Aug. 22, 1967 A. B. CUMMINS 3,337,217

TACKLING DUMMY WITH FREELY SUSPENDED FIBROUS CORE

Filed May 2, 1966

4 Sheets-Sheet 1

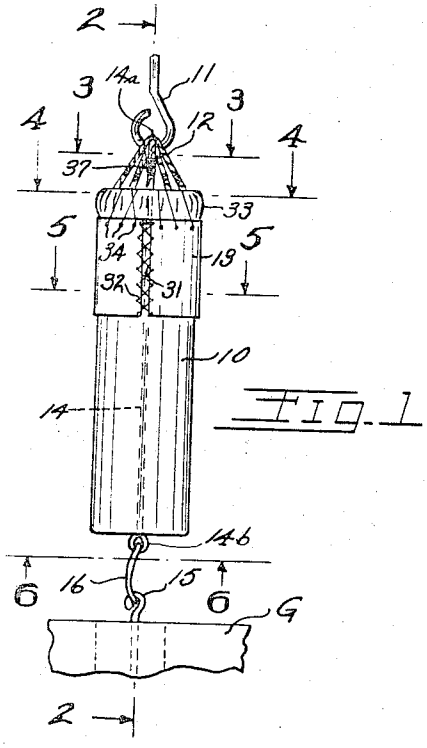


FIG. 1

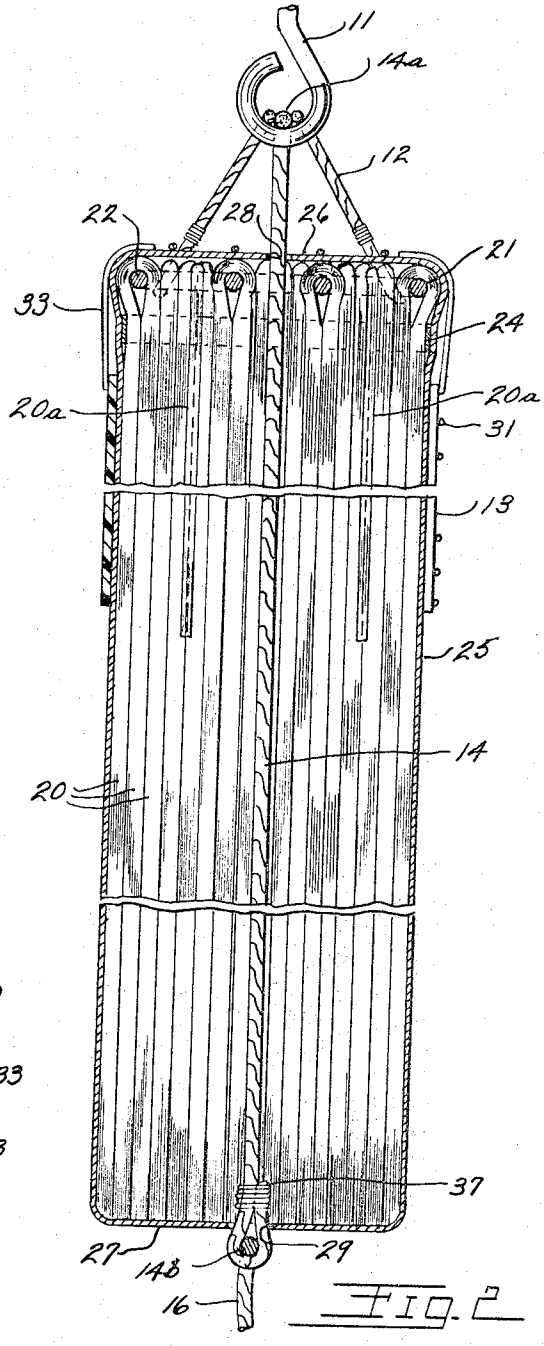


FIG. 2

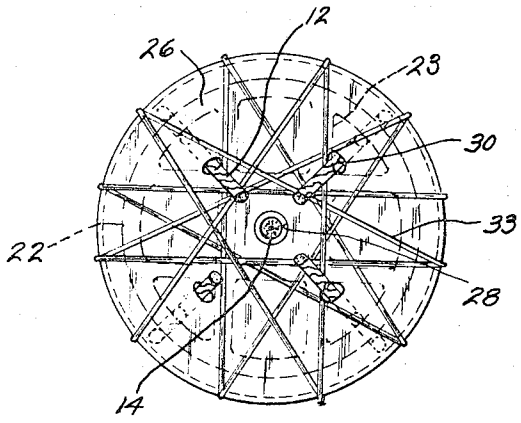


FIG. 3

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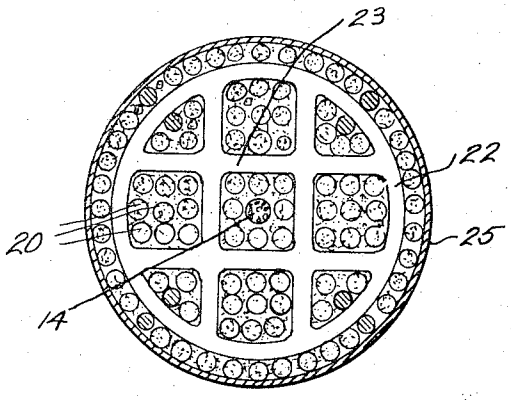


