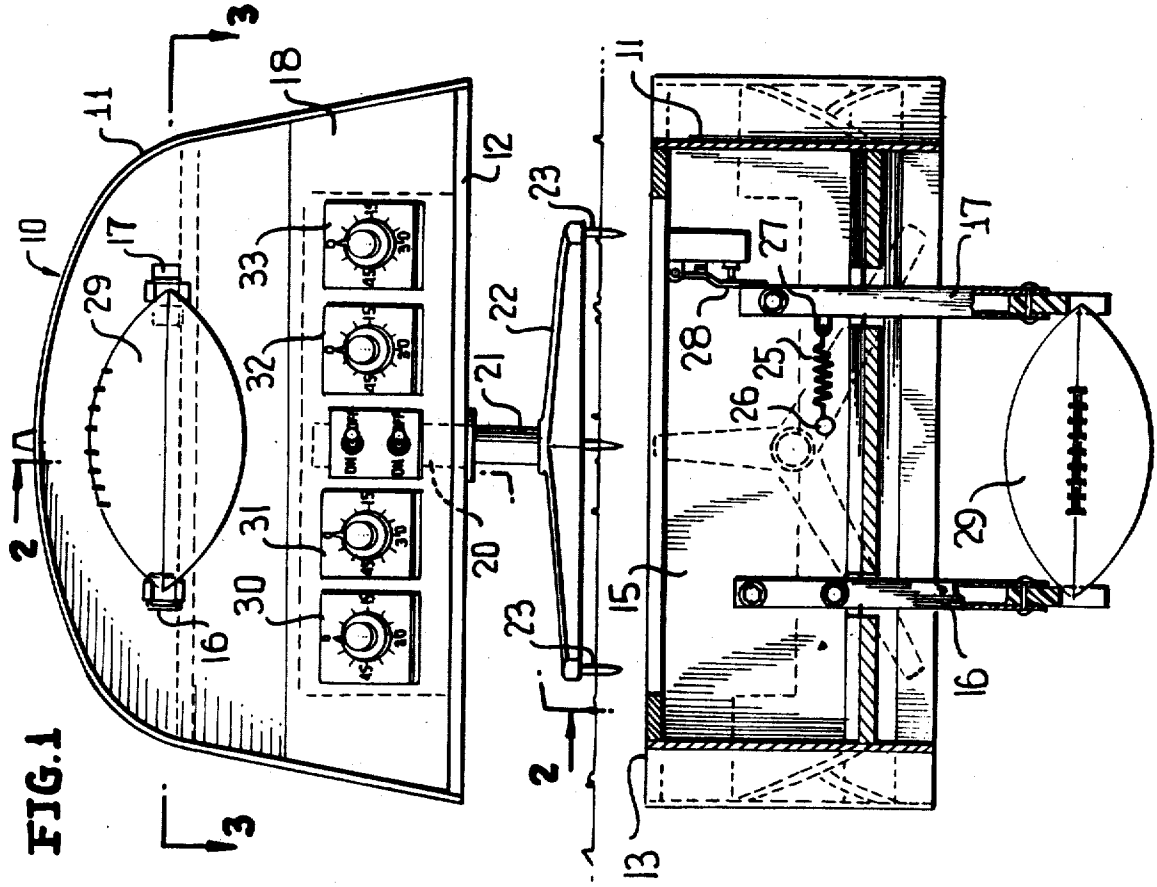


FIG. 1

FIG. 3

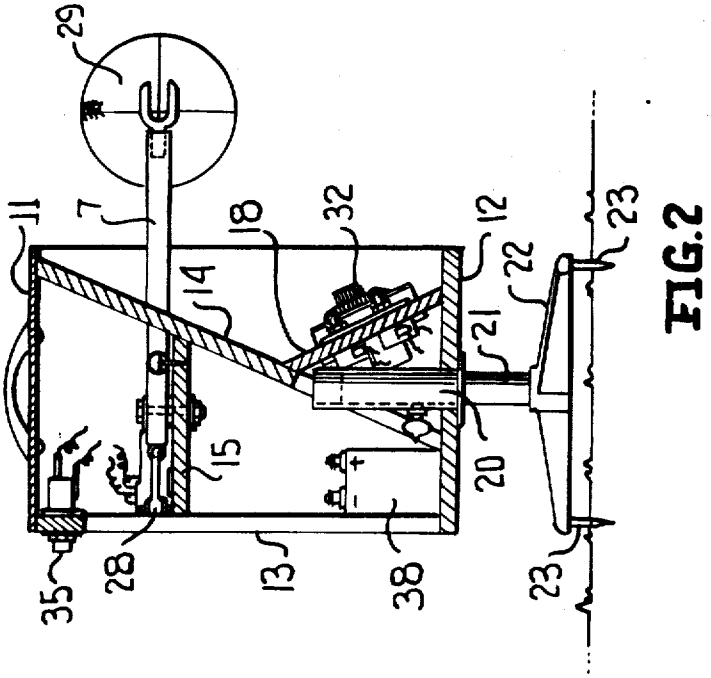


