Dec. 17, 1968 H. E. LEWIS ETAL 3,416,795

COLLAPSIBLE BLOCKING DUMMY

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Fig. 1

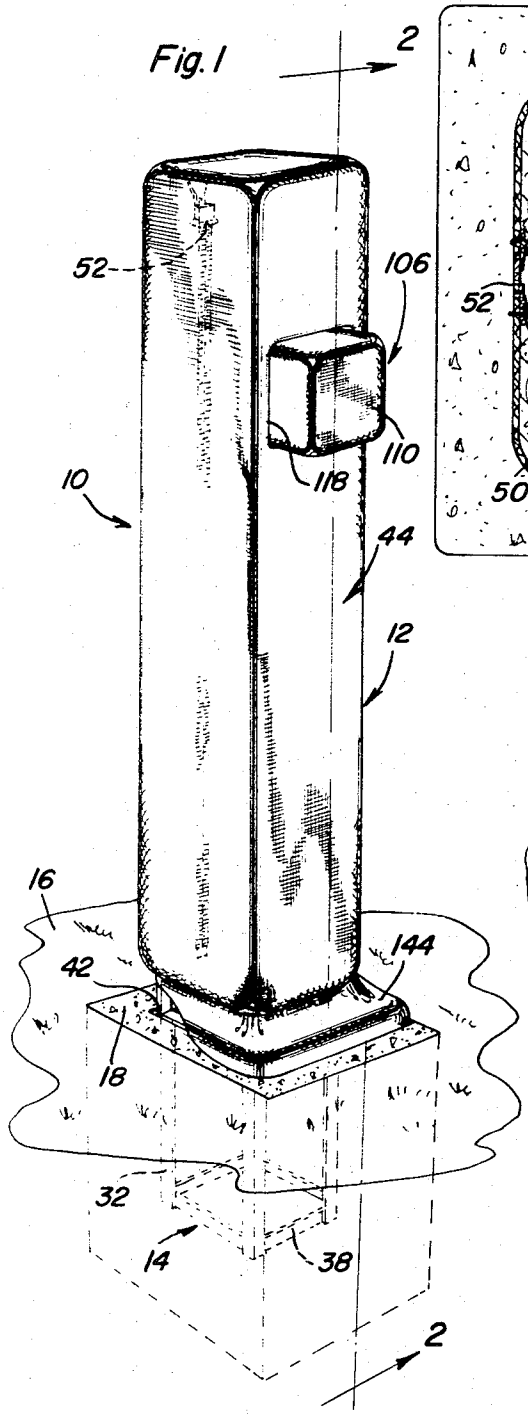


Fig. 3

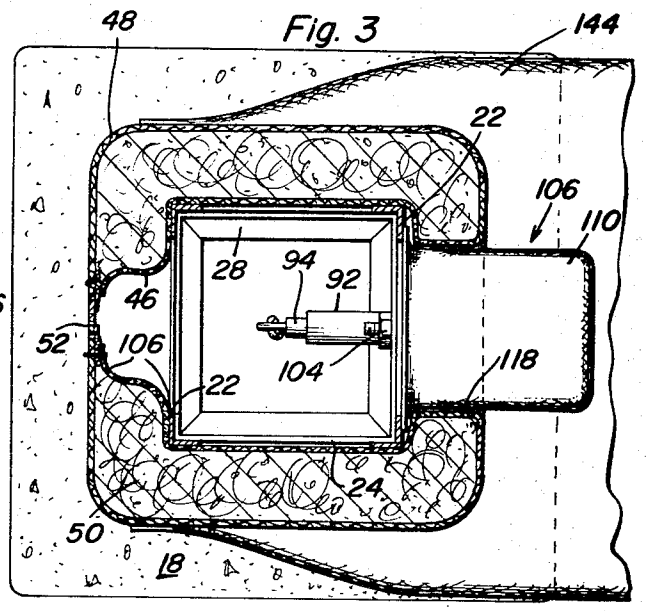
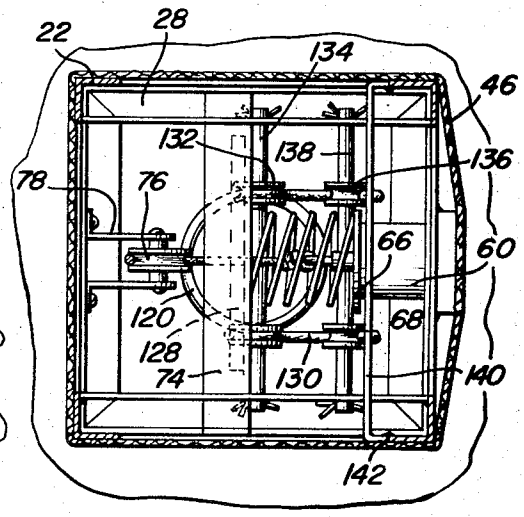