Fig. 4

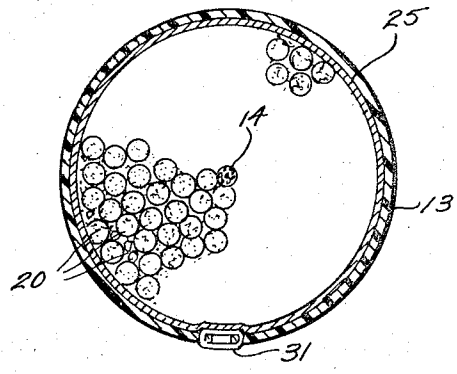


Fig. 5

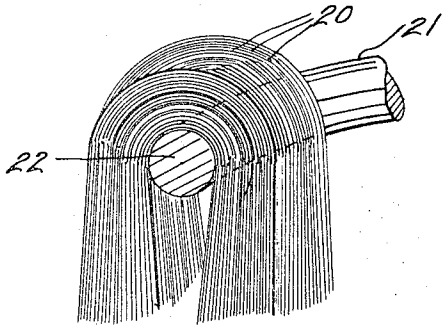


Fig. 7

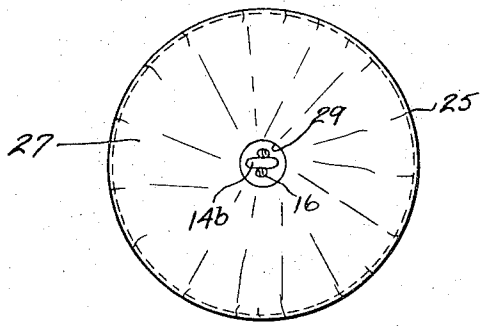


Fig. 6

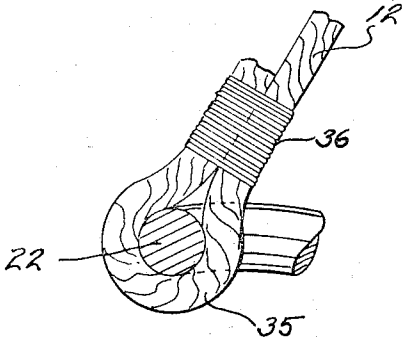


Fig. 8

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TACKLING DUMMY WITH FREELY SUSPENDED FIBROUS CORE

Filed May 2, 1966 4 Sheets-Sheet 3

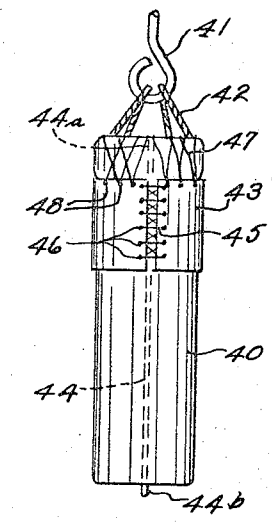


