June 5, 1956 J. R. MYERS 2,749,121

FOOTBALL PRACTICE DEVICE

Filed March 20, 1952 3 Sheets-Sheet 1

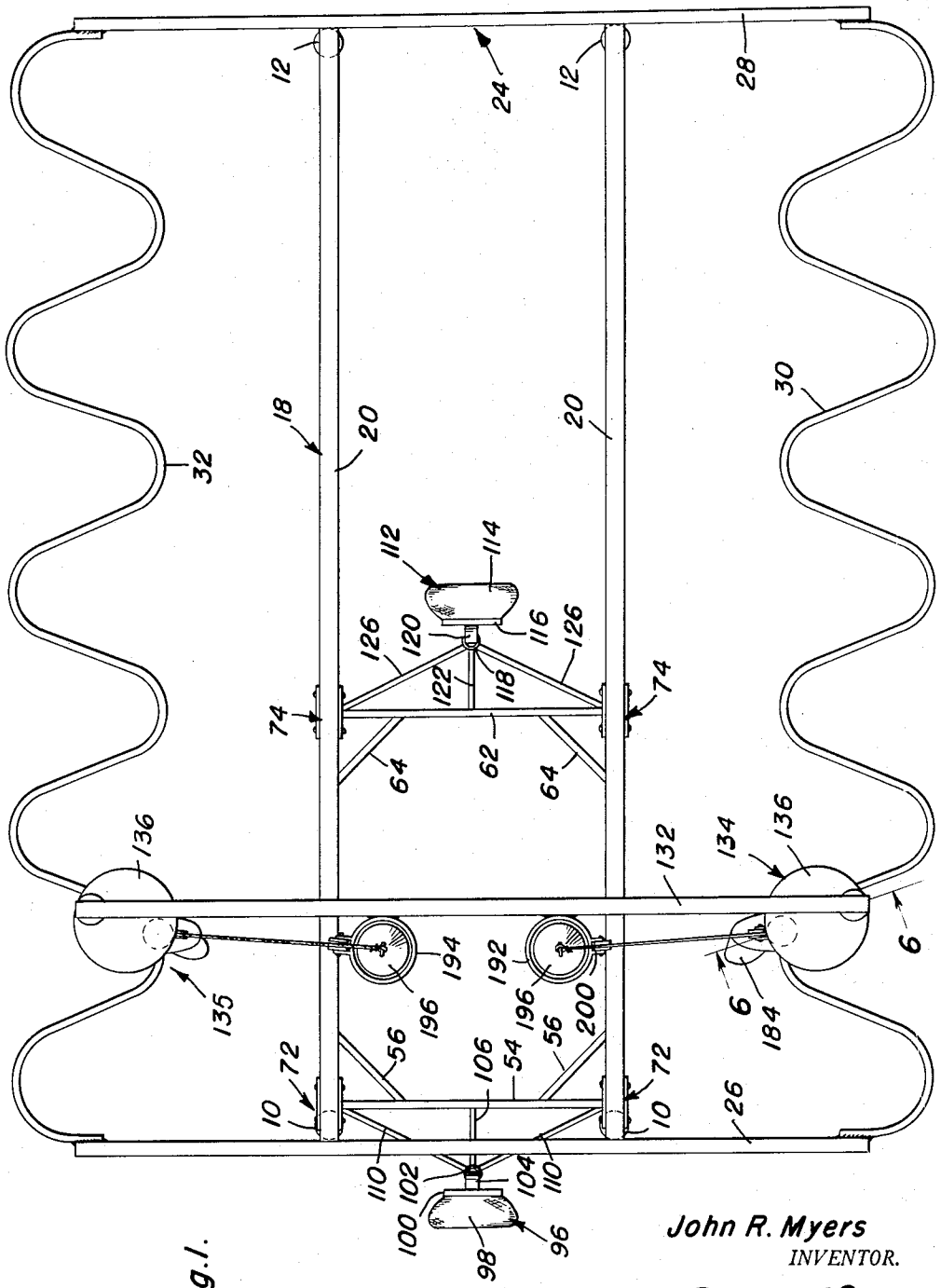


Fig. 1.

