

US Patent & Trademark Office

Patent Public Search | Text View

United States Patent	12390673
Kind Code	B1
Date of Patent	August 19, 2025
Inventor(s)	Power, II; Walter Ernest et al.

Harness rope assembly

Abstract

A harness rope assembly includes a first rope consisting of a loop, a second rope, a bridge rope, and a third rope. The second rope includes a closed loop, a first free tether, and a second free tether. Each of the first and second free tethers has a free end and an attached end. The attached ends are attached to one another and the closed loop to together form a central splice. The free ends are inserted through the loop and spliced into an interior of the second rope on either side of the central splice to form a first closed attachment loop and a second closed attachment loop both interlocked with the loop. The bridge rope includes an end loop. The third rope is spliced together in a similar manner as the second rope and interlocked with the end loop.

Inventors: Power, II; Walter Ernest (Columbia, TN), Godfrey; Gregory Alan (Richmond Hill, GA), Kossuth, III; Carl Eugene (Rolla, MO), Chadwick; Shawn Paul (Merrill, WI)

Applicant: Tethrd LLC (Columbia, TN)

Family ID: 1000008450344

Appl. No.: 19/060283

Filed: February 21, 2025

Related U.S. Application Data

continuation parent-doc US 19028142 20250117 ABANDONED child-doc US 19060283

Publication Classification

Int. Cl.: A62B35/00 (20060101)

U.S. Cl.:

CPC **A62B35/0012** (20130101); **A62B35/0025** (20130101);

Field of Classification Search

CPC: A62B (35/0012); A62B (35/0025); A62B (35/0075); A62B (35/0037); A01M (31/02)

References Cited

U.S. PATENT DOCUMENTS

Patent No.	Issued Date	Patentee Name	U.S. Cl.	CPC
1775736	12/1929	Rose	182/6	A01G 3/08
4396091	12/1982	Anderson	224/184	A01M 31/02
5970697	12/1998	Jacobs	57/22	D07B 1/185
6712181	12/2003	Nichols	182/5	A62B 1/16
8038584	12/2010	Pruessner	482/91	A61H 11/00
9162091	12/2014	Kuhnert	N/A	A62B 35/0068
11077004	12/2020	Arnold	N/A	A61G 7/1013
11351405	12/2021	Power, II	N/A	A01M 31/02
11504556	12/2021	Power, II	N/A	A01M 31/02
11771931	12/2022	Leach	182/3	A62B 35/0025
11965288	12/2023	De Jager	N/A	D07B 5/005
2003/0062218	12/2002	Zeissler	182/3	A62B 35/00
2007/0102240	12/2006	Wilson	182/5	A62B 35/0075
2008/0000719	12/2007	Jones	182/3	A62B 35/0075
2019/0210696	12/2018	Barnes	N/A	D07B 1/16
2020/0398087	12/2019	Power, II	N/A	A62B 35/0012
2021/0228923	12/2020	Power, II	N/A	A62B 35/0037
2022/0178074	12/2021	Pavel	N/A	B66C 1/122
2022/0241624	12/2021	Jarusiewicz	N/A	A62B 35/0006
2023/0173312	12/2022	Gregoire, Jr.	182/9	A62B 35/0012

Primary Examiner: Mattei; Brian D

Assistant Examiner: McFarland; Kathleen M.

Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS

(1) Not Applicable

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

(2) Not Applicable

THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT

(3) Not Applicable

INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC OR AS A TEXT FILE VIA THE OFFICE ELECTRONIC FILING SYSTEM

(4) Not Applicable

STATEMENT REGARDING PRIOR DISCLOSURES BY THE INVENTOR OR JOINT

INVENTOR

(5) Not Applicable

BACKGROUND OF THE INVENTION

(1) Field of the Invention

(6) The disclosure relates to harness rope structures for hunting and other outdoor activities and more particularly pertains to a new harness rope structure for suspending a user in a harness to an object or structure. For example, in saddle hunting, a hunter sits or reclines in a saddle harness assembly that is secured at either end to a bridge rope, which is in turn connected to a tree. The new harness rope assembly includes a bridge rope and an adjustable connection between the bridge rope and the ends of the saddle to provide the hunter with the ability to adjust the tension of the saddle at different portions of the body of the hunter for comfort and stability.

(2) Description of Related Art Including Information Disclosed Under 37 CFR 1.97 and 1.98

(7) The prior art relates to rope harnesses hunting and other outdoor activities. The prior art, as best understood, does not disclose a harness securing system that includes a first rope interlocked with a second rope, and a bridge rope interlocked with a third rope, wherein the second rope and the third rope have spliced sections to form several closed loops for a secure interlock that also allows adjustment of the tension of the harness at different portions of the body of the user.