Fig. 4



Hughie E. Lewis
Worth Potter, Jr.
INVENTORS

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

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Fig. 2

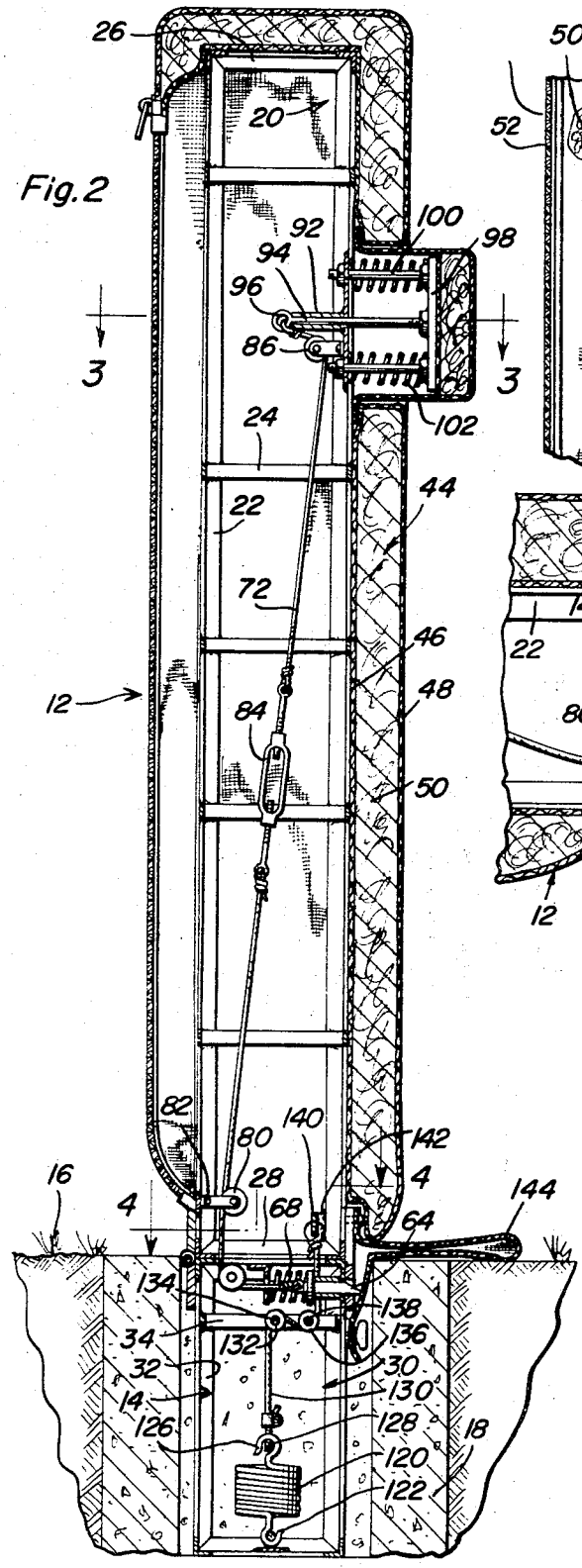


Fig. 5

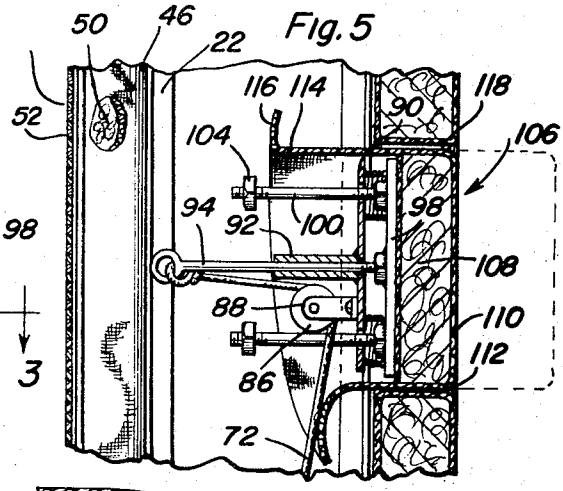
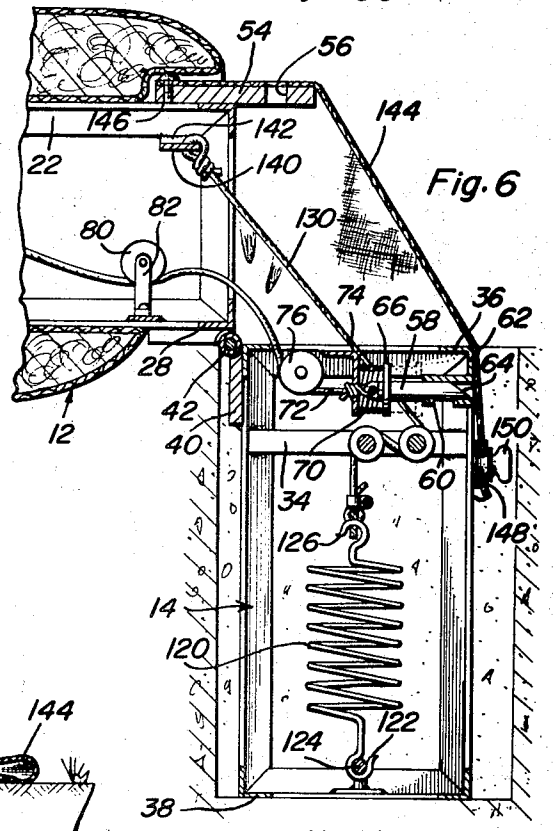


Fig. 6



Hughie E. Lewis
Worth Potter, Jr.
INVENTORS

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

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COLLAPSIBLE BLOCKING DUMMY

Hughie E. Lewis, P.O. Box 822, Warsaw, N.C. 28398, and Worth Potter, Jr., Rte. 1, Box 15, Magnolia, N.C. 28453

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ABSTRACT OF THE DISCLOSURE

A blocking dummy for football training including a lower section and an upper section pivoted thereto. The lower section is embedded in the ground or the like and the upper section is padded and provided with a target area which, when engaged, will release a latch mechanism to enable the upper section to pivot to a generally horizontal position. Spring means is provided for returning the upper section to an upright position and a covering skirt is provided for the juncture between the upper and lower sections to prevent entry.

The present invention generally relates to a training device for use in training football players in properly conducting their blocking assignments and more particularly relates to a blocking dummy which incorporates features therein to enable the blocking dummy to collapse or pivot to a horizontal position when a football player properly engages the dummy when training.