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Fig. 4.

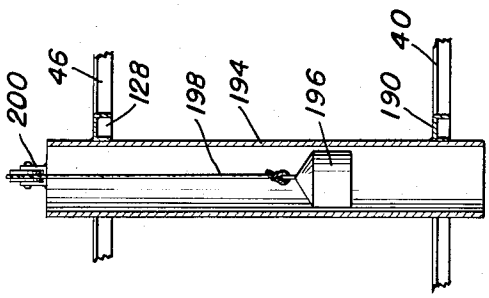
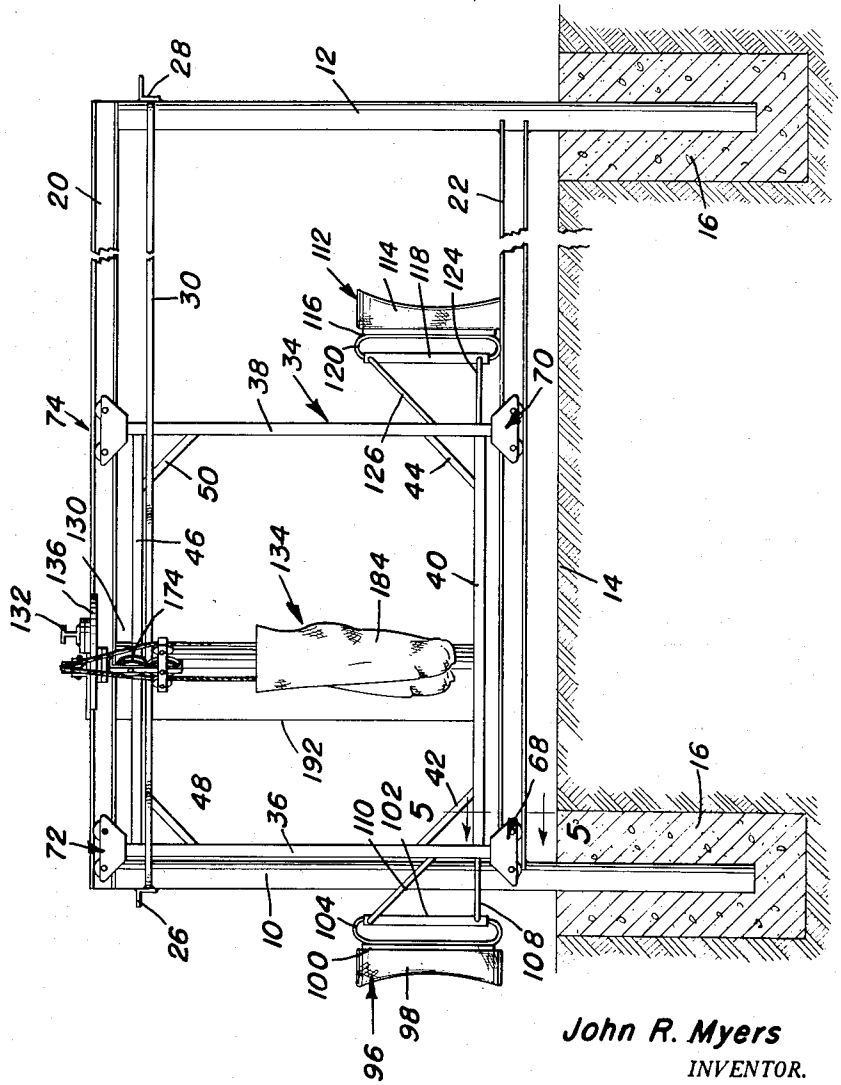


Fig. 2.



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Fig. 3.

