United States Patent

Adduci et al.

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[45] **Apr. 25, 1972**

[54] EVASIVE ACTION TACKLING PRACTICE APPARATUS

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[52] **U.S. Cl.** ..... **273/55 R,** 273/55 A

[51] **Int. Cl.** **A63b 67/00**

[58] **Field of Search** 273/55; 104/98

[56] **References Cited**

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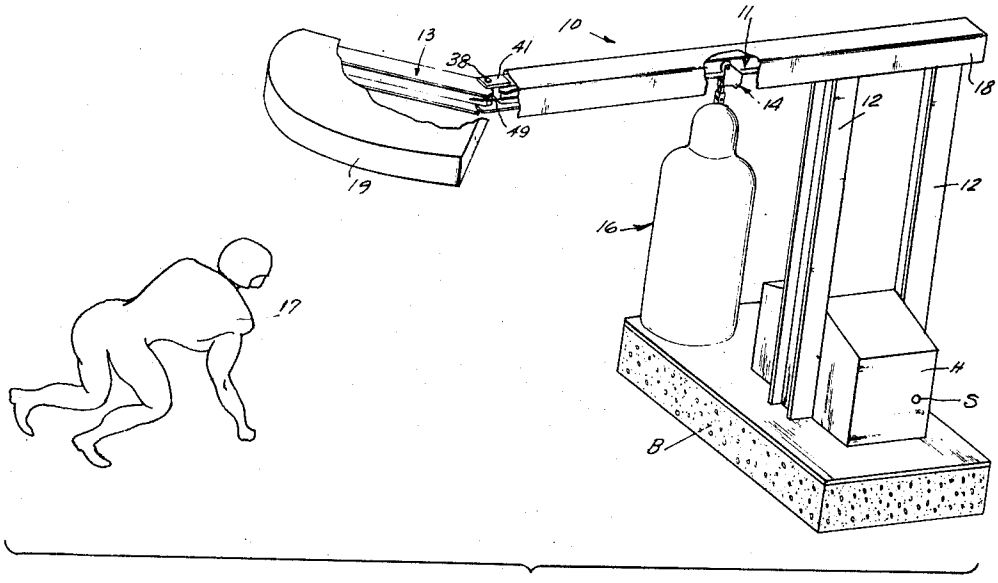
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[57] **ABSTRACT**

A tackling practice apparatus has a tackling dummy suspended on a trolley for movement along a cantilever type track having a free end section supported for selective pivoting movement about a generally vertical axis to impart evasive lateral movement to the tackling dummy. Track control means enable an operator to select straight, laterally right or laterally left movements for simulating evasive action to improved skill in tackling. Means releasably suspending the dummy from the trolley may be adjusted to vary the tackling force necessary to remove the dummy from the trolley.

17 Claims, 16 Drawing Figures



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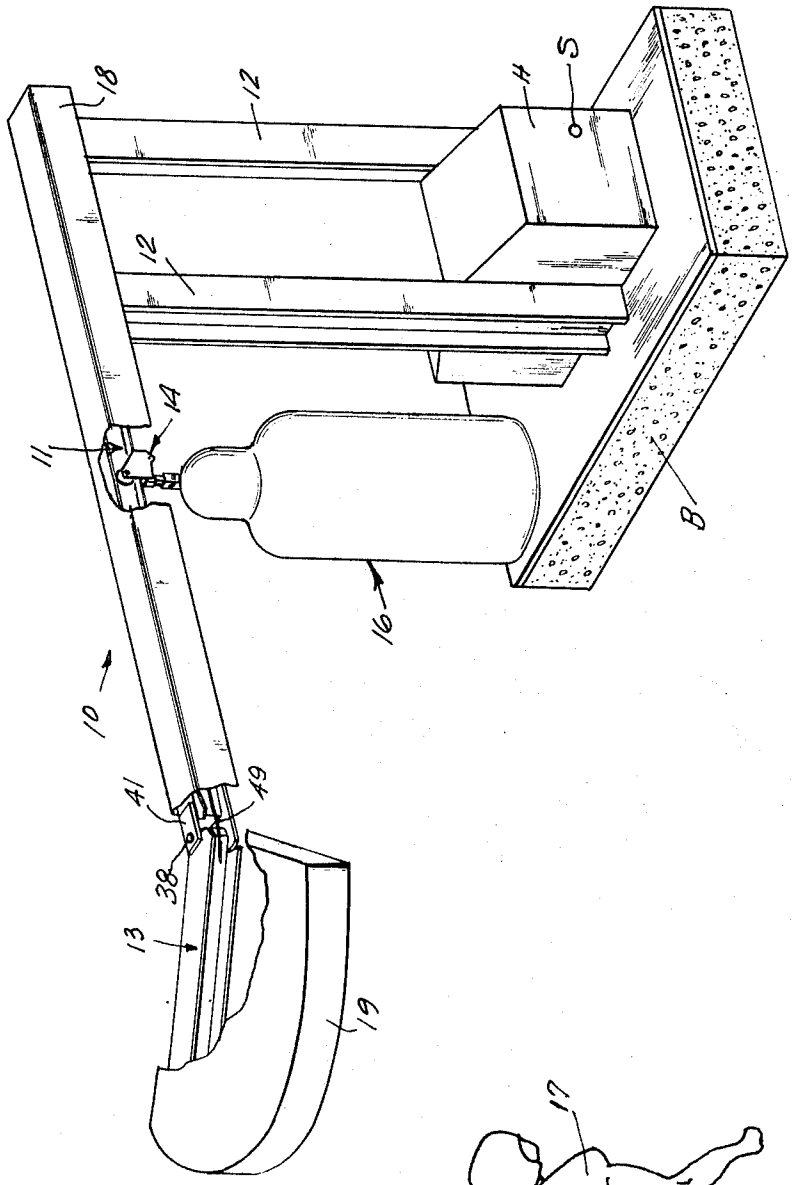


