FINGER ASSOCIATED WEIGHT MEANS FOR BOWLERS

Fig. 1.

Fig. 2.

Fig. 3.

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FINGER ASSOCIATED WEIGHT MEANS FOR BOWLERS

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This invention relates to a device used in bowling, and more particularly, it relates to a device to be worn on the hand of the bowler during the delivery of the bowling ball.

With the large number of bowling alleys already in existence in this country and with the increasing interest in the game of bowling, more and more people have become and are becoming interested in the game. More and more instruction is being given to the initiates to the game, and those experienced and those expert in the field are continually looking for ways to improve their games. While, of course, the human elements of accuracy and error will always be a part of the game, it is desirable to afford the player with as much opportunity to eliminate as much error as possible. A large number of devices are already in use that serve this purpose as, for example, the automatic pin-setting devices which place the pins precisely into position. The player at the delivery end, however, can never be subjected to such rigorous control in the delivery of the bowling ball, but nevertheless, it is desirable to have available for his means by which he can more accurately deliver the ball down the lane to the pins.

Accordingly, it is an object of this invention to provide the bowler with a device that can be worn during the delivery of the ball which will assist him in more accurately placing the ball. A further purpose is the provision of a device which can be worn on the hand delivering the ball which device will impart during delivery certain weight effects. Another aim is the provision of a device which the bowler can wear on his hand to adjust the weight effects of the hand in delivering the ball to accomplish different deliveries as he desires. These and other objectives appear hereinafter.

The objectives of this invention are accomplished by the provision of a device containing means to alter the weight effect of the device and containing means for anchoring the device to the hand of the bowler. In one embodiment of this invention the device comprises a finger band that supports a series of weights which can be adjusted upwardly or downwardly in amount and which can be adjusted so that the weights are to the left or to the right when the device is in operative position on the bowler's hand. In another embodiment the device comprises a glove worn by the bowler. This glove has finger compartments adapted to receive weights so that the wearer can wear such weights as he desires above each of the fingers of the hand. These and other embodiments of this invention will be understood more fully by reference to the descriptions below and to the drawings which are not illustrative but are given for illustrative purposes.

The drawings are as follows:

FIGURE 1 is a plan view of a bowling ball and a bowler's hand which is indicated in dash and dot lines, there being mounted on the two middle fingers of the hand one form of this invention;

FIGURE 2 is a sectional view taken of line 2—2 of FIGURE 1;

FIGURE 3 is a sectional view taken of line 3—3 of FIGURE 2;

FIGURE 4 is a sectional elevation of another embodiment of this invention; FIGURE 4 is taken on line 4—4 of FIGURE 5;

FIGURE 5 is a sectional elevation taken on line 5—5 of FIGURE 4;

FIGURE 6 is an end elevation of the form illustrated in FIGURES 4 and 5;

FIGURE 7 is a plan view of the glove type of device shown on the hand;

FIGURE 8 is a sectional view taken on line 7—7 of FIGURE 8; and

FIGURE 9 is a sectional view taken on line 9—9 of FIGURE 7.

As shown in FIGURE 1, the hand 1 of the bowler is positioned on the bowling ball 2, there being provided the usual thumb hole 3 and the two finger holes 4 and 5. An embodiment 6 of this invention is shown being mounted on the two fingers that are positioned in the two finger holes, although the device of this invention can be worn on any of the fingers, as desired. As shown in FIGURE 2, this particular adjustable weight device comprises a series of weights 7 in the form of plates which are held together by screws 8 that screw into threaded bores in support 9. These screws can be of any length desired, and the user can use a retaining nut 10 to hold up the weights off the fingers if he desires, or he can allow the weights to rest directly on the hand or the fingers if he wishes. Normally, the retaining nuts 10 are not used. As shown in FIGURE 2, fingers 11 and 12 fit into the grooved sections of support 9 which in turn rests directly on the bowling ball 2. In this embodiment there is a finger divider 13. In other modifications and including this particular type, this finger divider can be eliminated for those who do not wish them. Other means to hold the weights together can be used as for example any clamping means such as spring clamps or clips, snap-on grips and bands. The plates 7 can be of any desired size or shape. Shapes simulating bowling balls and pins are preferred. The last weight 29 of plates 7 can be rubber or the like and divider 13 may be covered with a rubber or similar pad 28.

Also, as shown in FIGURE 2, there are provided a plurality of channels 14 into which the screw 8 can be placed. The screw 8 is shown in FIGURE 2 positioned between the center of the three channels shown at either ends of the device. The user can shift the weights to the right or to the left, depending upon what he deems best and, of course, he does this by positioning the screw 8 in the respective channels as desired. Additional channels can be added, for the number shown in FIGURE 2 is given only for illustrative purposes.