BRIEF SUMMARY OF THE INVENTION

(8) An embodiment of the disclosure meets the needs presented above in a harness securing system generally comprising a first rope consisting of a loop, a second rope, a bridge rope, and a third rope. The second rope includes a closed loop, a first free tether, and a second free tether. Each of the first free tether and the second free tether has a free end and an attached end. Each of the attached ends is attached to each other and to the closed loop to form a central splice. Each of the free ends is inserted through the loop of the first rope and into an interior of the second rope on either side of the central splice that acts as a securing member in the harness rope assembly. Each of the free ends is spliced to the closed loop to form a first closed attachment loop and a second closed attachment loop both interlocked with the loop of the first rope. The bridge rope has a first end and a second end. The first end includes an end loop. The third rope includes a closed circlet, a first free line, and a second free line. Each of the first free line and the second free line has a loose end and a secured end. Each of the secured ends is attached to each other and to the closed circlet to form a main splice that acts as a securing member in the harness rope assembly. Each of the loose ends is inserted through the end loop of the bridge rope and into an interior of the third rope on either side of the main splice. Each of the loose ends is spliced to the closed circlet to form a first closed attachment circlet and a second closed attachment circlet both interlocked with the end loop of the bridge rope.

(9) There has thus been outlined, rather broadly, the more important features of the disclosure in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the disclosure that will be described hereinafter and which will form the subject matter of the claims appended hereto.

(10) The objects of the disclosure, along with the various features of novelty which characterize the disclosure, are pointed out with particularity in the claims annexed to and forming a part of this disclosure.

Description

BRIEF DESCRIPTION OF SEVERAL VIEWS OF THE DRAWING(S)

(1) The disclosure will be better understood and objects other than those set forth above will become apparent when consideration is given to the following detailed description thereof. Such

description makes reference to the annexed drawings wherein:

(2) FIG. 1 is a perspective view of a harness rope assembly according to an embodiment of the disclosure.

(3) FIG. 2 is a front view of components of an embodiment of the disclosure.

(4) FIG. 3 is a front view of the components of an embodiment of the disclosure in FIG. 2.

(5) FIG. 4 is a front view of the components of an embodiment of the disclosure in FIG. 2.

(6) FIG. 5 is a front view of components of an embodiment of the disclosure.

(7) FIG. 6 is a front view of the components of an embodiment of the disclosure in FIG. 5.

(8) FIG. 7 is a front view of components of an embodiment of the disclosure.

(9) FIG. 8 is a front view of components of an embodiment of the disclosure in FIG. 7.

(10) FIG. 9 is a front view of components of an embodiment of the disclosure in FIG. 7.

(11) FIG. 10 is a front view of components of an embodiment of the disclosure in FIG. 7.

(12) FIG. 11 is a rear view of an embodiment of the disclosure in use with a two-panel hunting saddle.

(13) FIG. 12 is a close-up view of a portion of an embodiment of the disclosure in use with the two-panel hunting saddle harness assembly.

(14) FIG. 13 is a close-up view of a portion of an embodiment of the disclosure in use with the two-panel hunting saddle harness assembly.

(15) FIG. 14 is a side view of an embodiment of the disclosure in use with a two-panel hunting saddle harness assembly.

(16) FIG. 15 is a rear view of an embodiment of the disclosure in use with a one-panel hunting saddle harness assembly.

(17) FIG. 16 is a side view of an embodiment of the disclosure in use with the one-panel hunting saddle harness assembly.

DETAILED DESCRIPTION OF THE INVENTION

(18) With reference now to the drawings, and in particular to FIGS. 1 through 16 thereof, a new harness rope assembly embodying the principles and concepts of an embodiment of the disclosure and generally designated by the reference numeral 10 will be described.

(19) As best illustrated in FIGS. 1 through 16, the harness rope assembly 10 generally comprises a first rope 12, a second rope 14, a bridge rope 16, and a third rope 18. Before discussing the harness rope assembly 10 in any further detail, it should be noted that FIGS. 2 through 4 show an exemplary embodiment of the first rope 12 and the second rope 14 and how they connect together, and FIGS. 5 and 6 show an example of how the first rope 12 could be connected to the bridge rope 16. FIGS. 7 through 10 show an exemplary embodiment of the bridge rope 16 and the third rope 18 and how they connect together, which connection is similar to the connection of the first rope 12 and the second rope 14.