FIG-1

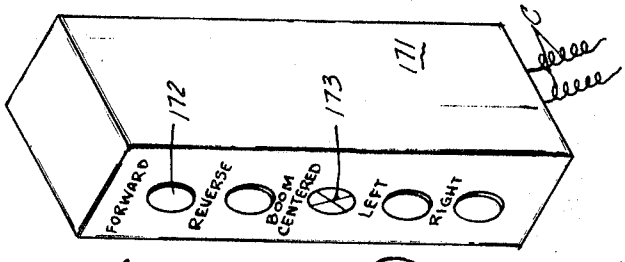


FIG-16



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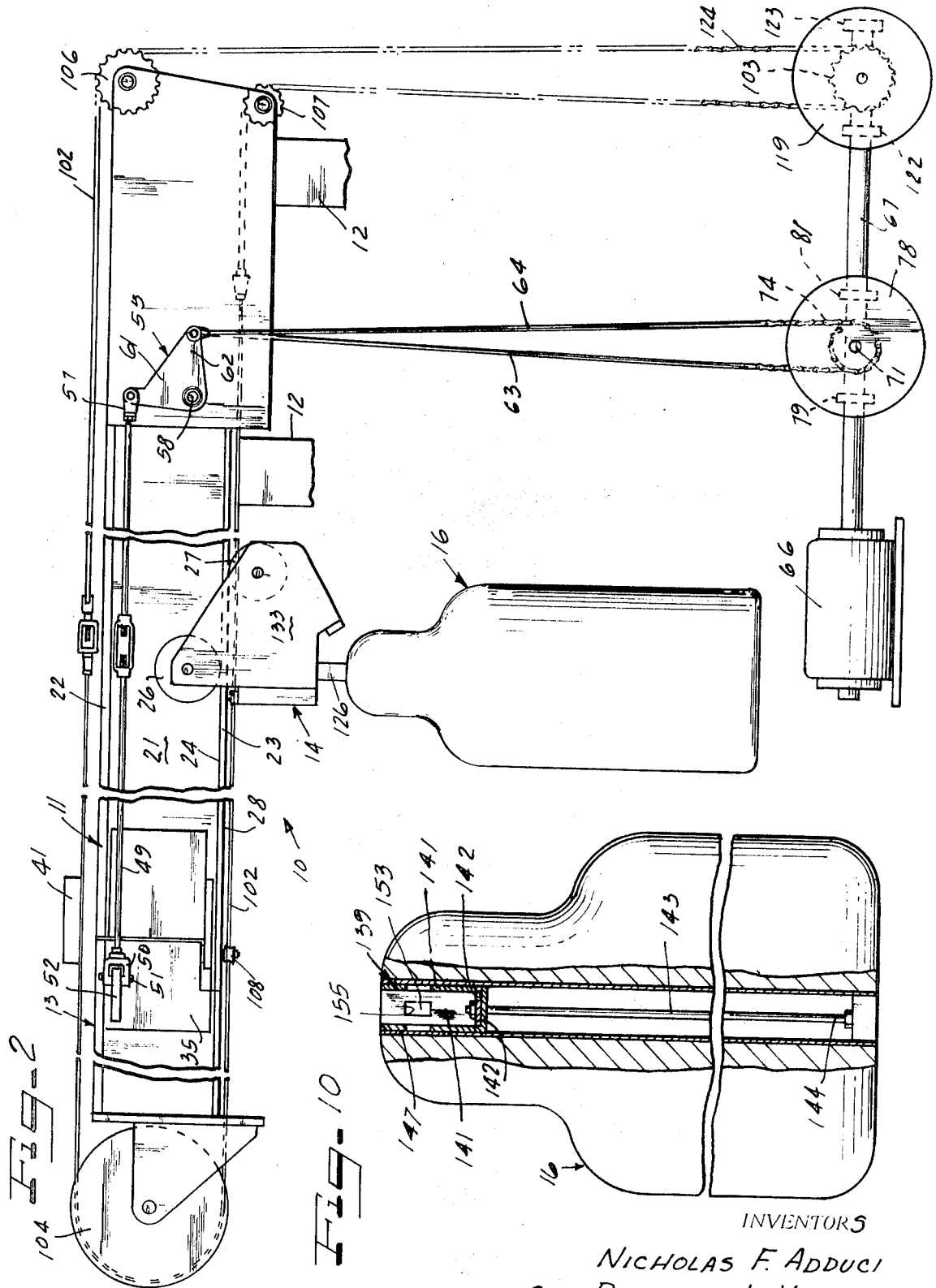


FIG-2

FIG-10

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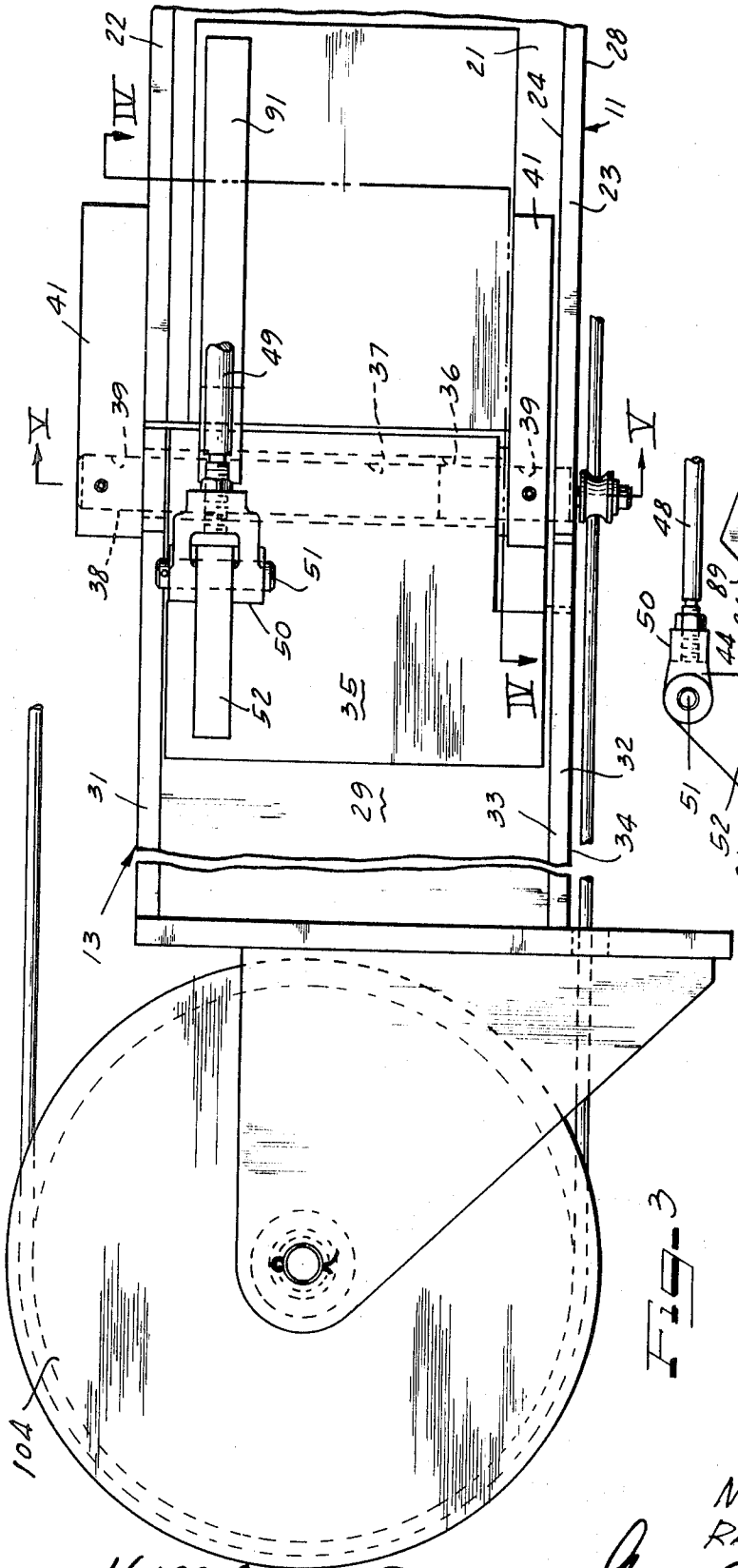


