Dec. 6, 1966 W. H. SORENSEN 3,290,043

EXERCISING DEVICE

Filed Oct. 21, 1963

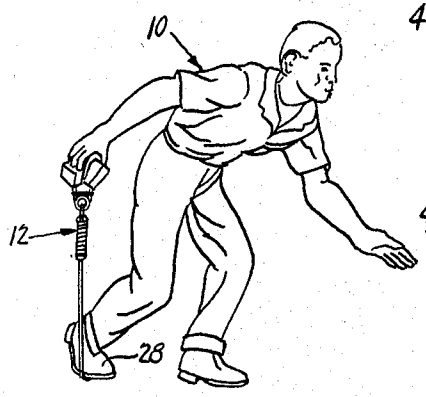


FIG. 1

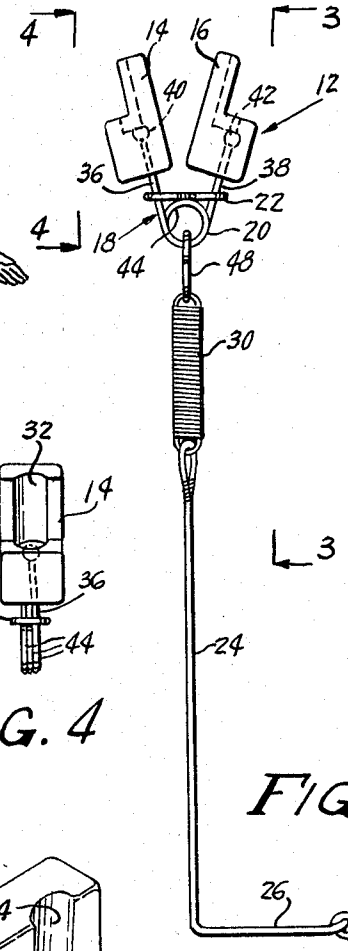


FIG. 2

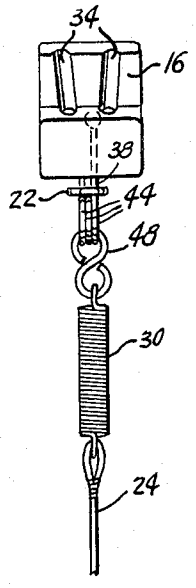


FIG. 3

FIG. 4

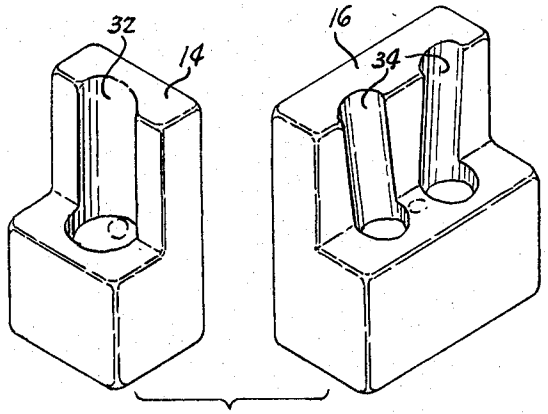


FIG. 5

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EXERCISING DEVICE

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This invention relates to an exercising device and more particularly to an exercising device for bowlers which simulates the movements normally encountered during the bowling procedure and exercises the muscles normally utilized therein to strengthen the same.

A primary object of the instant invention is the provision of an exercising device for bowlers which affords an opportunity for practice and muscle utilization to increase proficiency in the sport.

Another object of this invention is to provide a device of the character described which does not necessitate complex or expensive equipment and which may be utilized in a relatively small area.

Yet another object of the instant invention is the provision of an exercising device which is unsecured to any fixed support and thereby may be utilized in any place convenient to the bowler.

A further object of this invention is to provide a bowler's exercising device which strengthens the thumb and finger muscles normally utilized in supporting a conventional bowling ball.

A still further object of this invention is the provision of a device for bowlers which in addition to strengthening the thumb and finger muscles includes means for strengthening the arm muscles used in carrying and rolling the ball.

An additional object of the instant invention is the provision of an exercising device which will accommodate bowlers having hands of varying sizes.

Another object of this invention is the provision of an exercising device for bowlers which is sturdy and durable in construction, efficient and reliable in operation, and relatively simple and inexpensive to manufacture and utilize.

Other and further objects reside in the combination of elements, arrangement of parts and features of construction.

Still other objects will in part be obvious and in part be pointed out as the description of the invention proceeds and as shown in the accompanying drawing wherein:

FIGURE 1 is a pictorial representation of a bowler utilizing the exercising device of the instant invention;

FIGURE 2 is a front elevational view of the device;

FIGURE 3 is a fragmentary side elevational view of the exercising device taken substantially on line 3—3 of FIGURE 2;

FIGURE 4 is an opposite side elevational view thereof taken substantially on line 4—4 of FIGURE 2; and

FIGURE 5 is an enlarged perspective view of the thumb and finger engaging means.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Referring now to the drawings, FIGURE 1 shows a bowler **10** utilizing the device of the instant invention designated generally by the reference numeral **12**.

The exercising device **12** is comprised basically of a thumb engaging means **14**, a finger engaging means **16**, support means designated generally as **18** secured to the thumb and finger engaging means **14**, **16**, respectively, and maintaining the same in an angular relationship simulating the relationship of the thumb and finger engaging apertures of a conventional bowling ball, resilient means **20** connected to the support means **18** to normally bias the thumb and finger engaging means **14**, **16**, respectively, away from each other, stop means **22** limiting the

angular displacement of the thumb and finger engaging means **14**, **16**, respectively, an elongated flexible member **24** secured to the support means **18** at one end and terminating in an end portion **26** remote from the support means and fixedly securable adjacent the foot **28** of the bowler **10** when he has his thumb and fingers engaged in the thumb and finger engaging means **14**, **16**, respectively, as will be more fully explained in detail hereinafter, with additional resilient means **30** operatively connected to the flexible member **24** between the end portion **26** and the support means **18** and normally biasing the end portion **26** toward the support means **18**.

