United States Patent

[11] 3,556,523

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[45] Patented **Jan. 19, 1971**
Continuation-in-part of application Ser. No. 621,617, Mar. 8, 1967, now Patent No. 3,464,696.

[54] **MULTIPLE FOOTBALL TACKLING DUMMY SLED**
5 Claims, 8 Drawing Figs.

[52] **U.S. Cl.** **273/55**
[51] **Int. Cl.** **A63g 11/00**
[50] **Field of Search** 273/55

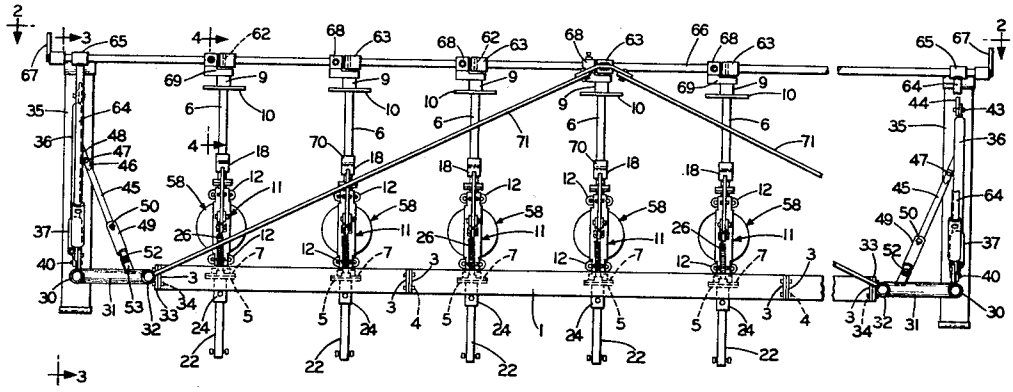
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Primary Examiner—Richard C. Pinkham
Assistant Examiner—Theatrice Brown
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ABSTRACT: A multiple football tackling dummy sled apparatus comprising a rigid frame mounted upon runners to slide upon the ground and having a plurality of equally spaced rearwardly disposed horizontal arms spaced above the ground, a carriage longitudinally slidable upon each arm, a tackling dummy suspended from each carriage, means for latching the carriages at the rear ends of said arms, spring means for urging the carriages toward the forward ends of the arms and a single releasing lever for simultaneously unlatching all of the carriages. The apparatus also includes novel means whereby the spring means which urges the carriages toward the forward ends of the arms also controls the latch means which normally latches the carriages to the rear ends of the arms.



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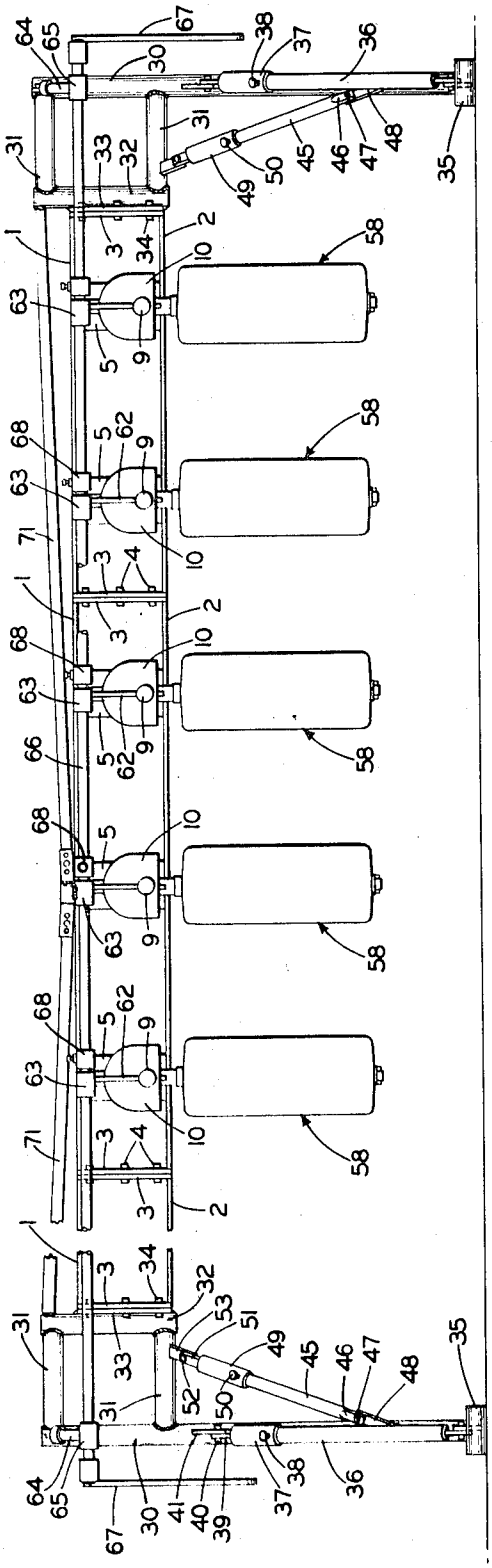