Fig. 9

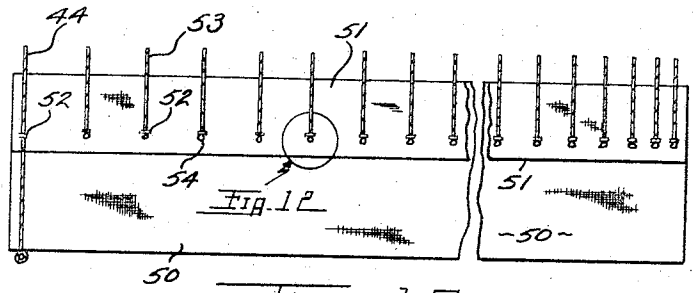


Fig. 10

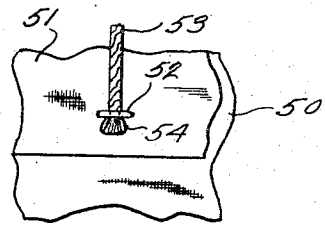


Fig. 12

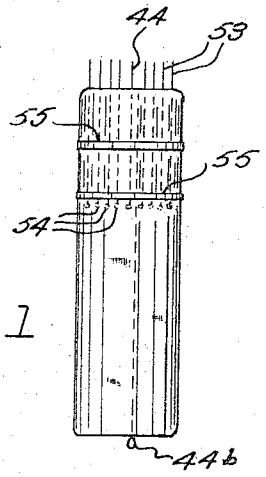


Fig. 11

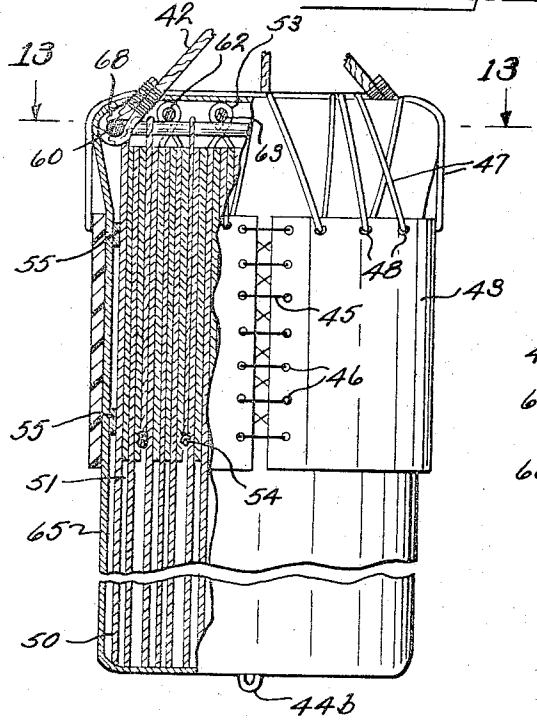


Fig. 14

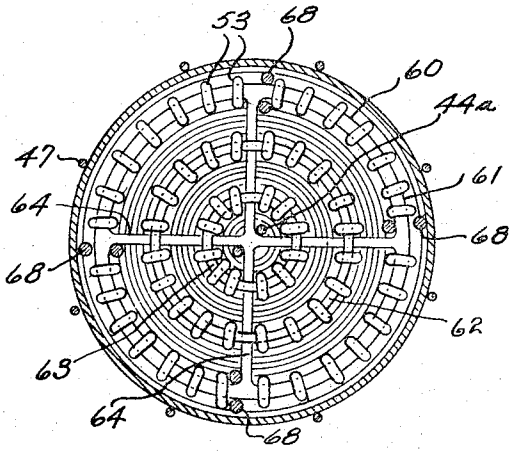


Fig. 13

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Filed May 2, 1966 4 Sheets-Sheet 4