Training and practice devices for use by football players have been used and generally are in the form of tackling dummies or blocking sleds and the like. While these devices serve their purposes, they do not incorporate any specific arrangement for introducing a target area on the dummy so that if the football player properly engages the dummy, the dummy will simulate an opposing player and be knocked to the ground. Accordingly, an object of the present invention is to provide a blocking dummy especially constructed for training football players in conducting their blocking assignments and includes a latch structure which normally retains an upper section of the blocking dummy in upright position but which will be released when a player properly blocks the blocking dummy so that the upper section of the blocking dummy may then pivot about a horizontal axis located generally at ground level so that the upper section thereof may be knocked to the ground thus indicating that the player has properly conducted the block thereby enabling the blocking technique of the football players using this device to be properly developed.

Another object of the present invention is to provide a collapsible blocking dummy having a padded upper section including a padded target element associated therewith and a latch mechanism operatively connected with the target for releasing the collapsible section of the blocking dummy when the target is properly engaged.

A further object of the present invention is to provide a collapsible blocking dummy in which spring mechanism is provided for returning the upper section of the blocking dummy to an upright position so that it will automatically be normally retained and latched in upright position.

Still another object of the present invention is to provide a collapsible blocking dummy having a padded upper section with a depending skirt or protector to completely enclose the rigid working components of the dummy thereby preventing any possible injury to persons employing the device.