Fig. 3

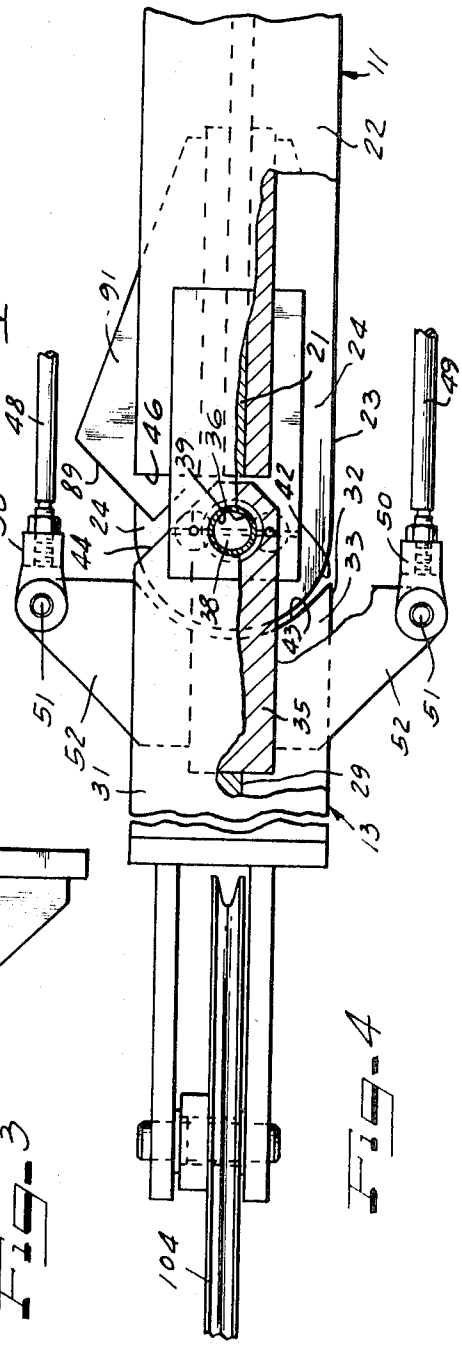


Fig. 4

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Fig. 5

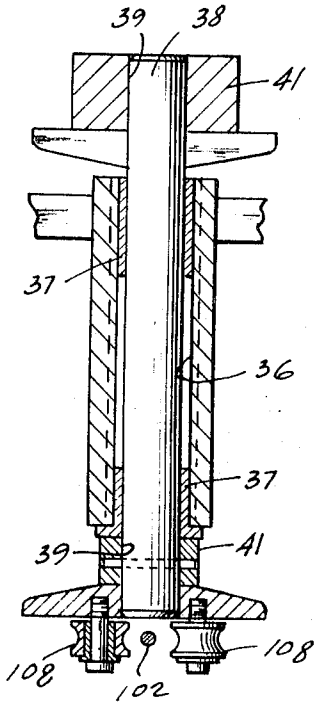


Fig. 8

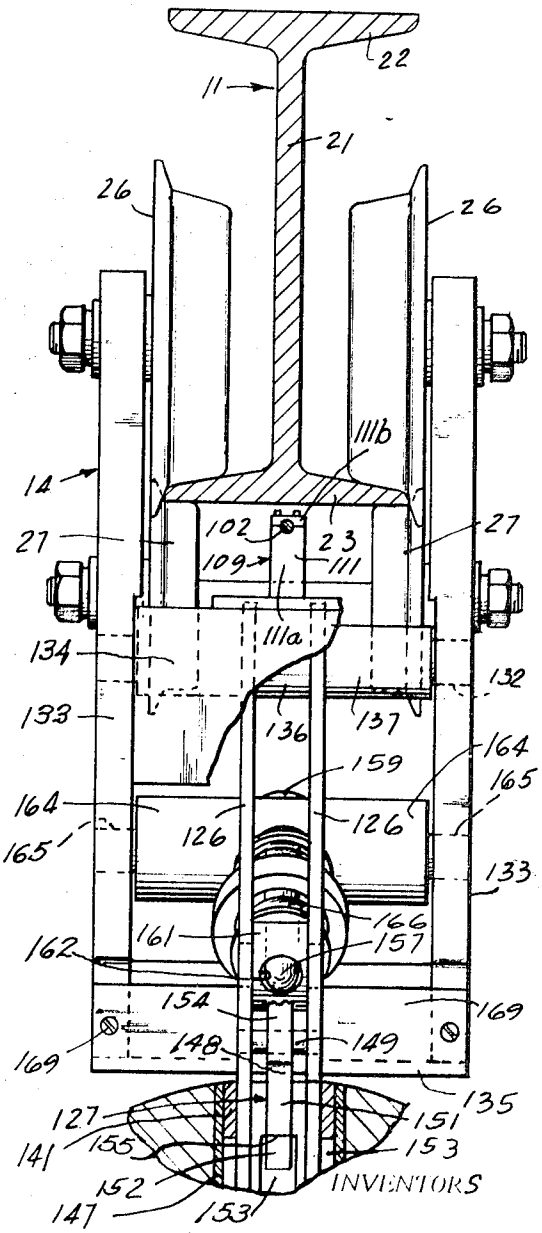
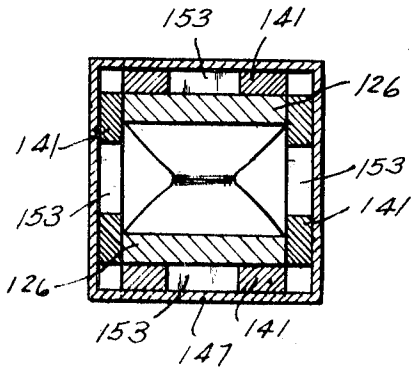


Fig. 9



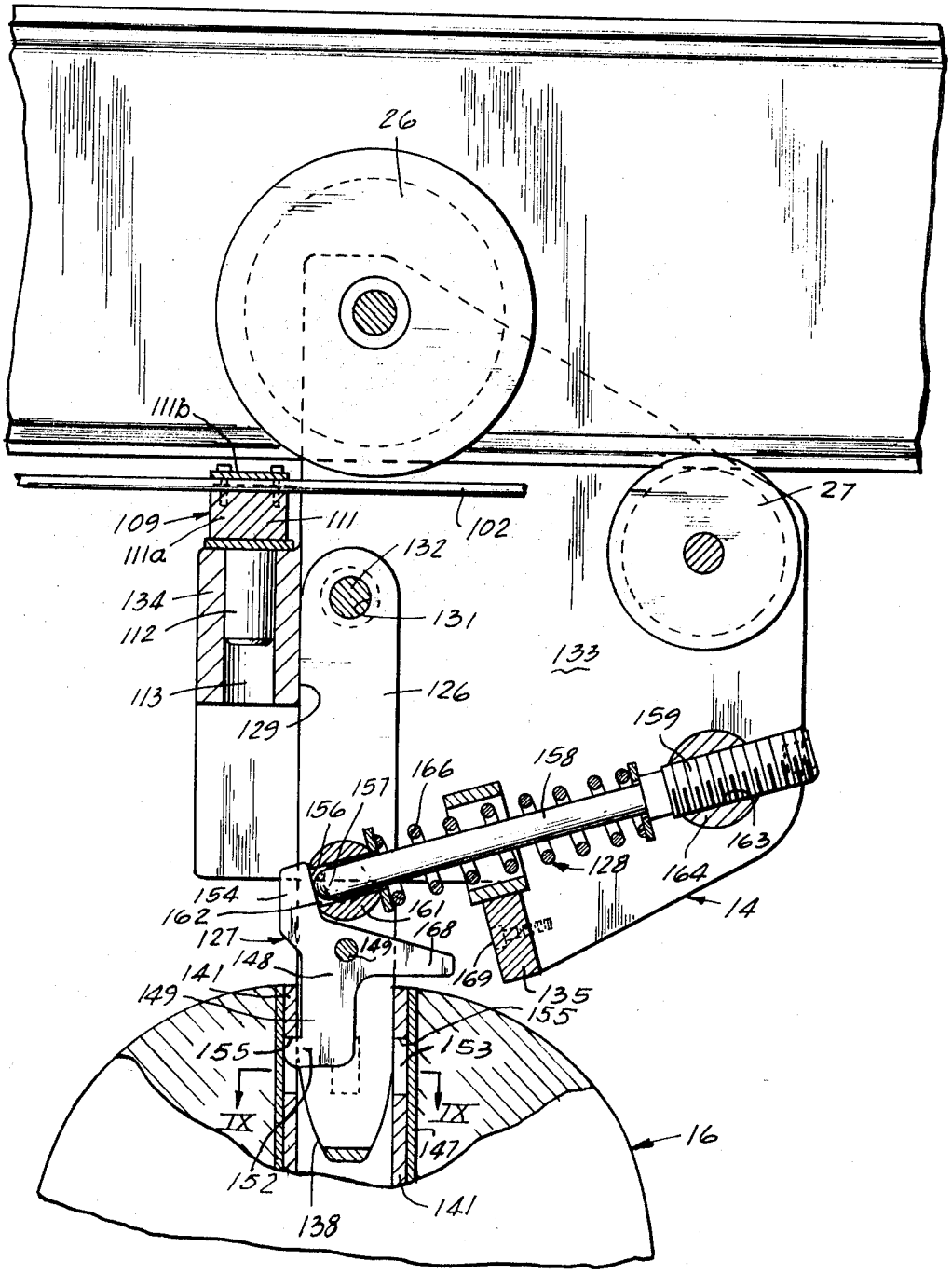
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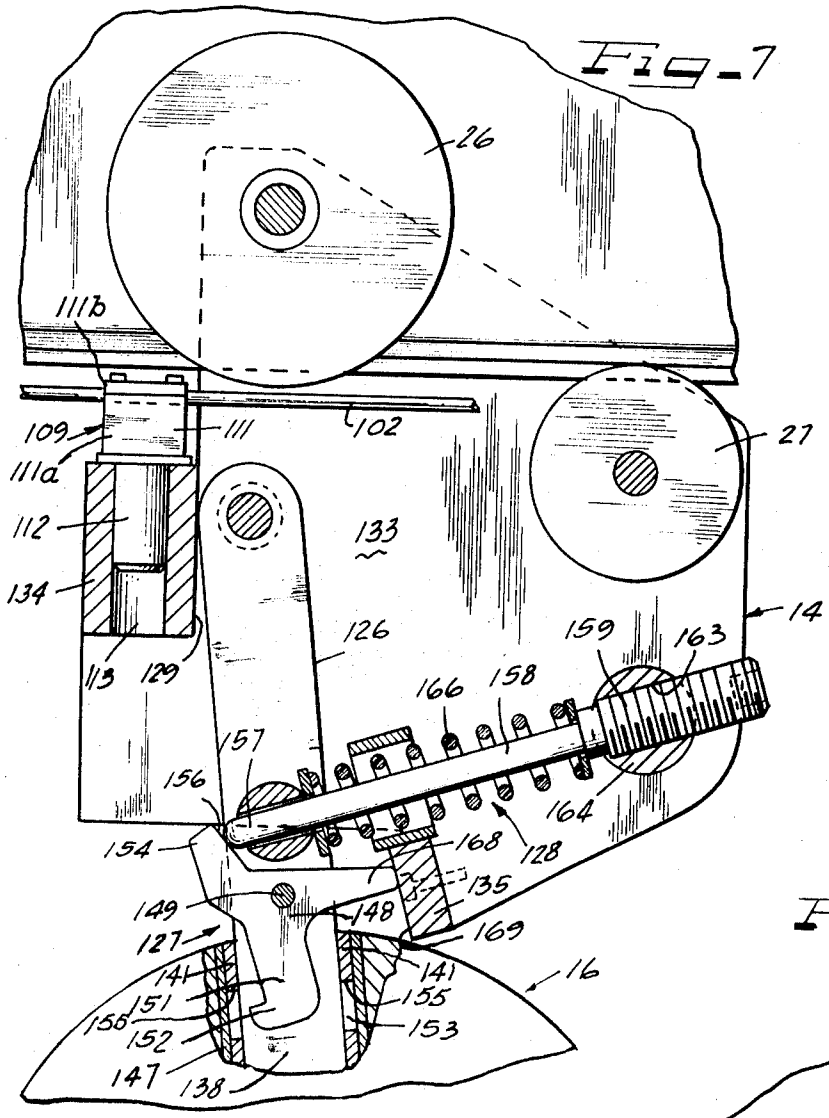
Fig. 6