(20) As shown in FIG. 2, the first rope 12 consists of a loop. The first rope 12 includes a splice to form a continuous loop of rope, though different methods to form this loop could be used, such as a knot or a clamp. The second rope 14 includes a closed loop 20, a first free tether 22, and a second free tether 24. Each of the first free tether 22 and the second free tether 24 has a free end 26 and an attached end 28. Each of the attached ends 28 is attached to each other and to the closed loop 20 to form a central splice 30. It should be noted that FIG. 2 shows the first rope 12 separate from and not yet interlocked with the second rope 14. As shown in FIG. 3, each of the free ends 26 is inserted through the loop of the first rope 12 and into an interior of the second rope 14 on either side of the central splice 30. The central splice 30 acts as a securing member of the first rope 12 to the second rope 14, though different methods of securing could be used, such as a clamp or other rigid member. In the exemplary embodiment, each of the free ends 26 is spliced to the closed loop 20 to form a first closed attachment loop 32 and a second closed attachment loop 34 both interlocked with the loop of the first rope 12. As shown in FIG. 4, the first closed attachment loop 32 and the second closed attachment loop 34 can be tightened onto the first rope 12 for a very

secure and fixed connection.

(21) As shown in FIG. 1, the bridge rope **16** has a first end **36** and a second end **38**. The first end **36** includes an end loop **40**. The second end **38** of the bridge rope **16** includes a stop knot **42**, though a different stop could be used, such as clip or ball. The first rope **12** is positionable on the bridge rope **16** between the first end **36** and the second end **38** of the bridge rope **16**. As shown in FIG. 6, the first rope **12** is designed to be coupled to the bridge rope **16** in the form of a friction hitch **44** or Prusik knot, which is selectively positionable along the bridge rope **16** between the first end **36** and the second end **38** of the bridge rope **16**. However, this is only one exemplary embodiment, as the first rope **12** could be connected in other ways, such as by use of a connector like a carabiner or similar.

(22) Only the end loop **40** of the bridge rope **16** is shown in FIGS. 7 through 10. As shown in FIG. 7, the third rope **18** includes a closed circlet **46**, a first free line **48**, and a second free line **50**. Each of the first free line **48** and the second free line **50** has a loose end **52** and a secured end **54**. Each of the secured ends **54** is attached to each other and to the closed circlet **46** to form a main splice **56**. As shown in FIG. 8, each of the loose ends **52** is inserted through the end loop **40** of the bridge rope **16** and into an interior of the third rope **18** on either side of the main splice **56**. The central splice **56** acts as a securing member of the third rope **18** to the end loop **40** of the bridge rope **16**, though different methods of securing could be used, such as a clamp or other rigid member. In the exemplary embodiment, each of the loose ends **52** is spliced to the closed circlet **46** to form a first closed attachment circlet **58** and a second closed attachment circlet **60** both interlocked with the end loop **40** of the bridge rope **16**. As shown in FIG. 9, the first closed attachment circlet **58** and the second closed attachment circlet **60** can be tightened onto the end loop **40** for a very secure and fixed connection.

(23) As shown in FIG. 5, the loop of the first rope **12** is designed to be wrapped around the closed loop **20** of the second rope **14** to form a first slip knot **62** dividing the closed loop **20** into a first connecting loop **64** and a second connecting loop **66**. The closed loop **20** of the second rope **14** is selectively slidable in the first slip knot **62** to selectively adjust relative sizes of the first connecting loop **64** and the second connecting loop **66**, as will be discussed further below. As shown in FIG. 10, the end loop **40** of the bridge rope **16** is designed to be wrapped around the closed circlet **46** of the third rope **18** to form a second slip knot **68** dividing the closed circlet **46** into a third connecting loop **70** and a fourth connecting loop **72**. For example, a user could wrap the end loop **40**, that is, the first end **36** of the bridge rope **16**, around the third rope **18** and insert the second end **38** of the bridge rope **16** through the end loop **40** and pull the second end **38** tight to create the second slip knot **68** in the manner of a girth hitch. The closed circlet **46** of the third rope **18** is selectively slidable in the second slip knot **68** to selectively adjust relative sizes of the third connecting loop **70** and the fourth connecting loop **72**.

(24) Each of the first rope **12**, the second rope **14**, the third rope **18**, and the bridge rope **16** can be made of the same or different materials suitable for securing a person in an elevated position. For example, the material could be a polyethylene, such as ultra-high molecular weight polyethylene, typically known as UHMWPE. This material characteristically includes extremely long chains of polyethylene having 100,000 to 250,000 monomer units per molecule. Such material is available from numerous suppliers. One such material is sold under the trademark Amsteel®. Amsteel® is a trademark of Samson Rope Technologies, Inc. located at 2090 Thorton Street, Ferndale, WA. This material may be blended with other materials; however, the rope may consist solely of UHMWPE. UHMWPE, while extremely strong, has a very low coefficient of friction. In addition, the splicing can be a straight splice or a Brummel splice or other suitable splice, as are well known in the stitching and harness arts, to create a very secure and strong connection.

