Nov. 29, 1966 A. R. CUNNINGHAM 3,288,468

GOLFER'S ARM BEND RESTRAINING DEVICE

Filed Aug. 19, 1963 2 Sheets-Sheet 1

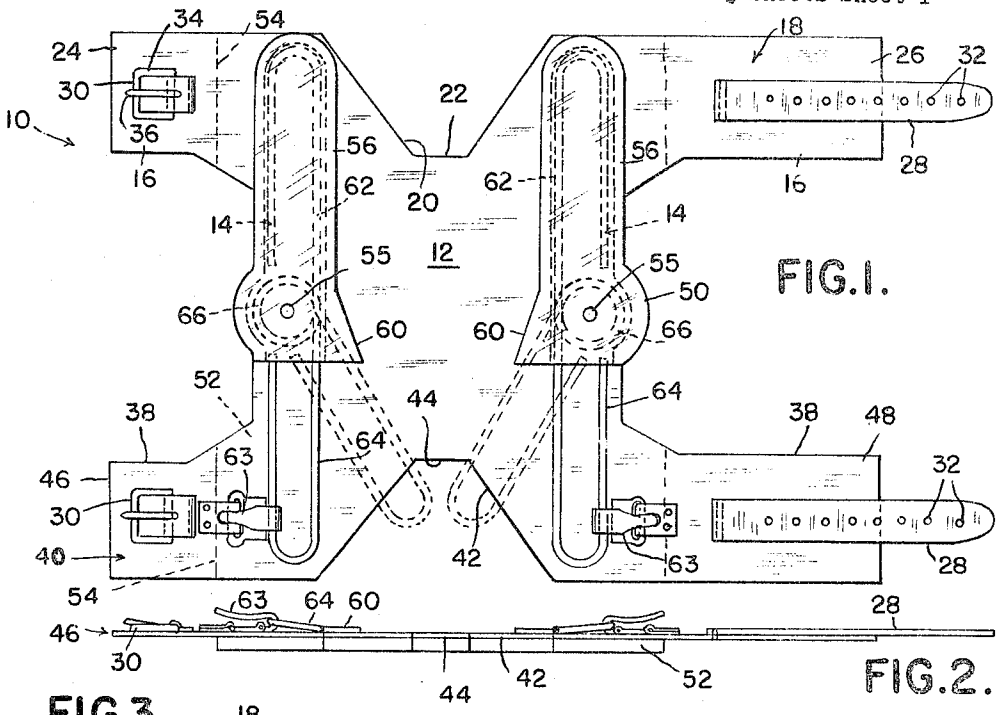
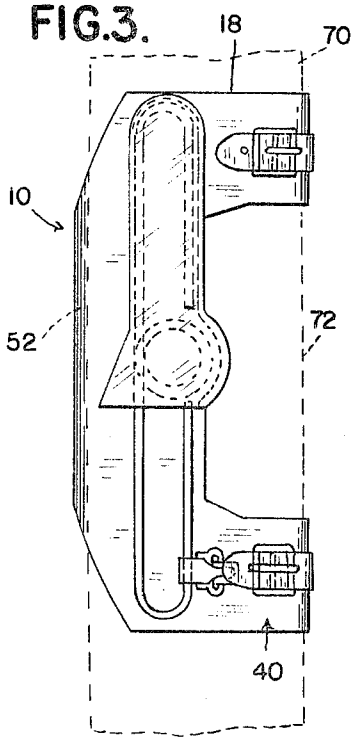


FIG. 1.

FIG. 2.

FIG. 3.