FIGURE 3 is given to illustrate further this particular embodiment. It shows the relationship of the elements of this particular device in another view.

In FIGURE 4, a sectional elevation, another device of this invention is shown mounted on the fingers 12 and 11 of the bowler which are shown positioned on the bowling ball 2 and inserted in the holes 4 and 5 in the ball. This device 15 comprises a weight 16 which is shown in the form of a bowling pin. It can be a solid weight, or, as shown in FIGURE 4, it can be a hollow member, having a screw plug 17 mounted at one end, and if desired a removable plate 18 at the other end. Into the cavity of the pin there are inserted a plurality of weights 19, such as lead pellets or the like. A section is broken away at 20 to illustrate the presence of the weights inside the pin. The fastening means comprises eye-lets 21 positioned at either end of the device, a slot in the finger divider 13 and the strap 22. As shown, the strap 22 passes through eye-let 21 at the narrow end of the pin and passes along the underneath portion of the pin through the slot 23 in the finger divider 13 then through the slot in the eye-let 21 at the wider end of the pin. The ends of the strap are buckled together at buckle or snap-on fastener 24 or any other fastening means for the ends of the strap. An endless elastic or rubber strap may be used, for example.
For convenience this device is shown in a sectional elevation in FIGURE 3 taken on line 9—9 of FIGURE 2 and an end elevation is shown in FIGURE 6. FIGURE 5 shows the positioning of the device on the finger of the bowler, and FIGURE 6 further shows the relationships involved. It is to be appreciated that the device of this invention can be worn in a position where the weight lies parallel to the finger or transversely, the latter being depicted in the drawings. However, the preferred positioning is the transverse arrangement.

This embodiment of the invention affords the user an opportunity to add or subtract from the weight by addition or subtraction of pellets, as he desires. Further, the user can place more weight at one end and then at the other device to the desired level and then stuffing it with cotton or paper to form a partition and then filling the remaining partition with weights or with material heavier in weight or less in weight than the material in the other compartment. By such techniques the bowler can line up weight effects which are best suited for his game and the results he desires.

As can be seen in FIGURES 1, 5, and 7 the weight on a given finger lies on the dorsum side of the hand or glove and is positioned between the knuckle and the middle phalanx of the given finger.

In another embodiment of this invention the adjustable weight feature is again shown by the provision of individual compartments, one for each finger. This embodiment is shown in FIGURE 7 and comprises a glove to be worn on the bowling hand. This glove 25 has compartments 26 which may be filled with pellets 19 or stuffed with light-weight material such as paper, foam rubber, cotton and the like. These compartments 26 are provided with an access thereto through the zipper 27 which zips across the width of the glove affording access to each of the four compartments shown. Alternatively each of the compartments may have its own separate closure and in some modifications this closure comprises a stitching and is permanent, the weights having been predetermined and sewn in by the stitching. A variety of means of holding the weights in the small compartment may be used, but the zipper running across the width of the glove is preferred, since it affords the wearer a very handy way of altering the weights in any of the compartments.

The embodiment shown in FIGURE 7 has only a partial cover for the fingers, for it is preferred to have the ends of the fingers and the thumb uncovered or in direct contact with the bowling ball. In some instances full finger coverages are desired. For example, it is possible to provide a device of this invention having full finger coverage for the forefinger and the little finger which increases the gripping action on the ball. In that modification the thumb and the other two fingers are left uncovered so that the releasing action or friction remains the same.

As shown in FIGURE 8, which is taken on line 7—7 of FIGURE 7, the compartments 26 are parallel or symmetrically arranged. Thus the compartments are shown partially filled with pellets, but it will be understood that they can be completely filled with pellets, that other materials may be used therein, that a given compartment may contain no added weights and that the individual compartments need not be alike in their weight characteristics. FIGURE 9 taken on line 9—9 of FIGURE 7 shows the relation of the glove, the finger, and the ball, and it also shows the zipper arrangement. In a modification of the glove an individual compartment 26 is mounted on a separate finger or a short ring or band of elastic cloth or the like, the finger fitting into the ring. The element 26 can, of course, be of any size or shape including diamond, rectangles, squares, circles, cubes among many others and the element may be hollow or solid. If the latter, a variety of weights is afforded. For example, the ring may be of metal having a stud onto which may be threaded, a spherical weight of a desired size. If hollow, the compartment will have a closure which can be opened and closed readily to add or remove weights as desired.