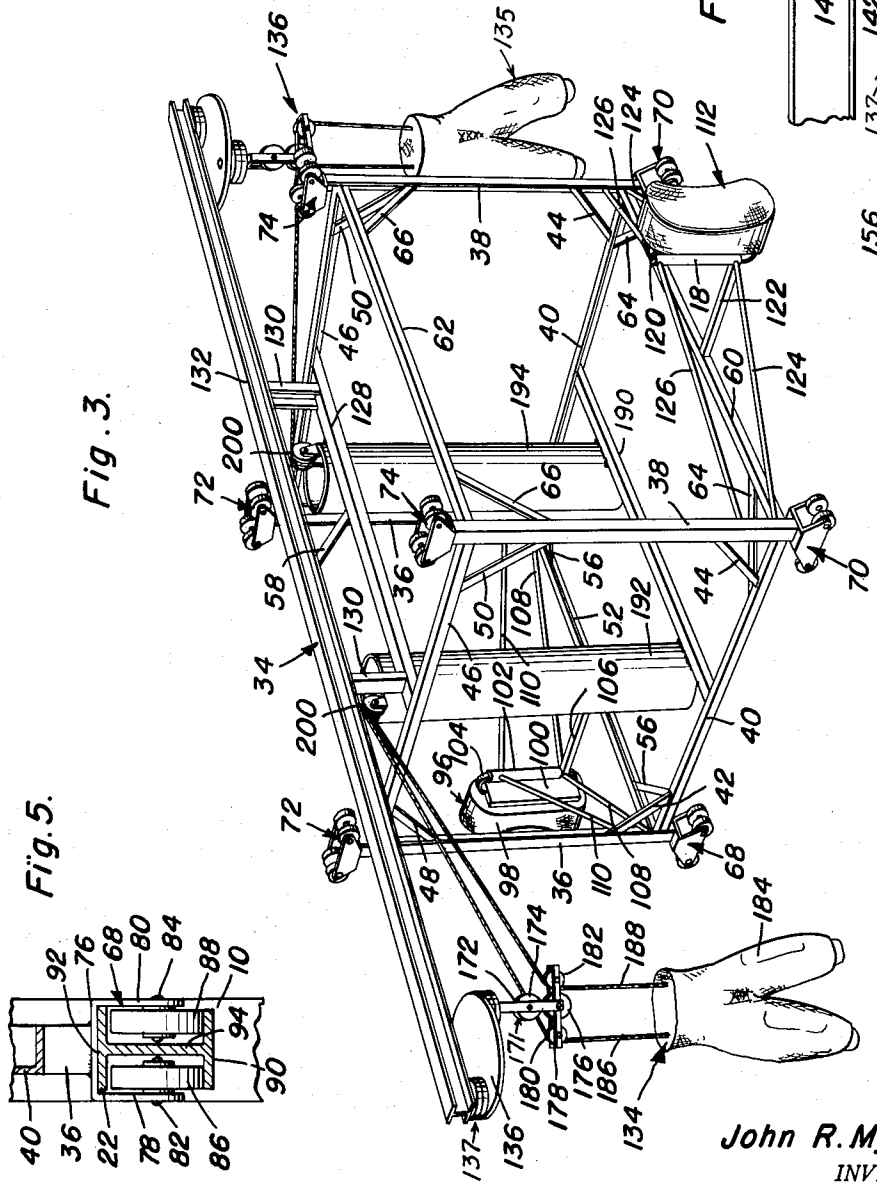


Fig. 6.

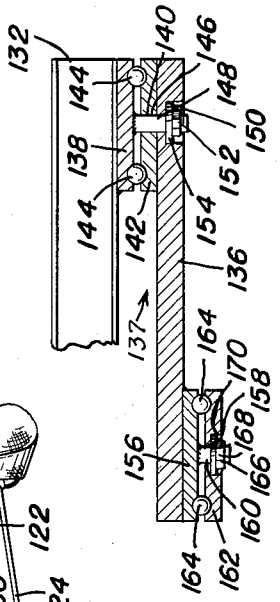


Fig. 5.