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Fig-7



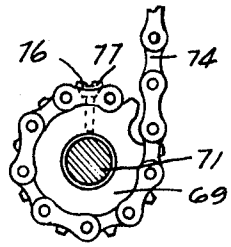
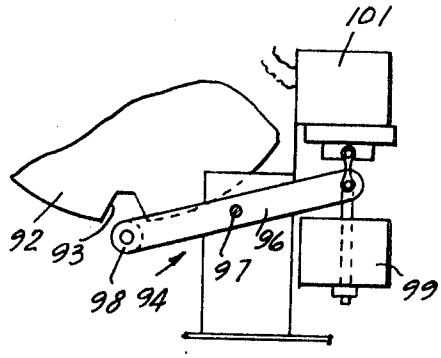


Fig-13

Fig-15



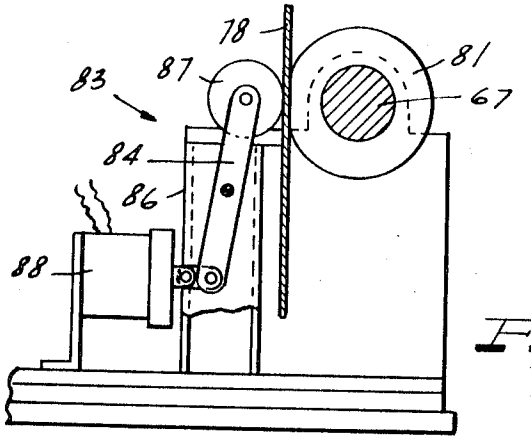


Fig-14

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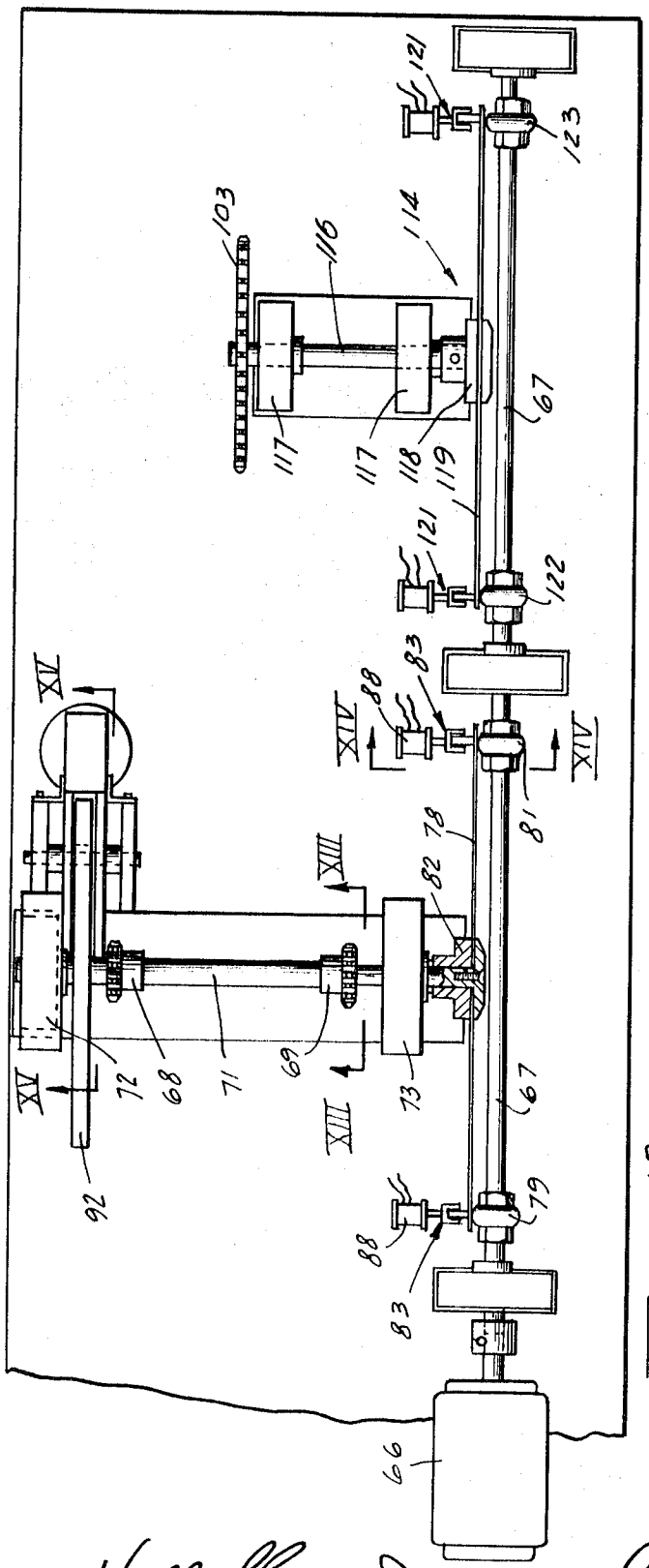