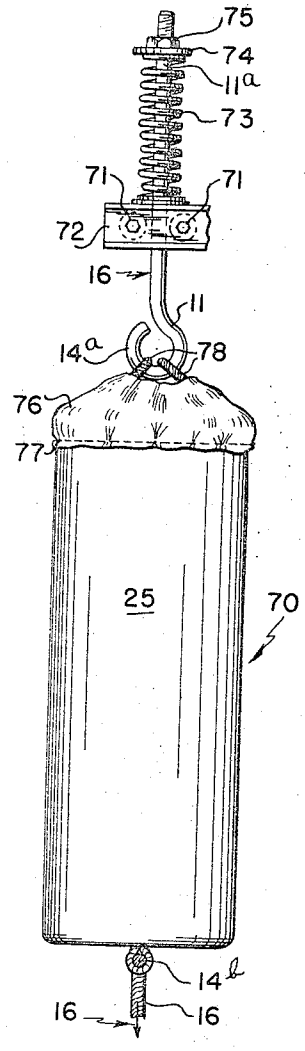


Fig. 15

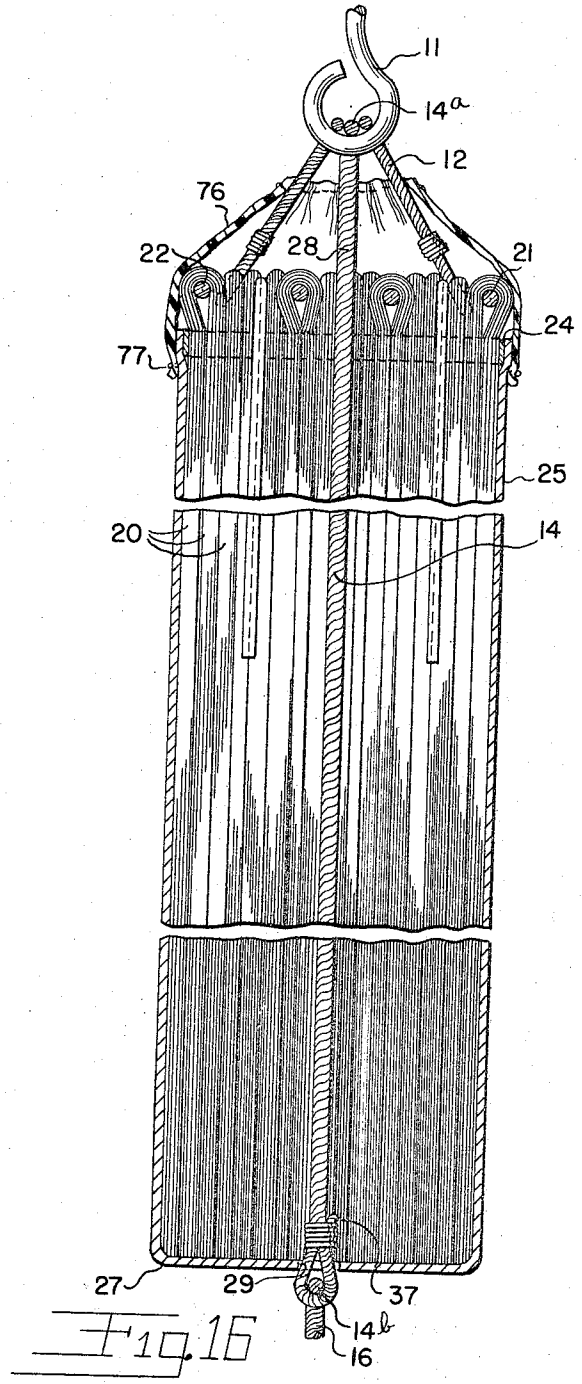


Fig. 16

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United States Patent Office 3,337,217 Patented Aug. 22, 1967



3,337,217

# TACKLING DUMMY WITH FREELY SUSPENDED FIBROUS CORE

Alfred B. Cummins, 401 Miles Road, Chagrin Falls, Ohio 44022

Filed May 2, 1966, Ser. No. 546,915
13 Claims. (Cl. 273—55)

This application is a continuation-in-part of my copending application Ser. No. 327,421, filed Dec. 2, 1963, for Tackling Dummy, now abandoned.

This invention relates to tackling dummies for use in the training, practice, and conditioning of football players.

Tackling dummies are universally recognized as important articles of athletic equipment for the training of football players. The dummies generally comprise an elongated cylindrical body having a nonrigid core and a suitable tough, pliable cover. Said dummies are tackled and struck in the execution of practice maneuvers related to the game of football whereby the skill and physical conditioning of football players is improved in preparation for the actual playing of the game. Such dummies are preferably of sturdy construction, capable of withstanding repeated blows by the football players, and present to the players objects representing as nearly as possible the characteristics of live opponents. It is the general object of this invention to provide an improved tackling dummy having the above characteristics.

More particularly, it is an object of this invention to provide a tackling dummy having a rigid suspension means at the upper end thereof from which pliable core means is suspended and which positively maintains the cross sectional shape of the dummy in use thereof.

Another object of the invention is to provide a tackling dummy having a yieldable lower portion and a relatively solid compact upper portion which effectively duplicates the general characteristics of a uniformed opponent.

Another object of the invention is to provide a tackling dummy of the type described having a swiveling support at the upper end thereof so that the dummy when tackled may swivel generally about its vertical longitudinal axis.

Another object of this invention is to provide a tackling dummy comprising a rigid suspension ring near the top upon which are folded a multiplicity of hanks of folded rope-like material, these hanks being of substantially uniform weight so that by counting the number of such hanks suspended from the suspension ring, the total weight of the dummy can be reasonably accurately approximated.