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FOOTBALL PRACTICE DEVICE

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Application March 20, 1952, Serial No. 277,601

7 Claims. (Cl. 273—55)

This invention relates in general to sports equipment, and more particularly to practice devices for football players.

The primary object of this invention is to provide an improved football practice device which may be utilized to condition and train a plurality of players simultaneously.

Another object of this invention is to provide an improved football practice device wherein a tackling dummy has motion imparted thereto substantially resembling the basic tactics of a football player while actually engaging in the sport.

Another object of this invention is to provide a novel mounting means for a football tackling dummy which includes the dummy being suspended from a mounting bracket of a frame by a flexible member which is provided with a counterbalance weight at the other end thereof to return the dummy to its original position after a practice tackle has been made, said counterbalance weight being guidingly disposed within a vertical cylinder in order to prevent accidental injury to a player.

Another object of this invention is to provide an improved football practice device which includes a frame movable along a trackway, said frame having suspended therefrom a practice tackling dummy which is engageable with guide means associated with the trackway for imparting a sinusoidal movement to the tackling dummy as the frame moves longitudinally along the trackway, the frame being propelled by a player exerting pressure upon a blocking dummy rigidly connected to the frame.

Another object of this invention is to provide an improved trackway and guide structure for a football practice device, said trackway including a first pair of spaced parallel rails disposed adjacent to and above the ground, and a second pair of spaced parallel rails which are disposed above said first pair of rails and in vertical alignment therewith, said guide structure including a longitudinally extending sinusoidal guide rail, the rails of the trackway and the guide rail being supported by vertical posts secured in the ground.

Another object of this invention is to provide an improved football practice device which is of rigid construction and at the same time provides a practice device which is relatively safe so as to substantially eliminate injury to football players.

A further object of this invention is to provide an improved football practice device when one group of players may be taught the fundamentals of blocking simultaneously with the teaching of two other groups of players the fundamentals of tackling, the groups of players being taught the fundamentals of blocking imparting movement to the football practice device whereby the football practice dummies associated therewith for training the players in the fundamentals of tackling follow an erratic course.

With these objects definitely in view, this invention resides in certain novel features of construction, combination and arrangement of elements and portions as will be

hereinafter described in detail in the specification, particularly pointed out in the appended claims, and illustrated in the accompanying drawings which form a material part of this application, and in which:

Figure 1 is a top plan view of a preferred form of the invention and shows the general outline of the trackway and guide structure, the movable frame being mounted at one end thereof;

Figure 2 is a side elevational view of the football practice device of Figure 1 and shows the manner in which the movable frame is mounted upon the trackway, a portion of the trackway and guide structure being omitted, the ground in which the supporting posts for the trackway and guide structure is supported being broken away and shown in section in order to clearly illustrate the manner in which the posts are disposed therein;

Figure 3 is a perspective view of the movable frame of the football practice device of Figure 1 and showing the relationship of the various elements thereof including the tackling dummies and the blocking dummies;

Figure 4 is a fragmentary vertical sectional view taken through one of the cylinders in which a counterbalance weight for one of the tackling dummies is slidingly disposed;

Figure 5 is an enlarged fragmentary transverse vertical sectional view taken substantially on the plane indicated by the section line 5—5 of Figure 2 and showing the manner in which one set of lower guide rollers are mounted with respect to one of the lower rails of the trackway; and

Figure 6 is an enlarged fragmentary transverse vertical sectional view taken substantially on the plane indicated by the section line 6—6 of Figure 1 and showing the general construction of a portion of a tackling dummy bracket and the means for permitting rotation thereof.

Similar characters of reference designate similar or identical elements and portions throughout the specification and throughout the different views of the drawings.

Referring now to the drawings in detail, it will be seen that the preferred modification of Figures 1 through 6 includes a first pair of vertically extending posts 10 which are in spaced parallel alignment with a second pair of vertically extending posts 12. The posts 10 and 12 are secured in the ground 14 by having their lower ends secured in concrete footings 16.