Yet another important feature of the present invention is to provide a collapsible blocking dummy which is quite rugged in construction, simple in operation, easy

to install, effective for training football players and yet relatively inexpensive to manufacture.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of the collapsible blocking dummy of the present invention;

FIGURE 2 is a longitudinal, sectional view taken substantially upon a plane passing along section line 2—2 of FIGURE 1 illustrating the structural details of the device;

FIGURE 3 is a transverse, sectional view taken substantially upon a plane passing along section line 3—3 of FIGURE 2 illustrating further structural details of the target device;

FIGURE 4 is a transverse, sectional view taken substantially upon a plane passing along section line 4—4 of FIGURE 2 illustrating further structural details of the latch mechanism and other operative structural features;

FIGURE 5 is a fragmental sectional view, on an enlarged scale, illustrating the orientation of the target member when it is moved inwardly to release the latch member; and

FIGURE 6 is a fragmental sectional view illustrating the lower section of the dummy and a portion of the upper section and illustrating the protective skirt and hinge structure together with the resilient mechanism for returning the upper section of the dummy to upright position.

Referring now specifically to the drawings, the collapsible blocking dummy **10** of the present invention includes an elongated upper section **12** and a relatively short lower section **14**. The upper section **12** is disposed above the ground surface **16** while the lower section **14** is recessed into the ground surface and may be disposed within a suitable concrete base **18** or the like so that the upper end of the lower section **14** and the lower end of the upper section **12** meet at ground level as illustrated in FIGURES 1, 2 and 6. The specific manner of installation of lower section **14** in the ground surface **16** may vary but it should be rather securely and more or less premanently anchored in place inasmuch as it will be necessary that it withstand considerable forces exerted on the upper section **12**. Normally, as illustrated in FIGURES 1 and 2, the upper section **2** is in vertical alignment with the lower section **14** and defines an upstanding blocking dummy so that football players may approach the dummy **10** in a normal blocking stance or position.

The upper section **12** includes an inner rigid framework **20** which includes a plurality of vertically disposed corner members **22** of angle iron construction or the like which are rigidly interconnected by a plurality of vertically spaced horizontally disposed braces **24** or the like thus forming a vertically elongated rigid framework **20** which is generally square in cross-sectional configuration. The uppermost horizontal braces may also be in the form of angle iron members **26** and the lowermost braces **24** may be in the form of angle iron members **28** with all of the flanges of the corner members, **22**, upper braces **26** and lower braces **28** facing inwardly to define a smooth exterior surface.

The lower section **14** includes a similar frame **30** including corner angle iron members **32**, intermediate brace members **34** and upper and lower angle iron braces **36** and **38** with the lower frame **30** generally forming an extension of the upper frame **20** when the frame sections are orientated in alignment.

One side edge of the upper frame **20** has the lower end

thereof hingedly connected to the upper end of a corresponding side edge of the lower frame **30** by a hinge structure including hinge straps **40** fixedly attached to the frame sections with the hinge straps **40** being pivotally interconnected by a hinge pin **42**. The hinge structure is of conventional construction and the pivotal axis defined by the hinge pin **42** is substantially coincidental with the ground surface **16** as illustrated in FIGURES 2 and 6 thereby enabling the upper section **12** of the dummy to pivot from a vertical position illustrated in FIGURE 2 to a substantially horizontal position as illustrated in FIGURE 6 which simulates an opposing player being knocked over or blocked out of a play.

A cushioning pad **44** encompasses the upper frame **20** and generally is in the form of an envelope enclosing all of the frame **20** except for the lower end. The cushioning pad **44** includes an inner sleeve-like member **46**, an outer sleeve-like member **48** and cushioning material **50** spaced between the members **46** and **48**. The members **46** and **48** may be conveniently heavy duty canvas material, plastic or the like and the cushioning or padding **50** may be of any suitable material such as currently employed in tackling dummies and the like.

To facilitate removal and placement of the cushion **44** on the upper frame **20**, the longitudinal wall of the cushion which is in alignment with the hinge pin **42** is provided with an elongated slide fastener assembly **52** which may be a conventional "zipper" to enable the cushion to be easily removed for replacement, repair and the like. The location of the slide fastener **52** in alignment with the hinge assures that the persons using the blocking dummy of this invention will not damage the slide fastener due to contact therewith since the football players will contact the dummy from the side thereof opposite to the side having the hinge thereon. The shape and configuration of the cushion **44** generally conforms with the shape and configuration of the upper frame **20**.

The lower end of the upper frame **20** is provided with a depending latch plate **54** having a latch receiving opening **56** therein with the latch plate **54** being rigidly fixed to the lower brace **28** or the like in any suitable manner such as by welding. The latch plate or keeper plate **54** is disposed in opposed relation to the pivot pin **42** and when the upper frame **20** is in alignment with the lower frame **30**, the lower end portion of the latch plate **54** extends downwardly alongside of the corresponding side area of the lower frame **30** as illustrated in FIGURE 2.