FIG. 2

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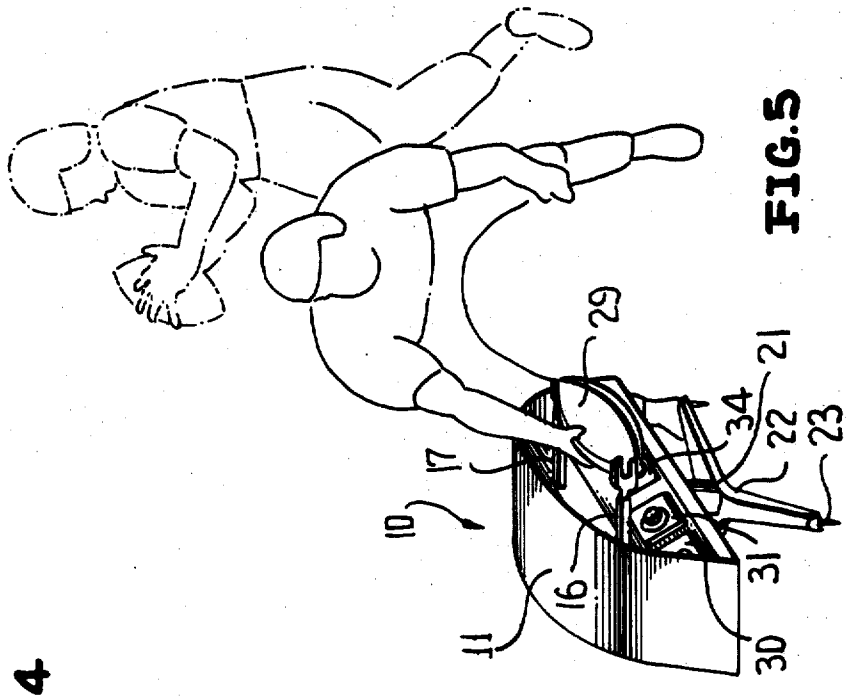