Other objects and advantages of the present invention will be understood from the following description of three embodiments of the invention as illustrated in the accompanying drawings in which:

FIG. 1 is an elevational view of a tackling dummy according to the first embodiment of the invention;

FIG. 2 is a vertical section, enlarged, taken along the line 2—2 of FIG. 1;

FIG. 3 is a transverse, horizontal section, enlarged taken along the line 3—3 of FIG. 1;

FIG. 4 is a transverse section, enlarged, taken along the line 4—4 of FIG. 1;

FIG. 5 is a transverse section, enlarged, taken along the line 5—5 of FIG. 1;

FIG. 6 is a bottom plan view, enlarged, of the tackling dummy of the first embodiment as seen from the line 6—6 of FIG. 1;

FIG. 7 is an enlarged, fragmentary perspective view of a detail of the core means and suspension ring of the first embodiment of the invention;

FIG. 8 is an enlarged, fragmentary detail showing a portion of the suspension means for the first embodiment of the invention;



FIG. 9 is a view similar to FIG. 1 showing, in elevation, a tackling dummy according to the second embodiment of the invention;

FIG. 10 is a view of the core means of the second embodiment at an initial stage in the construction of the dummy;

FIG. 11 is a view of the dummy of the second embodiment at an intermediate stage in its construction;

FIG. 12 is an enlarged detail of the second embodiment as indicated by the encircled portion of FIG. 10;

FIG. 13 is a transverse section taken generally along the line 13—13 of FIG. 14;

FIG. 14 is an enlarged, semisectional view of the dummy illustrated in FIG. 9;

FIG. 15 is an elevational view of a tackling dummy according to the third embodiment of the invention;

FIG. 16 is a vertical section enlarged taken along the line 16—16 of FIG. 15.

Referring now to the drawings and particularly to FIG. 1 thereof, the tackling dummy of the first embodiment of the invention generally comprises an elongated, cylindrical body 10 axially vertically disposed and suspended from a hook 11 by a plurality of suspension cables 12. The upper end portion of the body 10 is compressively encased in a jacket 13, and an anchor cable 14 extends through the center of the body 10 along the axis thereof. The cable 14 projects beyond the body 10 in either direction said anchor cable having an upper loop 14*a* which engages the hook 11 and a lower loop 14*b* which is connected to an anchor stake 15 by a short connector cable 16. The anchor stake 15 is driven into, mounted in, or otherwise suitably secured to a ground surface generally indicated at G. It will be understood that the hook 11 is connected to a suitable frame or suspension apparatus of any suitable type (not herein illustrated).

Referring now particularly to FIG. 2, the body 10 comprises a multiplicity of strands 20 of rope, line, cord, or the like suspended from a suspension ring shown at 21. The suspension ring 21 is best seen in FIG. 4 and comprises an annulus 22 made of metal or other rigid material and having pairs of parallel, rod-like members disposed in a crisscross pattern within the annulus and welded or otherwise suitably secured to the inner periphery thereof. The strands 20 may comprise rope or cord made of sisal, hemp, or the like which are folded or coiled to form hanks or skeins which are looped at their upper ends over the annulus 22 and the crisscross members 23. FIG. 7 shows in enlarged detail the manner in which a hank or skein of the strands 20 is looped over a portion of the annulus 22. Additional shorter strands 20*a* may be provided for the purpose of giving more solidity and compactness to the upper end portion of the body.

A steel strap or band 24 (FIG. 2) is drawn tightly around the strands 20 and 20*a* just below the suspension ring 21 to initially urge the upper end portion of the body into a compact mass and to hold the looped strands firmly in place. The strands, ring, and strap are encased in a pliable cover 25 which is made of any suitable clothlike and flexible material such as canvas. The cover 25 has an upper end closure portion 26 and a lower end closure portion 27 which are suitably apertured at 28 and 29 respectively to allow the anchor cable 14 to project beyond the ends of the body 10. As best shown in FIG. 3, the upper closure portion 26 is further provided with a plurality of apertures 30 through which the suspension cables 12, connected at their lower ends to the annulus 22, project upwardly.

The jacket 13 is preferably made of a heavy, relatively nonpliable or stiff material such as leather or heavy plastic and is disposed a short distance below the suspension ring 21. Said jacket is rectangular in shape with the longer dimension thereof being slightly less than the outer cir-

cumference of the body **10**. Suitable lacing **31** made of leather, plastic, or heavy cord is laced through a plurality of apertures **32** disposed adjacent to the circumferentially directed ends of the jacket **13** whereby said jacket is drawn tightly and compressively about the upper end portion of the body **10**. The upper periphery of the jacket is provided with a plurality of apertures **34** adapted to receive additional lacing **33** which extends up over the top of the body **10** and across the upper closure portion **26** of the cover **25** to prevent said jacket from slipping downwardly along said body. This latter mentioned lacing is most clearly illustrated in FIG. 3 of the drawings.