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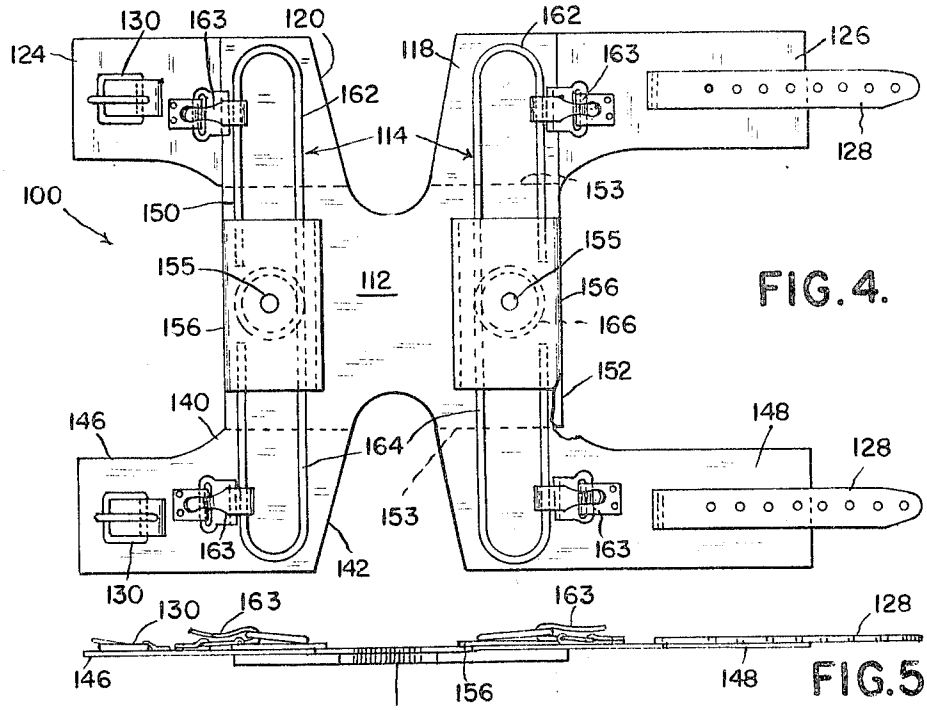


FIG. 4.

FIG. 5.

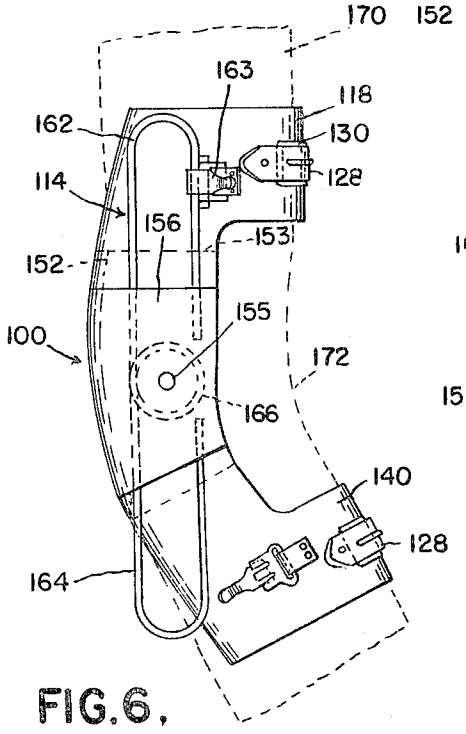


FIG. 6.

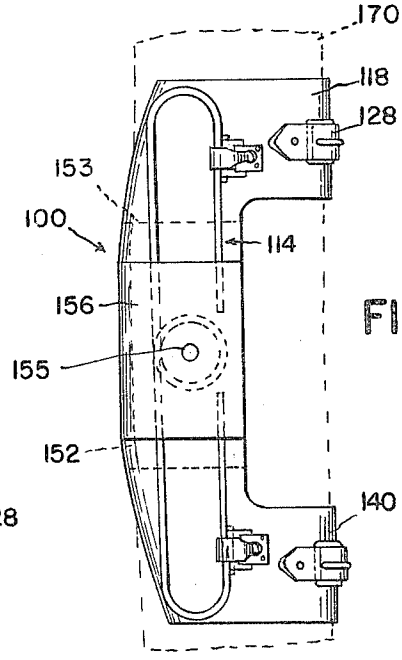


FIG. 7.

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GOLFER'S ARM BEND RESTRAINING DEVICE

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3 Claims. (Cl. 273—189)

This invention relates generally to an arm brace and refers more particularly to a device for keeping a golfer's arm straight.

One common failure among golfers is a tendency to bend the left arm during the back-swing. It is, therefore, an essential object of this invention to provide a device which can be readily applied to the arm and which when properly applied will resist bending of the arm at the elbow.

Another object is to provide a device which will embrace the arm across the elbow, and which is so designed that it will not interfere with normal circulation.

Another object is to provide a device which embraces the arm to resist bending of the elbow and which is interrupted at longitudinally spaced points so that at no place along the length of the device is the arm encircled throughout a full 360°. As a result, normal circulation in the arm is not disturbed.