FIG.5

FIG.4

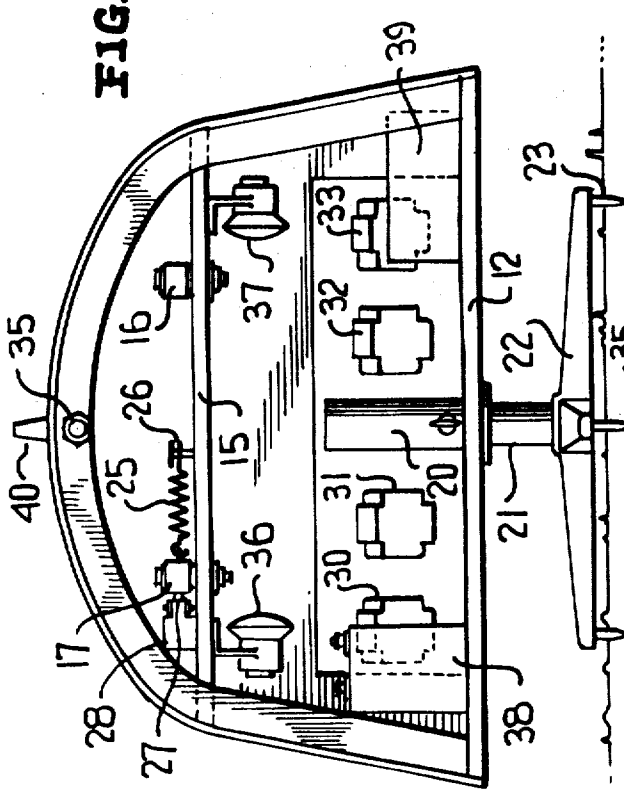
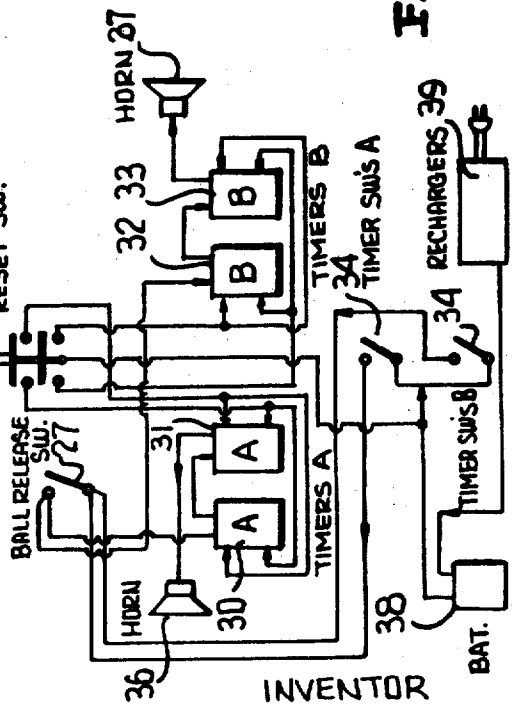


FIG.6



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OFFENSIVE TRAINING COORDINATOR

BACKGROUND OF THE INVENTION

This invention relates generally to football practice. An important part of football practice involves physical body contact between linemen and also the use of mechanical devices like tackling dummies, charging sleds and the like. An equally important aspect of football practice is to develop ball handling proficiency on the part of the quarterback both in handing of the ball to his backfield men and acquiring skill in passing. An important part of both ball handling and passing on the part of the quarterback, aside from accuracy, is the speed with which the quarterback releases the ball.

SUMMARY OF THE INVENTION

The present invention involves an apparatus for developing speed on the part of a quarterback in releasing the football after the ball has been received from the center. In the present invention, a special machine is used to replace the center and actually simulates the rear end of a center in position to snap the ball to the quarterback. The machine includes a plurality of timers electrically connected to a pair of sounding devices in the form of horns. The play is started by the quarterback setting the first timer to any setting ranging from 0 seconds to 5 seconds. This is referred to as a delayed setting and is illustrated briefly as follows. If the quarterback has set the first timer on 2 seconds and the second timer on 1 second, the following events take place. When the football is removed from the machine, this energizes the first timer and when two seconds have elapsed it will blow a horn in accordance with the setting of the second timer. This tells the quarterback whether or not he has released the football in the time he has allowed himself to do so. No resetting of the said timer is necessary. He may replace the ball in its original fixed position and practice this same particular play over and over until he has it mastered.

If the offensive coach was working with pass receivers, their particular assignment was as follows:

The right end is to run at maximum speed to the 15 yard line, fake his defensive man to his left, turn 90° to the right and take three steps, his assignment would be for him to receive the football on his third step, which would take 3½ seconds. To simulate this on the machine, the offensive coach merely sets the first timer on 3½ seconds and the second timer on one-tenth second. When the offensive coach gives the receiver the word, the receiver falls out from the offensive line to complete this assignment. If he runs this assignment correctly and on his third step, the horn commences to blow and he is looking to receive the football, he ran a perfectly executed assignment. In the event he was late and the horn blew prior to where he was supposed to be then the pass would have been overthrown or underthrown.