Extending between the pairs of posts 10 and 12 is a trackway, which is referred to in general by the reference numeral 18, and includes pairs of spaced parallel upper and lower rails 20 and 22, respectively. The upper rails 20 each extends between the upper end of aligned vertical posts 10 and 12 and is secured to the upper ends thereof. Each lower rail 22 extends between a vertical post 10 and a vertical post 12 in horizontal relation to the ground 14 and vertically offset therefrom. It will be understood that each lower rail 22 is in vertical alignment with an associated upper rail 20.

Also carried by the vertical posts 10 and 12 adjacent the upper ends thereof is a guide structure, which is referred to in general by the reference numeral 24, and includes a pair of horizontally disposed transversely extending support members 26 and 28 which are connected to the vertical posts 10 and 12, respectively. As is best illustrated in Figure 1, the support members 26 and 28 have ends which extend outwardly beyond the associated vertical posts 10 and 12, respectively. Extending longitudinally between the ends of the support members 26 and 28 is a pair of guide rails 30 and 32, the guide rails being formed of circular cross section rods and having generally sinusoidal outlines in plan view.

Mounted on the trackway 18 for longitudinal movement therealong is a frame which is generally referred to by the reference numeral 34 and is best illustrated in Figure 3.

The frame 34 includes pairs of end posts 36 and 38 which are generally angular in cross section. Extending between the end posts 36 and 38 and connected thereto adjacent the lower ends thereof are lower frame rails 40 which are braced from the end posts 36 and 38 by diagonal braces 42 and 44, respectively. Extending between the end posts 36 and 38 adjacent the upper ends thereof are upper frame rails 46 which are braced by diagonal braces 48 and 50 which are connected to the end posts 36 and 38, respectively.

Extending transversely of the frame 34 and connecting together the lower ends of the end posts 36 is a lower transverse frame member 52 and an upper transverse frame member 54. The lower transverse frame member 52 is connected to the lower frame rails 40 by diagonal corner braces 56 and the upper transverse frame member 54 is connected to the end posts 36 by diagonal braces 58.

The end posts 38 are connected together by a lower transverse frame member 60 secured to the end posts 38 adjacent the lower ends thereof and an upper transverse frame member 62 secured to the end posts 38 adjacent the upper ends thereof. The lower transverse frame member 60 is connected to the lower longitudinally extending frame rails by diagonal braces 64 and the upper transverse frame member 62 is connected to the end posts 38 by diagonal braces 66.

The frame 34 is mounted upon the trackway 18 by carriages 68 and 70 secured to the lower ends of the end posts 36 and 38, respectively, and engaging with the lower rails 22, and carriages 72 and 74 secured to the upper ends of the end posts 36 and 38, respectively, and engaging with the upper rails 20. Inasmuch as the carriages 68, 70, 72 and 74 are identical with the exception that the carriages 72 and 74 face upwardly whereas the carriages 68 and 70 face downwardly, only carriage 68 will be described in detail.

Referring now to Figure 5 in particular, it will be seen that the carriage 68 includes a generally U-shaped inverted bracket having a web 76 secured to the lower end of the end post 36, and a pair of downwardly extending integral webs 78 and 80. The webs 78 and 80 are trapezoidal in elevation with the edges furthest from the end post 36 being of a greater dimension. Carried by each outer corner of the flanges 78 and 80 are rivets forming axles 82 and 84, respectively. Mounted on the axle 82 is a wheel 86 which is in transverse alignment and spaced relation to a wheel 88 mounted on the axle 84. It will be noted that the lower rail 22 is in the form of a conventional I-beam which includes a lower horizontal flange 90 in spaced parallel relation to an upper horizontal flange 92 and connected thereto by a vertical web 94. The wheels 86 and 88 normally engage the upper surface of the flange 90 and are supported thereby. However, in the event that the frame 34 should be lifted from the normal position and the wheels 86 and 88 raised from engagement with the lower flange 90, they would immediately become in engagement with the lower surface of the upper flange 92 and guidingly retained thereby.