(25) As shown in FIG. 11, each of the first connecting loop **64** and the second connecting loop **66** is designed to be coupled to a respective one of a first pair of bridge loops **86** at a first end **82** of a harness **80**. Each of the third connecting loop **70** and the fourth connecting loop **72** is designed to

be coupled to a respective one of a second pair of bridge loops **86** at a second end **84** of the harness **80**. In the exemplary embodiment in FIGS. **11** through **14**, the harness **80** is a two-panel saddle harness assembly **90** such as is used in saddle hunting where first panel **92** is the upper panel and second panel **94** is the lower panel. However, it should be understood that first panel **92** could be a lower panel and second panel **94** could be the upper panel. In the exemplary embodiment in FIGS. **15** and **16**, the harness **80** is a one-panel saddle harness assembly **100**, such as is also used in saddle hunting. However, it should be understood that the harness rope assembly **10** could be used with different types of harnesses, such as for climbing, utility work, rescue services, and other activities that utilize such harnesses.

(26) As shown in FIG. **14**, the two-panel saddle harness assembly **90** includes an first panel **92** for supporting the lower back and buttocks of the hunter **78** and a second panel **94** for supporting the buttocks and upper legs of the hunter **78**. The bridge rope **16** is connected to a tree rope **96** by a carabiner or similar connector. In a traditional fixed connector design, fixed tension is exerted by both the first panel **92** and the second panel **94**. However, it is desirable to be able to adjust the relative tension for both comfort and functionality. For example, one hunter **78** may wish to have greater tension at his lower back as he leans, whereas another may prefer to have greater tension under the buttocks to better support a seated orientation. The harness rope assembly **10** addresses this issue in the manner shown in FIGS. **12** and **13**. Specifically, FIG. **12** shows the third rope **18** interlocked with the end loop **40**, and the end loop **40** is wrapped around the third rope **18** to form the second slip knot **68** to divide the third rope **18** into the third connecting loop **70** and the fourth connecting loop **72**. It should be noted that this discussion is equally applicable to the first rope **12** and the second rope **14**. As indicated by the arrows in FIG. **12**, the hunter **78** can relatively move the second slip knot **68** and the third rope **18** in either direction to adjust the sizes of the third connecting loop **70** and the fourth connecting loop **72**. As shown in FIG. **13**, for example, the third connecting loop **70** has been made much smaller than the fourth connecting loop **72**, such that the tension on the first panel **92** is greater than that on the second panel **94**. As shown in FIG. **14**, the hunter **78** now has firm support at his lower back and relatively loose support below his buttocks. The hunter **78** can shift more of his weight into leaning against the first panel **92** while his buttocks and legs have more freedom of movement. Conversely, the hunter **78** could adjust in the other direction to make the third connecting loop **70** larger and the fourth connecting loop **72** smaller. The design of the harness rope assembly **10** therefore provides the hunter **78** with the ability to adjust the different tensions even while in the tree or other elevated position.

(27) As mentioned above, FIGS. **15** and **16** show the one-panel saddle harness assembly **100**. The one-panel saddle harness assembly **100** includes a panel **102** that is expandable and attached to and between a first strap **104** and a second strap **106**. As shown in FIG. **16**, each of the first pair of bridge loops **86** is attached to and projects, respectively, from a first end **108** of the first strap **104** and a second end **112** of the second strap **106**. Each of the second pair of bridge loops **86** is attached to and projects, respectively, from a second end **110** of the first strap **104** and a second end **114** of the second strap **106**. The same type of tension adjustment as discussed herein with respect to the two-panel saddle is applicable to the one-panel saddle **100** to adjust the tension at the first strap **104** and at the second strap **106**.

(28) With respect to the above description then, it is to be realized that the optimum dimensional relationships for the parts of an embodiment enabled by the disclosure, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by an embodiment of the disclosure.

(29) Therefore, the foregoing is considered as illustrative only of the principles of the disclosure. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the disclosure 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 disclosure. In this patent document, the word “comprising” is used in its non-limiting sense to mean that items following the word are included, but items not specifically mentioned are not excluded. A reference to an element by the indefinite article “a” does not exclude the possibility that more than one of the element is present, unless the context clearly requires that there be only one of the elements.