A horizontally reciprocal latch bolt **58** is slidably mounted in a guide sleeve **60** fixedly welded to a depending extension **62** on the upper brace member **36** forming a part of the lower frame **30** in opposite relation to the hinge pin **42**. The outer end of the latch bolt **58** is beveled as at **64** so that when the upper section **12** of the dummy **10** is pivoted to an upright position, the lower edge of the latch plate **54** will cam the latch bolt **58** inwardly to enable it to be retracted until such time as the hole **56** becomes aligned with the latch bolt **58** at which time the latch bolt **58** moves into the hole **56** thus latching the upper section **12** in upright position.

The latch bolt **58** includes a flange or abutment **66** adjacent the inner end thereof which has one end of a coil compression spring **68** engaged therewith. Also the inner end of the latch bolt **58** has a loop or eye **70** thereon to which a tension line or cable **72** is tied. The other end of the spring **68** abuts with an abutment member **74** that is rigidly fixed to the upper braces **36** of the lower frame **30** as illustrated in FIGURES 2 and 6 thus spring biasing the latch bolt **58** outwardly towards its latched position with the tension cable **72** being employed for withdrawing the latch bolt **58** in a manner described hereinafter.

The tension cable **72** is entrained over a pulley **76** mounted on a suitable bracket **78** supported from the lower frame **30** and the cable **72** then extends upwardly into the upper section **12** at a point adjacent the hinge axis. A lower idler pulley **80** is provided for the cable **72** adjacent the lower end of the upper frame **20** and the pulley **80** is supported on a suitable bracket **82** so that the pulleys **76** and **80** generally are in vertical alignment when the frames **20** and **30** are in vertical alignment as illustrated in FIGURE 2. A turnbuckle adjustment **84** is incorporated in the tension cable **72** to adjust the effective length thereof. The upper end portion of the tension cable **72** is entrained over a pulley **86** supported from a bracket **88** on a transverse mounting plate **90** secured to the upper frame **20** adjacent to but spaced below the upper end thereof as illustrated in FIGURE 2.

The mounting plate **90** includes an inwardly extending guide tube **92** slidably receiving an elongated operating rod **94** which has an eye **96** on the inner end thereof to which the upper end of the tension cable **72** is tied as illustrated in FIGURE 5. The outer end of the operating rod **94** is fixed to a pressure plate **98** in the form of a target member which is disposed exteriorly of and spaced from the surface of the upper frame **20** in opposed relation to the hinge axis defined by the hinge pin **42**. The pressure plate **98** is provided with a plurality of guide rods **100** fixed to the inner surface thereof with each of the guide rods **100** having a compression coil spring **102** disposed thereon with one end of the spring **102** engaging the pressure plate **98** and the other end thereof engaging the mounting plate **90** as illustrated in FIGURE 2. The ends of the guide rods **100** extend through apertures in the mounting plate **90** and are provided with retaining nuts **104** thereon which limit the outward movement of the pressure plate **98** and serve to retain the pressure plate **98** in position.

As illustrated in FIGURE 5, when inward pressure is exerted on the pressure plate **98**, it moves inwardly towards the frame thus compressing the springs **102** and moving the operating rod **94** inwardly thus causing linear movement of the tension cable **72**. As the tension cable **72** is moved linearly, it will retract the lock bolt **58** to disengage it from the keeper hole **56** in the keeper plate **54** thereby releasing the upper section **12** of the dummy so that it can pivot downwardly about hinge pin **42** to substantially a horizontal position as illustrated in FIGURE 6. Where the edges of the cushion **44** are joined by slide fastener **52**, it may be provided with a recessed area **106** to provide easy connection of the slide fastener elements.

A cushion or pad **106** is disposed in overlying relation to the pressure plate **98** and both the pressure plate **98** and the pad **106** are normally disposed beyond the surface of the pad **44** as illustrated in FIGURE 1. The pressure pad **106** is independent of the pad **44** and includes cushioning material **108** provided with a cover **110** and an inner member **112**. The cover **110** extends inwardly beyond the pressure plate **98** in the form of an extension **114** provided with an outwardly extending inner edge flange **116** for retaining the pressure pad **106** within the opening **118** formed in the pad **44** for receiving the pad **106** and the pressure plate **98** and enabling inward and outward movement thereof in relation to the pad **44** from the position illustrated in FIGURE 2 to the position illustrated in FIGURE 5 without restricting such movement and at the same time providing adequate padding for the pressure plate **98**.