Fig. 2

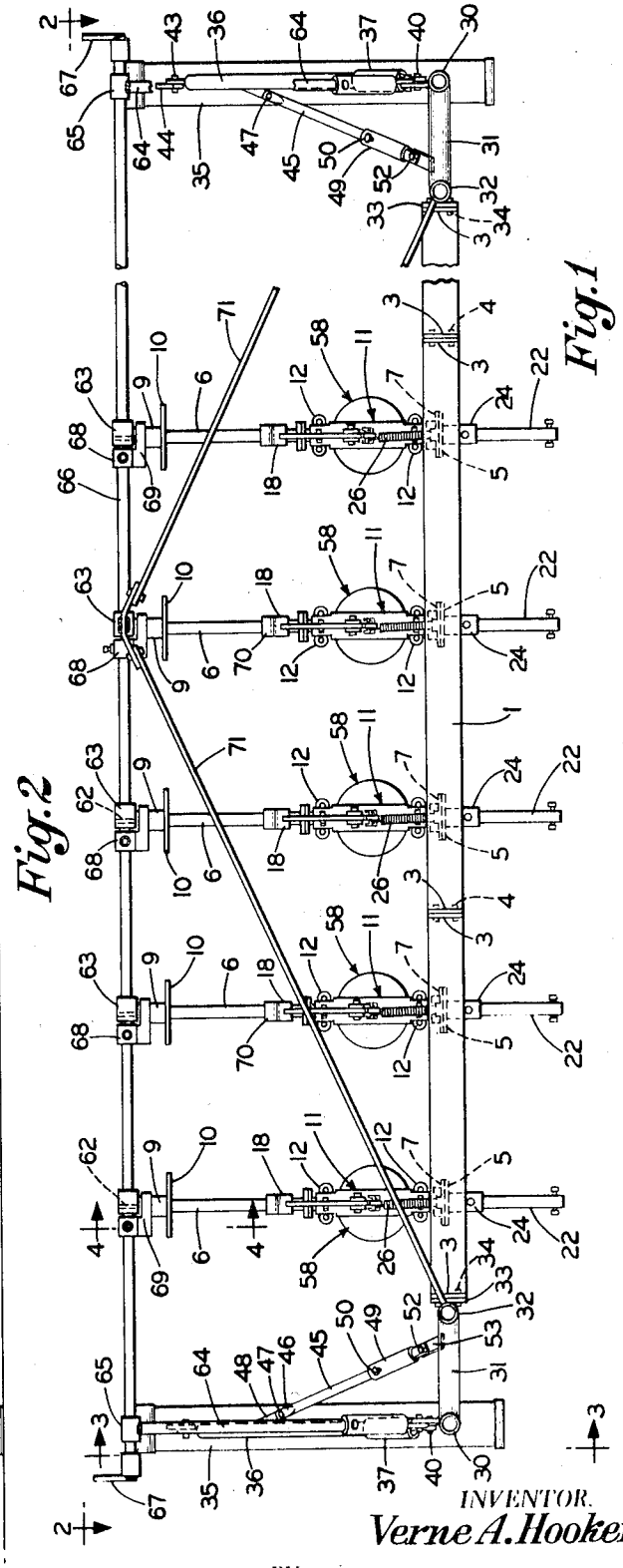


Fig. 1

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Fig. 6

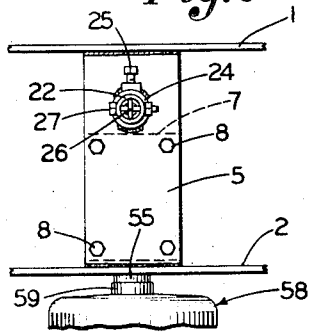
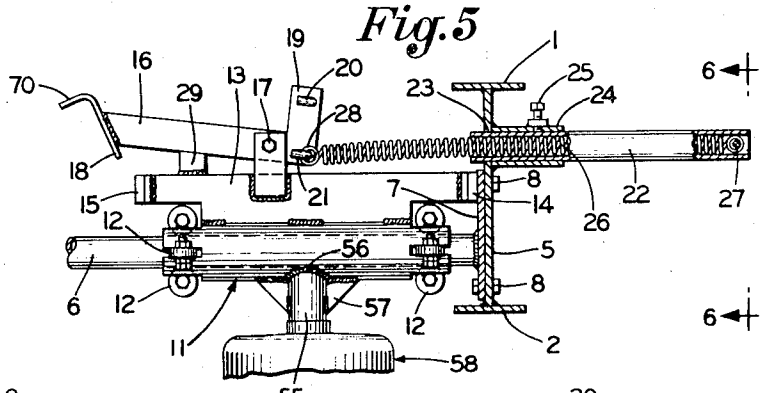


