TRAINING AID FOR SPRINTERs

A training aid for maintaining the body of a runner in a proper sprinting form from start to finish during a race. The apparatus includes base plate means adapted for connection with the torso of the sprinter, head engaging means for engaging the sprinter's head, and connecting means for coupling the head engaging means with the base plate means so as to maintain the head and neck of the runner in an extended forward position relative to the torso during sprinting.

5 Claims, 11 Drawing Figures
TRAINING AID FOR SPRINTERS

As evidenced by the prior patents to Olcott U.S. Pat. No. 1,636,753 and Smallwood U.S. Pat. No. 3,059,932, various types of training devices have been proposed for holding a golfer's head in proper position during a golf swing. More particularly, these known devices are designed to hold the head of a golfer down and thereby prevent him from looking up from the ball during the practice of various strokes.

In accordance with the present invention, improved apparatus is provided for maintaining the body of a runner in proper sprinting form from start to finish during a race. The apparatus includes base plate means adapted for connection with the torso of the sprinter, head engaging means for engaging the sprinter's head, and connecting means coupling the head engaging means with the base plate means so as to maintain the head and neck of the sprinter in an extended forward position relative to his torso. Since form is an important factor in sprinting ability and is difficult to achieve, the present apparatus plays a significant role in assisting a sprinter in developing the proper form. By wearing the training aid repeatedly during practice, the individual is conditioned to assume the proper forward angle when sprinting, which conditioning will naturally cause the sprinter to adjust his weight distribution so as to run during competition as he was taught in practice. The design of the present invention is such that the apparatus is easy to put on and take off, the device being readily adjustable for different chest sizes and neck lengths.

Accordingly, the primary object of the present invention is to provide improved apparatus for training a runner to maintain his body in proper form during sprinting, characterized by the provision of base plate means adapted to engage the torso of the runner, head engaging means for engaging the runner's head, and connecting means for connecting the head engaging means with the base plate means so as to maintain the neck and head of the sprinter in an extended forward position relative to his torso. By keeping the neck and head in an extended forward position, the shoulders have to drop forward and downward in order for the sprinter to run comfortably, thus placing his body in proper sprinting form and permitting him to look ahead.

A more specific object of the invention is to provide a sprinter's training aid of the type described above, wherein the connecting means that couple the head engaging means with the base plate includes hinge means for permitting pivotal movement of the head engaging means in the vertical plane, whereby when the runner assumes a "runner to your mark" position, movement of the head from the extended forward position toward an erect position relative to the torso is permitted. Stop means are provided for limiting the upward extent of this vertical movement, said resilient means being operable—when said hinge means is in the stop position—to permit further upward movement of the head against the restoring force of said resilient means.

Consequently, the runner's head is normally biased toward the extended forward position whenever it is displaced upwardly and/or rearwardly out of this desired position. With the head and neck held in this forward extended position, the runner's shoulders must drop forward and downward in order for the sprinter to run comfortably, thereby placing him in proper sprinting form.

Other objects and advantages of the invention will become apparent from a study of the following specification, when viewed in light of the accompanying drawings, in which:

FIGS. 1 and 1a are side and enlarged detailed views, respectively, of a sprinter equipped with the training aid when in the "runner to your mark" position;

FIG. 2 is a side view of the sprinter when in the "set" position;

FIG. 3 is a side view of the sprinter when running at full stride;

FIG. 4 is a rear elevation view of the training apparatus;

FIG. 5 is a detail view illustrating the manner of attachment of the harness to the base plate;

FIG. 6 is a side elevation view of the training apparatus;

FIGS. 7-9 are sectional views taken along lines 7—7, 8—8 and 9—9, respectively, of FIG. 6; and

FIG. 10 is a detail view of the hinge and stop means.

