United States Patent [19]

Morse

[11] **3,880,426**

[45] **Apr. 29, 1975**

[54] **WRIST AND FINGER SUPPORT FOR BOWLERS**

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[22] Filed: **Sept. 14, 1973**

[21] Appl. No.: **397,444**

[52] **U.S. Cl.** ..... **273/54 B;** 2/161 A

[51] **Int. Cl.** **A63b 71/14**

[58] **Field of Search** ..... 273/54 B; 2/161 A; 272/67

[56] **References Cited**

UNITED STATES PATENTS

3,062,546	11/1962	Horton et al.	2/161 A UX
3,333,850	8/1967	Miller	273/54 B
3,344,436	10/1967	Stubbs	273/54 B X
3,497,218	2/1970	Johnston	273/54 B UX
3,559,212	2/1971	Skovron	2/161 A

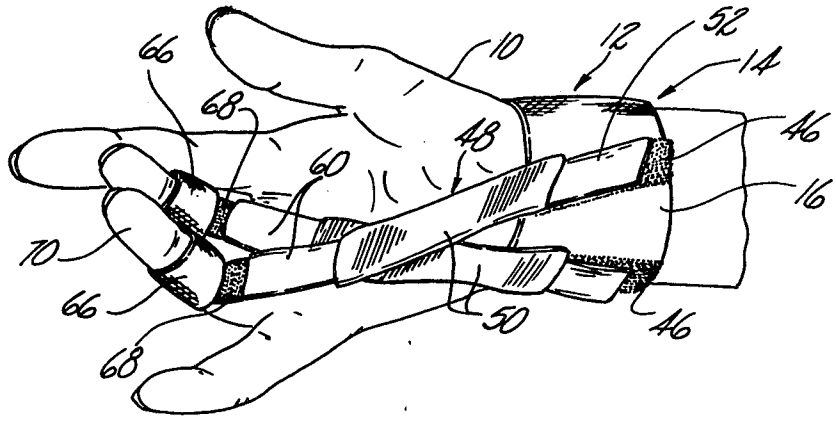
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[57] **ABSTRACT**

A wrist and finger control device particularly adapted for use by bowlers includes a wrist support member, a plurality of elongated palm straps detachably connected to the wrist support, and a finger enveloping member for each of the straps. The finger enveloping members are detachably connected to the palm straps.