FIG. 8 shows one manner in which the suspension cables **12** may be secured to the suspension ring **21**. The lower ends of said cables are preferably connected to the annulus **22** by forming a loop portion **35** around the annulus and then securing the free end of the cable to the cable itself in some suitable manner such as by tightly wrapping the two cable portions together with heavy wire **36**. Said suspension cables may be continuous from one point of attachment on the annulus **22** to another point of attachment thereon with the intermediate portion of said cable being looped over the hook **11**. In this manner, two suspension cables **12** will suffice and provide four points of suspension about the annulus of the suspension ring **21** whereby the body **10** will hang vertically and symmetrically from the hook **11**. By thus using two cables, a safety factor is introduced in that if one of said cables wears out and breaks, the other of said cables will prevent the tackling dummy from falling.

The loop portions at either end of the anchor cable **14** may be formed in a manner similar to the loop portions **35** by folding the end portions back upon the cable and wrapping the same with heavy wire **37** (FIG. 1). In use of the dummy, the lower end thereof may be allowed to swing freely or it may be anchored by a connector cable **16** and an anchor stake **15** as illustrated, at the selection of the football coach or trainer.

The size, dimensions, or weight of a tackling dummy according to this invention are not critical to the invention and may be varied to suit the needs and preferences of football players of different sizes and different age groups. The diameter of the dummy may be varied by increasing or decreasing the number of strands **20**, and the length of the body **10** will be determined by the length of said strands. Generally, a tackling dummy for use by mature football players of college and professional caliber is about 5' in length with a body diameter of approximately 17". Under these circumstances, the lower edge of the jacket **13** extends downwardly from the top of the body from about 19" to 24" or preferably not more than ⅔ of the total length of the body. However, this may be varied to suit individual needs and preferences. The total weight of the dummy constructed as described above is about 210 lbs. but may be more or less depending on the nature of the material from which the strands are made.

The resultant construction provides a tackling dummy which is reasonably soft and safe at its lower portion for practicing heavy body blows whereas the upper portion of said dummy presents a harder, less flexible surface. This arrangement closely resembles a uniformed opponent whose most solid and heavily padded portion is up around his head and shoulders and who is generally more vulnerable to being upset at the lower, less fully padded portion of his body.

The second embodiment of the invention as illustrated in FIGS. 9–14 has substantially the same basic characteristics and affords the same advantages as discussed in connection with the first embodiment of the invention. As shown in FIG. 9, the tackling dummy of the second embodiment comprises a body **40** which is elongated and of cylindrical form and which is suspended upon a vertical axis from a suitable hook **41**. Suspension cables **42** are provided for connecting the body to the hook, and the upper end portion of said body is encased in a jacket **43** which is similar in all respects to the jacket **13** of the first embodiment. A centrally disposed anchor cable **44** extends all the way through the body **40**, the upper end of said cable having a loop **44***a* and the lower end thereof having an exposed loop **44***b* for connecting the lower end of the dummy to an anchor stake **15** if desired. As in the first embodiment of the invention, the circumferentially directed ends of the jacket **43** are drawn together by lacing **45** threaded through suitable apertures **46** in the end portions of said jacket. Additional lacing **47** threaded through suitable upper edge apertures **48** of said jacket is also provided across the top of the body portion **40**.



The second embodiment differs from the first embodiment in the construction of the body portion thereof. As best shown in FIG. 10, the body portion **40** comprises an elongated strip of a pliable material such as canvas, said strip being indicated at **50**. Overlying the strip **50** there is provided a relatively narrower strip which is disposed with one edge thereof directly aligned with an edge of the relatively larger strip **50**. The wider strip **50** may be, for example, about 5' in width in which case the narrower strip **51** is preferably about 2' in width. Also, it is preferable that the narrower strip **51** be of a substantially heavier, thicker fabric than the wider strip **50**.

Adjacent to one end of the two strips thus assembled, the anchor cable **44** is disposed parallel with the width of the wider strip **50** with portions of said cable projecting above and below the edges of said strip **50**. The central portion of the anchor cable may be secured to the narrower strip **51** in any suitable manner such as by means of a staple **52**.

Spaced lengthwise along the narrower strip **51** but disposed perpendicular to the length thereof there are provided a plurality of connector cords **53** having enlarged lower ends or knobs **54**. Said connector cords may be lengths of relatively light metal cable, and the knobs **54** may be lead or other suitable material formed on the cable ends. A staple **52** secures each connector cord **53** to the narrower strip **51** just above each associated knob **54**. The knobs **54** are located just above the lower edge of the narrower strip **51** so that they will be disposed generally within the upper ⅔ of the tackling dummy.