Fig. 5



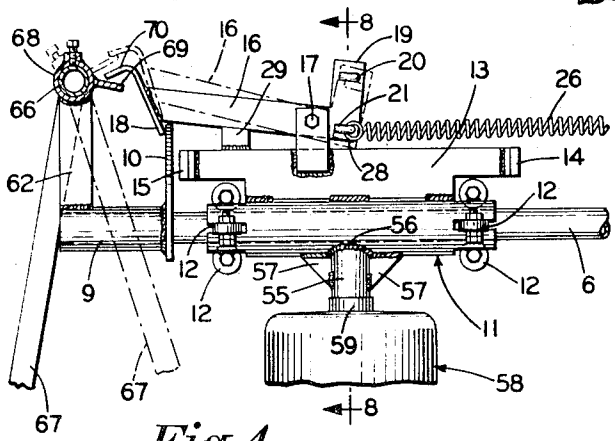


Fig. 4

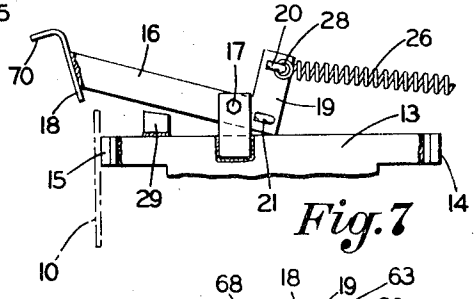


Fig. 7

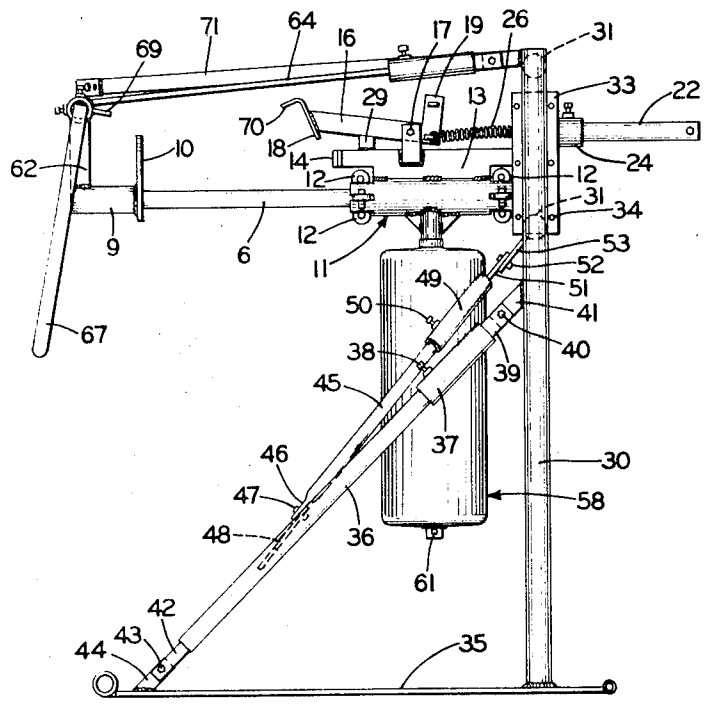


Fig. 3

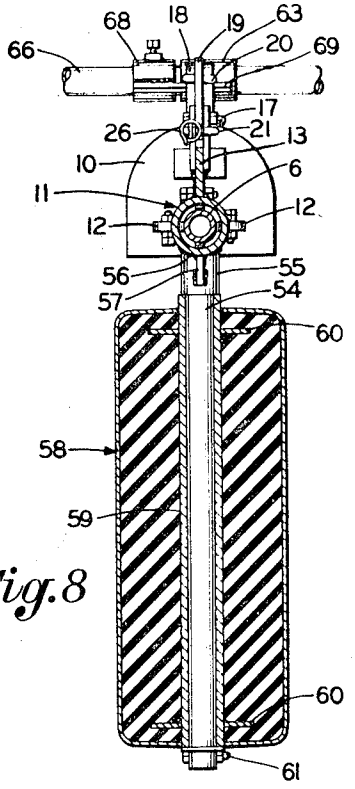


Fig. 8

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MULTIPLE FOOTBALL TACKLING DUMMY SLED

CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation-in-part of my copending application Ser. No. 621,617 filed Mar. 8, 1967, since matured into U.S. Pat. No. 3,464,696.

Said prior application discloses a football tackling dummy apparatus in which a single horizontal arm is pivotally mounted upon a supporting member at a point spaced above the ground and a carriage is slidable upon said horizontal arm and has a tackling dummy suspended therefrom. The supporting frame is disclosed as being rigidly mounted in stationary position on the ground and separate independent spring means are provided for urging the carriage toward the rear end of the horizontal arm and for operating the latch for holding the carriage at the forward end of the arm.

BACKGROUND OF THE IN INVENTION

1. Field of the Invention

The invention relates to football practice apparatus and more particularly to a multiple football tackling dummy sled apparatus for use by football players when practicing tackling, charging, and blocking, and in which the multiple tackling dummies may be simultaneously released and urged by spring means toward a like number of football players.

The apparatus includes a horizontally disposed frame supported at opposite ends by uprights mounted upon runners. A plurality of rearwardly disposed horizontal track arms are fixed upon the frames in spaced relation, a carriage being mounted upon each track arm and having a depending axial shaft rigidly connected thereto, a cylindrical dummy being rotatably mounted upon each axial shaft.

The invention also contemplates improvements in the spring propelled and latch mechanism for the carriages over that shown in the parent application.

2. Description of the Prior Art

The only pertinent prior art known to applicant is Burke et al. U.S. Pat. No. 2,602,666, issued Jul. 8, 1952. In the Burke et al. patent the frame carrying the dummies is not disclosed as mounted upon runners but is attached in stationary position to the ground.