FIG. 12

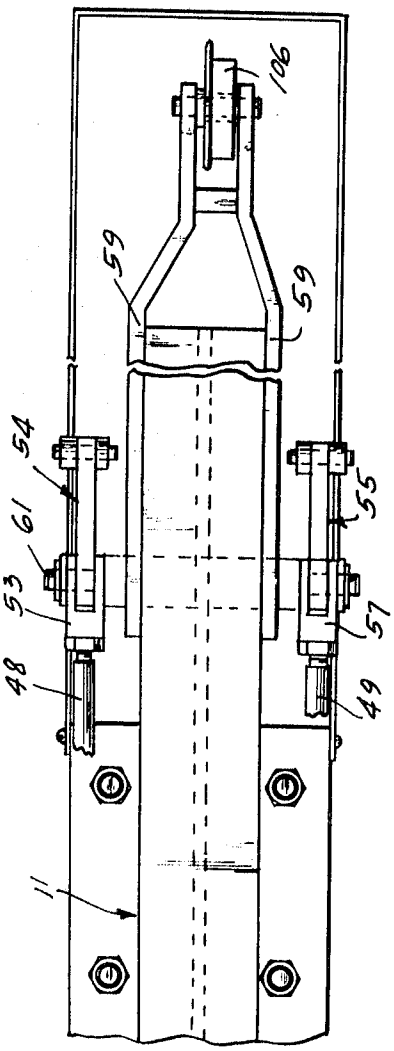


FIG. 11

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EVASIVE ACTION TACKLING PRACTICE APPARATUS

FIELD OF THE INVENTION

The present invention generally relates to sports equipment and more particularly refers to a football tackling practice apparatus having a movable tackling dummy capable of taking laterally evasive movements to closely simulate game conditions.

SUMMARY OF THE INVENTION

A tackling practice apparatus, constructed in accordance with the principles of the present invention, has a tackling dummy suspended from a trolley or carriage for movement longitudinally along a track having a fixed section and a movable section supported for pivoting movement about a generally vertical axis. Control means for selectively pivoting the movable track section relative to the fixed section enable a coach or operator to select evasive actions for the dummy. Drive means including a prime mover propel the trolley and suspended tackling dummy from a starting position on the fixed track toward the pivoted track section.

A football player in training charges the advancing tackling dummy, and, at a critical time corresponding to a contemplated point of contact, the tackling dummy either continues straight toward the player, moves to the right or moves to the left depending upon actuation of the control means by a coach or operator on the sidelines. Thus, a football player in training is given practice in correct tackling procedures regardless of any evasive action which may be taken by the tackling dummy.

To test a player's s hitting ability or the accuracy of the tackle the tackling dummy is releasably latched to the movable trolley so that rearward pivoting movement of the dummy against an adjustable biasing force detaches the dummy from the trolley.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an isometric view of a football tackling practice apparatus embodying the features of the present invention and with portions cut-away to show underlying parts, and illustrates a football player and a tackling dummy at their respective starting positions;

FIG. 2 is a side elevational view of the tackling practice apparatus of the present invention with parts removed to illustrate additional details of construction;

FIG. 3 is an enlarged, fragmentary side elevational view of an outer end of the track illustrated in FIG. 2;

FIG. 4 is a view taken generally on line IV—IV of FIG. 3, parts being shown in section and with parts broken away for clarity;

FIG. 5 is a sectional view taken substantially along line V—V of FIG. 3;

FIG. 6 is an enlarged side elevational view of a trolley or carriage with parts removed to illustrate additional details and illustrates releasable latch means suspending the tackling dummy from the trolley shown in a latched position;

FIG. 7 is a view similar to FIG. 6 with the releasable latch means shown in an unlatched position;

FIG. 8 is an end view of the trolley or carriage with parts broken away;

FIG. 9 is a sectional view taken substantially along line IX—IX of FIG. 6;

FIG. 10 is an elevational view, partly in section, of a tackling dummy of the present invention;

FIG. 11 is a fragmentary, enlarged top plan view of a rear portion of the track illustrated in FIG. 2;

FIG. 12 is a top plan view of trolley drive means and track control means of the present invention;

FIG. 13 is a fragmentary sectional view substantially taken along line XIII—XIII of FIG. 12;

FIG. 14 is a fragmentary sectional view substantially taken along line XIV—XIV of FIG. 12;

FIG. 15 is a fragmentary sectional view taken substantially along line XV—XV of FIG. 12; and

FIG. 16 is an isometric view of a hand-held remote pattern control box for regulating operation of the apparatus.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

Referring to the drawings, a football tackling practice apparatus generally indicated at **10** and constructed in accordance with the principles of the present invention comprises a fixed track section **11** having a cantilever support at one end on upright support members **12** rising out of a concrete base B which may be submerged in the ground or sod, if desired. A housing H encases a drive mechanism of the apparatus and has a socket S by means of which remote control means may be operatively connected to the drive means. A movable track section **13** is supported at the free end of the fixed track for pivoting movement about a vertical axis. A carriage or trolley **14** having a tackling dummy **16** releasably suspended therefrom moves longitudinally along the fixed track **11** toward a football player generally indicated at **17**, who charges the advancing tackling dummy. At a critical point corresponding approximately to the contemplated point of contact, the advancing tackling dummy **16** either travels straight toward the player, moves to the right or moves to the left depending upon a disposition of the pivoted track section **13**, which is controlled by an operator from a location affording a vantage point.

To prevent visual detection of the disposition of the movable track section **13**, a shroud **18** has a flared portion **19** covering the pivoted track section **13** which permits transverse pivoting movement thereof relative to the fixed track section.

The fixed track section **11** comprises an I-beam having a vertically disposed medial web portion **21** and horizontally extending upper and lower flanges **22** and **23**, respectively. The upper surfaces **24** of the lower flange **23** extending laterally outwardly in opposite directions from the web **21** and support a pair or wheels **26, 26** each journaled on the carriage or trolley **14**. To stabilize the carriage or trolley **14**, for example to prevent tilting of the trolley **14** when the tackling dummy **16** is hit by the football player **17**, a second pair of wheels as at **27** are journaled to the trolley **14** and engage the lower surfaces **28** of the lower track flange **23**.

The movable track section **13** comprises an I-beam having a vertical medial web portion **29**, an upper flange **31** and a lower flange **32** having horizontal upper and lower surfaces **33** and **34**, respectively, disposed for engagement by the trolley wheel **26** and **27**. A portion of the web **29** adjacent the fixed track section **11** is cut away to receive a journal block **35** characterized by a vertically extending aperture **36** having a sleeve bearing **37** fitted therein. A pivot pin **38** journaled within the sleeve bearing **37** and having opposite end portions fittingly received in apertures **39, 39** formed in a pair of vertically spaced plate members **41**, which in turn are secured to the fixed track section **11** supports the pivoted track section **13** at an outer end portion of the fixed track section **11** for pivoting movement about a vertical pivoting axis.

In order to form a continuous support surface for the trolley wheels **26**, adjoining end portions of the lower track flanges **23** and **32** have complementarily shaped convex and concave arcuate end edge portions **42** and **43**, respectively, formed substantially coaxially of the vertically extending pivot pin **38**. Also, the upper flange **31** of the pivoted track section is chamfered as at **44** to avoid interference with a forwardmost end edge **46** of the upper flange **22** of the fixed track section **11**.

In accordance with the principles of the present invention, the tackling practice apparatus **10** includes track control means for pivoting the pivoted track section **13** laterally to the right or to the left of the fixed track section in response to signals from an operator or coach thereby to impart evasive lateral movement to the tackling dummy **16** for simulating game conditions.