6 Claims, 5 Drawing Figures



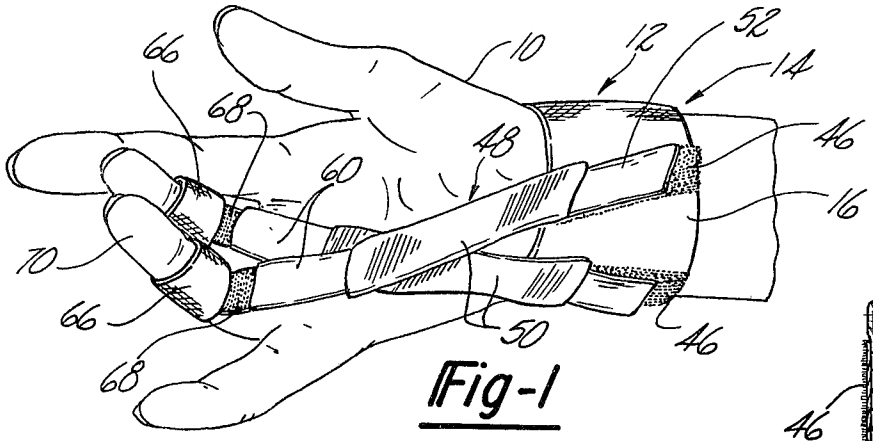


Fig-1

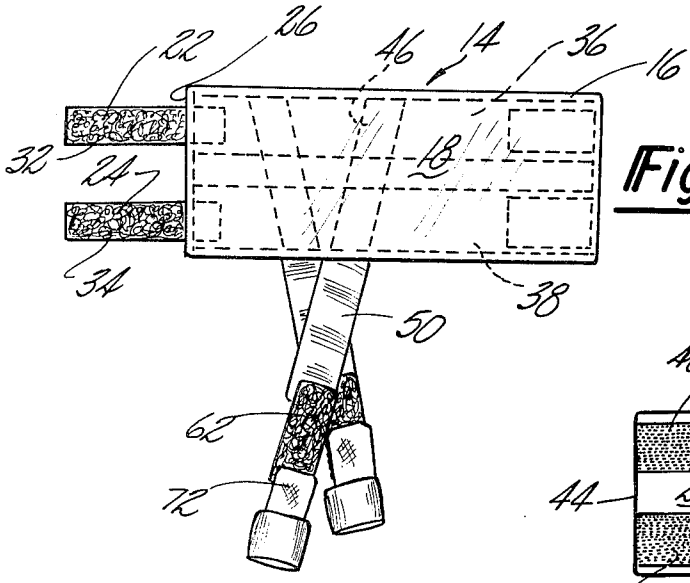


Fig-2

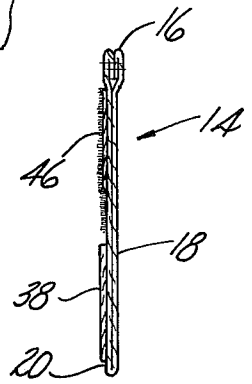


Fig-4

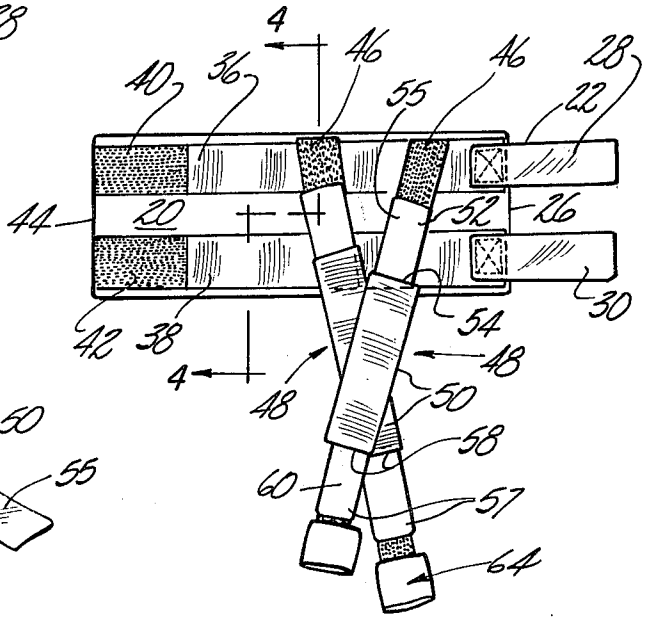


Fig-3

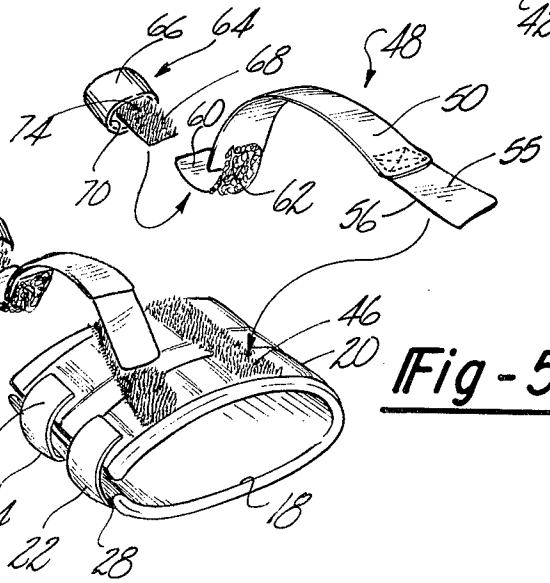


Fig-5

WRIST AND FINGER SUPPORT FOR BOWLERS

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention pertains to wrist and finger control devices. More particularly, the present invention pertains to wrist and finger control devices for use by athletes. Even more particularly, the present invention pertains to a wrist and finger control device for aiding and abetting bowlers.