The horizontal arms carrying the carriages are not rigidly connected thereto but arranged to be urged into angular positions by means of spring-loaded cylinders. The dummies are not rigidly connected to the carriages but are pivotally connected thereto so as to swing backward and forward.

Applicant's novel spring arrangement for urging the carriages forward and also controlling the latches is not shown in Burke et al. On the contrary, Burke et al. shows an electrically controlled catch for latching each carriage in initial position. This is not practical for such purpose as electrical power failure would render the catches inoperative and grounding of the electric current would render the metal frame dangerous for such use.

SuMMARY OF THE INVENTION

The invention may be briefly described as comprising a horizontal frame made up of units of two dummies and three dummies bolted together at their ends in any suitable arrangement so that the apparatus may be simultaneously used in practice by any number of football players from two to seven.

The frame may be supported upon uprights at each end mounted upon sled runners so that the entire frame may be slidably moved forward or backward upon the ground. A plurality of equally spaced perpendicular rearwardly disposed horizontal track arms is rigidly mounted upon the frame, a carriage being slidably mounted upon each track arm and normally urged forward thereon by spring means.

A latch is provided for holding each carriage at the rear end of the corresponding arm and means is provided for simultaneously releasing all of the latches so that the springs will urge all of the carriages forward upon the track arms.

A feature of the invention is an improvement in the latch construction over that shown in the parent application, a single spring being used to urge each carriage forward upon the corresponding track arm, and also to control the latch. The improved latch includes an L-shaped latch bar having two spaced hooks thereon for selective connection of the spring which urges the carriage forward on the arm.

It is, therefore, an object of the invention to provide a multiple football tackling dummy sled apparatus of the character referred to comprising a horizontal frame spaced above the ground and supported at its ends by uprights mounted upon runners, a spaced plurality of horizontally disposed perpendicular track arms being mounted upon the frame, a spring-loaded carriage being slidable upon each track arm, with latch means for holding the carriages at the rear ends of the track arms.