Claims

1. A harness rope assembly comprising: a first rope consisting of a loop; a second rope including a closed loop, a first free tether, and a second free tether, each of said first free tether and said second free tether having a free end and an attached end, each of said attached ends being attached to each other and to said closed loop to form a central splice, each of said free ends being inserted through said loop of said first rope and into an interior of said second rope on either side of said central splice, each of said free ends being spliced to said closed loop to form a first closed attachment loop and a second closed attachment loop both interlocked with said loop of said first rope; a bridge rope having a first end and a second end, said first end including an end loop; and a third rope including a closed circlet, a first free line, and a second free line, each of said first free line and said second free line having a loose end and a secured end, each of said secured ends being attached to each other and to said closed circlet to form a main splice, each of said loose ends being inserted through said end loop of said bridge rope and into an interior of said third rope on either side of said main splice, each of said loose ends being spliced to said closed circlet to form a first closed attachment circlet and a second closed attachment circlet both interlocked with said end loop of said bridge rope.
2. The harness rope assembly of claim 1, wherein: said loop of said first rope is configured to be wrapped around said closed loop of said second rope to form a first slip knot dividing said closed loop into a first connecting loop and a second connecting loop; and said end loop of said bridge rope is configured to be wrapped around said closed circlet of said third rope to form a second slip knot dividing said closed circlet into a third connecting loop and a fourth connecting loop.
3. The harness rope assembly of claim 2, wherein: said closed loop of said second rope is selectively slidable in said first slip knot to selectively adjust relative sizes of said first connecting loop and said second connecting loop; and said closed circlet of said third rope is selectively slidable in said second slip knot to selectively adjust relative sizes of said third connecting loop and said fourth connecting loop.
4. The harness rope assembly of claim 3, wherein: each of said first connecting loop and said second connecting loop is configured to be coupled to a respective one of a first pair of bridge loops at a first end of a harness; and each of said third connecting loop and said fourth connecting loop is configured to be coupled to a respective one of a second pair of bridge loops at a second end of the harness.
5. The harness rope assembly of claim 3, wherein: each of said first connecting loop and said second connecting loop is configured to be coupled to a respective one of a first pair of bridge loops at a first end of a one-panel saddle; and each of said third connecting loop and said fourth connecting loop is configured to be coupled to a respective one of a second pair of bridge loops at a second end of the one-panel saddle.
6. The harness rope assembly of claim 3, wherein: each of said first connecting loop and said second connecting loop is configured to be coupled to a respective one of a first pair of bridge loops at a first end of a two-panel saddle assembly; and each of said third connecting loop and said fourth connecting loop is configured to be coupled to a respective one of a second pair of bridge loops at a second end of the two-panel saddle assembly.
7. The harness rope assembly of claim 3, wherein said first rope is positionable on said bridge rope

between said first end and said second end of said bridge rope.

8. The harness rope assembly of claim 7, wherein said first rope is configured to be coupled to said bridge rope in the form of a friction hitch selectively positionable along said bridge rope between said first end and said second end of said bridge rope.

9. The harness rope assembly of claim 8, wherein said second end of said bridge rope includes a stop knot.

10. The harness rope assembly of claim 9, wherein: each of said first connecting loop and said second connecting loop is configured to be coupled to a respective one of a first pair of bridge loops at a first end of a harness; and each of said third connecting loop and said fourth connecting loop is configured to be coupled to a respective one of a second pair of bridge loops at a second end of the harness.

11. The harness rope assembly of claim 9, wherein: each of said first connecting loop and said second connecting loop is configured to be coupled to a respective one of a first pair of bridge loops at a first end of a one-panel saddle; and each of said third connecting loop and said fourth connecting loop is configured to be coupled to a respective one of a second pair of bridge loops at a second end of the one-panel saddle.

12. The harness rope assembly of claim 9, wherein: each of said first connecting loop and said second connecting loop is configured to be coupled to a respective one of a first pair of bridge loops at a first end of a two-panel saddle assembly; and each of said third connecting loop and said fourth connecting loop is configured to be coupled to a respective one of a second pair of bridge loops at a second end of the two-panel saddle assembly.

13. The harness rope assembly of claim 1, wherein said first rope is positionable on said bridge rope between said first end and said second end of said bridge rope.

14. The harness rope assembly of claim 13, wherein said first rope is configured to be coupled to said bridge rope in the form of a friction hitch selectively positionable along said bridge rope between said first end and said second end of said bridge rope.

15. The harness rope assembly of claim 1, wherein said loop of said first rope is a continuous loop.

16. The harness rope assembly of claim 1, wherein said second end of said bridge rope includes a stop knot.