A pair of control rods **48, 48** respectively attached to the pivoted track section **13** at opposite sides thereof form second class lever arrangements for pivoting the pivoted track section

in response to rearward movement of alternative ones of the control rods. A forwardmost end of each of the control rods **48** has a clevis **49** attached thereto and is pinned by a clevis pin **51** to an attachment flange **52**. Each of the attachment flanges **52** is secured to the pivoted track section **13** and extends outwardly therefrom in laterally opposite directions. A pair of bell cranks **54** and **55** respectively have rearwardmost end portions of the control rods **48** and **49** pivotally connected thereto by means of separate clevises **57**. The bell cranks **54** and **55** are each pivotally supported at a rear portion of the fixed track section **11** at opposite end portions of a pivot pin **58** extending laterally of the track section and are supported in a pair of side plates **59, 59**. Each of the bell cranks **54** or **55** has a generally upwardly extending arm portion **61** having one of the clevises **57** pinned thereto and a generally horizontally extending arm portion **62**. A pair of control cables **63** and **64** are connected respectively to the horizontally extending arm portions **62** of the bell cranks **54** and **55**.

In operation, downward movement of the control cable **63** pivots the bell crank **54** to rearwardly move the rod **48** for pivoting the pivoted track section **13** to the left, as viewed by the player **17**, and in a like manner, downward movement of the control cable **64** pivots the track section **13** to the right.

It is contemplated by the present invention to provide powered pivoting means for enabling remote actuation of the control cables **63** and **64**, and thus the track control means. A prime mover such as an electric drive motor **66** rotates a line shaft **67** having a driving connection with a pair of drive sprockets **68** and **69**. Lower end portions of the control cables **63** and **64** are trained around and dead-ended on the sprockets **68** and **69**. Clutch means drivingly connect the sprockets **68** and **69** to rotating line shaft for selectively operating the control cables. The drive sprockets **68** and **69** are keyed to a shaft **71** journaled in a pair of spaced bearing blocks **72** and **73** which extend substantially at right angles to the line shaft **67**.

In order that rotation of the drive shaft **71** in opposite directions alternatively pulls the control cables **63** and **64** downwardly for selectively pivoting the track section **13** to the right or to the left, each of the control cables has a section of roller chain **74** (FIG. **13**) which is wrapped around an associated one of the drive sprockets **68** or **69** in opposite directions. An end link **76** of each roller chain section **74** is connected to the drive sprocket by a screw **77**.

The clutch means comprise a flexible disc **78** having diametrically opposite deformable peripheral edge portions confronting and selectively engageable with a pair of spaced rolls **79** and **81** corotatably connected to the line shaft **67**. The flexible disc **78** is clamped in a hub **82** which is, in turn, corotatably connected to the line shaft **71**. Thus, frictionally engaging the disc **78** with the roll **79** rotates the line shaft **71** in one direction and alternatively engaging the disc with the roll **81** rotates the drive shaft in an opposite direction, thereby to enable selectively pulling the control cables **63** or **64** to pivot the track section **13**.

Remotely controlled means for selectively urging the disc **78** into frictional engagement with one of the rolls **79** or **81** comprise a pair of individually operable, electric solenoid actuated lever means **83** confronting the rolls **79** and **81** and disposed on a side of the disc **78** opposite the rolls. As best illustrated in FIG. **14**, each of the lever means **83** include a lever **84** pivoted at a midpoint thereof between a pair of upright supports **86** and having a roller **87** attached at an upper end portion and an electric solenoid **88** operatively attached to a lower end portion for moving the roller into and out of a disc-clamping position.

Pivoting movement of the pivoted track section **13** is angularly limited to 45° either side of a centered position by inclined stop surfaces as at **89** formed on a pair of flanges as at **91** extending laterally outwardly of the fixed track section **11** and disposed for engagement with the attachment flanges **52** having the control rods **48** and **49** connected thereto.

It is also contemplated by the present invention to provide centering means for preventing overtravel of the movable track section **13** as it returns from a displaced position toward a centered position in axial alignment with the fixed track section **11**. As best illustrated in FIGS. **12** and **15**, the centering means comprise a rigid disc member **92** corotatably supported on the drive shaft **71** and having a centering notch **93** formed in a periphery thereof. Detent means generally indicated at **94** enter the notch **93** to stop the movable track section at the centered position. The detent means include a pair of parallel, pivoted lever arms **96** straddling the disc **92** and pivotally mounted on a pin **97**. A roller **98** interconnects the levers **96** at one end portion and is pivotally mounted by the levers for movement into and out of engagement with the centering notch **93**. A continuous biasing means **99** connected to the levers **96** at an end thereof opposite the roller **98** urges the roller radially inwardly of the disc **92**, thereby to urge the roller into engagement with the detent **93** for stopping movement of the drive shaft **71** when the pivoted track section **13** is positioned at the centered position.

In order to withdraw the detent roller **98** from the notch **93** to permit pivoting the track section **13**, an electric solenoid **101** is operatively connected to the levers **96** for pivoting the levers against the biasing means **99**. Actuation of either one of the electric solenoids **88** to pivot the track section **13** from the centered position simultaneously actuates the electric solenoid **101** for withdrawing the detent **98** from the notch **93**. Also, actuation of one of the solenoids **88** to return the movable track section to a centered position releases the solenoid **101** for enabling the detent roller **98** to enter the centering notch **93** under the urging of the biasing means **99**.

Further, in accordance with the principles of the present invention, powered means are provided for selectively propelling the trolley **14** and dummy **16** forwardly along the track sections **11** and **13** from a starting position, as illustrated in FIG. **1**, toward the contemplated point of contact past the track pivot point. The propelling means may also rearwardly move the trolley **14** to return the tackling dummy **16** to the starting position.

The propelling means comprise a cable **102** clamped to the trolley **14** and drivingly engaged by a drive sprocket **103**. A cable run extending longitudinally along the fixed track section **11** and the pivoted track section **13** is defined by a head pulley **104** disposed at an outer end of the pivoted track section **13** and a pair return idler sprockets **106** and **107** disposed at a rear portion of the fixed track section **11** and directing the cable around the drive sprocket **103**. A pair of spaced rollers as at **108** are disposed at opposite sides of the track pivot pin **38** (FIG. **5**) for directing the cable longitudinally along the pivoted track section **13** irrespective of its angular relationship to the fixed track section **11**.

Clamping means **109** connect the cable **102** to the trolley **14** and include a body portion **111** having the cable **102** clamped between joined, mating parts **111***a* and **111***b*. A depending pin **112** is rotatably received in an aperture **113** formed in the trolley body, thereby to permit rotational movement of the control cable **102** relative to a direction of movement of the trolley **14** as the trolley travels from the fixed track section **11** to the pivoted track section **13**. The clamp body portion **111** is laterally sized relative to a spacing between the pair of guide rollers **108** to permit passage of the clamp **109** therebetween.

Referring now to FIGS. **2** and **12**, clutch means generally indicated at **114** and constructed similar to the clutch means for the track control means interconnects a drive shaft **116** and the rotating line shaft **67**. The drive shaft **116** is journaled within a pair of spaced bearing blocks **117** and has a hub **118** connected thereto at an end adjacent the line shaft **67**. A flexible disc **119** is carried for corotation by the drive shaft **116**. Individually operable, solenoid actuated lever means **121**, constructed similar to the lever means **83**, selectively urge diametrically opposite peripheral edge portions of the flexible disc **119** into frictional driving engagement with a pair of spaced rolls **122** and **123**. The rolls **122** and **123** are corotatably con-

nected to the line shaft and selectively rotate the sprocket **103** in opposite directions for propelling the carriage or trolley **14** forwardly along the track sections **11** and **13** or rearwardly therealong.