Another object is to provide an elongated device adapted to be secured to and embrace a golfer's arm across the elbow, which device is relatively stiff to resist bending of the arm and comprises a plurality of segments of limited circumferential extent so that no place along the length of the device is the arm encircled throughout a full 360°.

Another object is to provide a device for resisting bending of a golfer's arm comprising an elongated spring stiffening unit and means for securing the unit on the side of the arm across the elbow.

Another object is to provide a device comprising a pair of elongated spring stiffening units with means for securing the units to the arm so that they are respectively on the inner and outer sides thereof, across the elbow.

Another object is to provide a device wherein the elongated spring stiffening units are secured to the arm by flexible segments, a first one of which connects the upper ends of the stiffening units and is adapted to extend over the front of the upper arm, a second one of the segments connects the lower ends of the stiffening units and is adapted to extend over the front of the lower arm, and a third one of the segments connects the mid-portions of the stiffening units and is adapted to extend over the back of the elbow.

Another object is to provide such a device wherein the flexible segments are connected to one another.

Other objects and features of the invention will become apparent as the description proceeds, especially when taken in conjunction with the accompanying drawings, wherein:

FIGURE 1 is an elevational view of the outer side of the device embodying my invention, the device being shown laid out flat.

FIGURE 2 is an edge view of the device shown in FIGURE 1.

FIGURE 3 is a side elevation of the device shown applied to the arm of a person.

FIGURE 4 is a view similar to FIGURE 1 but illustrates a modification.

FIGURE 5 is an edge view of the device shown in FIGURE 4.

FIGURE 6 is a side elevation showing the device of FIGURES 4 and 5 applied to the arm of a person. The device is in a released condition so that a considerable amount of bending of the arm is permitted.

FIGURE 7 is similar to FIGURE 6, but shows the device in operative position resisting bending of the arm at the elbow.

Referring now more particularly to the drawings, and especially to FIGURES 1–3, the device there shown is generally indicated at **10** and includes the layer or sheet of flexible material **12** having the outline shown in FIGURE 1. The sheet **12** may be of any suitable material such as leather or fabric, for example. The device **10** also includes the spring stiffening units **14**.

The sheet **12** may be considered as made up of three integral segments. The first or upper segment is that portion of the sheet above the edges **16** in FIGURE 1. This upper segment is generally designated **18** and is notched out centrally at **20**. The edge **22** defining a part of the notch extends on a line with the edges **16**. The parts **24** and **26** of the segment **18** are adapted to wrap about the upper arm of a person and to be releasably connected together by the strap or belt **28** on the part **26** and the buckle **30** on the part **24**. The belt **28** is permanently secured as by stitching to the outer surface of the part **26** of segment **18** and has a plurality of longitudinally spaced holes **32**. The buckle is permanently secured to the part **24** of the segment and has the usual frame **34** and tongue **36**. The belt extends through the frame and the tongue enters one of the holes in the belt to releasably secure the parts of the segment **18** around the upper arm.

The portion of the sheet beneath the edges **38** makes up a second or lower segment designated **40** which is adapted to extend around or embrace the lower arm of a person. The lower segment **40** is centrally notched at **42**, and the edge **44** of the notch is on a line with the edges **38**. The segment **40** is composed of the two parts **46** and **48**. An elongated strap or belt **28**, similar to the one attached to the part **26** of segment **18**, is permanently secured to the part **48** of segment **40**. A buckle **30**, similar to the one secured to the part **24** of segment **18**, is permanently secured to the part **46** of segment **40**. When the parts **46** and **48** of the segment are wrapped around the lower arm of a person, the belt **28** and buckle **30** may be employed to releasably secure the parts together.

The central portion of the sheet **12**, that is the portion between the edges **16** and **38**, may be considered the third or intermediate segment of the sheet and is designated **50**.

A pad of soft resilient material such as rubber, designated **52**, is secured to the inner side of the sheet. This pad covers the entire middle segment **50**, and most of the segments **18** and **40**. All of the segments **18** and **40**, except those portions to the left of the dotted line **54** in FIGURE 1, are covered by the pad **52**.