This offense training coordinator can simulate any play a quarterback wishes to choose, any backfield running plays to any fixed position. This offensive trainer can completely coordinate the kicking team in all aspects to perfection. The offensive trainer coordinator can simulate any offense or defense play in football.

BRIEF DESCRIPTION OF THE DRAWING

FIG. **1** is a front view of the machine forming the subject of the present invention;

FIG. **2** is a vertical sectional view taken on the line **2—2** of FIG. **1**.

FIG. **3** is a horizontal sectional view taken on the line **3—3** of FIG. **1**.

FIG. **4** is a rear view of the machine shown in FIG. **1**.

FIG. **5** is a perspective view of the present machine illustrating the relative position of a quarterback in position to operate the machine, and

FIG. **6** is a block diagram of the electrical system of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings in detail, numeral **10** designates the casing consisting generally of a curved member **11** forming the top and sides of the machine. The casing may be made of plastic, metal or wood of any desired thickness. The casing simulates the rear end of the center and can be of appropriate size to function as a center in bent over position. The casing includes a bottom wall **12** and a rear wall **13**. An inclined partition wall **14** extends from the bottom **12** to the top panel for increased rigidity and support. Numeral **15** designates a mounting shelf for the football arms **16** and **17** extending from the front of the machine for a purpose to be described. An inclined panel **18** is connected to the bottom wall **12** and the inclined partition wall **14**. A removable rear panel **19** is provided at the rear of the casing.

The casing is supported by a suitable leg support. The support may be of any suitable construction using individual legs adjustably secured to the casing or by means of a supporting stand as shown in the drawings. As shown, a hollow cylindrical bearing **20** is secured to the bottom of the casing and projecting above said bottom. Adjustably received within said bearing **20** is the vertical rod **21** of pedestal three pronged pedestal base **22**, the prongs **23** forming anchors for anchoring the pedestal in the ground against accidental movement. If desired, the machine can be used indoors in which case suction cups for the prongs can be provided to anchor the machine to a smooth surface without defacing the surface. The casing is mounted on the leg structure for limited vertical adjustment in the height of the casing from the ground.

As seen in FIGS. **1**, **2**, **3** and **16**, numeral **24** designates the football which may vary slightly in size depending upon use in professional, collegiate, highschool, junior league or minor league. The football is carried by the arms **16** and **17** and is held in position for immediate release by the quarterback as shown in FIG. **5**. Arm **16** is spring urged inwardly by a spring **25** anchored at one end to mounting shelf **15** at **26** and at its other end to the inner end of arm **17** at **27**. The spring is such as to permit accommodation of different sized footballs as pointed out above and also serves to operate the ball release switch **28** for starting the electrical system to initiate the start of the trainer. It will be apparent that removal of ball **29** will release the pressure on arm **17** causing spring **25** to function to pull outer end of arm **17** inwardly and inner end of arm **17** outwardly to cause closing of switch **28**.

As seen in FIG. 4 timing units 30, 31, 32 and 33 are mounted on panel 18. These are conventional timers having a timing range from 0 seconds to 5 seconds either on delay or off delay and any dial setting within one-tenth second. A toggle switch 34 is also mounted on plate 18 and operates either set of timers 30, 31 or timers 32, 33 or operating both sets simultaneously. Numeral 35 mounted at the upper end of the front of the machine denotes a reset electrical double pole switch. This switch energizes the timing devices with or without the football in its fixed position in the present machine. The switch 28 is a microswitch and as previously described is connected to the inner end of arm 17. When the football is removed from the machine, this switch is closed, thus energizing the timing devices on an off delay timing. Two horns 36 and 37 are mounted to the underside of mounting shelf 15 as shown in FIG. 4 and operate from a 6 or 12 volt AC battery unit 38 optional with 110 volt current. The battery 38 which is optional may be hooked up to a battery charger 39 which comes with the present machine and is a standard charger for any 6 or 12 volt charging system. A carrying handle 40 is provided at the top of the casing for use in transporting the machine.