2. Prior Art

In the sport of bowling one of the major problems encountered by the "average" bowler is his inability to keep his wrist firm. This, in turn, results in the bowler's inability to impart the proper "lift" to the bowling ball. The compound result of this is erratic and low scoring.

To obviate and to attempt to correct this problem a plurality of accoutrements for the hand and wrist have been proposed in the prior art. For example, U.S. Pat. No. 3,606,319 teaches a bowling aid which includes a cup-like member for resting or balancing the ball therewithin. The cup-like member is detachably connectable to a glove-like member which fits about the bowler's hand.

Other examples of the type of equipment contemplated herein are represented in U.S. Pat. Nos. 3,606,343, 3,486,171 and 3,049,717.

Another pertinent example of the prior art is disclosed in U.S. Pat. No. 3,152,337. In this reference there is disclosed a glove for a bowler which includes a wrist portion, a palm portion, and two extending straps which are coincident with the middle and ring fingers of the user. Affixed to the glove portion of the device is a wrist support and finger tensioner. This latter portion of the device includes a wrist band which adjustably fits about the wrist of the user. The finger tensioner comprises a pair of resilient straps each of which is connected at one end to the wrist band and to the extending straps at their other end, such that one resilient strap is connected to one extending strap and the other resilient strap to the other extending strap in generally parallel relationship. The resiliency of the finger tensioner draws the middle and ring finger toward the user's wrist.

Other heretofore known prior art devices which provide a good reference base for complete understanding of the present invention are found in U.S. Pat. Nos. 1,126,938; 3,362,127; 3,408,077 and 3,497,218.

SUMMARY OF THE INVENTION

The present invention overcomes the problems attendant the prior art by providing a completely adjustable wrist and finger control support device. The device hereof is particularly adapted for use by bowlers to aid and abet in obtaining proper "lift" when releasing the bowling ball.

The device hereof generally includes an adjustable wrist support band, a plurality of elongated palm straps detachably secured to the wrist support band, and a plurality of finger enveloping members, each one of which is associated with one of the elongated palm straps. The finger enveloping members are detachably secured to their associated palm straps.

Because of the detachable securement between the elements hereof, complete interchangeability between palm straps and finger enveloping members is possible.

This permits accomodation and variation of lengths and sizes according to the user's needs.

For a more complete understanding of the present invention reference is made to the following detailed description and accompanying drawing. In the drawing, like reference characters refer to like parts throughout the several views, in which:

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of the present invention shown deployed on a user's hand and wrist;

FIG. 2 is a top plan view of the device of the present invention;

FIG. 3 is a bottom plan view of the device of the present invention;

FIG. 4 is a cross-sectional view of the device hereof taken along the line 4—4 of FIG. 3; and

FIG. 5 is a perspective, exploded view of the device of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Now with reference to the drawing, and in particular, FIG. 1, there is shown therein a hand 10, having mounted thereon a device, generally indicated at 12, in accordance with the present invention. As hereinbefore noted, the device 12 is particularly adapted for use by a bowler.

More specifically, and with reference to FIGS. 2–4, the device 12 hereof generally includes a wrist support 14. The support 14 mounts about the user's wrist to provide support thereto. The support 14 includes an elongated rectangular band 16 having an inner surface 18 and an outer or exposed surface 20.

The inner surface 18 is in direct contact with the user's wrist, and therefore, has no possible irritants associated therewith.

A pair of adjustable securements tabs 22, 24, respectively, are affixed to the band 16 proximate a first side edge 26, thereof.

The attachment tabs, each, have a substantially smooth first surface 28, 30, resepctively. The other side of each of the tabs, 32, 34, respectively, is formed of a self binding material, such as a woven nylon fabric sold commercially under the trade name of "Velcro" by American Thread Company. The tabs 22, 24 are in substantially parallel relationship and are substantially coextensive. They are affixed to the band 16 by any suitable means, such as, by sewing or the like.