For returning the upper section **12** of the dummy **10** to an upright position, there is provided a calibrated tension coil spring **120** disposed within the hollow interior of the lower frame **30** as illustrated in FIGURES 2 and 6. The lower end of the coil spring **120** is provided with a hook **122** anchored to a suitable eye **124** or other suitable bracket orientated centrally in the bottom of the lower frame **30**. The upper end of the spring **120** is provided with a corresponding hook **126** engaged with the center of a transverse bar **128** which is in the form of a conneutor plate to which the terminal ends of a pair of cables **130** are attached in any suitable manner such as by a

cable clamp or the like. The cables are entrained over a pair of pulleys **132** journaled on a transverse shaft **134** carried by the brace members **34**. The tension cables **130** then extend forwardly and downwardly under a pair of pulleys **136** journaled on shaft **138** also carried by the brace members **34**. The pulleys **132** may actually be interconnected and formed on the periphery of a sleeve journaled on the shaft **134** and this may also be true of the pulleys **136**. Any suitable type of pulley construction may be used to enable movement of the tension cables **130**. The upper ends of the cables **130** are interconnected by a connecting bar **140** or the like by any suitable means such as a cable clamp or the like and the center of the connecting bar **140** is attached to the frame **20** by a suitable hook or bolt-type fastener **142**. The length of the cables **130** may be initially adjusted by suitable cable clamps or by providing a small turnbuckle in each cable so that the length of the cables will be equalized and the tension exerted by the spring may be varied to make certain that the tension of the spring will be adequate to return the upper section **12** to the upright position and also resist downward pivotal movement thereof even after the latch bolt **58** has been released.

All of the slidable and rotatable elements may be provided with lubrication providing facilities if desired and all of the pulleys over which cables are entrained may be provided with conventional mechanisms for retaining the cables on the pulleys so that even if slack occurs in the cables such as when the upper section is pivoted to a horizontal position, the cable will still be retained properly on its respective pulleys.

To prevent injury to the players, a depending skirt or panel **144** is provided for bridging the space between the upper section **12** and the lower section **14** when the upper section is pivoted to the horizontal position illustrated in FIGURE 6. The skirt **144** is preferably constructed of canvas material or the like and has an upper edge thereof secured to the upper frame **20** as by bolt-type fasteners **146** or the like. The lower edge may be anchored to the lower frame **20** as by positioning grommets **148** over projecting fastener elements **150** secured to the lower frame **30** in the space surrounding the frame at least at the two side edges thereof and the edge remote from the hinge pin **42**. Thus, the skirt **144** will normally be folded outwardly generally in the position illustrated in FIGURE 2 when the upper section **12** is upright but when the upper section **12** pivots downwardly to its horizontal position, the skirt **144** will assume the position illustrated in FIGURE 6 thus preventing contact with and injury from engagement with the frame components, cables, keeper plate and the like. As illustrated in FIG. 6, the skirt **144** will also keep the bolt **58** retracted when taut with spring **70** biasing bolt **58** outwardly as the upper section **12** returns to upright position.

While the dimensional characteristics of the device may vary, it has been found practical to construct the upper section of the frame having a height of approximately 42 inches while the lower section is approximately 18 inches long and of the same cross-sectional size. The hinge at the back side of the frame sections may be approximately four inches long and the pad is preferably approximately four inches thick and other means may be provided for securing the pad in place such as lacing, hooks or the like. The canvas skirt may be attached to the lower edge of the pad such as by sewing or the like rather than being attached to the frame and may be attached to at least the front side of the lower section of the frame and possibly also the side edges thereof to prevent exposure of the hole and rigid components when the upper section is pivoted to its lower position.

The target member defined by the pressure plate and the pad **106** thereon requires that the players using the blocking dummy come into contact with the dummy at the pressure pad in order to release the latch. As the pressure plate moves inwardly, the latch bolt **58** will be retracted. Generally, the pressure plate is disposed approximately eight inches from the top of the frame and is in the form of a flat plate approximately four inches wide and five inches long and which projects out approximately two inches from the frame. As the plate is moved inwardly, the operating rod is moved inwardly thus pulling the tension cable for retracting the latch bolt. The spring which returns the upper section to its upright position also will require that the blocker exert enough force to expand the spring as the dummy is being collapsed or pivoted downwardly. After the blocker releases the dummy, the spring will pull it back to its upright position and the latch will automatically lock it in place.