Another object of the invention is to provide a tackling dummy apparatus of this type having mechanical means for simultaneously releasing the latches upon all of the carriages.

A further object of the invention is to provide such a football tackling dummy apparatus having a novel construction of latch means.

A still further object of the invention is to provide a tackling dummy apparatus of this character in which the horizontal frame is made up of separate units of two dummies and three dummies, whereby any arrangement of from two to seven dummies may be produced by selective connection of different units together.

The above objects together with others which will be apparent from the drawing and following description, or which may be later referred to, may be attained by constructing the improved multiple football tackling dummy sled apparatus, in the manner hereinafter described in detail and illustrated in the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWINGS

Having thus briefly described the invention, reference is now made to the accompanying drawings, in which:

FIG. 1 is a top plan view of the apparatus shown in FIG. 1;

FIG. 2 is a rear elevation of a multiple football tackling dummy sled apparatus embodying the invention, looking in the direction of the arrows 2–2 in FIG. 1;

FIG. 3 is an end elevation of the apparatus looking in the direction of the arrows 3–3 in FIG. 1;

FIG. 4 is an enlarged fragmentary side elevation of a portion of one of the track arms and the corresponding carriage and tackling dummy, showing the carriage latched to the rear end of the track arm in full lines and unlatched in broken lines, taken on the line 4–4, FIG. 1;

FIG. 5 is an enlarged fragmentary view similar to FIG. 4 showing the latch released and the carriage moved to the forward end of the track arm;

FIG. 6 is a fragmentary front elevation taken as on the line 6–6, FIG. 5;

FIG. 7 is a fragmentary side elevation of the upper portion of one carriage showing the coil spring connected to the upper end of the shorter leg of the L-shape latch bar to hold the latch bar in unlatched condition; and

FIG. 8 is a longitudinal vertical section view through one of the tackling dummies and associated parts, taken on the line 8–8, FIG. 4.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now more particularly to the embodiment of the invention illustrated in the drawings, in which similar numerals refer to similar parts throughout, the improved football tackling dummy sled apparatus, to which the invention pertains, is preferably made up of units of two tackling dummies and three tackling dummies which may be connected together in various combinations containing any desired number of tackling dummies from two to seven.

Each unit is mounted upon a frame comprising spaced upper and lower, parallel horizontal members 1 and 2 respectively, connected at their ends by the end plates 3. The end plates 3 of adjoining units are shown as detachably connected together by bolts 4.

Each unit has either two or three track supporting plates 5 welded at its upper and lower ends to the upper and lower horizontal members 1 and 2, respectively. A horizontal rearwardly disposed track arm in the form of a length of pipe 6 is connected to each plate 5.

For this purpose, a vertical flange 7 is welded upon the front end of each track arm 6 and is connected to the corresponding arm supporting plate 5 as by bolts 8. A short section of larger diameter pipe, as indicated at 9, is fixed upon the rear end of each track arm 6 and has an upright stop plate 10 welded thereon.

A carriage, indicated generally at 11, is longitudinally slidable upon each track arm 6. This carriage comprises a section of larger diameter pipe having a plurality of rollers 12 at each end, which roll upon the track 6. Thus, it will be seen that the carriage is both radially and longitudinally movable upon the track arm 6.

Each carriage includes a plate 13 welded or otherwise secured upon the top of the pipe section 11, longitudinally thereof, and having rubber bumpers 14 and 15 at opposite ends for respective engagement with the flange 7 and stop plate 10.

An L-shaped latch bar 16 is pivoted as at 17 upon the top of each carriage plate 13 and provided at its rear end with a downwardly inclined latch projection 18 adapted to engage over the corresponding stop plate 10, as best shown in FIG. 4. At the forward end of the latch bar 16 is the upwardly disposed shorter arm 19 having the spaced hooks 20 and 21 at its upper and lower ends respectively.

A forwardly disposed cylindrical housing 22 is supported upon each plate 5. As best shown in FIG. 5, each of the plates 5 has an aperture 23 therein of the diameter of the tube 22 and has a short section of larger tube 24 welded to the plate 5. The tube 22 is located through the short section of tubing 24 and through the aperture 23 and is held in adjusted position by a set screw 25.