The spring stiffening units **14** are identical and each is formed from a single length of spring wire stock. As shown in FIGURES 1 and 3, the units **14** are parallel and in laterally spaced relation to one another. Each unit is secured to the outer surface of the sheet **12** by a rivet **55** and a covering strip **56**. The strips **56** may be secured to the sheet **12** by any suitable means such as stitching. Referring further to the construction of the spring stiffening units, they each have a generally U-shaped upper section **62**, a generally U-shaped lower section **64**, and an intermediate looped section **66**. The rivets pass through the strips **56** and the sheet **12** inside the loops of the springs. The spring stock of units **14** is flexible and will yield although it is rather stiff so as to prevent ordinary bending of the arm.

The strips **56** cover only the upper sections and loops of the spring units **14**. Clasps **63** permanently secured to the parts **46** and **48** of lower segment **40** are adapted to be releasably connected to the lower sections **64** of the spring units.

In use, the device **10** is strapped onto the arm by

belts **28** and buckles **30** as shown in FIGURE 3 where the arm of a person is generally **70**, and is shown in dotted lines. The front of the elbow is indicated at **72**. The device extends across the elbow, and the upper segment **18** is strapped about the upper arm, that is above the elbow. The portions of the segment **18** are connected together by the belt and buckle as shown, the belt and buckle extending across the front of the upper arm. The segment **40** embraces the lower arm, that is beneath the elbow, and the belt and buckle extend across the front of the lower arm. The middle segment **50** extends across the elbow at the back of the arm. The spring units **14** extend along the inner and outer sides of the arm across the elbow. The clasps **63** are connected to the spring units **14** as shown.

Any tendency of the arm to bend from the substantially straight position shown in FIGURE 3 is resisted by the spring wire units **14**. Of course, if sufficient force is applied, the spring units will yield and the person can bend his arm slightly. However, the springs tend to prevent the normal tendency of a golfer to bend his arm from a substantially straight condition when executing a back-swing. Between strokes, the clasps **63** can be released from the lower sections of the spring units so that the wearer will have more freedom to bend his arm.

It will be noted that at no place along the length of the device is the arm embraced throughout a full 360°. The upper segment **18**, that is the portion of the sheet above the edges **16**, is interrupted by the notch **20**. The lower segment **40**, that is the portion of the sheet below the edges **38**, is interrupted by the notch **42**. The intermediate segment **50** obviously does not go entirely around the arm. The notches **20** and **42**, when the device is applied, are at the back of the arm, and the front of the elbow between the upper and lower segments is open as will be readily apparent in FIGURES 1 and 3. According, the circulation through the are is not significantly affected by the device.

Where increased resistance to bending of the arm is desired, the lower portions **64** of the spring units may initially be deformed to the positions shown in dotted lines in FIGURE 1. Then when the clasps **63** are connected to the lower deformed ends, there will be an increased pressure maintained at the elbow tending to keep the arm straight.

Reference is now made to FIGURES 4–7 in which a modification of the invention is shown. The device is generally indicated at **100** and includes the layer or sheet of flexible material **112**. The sheet **112** may, like the sheet **12** in the first embodiment, be made of any suitable material such as leather or fabric, for example. The device **100** also includes the spring stiffening units **114**.

The sheet **112** is made of the integral segments **118**, **140** and **150**. A pad **152** of rubber or like material is secured to the inner surface of the segment **150**. The extent of the middle segment **150** may be considered as that portion of the sheet **112** between the upper and lower edges **153** of the pad **152**. The portions of the sheet respectively above and below the pad **152** make up the segments **118** and **140**, respectively. The sheet **112** is cut out or notched centrally as indicated at **120** and **142**. The parts **124** and **126** of the upper segment **118** are adapted to wrap about the upper arm of a person and to be releasably connected together by the strap or belt **128** permanently secured to the part **126** and the buckle **130** permanently secured to the part **124**. The belt and buckle **128** and **130** are exactly like the belt and buckle **28** and **30** in the first embodiment. The parts **148** and **146** of the lower segment **140** respectively have the belts and buckles **128** and **130** secured thereto as shown. These parts **146** and **148** are adapted to wrap about the lower arm of a person and to be releasably connected together by the belt **128** and buckle **130**.