The blocking dummy of the present invention not only incorporates the exertion of force against the pad but also requires that the blocker bring his shoulder or other area of his body directly into contact with the target pad **106** in order to actuate the pressure plate **98** thus requiring that the point of force applied to an opposing player will be taught to the blocker inasmuch as the target pad forms a target for the blocker. This enables football players to be more effectively trained in the proper orientation and position in order to block an opposing player by exerting a blocking force thereon with the blocking force being exerted at a particular optimum position.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A football blocking dummy comprising a lower section adapted to be stationarily supported in the ground surface, an upper section disposed above the lower section, hinge means pivotally connecting the upper section to the lower section with the hinge means being disposed at substantially ground level so that the point of separation of the sections is substantially at ground level, said upper section including a cushioning pad mounted thereon, latch means releasably retaining the upper section in aligned relation to the lower section, spring means interconnecting the upper section and lower section for biasing the upper section to upright position, and latch operating means connected to the latch means and including a target member on the upper section exposed to the peripheral surface of the dummy for engagement by a player to release the latch means when the player properly engages the dummy, said upper section including a rigid frame, said cushioning pad enclosing said frame, said target member including a rigid pressure plate disposed outwardly of said frame and movably supported therefrom for movement toward said frame when pressure is applied thereto, spring means biasing said pressure plate outwardly of said frame, a cushioning pad on said pressure plate disposed outwardly of the cushioning pad on the frame to provide a projection target for application of force, and means interconnecting the pressure plate and the latch means for releasing the latch means when the pressure plate is moved inwardly.

2. A football blocking dummy comprising a lower section adapted to be stationarily supported in the ground surface, an upper section disposed above the lower section, hinge means pivotally connecting the upper section to the lower section with the hinge means being disposed at substantially ground level so that the point of separation of the sections is substantially at ground level, said upper section including a cushioning pad mounted thereon, latch means releasably retaining the upper section in aligned relation to the lower section, spring means interconnecting the upper section and lower section for biasing the upper section to upright position, and latch operating

means connected to the latch means and including a target member on the upper section exposed to the peripheral surface of the dummy for engagement by a player to release the latch means when the player properly engages the dummy, said upper section including a frame, said cushioning pad enclosing said frame, said target member including a pressure plate disposed outwardly of said frame and movably supported therefrom for movement toward said frame when pressure is applied thereto, a cushioning pad on said pressure plate disposed outwardly of the cushioning pad on the frame to provide a projecting target for application of force, and means interconnecting the pressure plate and the latch means for releasing the latch means when the pressure plate is moved inwardly, spring means resiliently supporting the pressure plate from the frame for normally biasing the pressure plate outwardly of the frame, said means interconnecting the pressure plate and the latch means including a tension cable having one end thereof operatively connected with the pressure plate and the other end thereof operatively connected to the latch means for releasing the latch means in reseponse to inward movement of the pressure plate toward the frame.

3. The structure as defined in claim 2 wherein said latch means includes a reciprocable latch bolt disposed horizontally in the lower section, said upper section having a latch plate rigid therewith and depending therefrom for engaging the latch bolt when the upper section is in upright position, said latch plate having a hole therein for receiving the latch bolt, spring means biasing the latch bolt into operative position, the upper edge of the latch bolt having a cam surface for engagement by the lower edge of the lock plate when it moves toward the

lower section for automatically retracting the latch bolt and enabling it to snap into the opening in the latch plate.

4. The structure as defined in claim 2 wherein the means connecting the upper section to the lower section includes a hinge structure orientated at one side of the sections, a depending skirt attached to the other side of the upper section and bridging the space between the upper section and lower section when the upper section is pivoted to a horizontal position thereby protecting football players from injury due to contact with the components of the device.

5. The structure as defined in claim 2 wherein said spring means interconnecting the upper and lower sections includes a tension coil spring having one end achored to the lower section, and cable means connecting the upper end of the spring to the upper section adjacent the side thereof remote from the pivotal connection between the upper and lower sections for urging the upper section to an upright position.

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ANTON O. OECHSLE, *Primary Examiner.*

T. ZACK, *Assistant Examiner.*