One end of a coil spring 26 is located within the forward end of the tube 22 and retained by a pin 27. An eye 28 upon the other end of the spring 26 may be selectively attached to the lower hook 21 on the latch bar, as shown in FIGS. 4 and 5, or to the upper hook 20 thereof, as shown in FIG. 7.

When the ring 28 upon the spring 26 is attached to the lower hook 21, it will urge the latch bar 16 downward, as shown in full lines in FIGS. 4 and 5, so that the latch projection 18 thereon will engage over the stop plate 10 when the carriage 11 is moved to its rearmost position, as shown in FIG. 4.

As the carriage is moved rearwardly upon the track 6, the downwardly and forwardly inclined latch projection 18 will ride over the top of the stop plate 10 while the latch bar 16 rests upon the stop stud 29 mounted upon the top of the carriage plate 13.

When the desired combination of frame units is connected together by the bolts 4, the assembled frame structure is then connected to a pair of end supports. Each of these end supports comprises a vertical pipe section 30 to the upper end of which is welded a spaced pair of horizontal spaced parallel pipe sections 31 to the ends of which is welded a short vertical pipe section 32 having a plate 33 of the size and shape of the end plates 3, welded thereto. Bolts 34 connect each plate 33 to the adjacent end plate 3. The lower end of each vertical leg or pipe section 30 is mounted upon a runner 35.

A brace member comprising a downwardly and rearwardly inclined pipe section 36 is interposed between each vertical leg 30 and the opposite end of the corresponding runner 35. In order to adjustably mount the same the upper end of the pipe section 36 is inserted into a short piece of larger pipe 37 and adjustably held therein as by the set screw 38. An ear 39, upon the upper end of the pipe section 37, is pivotally connected, as at 40, with an ear 41 welded to the vertical leg 30. An ear 42 on the lower end of the pipe section 36 is pivoted as at 43 to an ear 44 on the corresponding runner 35.

The supporting structure at each end of the apparatus is further braced by a strut extending diagonally downward and outward from each lower horizontal member 31 to the downwardly and rearwardly inclined pipe section 36, as best shown in FIGS. 1, 2 and 3.

Each of these struts is composed of a pipe section 45 having an ear 46 at its lower end pivotally connected as at 47 to an ear 48 connected to the pipe section 36. The upper end of the pipe section 45 is adjustably received in a short section of larger pipe 49 and held in adjusted position by a set screw 50.

An ear 51, at the upper end of the pipe 49, is pivoted at 52 to an ear 53 connected to the lower horizontal pipe 31. For the purpose of suspending a tackling dummy from each carriage 11, a shaft, which may be a length of pipe 54 (FIG. 8) is suspended from the underside of the carriage pipe 11.

The upper end of the shaft 54 may be welded or otherwise fixed within a short sleeve 55 which is welded to the underside of the carriage pipe 11, as shown at 56. Gusset plates 57 may be welded to each side of the sleeve 55 and to the underside of the carriage pipe 11.

Each dummy 58 comprises a cylinder of plastic, rubber, or other suitable flexible material having a pipe bushing 59, with discs 60 near its ends, embedded therein. A bolt and nut 61 through the lower end of the shaft 54 retains the dummy on the shaft in such manner that it is rotatable upon the shaft. While the shaft 54 may swing laterally relative to the track 6, owing to the carriage pipe 11 being rotatable upon the track, it will be seen that it is rigidly connected to the carriage pipe so that there is no forward or rearward swinging movement thereof relative to the track.

For the purpose of supporting the rear ends of the track arms 6 with the carriages and dummies suspended thereon, an upright strip 62 is attached to the larger diameter pipe section 9 at the rear end of each track arm 6, and a sleeve 63 is welded or otherwise fixed to the upper end of each strip 62.

At each end of the apparatus, as best shown in FIGS. 1, 2 and 3, a rearwardly and slightly downwardly inclined supporting rod 64 is connected at its forward end to the corresponding upright 30 and has a sleeve 65 at its forward end in alignment with the sleeves 63.

A shaft 66 is rotatably mounted through the sleeves 63 and 65 and has a lever 67 connected to each end. A collar 68 is fixed upon the shaft 66 adjacent each sleeve 63 and is provided with a finger 69 adapted to engage the angular lip 70 upon the rear end of each latch bar 16, as shown in broken lines in FIG. 4 in order to release the latch bar from engagement with the stop plate 10.