Carried at the end of the frame 34 adjacent the posts 36 is a blocking dummy, which is referred to in general by the reference numeral 96 and includes a padded portion 98 secured at its rear to a plate 100, the plate 100 being secured to a vertical support 102 by a leaf spring 104. The vertical support 102 is disposed outwardly from one end of the frame 34 and has its lower end in substantially horizontal alignment with the upper surface of the transverse frame member 52 and is connected thereto by a longitudinally extending brace 106. The lower end of the vertical support 102 is further braced by a pair of diagonal braces 108 which are connected to the end posts 36 adjacent their intersection with the lower transverse frame member 52. The upper end of the vertical support 102 is braced by a pair of downwardly and inwardly extending braces 110 which are connected to the end posts 36 adjacent the connection of the braces 108.

Disposed at the other end of the frame 34 is a second blocking dummy, which is referred to in general by the reference numeral 112 and is identical with the blocking dummy 96. The blocking dummy 112 is provided with a padded shoulder engaging portion 114 which is secured at its rear to a supporting plate 116. The supporting plate 116 is connected to a vertical support 118 by a leaf spring 120. The bottom of the vertical support 118 is braced by a longitudinally extending member 122 which is connected at its inner end to the central portion of the lower transverse frame member 60. The bottom of the vertical support 118 is also braced by a pair of diagonal braces 124 which lie in a horizontal plane and whose ends are secured to the end posts 38. The upper end of the vertical support 118 is supported by a pair of downwardly and inwardly extending diagonal braces 126 which are connected to the end posts 38 adjacent the intersection of the braces 124.

Extending transversely between the upper frame rails 46 and secured thereto intermediate their ends is an upper intermediate transverse frame member 128 which has extending upwardly therefrom adjacent its ends a pair of short vertical supports 130. Overlying the upper transverse frame member 128 and extending outwardly from each side of the frame 34 is a cross beam 132. Supported at the ends of the cross beam 132 are tackling dummies 134 and 135. Inasmuch as the tackling dummies 134 and 135 are identical with the exception that they are disposed on opposite sides of the frame 34 and engage different guide rails, only the tackling dummy 134 will be explained in detail.

Referring now to Figures 3 and 6 in particular, it will be seen that the tackling dummy 134 is supported by a mounting bracket 137 which includes a circular plate 136 suspended from one end of the cross beam 132. It will be noted that secured to the underside of the cross beam 132 is an upper race 138 of a thrust bearing and that the same has depending therefrom a concentric fastener 140. Secured to the upper side of the circular plate 136 adjacent its edge is a second thrust bearing race 142 which is clamped into engagement with ball bearings 144 disposed between the two bearing races by the fastener 140. It will be noted that the fastener 140 passes through a bore 146 in the lower bearing race 142 and a bore 148 in the upper portion of the circular plate 136. Aligned with the bore 148 is a countersunk recess 150 in the lower portion of the plate 136, a nut 152 and a washer 154 disposed upon the fastener 140 being located in said recess 150. It will be understood that the plate 136 and the bearing race 142 may be rotated with respect to the bearing race 138 and the fastener 140.

Secured to the underside of the circular plate 136 in diametrically opposite relation to the bearing race 142 is a bearing race 156 which has depending therefrom a fastener 158. The fastener 158 is received in a bore 160 of a lower bearing race 162 and clamps the same against ball bearings 164 disposed between the two bearing races. The lower bearing race 162 is retained upon the fastener 158 by a nut 166 and a washer 168 disposed in a countersunk recess 170 which is concentric with the bore 160.

Mounted on the underside of the lower bearing race 162 are cable guide means 171, which include a depending inverted U-shaped guide supporting bracket 172 which is secured directly to the race 162. The bracket 172 has disposed between the legs thereof a pair of spaced vertically aligned guide rollers 174 and 176. Carried by the lower end of the legs of the U-shaped guide support bracket 172 is a pair of horizontally disposed arms 178. Mounted between the arms 178 adjacent the ends thereof are pulleys 180 and 182.