To provide a positive driving engagement between the cable **102** and the cable drive sprocket **103**, at least a portion of the cable comprises roller chain **124** trained around the drive sprocket **103**.

It is also contemplated by the present invention to releasably suspend the tackling dummy **16** from the carriage or trolley **14** so that rearward pivoting movement of the dummy against an adjustable biasing force releases the dummy, thereby providing means for selectively changing the force necessary to release the dummy. Accordingly, means suspending the dummy **16** from the carriage or trolley **14** generally comprise a pair of depending support arms **126** connected to the trolley **14** for pivoting movement about a horizontal axis extending generally transversely of the trolley. Releasable latch means **127** connecting the tackling dummy to the pivoted arms and biasing means **128** urging the pivoted arms **126** forwardly against a stop surface **129**.

The arms **126** are disposed in a parallel, spaced relationship and each has an aperture **131** formed in an upper end portion for receiving a pivot pin **132**. Opposite end portions of the pin **132** are mounted in a pair of transversely spaced trolley side plates as at **133**. A block **134** having the clamp receiving aperture **113** formed therein interconnects front portions of the side plates **133** and cross member **135** joins lower portions of the side plates. Spacers **136** and **137** on the pivot pin **132** laterally restrain the pivoted support arms **126** and hold the same in a transversely spaced relationship.

A socket formed in an upper end portion of the tackling dummy **16** slidably receives lower end portions **138** of the support arms **126**. Means forming the socket comprise a pair of substantially U-shaped members **139**, each having a pair of spaced, parallel, upright arm portions **141**. One of the U-shaped members **139** is nestled within the other and is arranged relative thereto to form four mutually perpendicular sidewalls. A rod **143** extending longitudinally of the tackling dummy **16** has a lower end portion **144** clamped to a lower end of the dummy and has the U-shaped members **141** clamped to an upper end portion thereof.

As best illustrated in FIG. **9**, the upright sidewalls or arm portions **141** of the U-shaped members have a width sized to provide two pairs of parallel, spaced slots **146**. The slots **146** fittingly receive the lower end portions **138** of the pivoted support arms **126**. A sheath **147** having a rectangular cross section surrounds outer wall portions of the upright sidewalls **141** and closes opposite end portions of the slots **146** for restraining movement of the dummy **16** transversely of the arms **126** when the latter are properly inserted into the slots **146** forming the socket.

To absorb forces directed laterally of the carriage or trolley **14** and caused by a player hitting the dummy **16**, the support arms **126** are formed by heavy leaf spring members, similar to automobile leaf springs.

The latch means **127** releasably securing the dummy **16** to the support arms **126**, **126** comprise a latch member **148** disposed between the support arms **126**, **126** and pivotally supported on a pin **149** having opposite end portions secured to the support arms. The latch member **148** has a depending portion **151** characterized by a forwardly projecting dog **152** engageable with the edges of apertures as at **153** formed in each of the upright sidewall portions **141** of the U-shaped members **139** and providing downwardly projecting latch surfaces as at **155**. A generally upwardly extending arm **154** forms an engagement surface **156** confronting a forwardmost end **157** of a latch actuating rod **158** having a rear end portion as at **159** connected to the trolley **14**. A trunnion **161** supported between the support arms **126** has a transversely extending bore **162** slidably receiving the forwardmost end **157** of the rod **158**. The rear end portion **159** of the rod **158** is threaded and received in a threaded bore **163** extending transversely through a trunnion **164** having opposite reduced end portions as at **165** pivotally supported in the trolley sidewalls **133**, thereby to support the rod **158** for adjustable movement toward and away from the support arms **126**.

The biasing means **128** include a compression spring **166** having opposite end portions operatively engaging the trunnion **161** supported between the arms **126** and the adjustably movable rod **158**, thereby to forwardly bias the support arms against the stop surface **129**. The biasing force exerted by the compression spring **166** may be adjusted by threading the rod **158** through the fixed trunnion **164**.

Accordingly, rearward pivoting movement of the support arms **126** against the bias of the spring **166** by a player tackling the dummy **16** slides the trunnion **161** rearwardly along the rod **158** to engage the latch actuating surface **156** with the forward end portion **157** of the rod for pivoting the latch member **148** to withdraw the dog **152** from the apertures **153**, thereby releasing the dummy **16** from the trolley **14**. A rearwardly extending arm **168** on the latch member **148** engages a forwardly projecting surface **169** on the lower cross member **135** for limiting rearward pivoting movement of the support arms **126**.

As illustrated in FIG. **16**, the powered track control means and trolley propelling means may be electrically interconnected via conductor wires C with a hand held remote control box **171** having push-button switch means as at **172** for controlling the operation of the tackling apparatus **10**. A light **173** indicates when the pivoted track section **13** is at the centered position. It will be understood that the conductor wires C may be provided with an appropriate plug for mating reception in the socket S on the housing H.

Although those versed in the art may suggest various minor modificatons it should be understood that we wish to embody within the scope of the patent warranted hereon all such modifications as reasonably and properly come within the scope of our contribution to the art.

I claim as my invention:

1. An evasive action tackling practice apparatus comprising:

cantilever means forming a substantially horizontally extending track spaced above the ground,

said track having a movable section supported for pivoting movement about a vertical pivot axis in selected directions;

a tackling dummy;

trolley means supported on said track for linear movement longitudinally therealong and having suspension means for suspending said dummy therefrom;

trolley drive means comprising first selectively operable power operated means for selectively propelling said trolley means and said dummy along said track;

track drive means for selectively pivoting said movable track section to control movement of said traveling dummy and impart an evasive action thereto,

said track control means comprising

second selectively operable power operated means,

means operatively connecting said power operated means to at least one side of said movable track section at a position spaced from the pivot axis to form a lever arrangement for pivoting said track section about the axis to move said dummy in directions laterally of its movement along said track; and

manually operated control means controlling the operation of said first and second power operated means, whereby an operator may selectively propel said dummy along said track and simultaneously selectively pivot said track to impart an evasive action to said dummy.

2. An evasive action tackling dummy apparatus as defined in claim **1** and further characterized by:

said track having a straight fixed section supported at one end and having said movable section support at an other end thereof for pivoting movement transversely of said fixed section.

3. An evasive action tackling dummy apparatus as defined in claim **2** and further characterized by:

said cantilever means including upright support members having one end portion of said fixed track section supported thereon; and a motor drive housing between said upright support members forming an enclosure for said drive means.

4. An evasive action tackling apparatus as defined in claim 1 and further characterized by:

said track having a planar, horizontally extending rail portion formed thereon;

said trolley means having a pair of wheels journalled thereon for rollably engaging an upper surface of said horizontally extending rail portions;

said trolley means having at least one other wheel journaled thereon and engaging a lower surface of said rail portion for restraining vertical movement of said trolley relative to said rail portions.

5. An evasive tackling apparatus as defined in claim 1 and further characterized by:

said trolley means including means forming a body portion;

wheel means journaled on said trolley body and engaging said track section;

means suspending said dummy from said trolley and including

support members depending from said trolley body and connected thereto for pivoting movement about a horizontal axis extending transversely of said track sections,

biasing means forwardly urging said pivoted support members into a normal vertically extending position;

releasable latch means on said pivoted support members for engaging portions of said dummy to vertically support the same, and

latch releasing means for releasing said latch means upon rearward pivoting movement of said support members a predetermined distance against said biasing means.

6. An evasive tackling apparatus as defined in claim 5 and further characterized by:

said means suspending said dummy including means resiliently supporting said dummy in directions laterally of said track sections.