The body **40** is initially formed by spirally rolling the strips **50** and **51** together starting at the end thereof adjacent to which the anchor cable **44** is disposed. It will be noted that the connector cords **53** are quite widely spaced apart adjacent to the anchor cable **44** and are progressively more closely spaced in a direction away from said anchor cable. The reason for this will be obvious when it is remembered that the first or inner spirals of the rolled material will be quite small whereas the outer and final spirals will describe a substantial circumferential dimension. Therefore, to afford a substantially even distribution of connector cords projecting upwardly from the upper end of the body portion **40**, it is necessary to provide relatively less cords at the small, inner spirals than at the relatively larger, outer spirals.

FIG. 11 shows the strips **50** and **51** in the rolled condition with the plurality of connector cords and the anchor cable projecting freely upwardly from the upper end thereof. At this time, a pair of straps **55** made of steel or the like are drawn tightly about the upper portion of the roll whereby the portion thereof containing the narrower strip **51** and the connector cords **53** is compressed tightly together. The lowermost of said straps is preferably disposed just above the knobs **54**.

The multiplicity of upwardly projecting connector cords **53** and the anchor cable **44** are then connected to a suspension ring **60** made of steel or the like. Said suspension ring comprises a plurality of annuli **61**, **62**, and **63** of different diameters disposed concentric to each other and interconnected by radial members **64**. As best shown in FIG. 14, the connector cords **53** associated with the outermost spirals of the roll are secured to the outer and largest annulus **61**, those cords associated with the intermediate spirals are connected to the intermediate annulus **62**, and those cords associated with the inner or smallest spirals

are connected to the innermost and smallest annulus **63**. The upper loop **44***a* of the anchor cable is connected to the intersection of the radial members **64**. Thus, the main weight of the body portion is suspended at a multiplicity of points across the top of the body portion, said points of suspension being distributed relatively evenly across the ends of the rolled material. The suspension cables **42** are substantially similar to the suspension cables **12** and are connected in the same manner to the outermost annulus **61** of the suspension ring **60** by loops **68** thereof.

The rolled and strapped material and the suspension ring are encased in a cover **65** which is similar to the cover **25** of the first embodiment and is similarly provided with upper and lower closure portions **66** and **67**. The jacket **43** is preferably made of material similar to that suggested for the jacket **13** and is disposed compressively about that portion of the body **40** which is made up of a double layer of material, the strip **50** and the strip **51**. The result is that the tackling dummy has a solid, tightly rolled upper portion and a more loosely packed lower portion as best illustrated in FIG. 13.

The firmer upper portion, when provided, preferably constitutes less than ½ the length of the body. In each of the first and second embodiments, the means forming the core is covered by a suitable pliable cover with a jacket of relatively non-pliable material being provided adjacent to the upper end portion of the body. In each embodiment, there is provided a rigid suspension member or ring which determines and positively maintains the general cross sectional shape of the tackling dummy. And in each of those embodiments, the desirable feature of having a tackling dummy which presents a relatively hard, nonflexible upper end portion and a softer and more pliable lower end portion is present.

The third embodiment of the invention, which at present is my preferred form, is quite similar to that shown in FIGS. 1 and 2 and parts exactly like those in FIGS. 1 and 2 and performing the same function have been given the same reference characters. Here, as in the first embodiment, the body **70** comprises a multiplicity of hanks of rope, line, cord or the like, one of which is shown in enlarged detail in FIG. 16. As mentioned previously, one form of the invention comprises a number of substantially identical hanks of sisal rope, each hank having 100 strands of ¼" rope loosely twisted and weighing about 8½ lbs. The suspension ring **21** may be like that of the first embodiment including an annulus **22** of metal with cross members inside the annulus to hang the multiplicity of hanks of ropes substantially evenly distributed throughout the cross section of the dummy. With each hank of rope-like material being substantially the same weight, the total weight of the dummy may be calculated by counting the number of hanks placed on the suspension ring. For instance, thirty hanks will give a 255 lb. dummy suitable for use in professional football, whereas, nineteen or twenty hanks will give a dummy of about 165 lbs. suitable for high school age football players. Here again, a steel strap or band **24** may be drawn tightly around the strands **20**, with or without strands **20***a*, just below the suspension ring **21** to hold the looped strands firmly in place. Substantially the entire vertical length of the strands are encased in a pliable cover **25** which is made of any suitable clothlike and flexible material such as canvas. It will be noted that the cover **25** is generally cylindrical in shape having a lower end closure portion **27**. The anchor cable **14** extends longitudinally through the vertical center line of the dummy and projects beyond the ends of the body **70**. The body **10** is suspended from a hook **11** by a plurality of suspension cables **12**. The anchor cable **14** has an upper loop **14***a* engaging the hook **11** and a lower loop **14***b* which is connected to an anchor stake **15** by a short connector cable **16** as shown in the first embodiment.