Disposed beneath the arms 178 is a tackling dummy 184 which may be formed of a cast-off pair of football pants filled with padding. The tackling dummy 184 is supported from the cross beam 132 by a pair of flexible members 186 and 188 which are entrained over the pulleys 180 and 182, respectively.

Referring now to Figure 4 in particular, it will be seen that extending between the lower frame rails **40** in vertical alignment with the upper intermediate transverse frame member **128** is a lower intermediate transverse frame member **190**. Extending vertically adjacent the intermediate transverse frame members **128** and **190** are open end cylinders **192** and **194**, the cylinders being adjacent their respective frame rails **40** and **46**, and being associated with the tackling dummies **134** and **136**, respectively. Although the cylinder **194** has been illustrated, it will be understood that the counterbalance weight **196** illustrated therein is duplicated within the cylinder **192** and that a flexible member **198** supporting the counterbalance weight **198** is attached to the ends of the flexible members **186** and **188** to support the same.

Carried at the upper end of the cylinders **192** and **194** are pulleys **200** over which the flexible members are entrained.

Referring now to Figure 2 in particular, it will be seen that the guide rail **30** is engaged between the guide rollers **174** and **176** of the tackling dummy **134**. The guide rail **32** is also disposed between similar guide rollers of the tackling dummy **136**. When the football practice device is being utilized, a football player engages one of the blocking dummies **96** and **112** with his shoulder and pushes the frame **34** longitudinally on the trackway **18**. Movement of the frame **34** results in similar movement of the ends of the cross beam **132** with the result that the football tackling dummies **134** and **136** are also moved longitudinally of the trackway **18** and their associated guide structure **24**. Due to the sinusoidal shape of the guide rails **30** and **32**, the guide support brackets **172** and their respective dummies **184** follow a similar course with the result that the practice dummy **184** goes through simulated evasive tactics and gives a football player proper training. It will be understood that the football players are lined up in three lines at each end of the practice device and that the center line of players practice blocking and push the frame **34** along the trackway **18**. At the same time, players coming from the opposite direction attempt to tackle the dummies **184** of the tackling dummies **134** and **136**. When a tackle is made, the dummy **184** is pulled to the ground by the weight of the tackling player and the counterbalance weight **196** associated therewith is raised in the cylinder in which it is guidingly disposed. When the dummy **184** is released, the weight of the counterbalance weight **196** returns into its normal position.

In view of the foregoing, it will be seen that the preferred modification of the invention is drawn to a football practice device which permits the simultaneous training of three football players and at the same time the practice attains a competitive attitude in that the blocker who is pushing the frame **34** will be trying to make the would-be tacklers miss the tackling dummies. The football training device, by presenting tackling dummies which have simulated evasive movements, provides a desirable tackler training device in that the would-be tackler does not know the exact position the tackler dummy is going to move to next. It will be understood that the speed which a blocker may move the frame **34** along the trackway **18** may be varied by placing weights on the frame **34** in suitable positions. Also, inasmuch as the blocker is the motive power of the frame **34**, there is no danger of mechanical failure.

The operation of this device will be understood from the foregoing description of the details thereof, taken in connection with the above recited objects and drawings. Further description would appear to be unnecessary.

Minor modifications of the device, varying in minor details from the embodiment of the device illustrated and described here, may be resorted to without departure from the spirit and scope of this invention, as defined in the appended claims.

Having described the invention, what is claimed as new is:

1. A football practice device comprising a movable frame, a mounting bracket, a pivotal connection between said mounting bracket and said frame, a tackling dummy suspended from said mounting bracket in offset relation to said pivotal connection, cable guide means carried by said mounting bracket, a flexible cable-like member secured to said tackling dummy and engaged over said cable guide means, a counterbalancing device, the other end of said flexible member being connected to said counterbalancing device, a straight trackway, said frame being mounted on said trackway for longitudinal movement, a guide rail mounted adjacent said trackway and engaging said mounting bracket for moving said tackling dummy in a sinusoidal path as the frame is moved longitudinally along said trackway.