The device of this invention can be made of metal or plastic as for example, of steel, aluminum, nylon, poly-formaldehyde and the like. Similarly, the weights can be made of a variety of weights. While lead pellets are preferred for their mass, a convenient form of weights is afforded by the common B—B gun shot which is readily available in sporting goods stores, for example. The strap glove material, finger divider and similar parts can be made of readily available cloths, canvas, rubberized fabrics or elastic materials, as is well known. Each of the parts is readily constructed of available materials. This affords a low-cost device for the bowler.

The devices of this invention allow the bowler to place weights on the hand in the position he desires and in the amount that he desires. The weights are placed generally on the fingers but not on the thumb. Through this arrangement there occurs a slight delay in the action of the fingers in releasing the ball and coming out of the holes of the bowling ball so that when the bowler swings and releases the ball, the thumb releases first. This assures good follow through. A bowler can experiment and provide different weights to get different effects for the delivery of hooks and curves and for getting better control of the bowling ball. As discussed above, the weights can be of any convenient material such as lead pellets, or they may be made of aluminum or plastic materials, steel and the like, and the bowler can use any of the wide variety of readily available materials for stuffing the empty compartments with low weight materials.

While the device which comprises a series of plates for the weights does not have this advantage, this particular embodiment does have the advantage of affording the bowler a very simple alteration of weights transversely of the hand.

The bowler, thus, has a wide variety of conditions in which he can experiment. It has been found that placing weights above the forefinger and the finger next to it tends to permit a more ready holding of the straight bowling line. A positioning of the weights above the two fingers that grip the holes of the bowling ball affords a more automatic, repeated natural delivery, and the positioning of weights above the last two fingers, that is the little finger and the ring may be of metal having a stud onto which may be threaded, a spherical weight of a desired size. If hollow, the compartment does have the advantage of affording the bowler very simple alteration of weights transversely of the hand. The bowler, thus, has a wide variety of conditions in which he can experiment. It has been found that placing weights above the forefinger and the finger next to it tends to permit a more ready holding of the straight bowling line. A positioning of the weights above the two fingers that grip the holes of the bowling ball affords a more automatic, repeated natural delivery, and the positioning of weights above the last two fingers, that is the little finger and the ring may be of metal having a stud onto which may be threaded, a spherical weight of a desired size. If hollow, the compartment does have the advantage of affording the bowler very simple alteration of weights transversely of the hand. This is one that has a reverse twist to it and is to be avoided since pin knock down decreases with it. Women throw this kind of a ball more frequently than men and the devices of this invention are especially helpful to the woman bowler here. Another advantage has been found that topping of the ball is greatly reduced. This topping arises when the bowler releases the ball after the hand is past the point where the center of gravity of the ball is at its lowest point as to the given bowler. In this event the ball spins to the right. Observation has been made that in the use of the devices of this invention the bowler is experiencing an almost automatic release of the thumb since tension has been placed upon the fingers drawing the fingers in momentarily and the ball becomes the thumb. When the thumb is out the fingers automatically straighten, for the weights pulling on them and the momentum of the ball afford a smooth release of the fingers.

While the invention has been disclosed herein in connection with certain embodiments and certain structural and procedural details, it is clear that changes, modifications or equivalents can be used by those skilled in the art; accordingly such changes within the principles of
the invention are intended to be included within the scope of the claims below.

I claim:

1. A game accessory comprising, in combination, a weight load and a weight holding means, said holding means being integral and when in use extending transversely on the hand in contact with at least two fingers in a section thereof which lies between the knuckle and the middle phalanx of said fingers and said weight load being supported by said holding means to lie on the dorsum side of the hand and the said holding means leaving the ends of the fingers uncovered, said holding means comprising at least two connected finger coverings each encasing one of said finger sections and each affording a weight holding means.

2. A device in accordance with claim 1 in which said weight load comprises an elongated, tubular element, the cavity of which is adapted to hold weights.

3. A game accessory comprising, in combination, a weight load and a weight holding means, said holding means being integral and when in use extending transversely on the hand in contact with at least two fingers in a section which lies between the knuckle and the middle phalanx of said fingers and said weight load being rectangularly shaped and being coextensive with said holding means and being supported by said holding means to lie on the dorsum side of the hand and said holding means leaving the ends of the fingers uncovered.

4. A game accessory comprising, in combination, a weight load and a weight holding means, said holding means being integral and when in use spanning only the area between the knuckle and the middle phalanx of the wearer's hand and being shiftable laterally of the hand to span any pair of adjacent fingers and only said area of each finger in the pair and said weight load being supported by said holding means to lie on the dorsum side of the hand and the said holding means leaving the ends of the fingers uncovered.

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