In the operation of the present invention, timer 30 is set for 1 second and timer 31 set for three-tenth of a second. The third timer 32 is set for 4 seconds and the fourth timer is also set for 4 seconds. When these procedures have been completed and the football is removed from its fixed position, the following events will take place. When the football has been removed from its fixed position and one second later, a horn will blow for three-tenth second, the third timer when the fourth second occurs, the second horn will commence blowing at the 4 second interval and blow for 4 seconds and turn off. Various and numerous combinations can be achieved by setting these timers in any fixed position in one-tenth of a second setting as the individual may wish.

Although the preferred embodiment of the present machine has been described in detail, it will be understood that within the purview of this invention various changes may be made in the forms, materials, proportions and arrangement of parts, the combination thereof and mode of operation without departing from the spirit of the invention or the scope of the appended claims.

What is claimed is:

1. A football handling apparatus comprising a simulated center device, said center device including ball holding means, said ball holding means including at least two timers, a sounding means controlled by said timers and adapted to start sounding at a specified time and terminating at a specified time controlled by said first and second timers, respectively, means setting said timers into operation upon removal of a ball from said ball holding means, said sounding means serving as a signal to the players indicating the time alloted in which to accomplish a selected play execution.

2. A device as defined in claim 1, said ball holding means comprising a pair of spaced arms, one of said arms being pivotally mounted for inward movement, a spring for moving said arm inwardly, said timer setting means including a switch mounted at the inner end of said arm, said switch completing a circuit with said timers to operate the sounding means.

3. A device as defined in claim 2, a second pair of timers, a second sounding means operated by the second pair of timers, and a second switch for operatively connecting said second pair of timers with the first pair of timers.

4. A football handling apparatus comprising a simulated football center device, said center device including a ball holding means comprising a pair of spaced arms, a ball held between said arms, one of said arms being pivotally mounted, spring means urging said pivotally mounted arm inwardly to press against said ball and to swing inwardly when said ball is removed for ball handling, one end of said pivoted arm having a switch connected thereto for completing a circuit and related to a pair of timers, a sounding means operated by said timers, preset means on said respective timers for controlling the start and duration, respectively, of sounding of the sounding means, said sounding means serving as a signal to the players indicating the time alloted in which to accomplish a selected play execution.

5. An apparatus as defined in claim 4, a second pair of timers, a second switch for connecting said timers to said circuit, and a second sounding means connected to said circuit, said second set of timers respectively starting and operating said second sounding means for a selected period of time after a preset period of time.

6. An apparatus as defined in claim 5, said simulated center device mounted on a stand resting on the ground and means on said stand for adjusting the height of the simulated center device.

7. In a football practice system, means for securing a football, said means including arms between which said football is removably interposed, said arms being maintained separated by said football, at least one of said arms having in association therewith a switch open while said football is interposed between said arms, spring means urging said arms together and thereby urging said switch into closed condition, a first timer, means responsive to closure of said switch for initiating a first timing operation of said first timer, a second timer operative to initiate a second timing operation in response to completion of said first timing operation, and a normally inoperative alarm responsive to provide an alarm during said second timing operation, said alarm serving as a signal to the players indicating the time alloted in which to accomplish a selected play execution.

8. The combination according to claim 7, wherein said alarm is an audible alarm.

9. The combination according to claim 7, wherein said timers are individually adjustable as to durations of said timing operations.

10. The combination according to claim 9, wherein is further provided means for at will commonly resetting said timers.

11. The combination according to claim 9, wherein each of said timers is arranged and adapted to initiate a preset timing operation in response to closure of a first switch and to be reset in response to closure of a second switch.

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