2. A football practice device comprising a movable frame, a mounting bracket carried by said frame, a tackling dummy suspended from said mounting bracket, cable guide means carried by said mounting bracket, a flexible cable-like member secured to said tackling dummy and engaged over said cable guide means, a counterbalancing device, the other end of said flexible member being connected to said counterbalancing device, said mounting bracket including a plate rotatably secured to said frame at one point on said plate, said cable guide means including a guide supporting bracket secured to said plate at a point remote from said one point for rotation with respect thereto whereby swinging movement may be imparted to said tackling dummy.

3. A football practice device comprising a movable frame, a mounting bracket carried by said frame, a tackling dummy suspended from said mounting bracket, cable guide means carried by said mounting bracket, a flexible cable-like member secured to said tackling dummy and engaged over said cable guide means, a counterbalancing device, the other end of said flexible member being connected to said counterbalancing device, said mounting bracket including a plate rotatably secured to said frame at one point on said plate, said cable guide means including a guide supporting bracket secured to said plate at a point remote from said one point for rotation with respect thereto, a straight trackway, said frame being mounted for guided movement on said trackway, a horizontally undulating guide rail fixedly mounted adjacent said trackway, guide rollers carried by said guide supporting bracket, said guide rollers engaging said guide rail for moving said guide supporting bracket and said tackling dummy transversely of the frame in response to movement of said guide rollers along said guide rail.

4. A football practice device comprising a movable frame, a mounting bracket carried by said frame, a tackling dummy suspended from said mounting bracket, cable guide means carried by said mounting bracket, a flexible cable-like member secured to said tackling dummy and engaged over said cable guide means, a counterbalancing device, the other end of said flexible member being connected to said counterbalancing device, said mounting bracket including a plate rotatably secured to said frame at one point on said plate, said cable guide means including a guide supporting bracket secured to said plate at a point remote from said one point for rotation with respect thereto, a straight trackway, said frame being mounted for guided movement on said trackway, a guide rail fixedly mounted adjacent said trackway, guide rollers carried by said guide supporting bracket, said guide rollers engaging said guide rail for moving said guide supporting bracket and said tackling dummy transversely of the frame in response to movement of said guide rollers along said guide rail, said guide rail being sinusoidal in outline.

5. A football practice device comprising a movable frame, a mounting bracket, a pivotal connection between said mounting bracket and said frame, a football tackling

dummy suspended from said mounting bracket in offset relation to said pivotal connection, a straight trackway, said frame being mounted on said trackway, and an undulating guide rail fixedly mounted adjacent to said trackway and engaging said mounting bracket for moving said tackling dummy transversely of said frame in response to longitudinal movement of said frame along said trackway.

6. A football practice device comprising a movable frame having a mounting bracket, football tackling dummy suspended from said mounting bracket, a straight trackway, said frame being mounted on said trackway, an undulating guide rail fixedly mounted adjacent to said trackway and engaging said mounting bracket for moving said tackling dummy transversely of said frame, said mounting bracket including a plate rotatably secured at one point to said frame, and a guide supporting bracket secured to said plate at a point remote from said one point for rotation with respect thereto.

7. A football practice device comprising a movable frame having a mounting bracket, a pivotal connection between said mounting bracket and said frame, a football tackling dummy suspended from said mounting

bracket in offset relation to said pivotal connection, a straight trackway, said frame being mounted on said trackway, an undulating guide rail fixedly mounted adjacent to said trackway and engaging said mounting bracket for moving said tackling dummy transversely of said frame in response to longitudinal movement of said frame along said trackway, said frame having a blocking dummy secured thereto, said frame being longitudinally movable along said trackway in response to force exerted on said blocking dummy.

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