Referring first more particularly to FIGS. 1a, 4 and 6, the sprinter's training apparatus comprises a base plate that is connected with the torso of a sprinter by harness means 2 which include an adjustable body encircling strap 3 for engaging the chest portion of the sprinter, buckle means 4 for fastening and unfastening the body encircling strap, and a pair of shoulder straps 5—5 for encircling each shoulder of the sprinter. Head engaging means 6 adapted to encircle the head of the sprinter above the eyes is connected with base plate 1 by connecting means 7 that include hinge means 8 for permitting pivotal movement of the head band means in the vertical plane relative to the base plate. The head engaging means includes a resilient U-shaped spring metal portion 6a to the free extremities of which is connected a light elastic band 6b. Consequently, the head engaging means is adjustable to fit the head size of any sprinter. When the sprinter assumes a "runner to your mark" position, as illustrated in FIGS. 1 and 1a, movement of the head from the extended forward position illustrated in FIGS. 2 and 3 to the erect position relative to the torso shown in FIG. 1 is permitted. Stop means 9 are secured to the ring portion of the hinge means for limiting the upward pivotal movement of the head engaging means relative to the stationary hinge member 8a. The connecting means 7 further includes a first resilient means 10 connected between head engaging means 6 and the hinge means 8 for permitting further upward movement of the head beyond the stop position. A second resilient means 11 is provided between the hinge means and the base plate, said second resilient means being operable to permit rearward movement of the hinge means relative to the base plate means 1. Adjustable means 12 are provided for effecting horizontal adjustment of the head engaging means 6 relative to base plate means 1, said adjustable means including set screw locking means 13 for locking the hinge member 8a in various desired position. Connecting the second resilient means 11 with the base plate 1 is a telescopic coupling 14 which longitudinally receives the lower end of the second resilient means for vertical adjustment of head engaging means 6 relative to base plate means 1. The telescopic coupling 14 in-
includes a set screw 15 for locking the second resilient means 11 in various desired positions relative to the base plate.

**OPERATION**

In accordance with the present invention, the sprinter straps the training apparatus to his back by means of the harness 2, the set screws 13 and 15 having been loosened to permit appropriate horizontal and vertical adjustment, respectively, of the head engaging means 6 relative to the base plate means 1. The head engaging means is placed about the head of the sprinter and the second resilient means 11 is vertically adjusted to a point where its upper end is about even with the base of the sprinter's skull, whereupon set screw 15 is tightened to lock the second resilient means in place. The hinge member 8a is then horizontally adjusted toward the head of the sprinter to a point where the neck and head of the sprinter are extended forward, whereupon set screw 13 is tightened. Owing to the hinge 8, the sprinter is now free to move his head upward and backward toward a stop position defined by stop means 9. Further upward movement of the head beyond the stop position 5 is permitted by the first resilient means 10, and at the same time second resilient means 11 is operable to permit rearward movement of the head against the restoring force of the second resilient means (as when the sprinter assumes the "runner to your mark" position illustrated in FIG. 1.) The first and second resilient means thereby apply a forward downward directed biasing force to the back of the head, whereby the sprinter is reminded, when in the "set" position, to lower his head, making it easier to raise his hips higher than his shoulders as in FIG. 2. As the sprinter leaves the blocks his body is in a forward position, and owing to the continuous pressure biasing his neck forward toward the extended position, the sprinter will continue his forward "beam," thereby positioning his legs behind him to drive forward rather than upward. When at full stride the sprinting angle will be near the preferred angle of 30°–35°, as illustrated in FIG. 3.

While in accordance with the provisions of the Patent Statutes the preferred form of the invention has been illustrated and described, it will be apparent to those skilled in the art that various changes and modifications may be made without deviating from the invention set forth in the following claims.

What is claimed is:

1. Apparatus for training a sprinter to maintain his body in proper running form, comprising:
   a. torso engaging means adapted for connection with the torso of the sprinter;
   b. head engaging means adapted for connection with the head of the sprinter; and
   c. connecting means for connecting said head engaging means with said torso engaging means to normally maintain the head and neck of said sprinter in an extended forward position relative to the torso during sprinting, said connecting means including:
      1. hinge means (8) permitting movement of said head engaging means in the vertical plane relative to said torso engaging means;
      2. stop means (9) for limiting the rearward movement of said head engaging means relative to said torso engaging means; and
      3. first resilient means (10) connected between said hinge means and said head engaging means, said resilient means being operable when said hinge means is in the stop position for permitting further rearward movement of said head engaging means against the restoring force of said resilient means.

2. Apparatus as defined in claim 1, wherein said connecting means further includes second resilient means connected between said hinge means and said torso engaging means for permitting rearward movement of said hinge means relative to said torso engaging means against the restoring force of said second resilient means.

3. Apparatus as defined in claim 2, wherein said connecting means further includes adjustable means connected between said hinge means and said second resilient means for effecting horizontal adjustment of said head engaging means relative to said torso engaging means.

4. Apparatus as defined in claim 3, wherein said connecting means further includes telescopic means connecting said head engaging means for vertical adjustment relative to said torso engaging means.

5. Apparatus as defined in claim 4, wherein said torso engaging means includes harness means for fastening said apparatus to the torso.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,697,065 Dated October 10, 1972

Inventor(s) Thomas M. Glassburner, Jr.

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

In the specification, column 3, line 39 "bean" should appear as --lean--.

Signed and sealed this 13th day of March 1973.

(SEAL)
Attest:

EDWARD M. FLETCHER, JR. ROBERT GOTTSCHALK
Attesting Officer Commissioner of Patents