The hook **11** is herein shown as having a straight vertically extending portion **11***a* which passes between a pair of bolts **71** held in a rigid frame **72** which in turn is firmly mounted on the ground G in a well known manner. Above the suspension member **72** a helical compression spring **73** embraces the hook portion **11***a* and is contained between the suspension member **72** and a washer **74** at the upper end of the hook which is held in place by a nut **75** threaded on the top of the hook extension to regulate the tension of spring **73**. It results from this suspension, that the dummy when tackled will at first give like a human body but during which time the spring **73** becomes loaded. The force of the spring then causes the dummy to spring back against the tackler simulating the action of the human body. At the same time, the straight upper extension **11***a* of the hook can swivel freely in the suspension assembly shown so as to simulate the twisting action of a human body when tackled.

A protection against the weather may be provided if desired in the form of a cloth or canvas member **76** held to the top of the dummy body **70** by means of a tape or wire **77** and held to the hook portion **14***a* by means of loops **78** or otherwise as desired.

It will be noted that the dummy body **70** does not include a jacket **13** as shown in the first embodiments but it performs very satisfactorily without such a jacket.

To summarize, all embodiments of the invention provide an elongated body having a pliable inner core which is loosely packed or layered at least at its lower portion, to afford relative softness and a certain amount of air space between the strands or layers, and is sometimes relatively more tightly packed and resistant at its upper portion.

While my improved device has been described as a tackling dummy, it should be understood that this device is also useful for punching exercises by boxers and is also of some value for the exercising of wrestlers. I, therefore, desire that the definition of my improved dummy be not limited to tackling exercises only.

What is claimed is:

**1.** A tackling dummy comprising a suspension member, and an elongated, pliable fibrous core means loosely packed to afford air spaces therebetween and suspended from said member, said member being engaged by and providing the sole support for said core means, said core means and member being encased in a pliable cover.

**2.** A tackling dummy as defined in claim **1** wherein said fibrous core means comprise lengths of ropelike material extending substantially the full length of said dummy.

**3.** A tackling dummy as defined in claim **1** wherein said suspension member is rigid and substantially defines the cross sectional shape of said dummy.

**4.** A tackling dummy as set forth in claim **3** including a strap surrounding and compressing said fibrous core below and closely adjacent to said suspension member.

**5.** A dummy as defined in claim **3** wherein said suspension member has an annular outside member and other members crosswise thereof providing substantially even distribution of said fibrous core means throughout the cross sectional area of said dummy.

**6.** A tackling dummy as defined in claim **1** including a jacket of relatively nonpliable material surrounding the upper part of said dummy and stopping short of the lower end portion thereof.

**7.** A tackling dummy as defined in claim **1** wherein said fibrous core means consists principally of a plurality of hanks of said fibrous material of substantially uniform weight, whereby the weight of said dummy may be varied and calculated by counting the number of said hanks suspended from said suspension member.

**8.** A dummy as defined in claim **7** wherein each said hank consists of a plurality of strands of rope.

**9.** A dummy as defined in claim **8** wherein each said hank is folded over said suspension member and extends substantially the full length of said dummy on opposite sides of the bight of said fold.

10. A tackling dummy as defined in claim 1 wherein said suspension member is a rigid ring substantially defining the cross sectional shape of said dummy; said core means comprise an elongated strip of pliable sheet material spirally rolled about a vertical axis to form a multiplicity of radiating layers; a plurality of connector cords carried between at least some of said layers and securing the upper end of said core means to said ring; a pliable cover encasing said core means and said ring; and means fastened to said ring for engaging a dummy support means in use of said tackling dummy.

11. A dummy as defined in claim 1 wherein said suspension member includes a rigid rod extending vertically upward from said dummy in alignment with a central vertical axis of said dummy, a suspension frame, said rod extending above said frame and freely rotatable in said frame about the axis of said rod, a compression spring embracing said rod above said frame, means rigidly holding the upper end of said spring fixed relative to said rod, and an elongated anchor member extending from said rod through said dummy on the vertical axis thereof, and means anchoring the lower end of said anchor member.

12. A tackling dummy as set forth in claim 11 including a jacket of relatively nonpliable material surrounding said dummy just below said ring and tightly compressing the upper portion of said core means.



13. A tackling dummy as set forth in claim 12; strap means surrounding and tightly compressing said spirally rolled material adjacent to its upper end; an anchor cable disposed centrally through said core means and extending beyond the ends of said core means; the upper end of said cable secured to said suspension ring and the lower end of said cable affording means for anchoring said dummy to a ground surface.


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