The support 14 also includes a pair of resilient bodies, 36, 38, respectively, disposed on the outer surface 20 of the band 16. The resilient bodies are substantially coextensive with the band 16, as shown. The resilient bodies 36, 38 are formed from any suitable elastic material which ensures snug engagement of the user's wrist. The resilient bodies are secured to the band by any suitable means, such as by sewing or the like.

It is to be understood, however, that a single resilient body can be deployed herein. As shown in FIG. 3, the attachment tabs overlie the resilient bodies and are thus secured to both the band proper and the resilient bodies.

Still referring to FIG. 3, there is provided a pair of attachment pads 40, 42 fixedly secured to the band 16, proximate the side edge 44 thereof. The pads 40, 42 are disposed atop their associated resilient bodies. The pads are secured to the band and their resilient bodies

in the manner hereinbefore described. The pads **40, 42** are substantially aligned with their respective tabs **22, 24** and are, preferably, formed from a woven nylon fabric, i.e., Velcro. In this manner, the tabs and pads can be interengaged for securely mounting the wrist band support about the user's wrist, as shown in FIGS. **1** and **5.**

It should be noted in this regard that each tab has a pad associated therewith which cooperate to define first securing or securment means. Moreover, each tab and associated pad are provided with sufficient length such that overlapping therebetween is achieved when the wrist support is wrapped around the user's wrist. This ensures secure attachment of the support to the user's wrist. Furthermore, by providing such lengths, adjustability of the support to accommodate varying wrist sizes is, also, ensured, since little surface area contact between the tab and pad are necessary. This, of course, is a function of the woven nylon fabric.

The support **14** also includes at least one transverse attachment member **46** provided on the surface **20** of the band **16.** The transverse attachment member **46** transverses the band **16** across the resilient bodies **36** and **38** and is disposed atop thereof. As shown in FIG. **3,** the transverse attachment member is inclined with respect to the top and bottom edges of the band **16.**

The transverse attachment member **46** is, also, preferably, formed from the hereinbefore defined woven nylon fabric.

As shown in FIG. **3,** and in a preferred form of the present invention, there is provided a pair of similar transverse attachment members **46** which are inclined with respect to each other, such that if they were extended they would converge within the area defined by the user's palm.

The present invention further includes an elongated palm strap, generally indicated at **48,** for each of the transverse attachment members. The palm strap transverses the user's palm as shown in FIG. **1.** Each palm strap **48** includes a resilient main portion **50** formed from any suitable elastic material or fabric. The elastic material imparts tension to the fingers of the user when the device hereof is deployed, as shown.

The elongated palm strap, also, includes a first tabular portion **52** integrally formed or otherwise associated with the main portion **50** at one end **54** thereof.

The tabular portion **52** has a first smooth side **55** and a second or reverse side **56** formed from a woven nylon fabric adapted to interengage with the woven nylon fabric of the transverse attachment member **46** (FIG. **5**). Thus, the strap **48** is adjustably detachably connectable to the attachment member, and, thus, to the wrist support, anywhere along the length thereof. Hence, the tabular portion **52** and the transverse attachment member cooperate to define a second securement or securing means.

The elongated palm strap **48** also includes a second tabular portion **57** disposed at the second or opposite end **58** of the main portion **50.** The second tabular portion **57** is similar and analogous to the first tabular portion **52,** and includes a first smooth surface **60** and a woven nylon fabric second surface **62,** as hereinbefore described.

The second tabular portion **57** adjustably detachably receives a finger enveloping member **64.**

The finger enveloping member or finger stall **64** includes a substantially tubular member **66** and a depending attachment tab **68** formed therewith.