7. An evasive tackling apparatus comprising:

cantilever means forming a substantially horizontally extending track spaced above the ground,

said track having a movable section supported for pivoting movement about a vertical axis in selected directions,

a tackling dummy;

trolley means supported on said track for linear movement longitudinally along and having suspension means suspending said dummy therefrom;

drive means for selectively propelling said trolley means and said dummy along said track; and

track control means for selectively pivoting said movable track section to control movement of said travelling dummy and impart an evasive action thereto, said trolley means including means forming a body portion;

wheel means journaled on said trolley body and engaging said track section;

means suspending said dummy from said trolley and including support members depending from said trolley body and connected thereto for pivoting movement about a horizontal axis extending transversely of said track sections,

biasing means forwardly urging said pivoted support members into a normally vertically extending position;

releasable latch means of said pivoted members for engaging portions of said dummy to vertically support the same, and

said support members including a pair of spaced apart parallel heavy leaf springs, each having an upper end portion pivotally connected to said trolley body;

said dummy having an upwardly opening socket formed therein for fittingly receiving lower end portions of said leaf spring for laterally supporting said dummy;

said latch means including a latch member pivoted between said spring members and having a forwardly projecting latch dog for engaging a downwardly projecting latch surface in said socket to vertically support said dummy.

8. An evasive tackling apparatus as defined in claim 7 and further characterized by:

said latch releasing means including a rod having one end portion pivotally supported on said trolley body for pivoting movement about a horizontal axis extending transversely of said track sections,

a trunnion pivoted between said spaced spring members and having an aperture extending transversely therethrough for slidably receiving the other end portion of said rod,

said latch member having an upwardly extending projection disposed adjacent said trunnion for engagement by the other end portion of said rod;

said biasing means including a compression spring surrounding said rod and having opposite end portions operatively engaging said trolley body and said support members, for forwardly urging the latter into the normal, substantially vertical position,

whereby rearward pivoting movement of said springs against said biasing spring by a tackler hitting said dummy engages said latch projection against the other end portion of said rod for pivoting said latch member to an unlatched position, thereby to release said dummy.

9. An evasive tackling apparatus as defined in claim 8 and further characterized by means for increasing or decreasing the tension of said biasing spring.

10. An evasive tackling apparatus comprising:

cantilever means forming a substantially horizontally extending track spaced above the ground,

said track having a movable section supported for pivoting movement about a vertical axis in selected directions;

a tackling dummy;

trolley means supported on said track for linear movement longitudinally therealong and having suspension means for suspending said dummy therefrom;

drive means for selectively propelling said trolley means and said dummy along said track, said trolley drive means including

a continuous cable trained around a closed path having a run extending longitudinally of said track sections,

clamp means attaching said cable to said trolley means for movement with said cable along said track sections,

a drive sprocket drivingly engaging said cable,

a prime mover,

a line shaft rotated by said prime mover,

clutch means frictionally coupling said drive sprocket to said rotating line shaft for pulling said cable along said track sections to propel said trolley; and

track control means for selectively pivoting said movable track section to control movement of said traveling dummy and impart an evasive action thereto.

11. An evasive action tackling apparatus as defined in claim 10 and further characterized by:

said clutch means including means for rotating said drive sprocket in reverse directions for selectively propelling said trolley forwardly toward said pivoted track section and rearwardly toward a starting position away from said pivoted track section.

12. An evasive action tackling apparatus as defined in claim 10 and further characterized by

said clutch means including

a rotatably mounted shaft extending transversely at right angles to said rotating line shaft,

said drive sprocket mounted on said shaft for corotation therewith,

a flexible disc mounted at an end portion of said sprocket shaft for corotation therewith and disposed adjacent said line shaft,

a pair of axially spaced rolls on said line shaft and disposed adjacent diametrically opposite peripheral edge portions of said flexible disc, and

means for selectively urging said disc into frictional driving engagement with alternative ones of said rolls for frictionally coupling said drive sprocket shaft to said line shaft for rotating said drive sprocket in a selected direction for advancing or retracting said trolley along said track section.

13. An evasive action tackling apparatus comprising:

cantilever means forming a substantially horizontally extending track spaced above the ground,

said track having a movable section supported for pivoting movement about a vertical axis in selected directions;

a tackling dummy;

trolley means supported on said track for linear movement longitudinally therealong and having suspension means for suspending said dummy therefrom;

drive means for selectively propelling said trolley means and said dummy along said track;

track control means for selectively pivoting said movable track section to control movement of said traveling dummy and impart an evasive action thereto, said track control means including

a pair of control rods respectively attached to laterally opposite sides of said pivoted track section in manners to form second class levers for selectively pivoting said pivoted section in opposite directions in response to rearwardly directed movement of a selected one of said pair of control rods, and

means for rearwardly moving a selected one of said control rods.

14. An evasive action tackling apparatus as defined in claim 13 and further characterized by:

said means for moving said control rods including

a pair of bell cranks pivotally supported at opposite sides of said fixed track section and each having a generally vertically extending arm portion and a generally horizontally extending arm portion,

a rearward most end of each said control rod respectively connected to said vertically extending end portions of opposite ones of said bell cranks,

a pair of cables each having one end respectively connected to opposite ones of said generally horizontally extending arm portions,

a rotatably mounted shaft disposed beneath said fixed track section,

a pair of axially spaced sprockets mounted on said shaft for corotation therewith,

the other end portion of each said cable wrapped around and dead-ended on opposite ones of said sprockets so that rotation of said shaft in reverse directions pulls opposite ones of said pair of cables to pivot opposite ones of said bell crank in directions to rearwardly move the associated one of said control rods for pivoting said pivoted track section.

15. An evasive action tackling apparatus as defined in claim 14 and further characterized by:

drive means for said rod moving means including a line shaft extending at right angles to said sprocket shaft and disposed adjacent an end thereof,

means including a prime mover for rotating said line shaft,

a flexible disc mounted at an end of said sprocket shaft and disposed adjacent said line shaft,

a pair of axially spaced rolls on said line shaft and disposed adjacent diametrically opposite peripheral edge portions of said flexible disc,

means for selectively urging opposite peripheral edge portions of said flexible disc into frictional driving engagement with alternative ones of said rolls for frictionally coupling said sprocket shaft to said line shaft to pivot said pivoted track section in a selected direction.

16. In a tackling practice apparatus having a horizontally extending track, means for suspending a tackling dummy from said track for movement therealong, and drive means selectively propelling said dummy along said track the improvement comprising:

said horizontally extending track having a pivoted track section mounted for pivoting movement about a vertically extending pivot axis; and

track drive means for selectively pivoting said pivoted track section to control lateral movement of a dummy suspended from, and selectively movable along, said track, said track drive means comprising selectively operable power operated means,

means operatively connecting said power operated means to at least one side of said movable track section at a position spaced from the pivot axis to form a lever arrangement for pivoting said track section about the axis to move said dummy in directions laterally of its movement along said track; and

manually operated control means controlling the operation of said power operated means,

whereby an operator may selectively propel said dummy along said track and simultaneously selectively pivot said track to impart an evasive action to said dummy.

17. An evasive action tackling practice apparatus comprising:

cantilever means forming a substantially horizontally extending track spaced above the ground, said track having a movable section supported for pivoting movement about a vertical axis in selected directions;

a tackling dummy;

trolley means supported on said track for linear movement longitudinally therealong and having suspension means for suspending said dummy therefrom;

drive means for selectively propelling said trolley means and said dummy along said track; and

track control means for selectively pivoting said movable track section to control movement of said travelling dummy and impart an evasive action thereto,

said track having a straight fixed section supported at one end and having said movable section support at an other end thereof for pivoting movement transversely of sad fixed section,

said cantilever means including upright support members having one end portion of said fixed track section supported thereon;

and a motor drive housing between said upright support members forming an enclosure for said drive means,

said trolley means having wheels journaled thereon;

said fixed and said pivoted track sections having coplanar, horizontally disposed rail portions along which said trolley wheels travel,

adjoining end portions of said fixed and said pivoted track sections having complemental arcuately shaped ends formed substantially coaxially of the vertically extending pivoting axis for providing a continuous rail irrespective of the angular position of said pivoted section relative to said fixed section.

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