The thumb and finger engaging means **14**, **16**, respectively, may be formed of any desired material such as wood, plastic, or the like, and include portions defining oppositely disposed, elongated, thumb and finger engaging grooves **32**, **34**, respectively, the finger engaging means **16** having a single groove (not shown) in those instances when the bowler is accustomed to utilizing a two-fingered ball and two laterally spaced grooves as shown particularly in FIGURES 3 and 5 for engaging the middle and ring fingers of the bowler as is conventional in a three-fingered ball. It is to be understood that although elongated grooves have been shown as illustrative, the device may be provided with elongated apertures or bores in a manner similar to a conventional bowling ball in place of the grooves, if desired. The grooves are preferred in that they allow for accommodation of the thumb and fingers of bowlers having various lengths and various thicknesses.

The support means **18** includes angularly disposed support members **36**, **38**, extending parallel to the elongated thumb and finger engaging grooves, **32**, **34**, respectively, and being secured in the thumb and finger engaging means **14**, **16**, respectively, in any conventional manner. Enlargements **40**, **42** may be provided on the support members **36**, **38**, respectively, to preclude accidental disengagement with the thumb and finger engaging means **14**, **16**. At least one of the support members **36**, **38** may be rotatably secured within its respective thumb and finger engaging means **14**, **16** to allow slight variation of the disposition of the thumb and finger engaging grooves **32**, **34** with respect to each other to accommodate various bowlers.

The resilient means **20** preferably comprises a torsion spring means having a plurality of continuous coil members **44** terminating in angularly disposed end portions, the support members **36**, **38** being integral extensions of these end portions.

The stop means **22** may be either S-shaped or circular having loop portions engaging the support members **36**, **38** to limit their angular displacement, preferably to approximately 30 degrees with respect to each other thereby simulating a conventional bowling ball.

The flexible member **24** may be of any desired material, such as rope or the like having one end looped over an eye formed in the tension spring comprising the additional resilient means **30** with its other end portion **26** terminating in a knotted number **46** for a purpose to be described in more detail hereinafter.

An eye at the opposite end of the additional resilient means **30** may be engaged with an S-shaped connecting member **48** secured to the coils **44** of the resilient means **20** which form an integral part of the support means **18**.

The use and operation of the exercising device of the instant invention will now be apparaent. The bowler **10** may engage his thumb and either one or two of his fingers with the elongated grooves **32**, **34** of the thumb and finger engaging means **14**, **16**, respectively, and may squeeze these means towards each other against the force of the resilient means **20** to exercise the muscles in his thumb and fingers thereby improving his hold on a con-

ventional bowling ball. Simultaneously with exercise of his thumb and finger muscles, the bowler **10** may engage the end portion **26** of the flexible member **24** under his foot **28**, the knotted member **46** preventing disengagement and the flexible member **24** bending substantially as shown in FIGURES 1 and 2 whereby he will exercise the muscles in his arm by pulling against the force of the additional resilient means **30** when simulating the actual motion utilized in carrying and rolling a bowling ball.

It will now be seen that there is herein provided an improved exercising device for bowlers which satisfies all of the objectives of the instant invention, and others, including many advantages of great practical utility and commercial importance.

Since many embodiments may be made of the instant inventive concept, and since many modifications may be made of the embodiments hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative, and not in a limiting sense.

I claim:

1. An exercising device for bowlers comprising thumb engaging means, finger engaging means, support means rotatably secured to both said thumb and finger engaging means maintaining said thumb and finger engaging means in an angular relationship simulating the relationship of the thumb and finger engaging apertures of a conventional bowling ball, and resilient means including divergent spring arms operatively connected to said support means to normally bias said thumb and finger engaging means away from each other, said thumb and finger engaging means comprising plate members over the ends of which the fingers and thumb are adapted to engage, said plate members being squeezable toward each other against the force of said resilient means, and stop means including oppositely disposed loop portions engaging each of the spring arms to limit their angular displacement relative to each other.

2. The structure of claim **1** wherein said thumb and finger engaging plate members include portions defining oppositely disposed, elongated, thumb and finger engaging grooves, respectively.

3. The structure of claim **2** wherein said finger engaging plate member includes portions defining laterally spaced elongated grooves for engagement of at least two fingers of the bowler.

4. The structure of claim **1** wherein said stop means limits the angular displacement of said thumb and finger engaging means with respect to each other to approximately 30 degrees.

5. The structure of claim **2** wherein said support means includes an angularly disposed support member secured to each of said thumb and finger engaging means parallel to said elongated thumb and finger engaging grooves, respectively, said resilient means including torsion spring means operatively connected between said support members at a point spaced from said thumb and finger engaging grooves.

6. The structure of claim **5** wherein said torsion spring means includes a plurality of continuous coil members terminating in angularly disposed end portions, said support members being integral extensions of said end portions.

7. The structure of claim **1** further including an elongated flexible member secured to said support means, said flexible member terminating in an end portion remote from said support means and fixedly securable adjacent the foot of a bowler having his thumb and fingers engaged in said thumb and finger engaging means, and additional resilient means operatively connected to said flexible member between said end portion and said support means, said additional resilient means normally biasing said end portion toward said support means.

8. The structure of claim **7** wherein said end portion includes a knotted member engageable under the foot of the bowler to fixedly secure the same during use.

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