The tubular member **66** is formed from a substantially smooth, slightly resilient, fabric and is adapted to have a user's finger **70** (FIG. **1**) inserted therethrough. The diameter of the member **66** is, thus, a function of the finger size. Moreover, the diameter of the member **66** is, also, dependent upon the "type" of bowler deploying the device, i.e., "full finger" or "finger tip" bowler. Accordingly, the diameter of the tubular member **66** is adapted to meet these two criteria.

The depending attachment tab **68** is secured to the tubular member **66** along a first peripheral edge **70** thereof, which is nearest the palm of the user's hand, by sewing or the like.

The tab **68** has a first smooth surface **72** and a second or opposite woven nylon fabric surface **74.** The second surface **74** is adapted to interengage the woven nylon surface **62** of the second tabular portion **57** of the elongated palm strap **48,** by contacting the two together, to thus, define third securement means.

In deploying the present device, the wrist support is wrapped around the user's wrist and is secured thereto by contacting together the securement tabs and the attachment tabs. The resilient bodies impart tautness to the wrist while the securing means are adjustable to a comfortable fit by enlarging or reducing the area of contact between the tabs and pads.

At least one elongated strap is then detachably adjustably secured to the wrist support by contacting the first tabular portion with the transverse attachment member. Again, the length of the strap transversing the palm is adjustable by enlarging or reducing the area of contact between this second securing means.

Finally, a finger stall is secured to the second tabular portion of the elongated strap by contacting the depending attachment tab therewith. Adjustability to accommodate full finger or finger tip bowlers is achieved by enlarging or reducing the area of contact between the the latter second tabular portion and depending attachment tab which cooperate to define third securement means.

In using the device, a "finger tip" bowler will mount the device between the first and second knuckles of the middle and ring finger, substantially as shown. A "full finger" bowler will generally mount the finger stalls on the index and pinkie fingers. However, any other finger mounting combination can be used by the bowler. It is to be further understood that the present invention can be used with equal efficacy by either a right-handed or a left-handed bowler.

Furthermore, the device can be used by a bowler with a finger deformity or other permanent or temproary injury.

When the device hereof is deployed, the resiliency of the main portion of the elongated strap imparts "tension" to the finger associated therewith to enable the user to impart "lift" to the bowling ball upon the release thereof, while the wrist support impairs the wrist from "breaking."

It should further be noted that the present device can accommodate either a two-finger or three-finger bowler.

Finally, it is noted herein, that in fabricating the device hereof, the wrist support band, per se, is formed

from any suitable soft fabric such as a polyester knit, a cotton fabric or the like.

Having thus described my invention what is claimed is:

1. A wrist and finger control device comprising:

a. a wrist support, the wrist support comprising:

1. a band adapted to be wrapped around the user's wrist,

2. first securement means for securing the band when wrapped around the wrist,

3. a resilient body disposed on a first surface of the band,

b. a transverse attachment member disposed on the first surface of the wrist support,

c. at least one elongated palm strap detachably adjustably connected to the transverse attachment member,

d. at least one finger stall detachably adjustably connected to the elongated palm strap, and

wherein the transverse attachment member transverses the resilient body.

2. The device of claim **1** wherein the first securement means comprises an attachment tab having a woven fabric surface and an attachment pad disposed on the resilient body and being aligned with the attachment tab, the attachment pad having a woven nylon surface.

3. The device of claim **1** wherein the elongated strap comprises:

a. a resilient main portion,

b. a first tabular portion secured to the main portion thereof at one end thereof, and

c. a second tabular portion secured to the main portion at the other end thereof, and

wherein the first tabular portion cooperates with the transverse attachment member to define second securement means.

4. The device of claim **3** wherein the first tabular portion has a woven nylon fabric surface and the transverse attachment member has a woven nylon fabric surface, the two surfaces being secureable to each other.

5. The device of claim **4** wherein the finger stall comprises:

a substantially tubular member, and

a depending attachment tab,

the depending attachment tab cooperating with the second tabular portion to define third securement means.

6. The device of claim **5** wherein the depending attachment tab has a woven nylon fabric surface, the two surfaces of the attachment tab and the second tabular portion being secureable to each other.

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