The spring stiffening units **114** are identical and are

exactly like the stiffening units **14** shown in the first embodiment. As shown, the units **114** are parallel and in laterally spaced relation to one another. Each unit **114** is secured to the outer surface of the sheet **112** by a rivet **155** and a covering strip **156**. The strips **156** may be secured to the sheet **112** by any suitable means such as by stitching. The stiffening units **114** each have a generally U-shaped upper section **162**, a generally U-shaped lower section **164**, and an intermediate looped section **166**. The rivets **155** pass through the strips **156** and the sheet **112** inside the loops of the springs.

The strips **156** cover only the loop sections **166** of the spring stiffening units and a short length of each of the upper and lower sections **162** and **164** thereof. Clasps **163**, exactly like the clasps **63** previously described, are permanently secured to the parts **124** and **126** of the upper segment and to the parts **146** and **148** of the lower segment, and are adapted to be releasably connected to the upper and lower sections of the spring units.

In use, the device is strapped on to the arm by the belts **128** and buckles **130** as shown in FIGURES 6 and 7, where the arm of a person is generally designated **170** and is shown in dotted lines. The front of the elbow is indicated at **172**. As was true with the first embodiment, the device **100** extends across the elbow and the upper segment **118** is strapped about the upper arm. The lower segment **140** is strapped about the lower arm. The belts and buckles of both segments extend across the front of the upper arm, and the middle segment **150** extends across the elbow at the back of the arm. The spring units **114** extend along the inner and outer sides of the arm across the elbow.

During the execution of a back-swing, the upper and lower clasps **163** will each be connected to their adjacent springs as shown in FIGURE 7, to resist bending of the arm. However, when walking between shots, the user may release the lower clasps **163**, as shown in FIGURE 6, to enable more freedom of the arm to bend. It will be apparent also that the upper clasps **163** may also be released from the spring units, and for the same reason.

As was true with the first embodiment, there is no place along the length of the device where the arm is encircled throughout a complete 360°. Obviously, the center segment **150** does not embrace the front of the arm, and the upper and lower segments **118** and **140** do not embrace the back portion of the arm where the notches **120** and **142** provide interruptions.

As was true in the first embodiment, the lower ends of the spring units **114** can initially be bent somewhat toward one another when the device is laid out flat, to provide increased resistance to bending.

What I claim as my invention is:

1. A device for resisting bending of a golfer's arm comprising a pair of elongated wire spring stiffening units each long enough to extend across the elbow lengthwise of the arm, means for securing said units to the arm so that they are respectively on the inner and outer sides of the arm and extend above and below the elbow, said means including flexible material composed of an upper segment, a middle segment connected to said upper segment and a lower segment connected to said middle segment, the upper segment extending from the upper ends of the stiffening units across the front of the arm above the elbow when the device is in use, the lower segment extending from the lower ends of the stiffening units across the front of the arm below the elbow when the device is in use, the middle segment being disposed between the upper and lower segments and extending between the stiffening units across the back of the elbow when the device is in use, said upper segment having ends provided with a buckle for releasably securing said ends together, buckles engaging the upper ends of said stiffening units for releasably securing the upper ends of said stiffening units to said upper segment, said lower segment having ends provided with a buckle for releasably secur-

ing the latter ends together, buckles engaging the lower ends of said stiffening units for releasably securing the lower ends of said stiffening units to said lower segment, and means securing said stiffening units to said middle segment.

2. The device defined in claim 1, wherein said flexible material is so formed as to expose the back of the arm above and below the elbow when the device is in use, and said flexible material is so formed as to expose the front of the elbow when the device is in use.

3. A device for resisting bending of a golfer's arm comprising a pair of elongated spring stiffening units each long enough to extend across the elbow lengthwise of the arm, means for securing said units to the arm so that they are respectively on the inner and outer sides of the arm and extend above and below the elbow, said means including flexible material composed of an upper segment, a middle segment connected to said upper segment and a lower segment connected to said middle segment, the upper segment extending from the upper ends of the stiffening units across the front of the arm above the elbow when the device is in use, the lower segment extending from the lower ends of the stiffening units across the front of the arm below the elbow when the device is in use, the middle segment being disposed between the upper and lower segments and extending between the stiffening units across the back of the elbow when the device is in use, said upper segment having ends provided with means for releasably securing said ends together, said lower segment having ends provided with means for releasably securing the latter ends together, means engaging the lower ends of said stiffening units for releasably securing the lower ends of said stiffening units to said lower segment, and means securing said stiffening units to said middle segment.

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