Rearwardly and slightly downwardly inclined struts 71 are connected at their outer ends to the tops of the end supports and converge toward the center of the apparatus where they are connected to one of the sleeves 63, as best shown in FIG. 1.

OPERATION OF THE APPARATUS

In the operation of the tackling dummy apparatus, the springs 26 normally hold the carriages 11 at the front or right-hand ends of the track arms 6, as viewed in FIG. 3. The dummies 58 are thus suspended from the carriages in the initial or starting position, as shown in FIGS. 1, 3 and 5.

When the players charge the dummies, from the right, as viewed in FIG. 3 they will carry the dummies rearwardly or to the left, against the resistance of the springs 26. As the carriages reach the rear or left-hand ends of the track arms 6, as viewed in FIGS. 3, 4 and 5, the inclined latch projections 18 on the latch bars 16 will ride up over the tops of the stop plates 10 and the coil springs 26 will pull the latch bars 16 downwardly to latched position, as best shown in full lines in FIG. 4, latching the carriages at the rear ends of the track arms 6.

In the event the coach desires to prevent the latch bars from operating to latch the carriages in this position, so as to require the players to continue to force the dummies backward against the pull of the springs **26**, he will attach the spring **26** to the upper hooks **20** on the shorter arms **19** of the pivoted latch bars **16** as shown in FIG. **7** so that the depending latch projections **18** cannot engage the stop plates **10**. As the players continue to push the tackling dummies backward the entire apparatus will slide upon the ground on the runners **35**.

Depending upon the strength of the springs **26**, it may be that the players will move the entire apparatus backward upon the ground before they are able to engage the stop plates **10**, as shown in full lines in FIG. **4**.

After all of the dummies **58** have been moved to the rear so that the corresponding latch bars are engaged with the stop plates to latch the carriages in the rearward position, as shown in full lines in FIG. **4**, the coach may release all of the carriages simultaneously by moving one or the other of the levers **67** from the full-line position to the broken line position shown in FIG. **4** so that the fingers **69** will engage the lips **70**, raising the rear ends of the latch bars **16** out of engagement with the stop plates **10** as shown in broken lines in FIG. **4**, whereupon the springs **26** will return the carriages **11**, carrying the dummies **58**, to the forward or initial position shown in FIG. **5**.

It will be seen that if any of the players hit the dummies **58** at either side of the vertical axis thereof, the dummies will be rotated upon their axes by the force of the impact, tending to cause the player to be thrown to that side of the dummy so that he will charge past the dummy rather than to properly tackle the same.

I claim:

1. A football tackling dummy apparatus comprising a horizontal frame spaced above the ground, upright supports for the frame, runners on the lower ends of said supports, a plurality of equally spaced rearwardly disposed horizontal track arms rigidly connected to the horizontal frame, a carriage slidable longitudinally upon each track arm, a tackling dummy suspended from each carriage, spring means normally urging the carriages toward the forward end of the horizontal frame, latch means for latching each carriage at the rear end of the corresponding arm, said latch means including an L-shaped latch bar pivotally mounted adjacent the juncture of the arms of the L-shaped latch upon each carriage and having a latch projection, a stop plate on the corresponding horizontal track arm, said latch projection being adapted to engage over said stop plate, said L-shaped latch bar having a relatively long arm and a relatively short arm, said arms being disposed at right angles to define said L-shape, the latch projection being located upon the relatively long arm and the spring means being connected to the relatively short arm, and means for simultaneously releasing all of said latch means.

2. A football tackling dummy apparatus as defined in claim **1** in which means is provided for selectively connecting the spring means to either end of the relatively short arm.

3. A football tackling dummy apparatus as defined in claim **1** in which the spring means for normally urging the carriage toward the forward end of the horizontal frame also controls the latch means.

4. A football tackling dummy apparatus comprising a supporting structure, a horizontal track arm having one end mounted upon the supporting structure, a carriage slidable longitudinally upon the track arm, a tackling dummy suspended from the carriage, a stop plate on the other end of the track arm, an L-shape latch bar pivotally mounted adjacent the juncture of the arms of the L-shaped latch upon the carriage, a latch projection upon one arm of the L-shape latch bar for engaging over said stop plate, and a coil spring having one end connected to said one end of the track arm and its other end connected to the other arm of said L-shape latch bar.

5. A football tackling dummy apparatus as defined in claim **4** in which means is provided for selectively connecting said other end of the coil spring to either end of said other arm of the L-shape latch bar.