BADMINTON RACKET HANDLE STRUCTURE FOR TRAINING PURPOSE

FIELD OF THE INVENTION

The present invention relates to a training equipment for racket sports, and particularly relates to a racket used in badminton, tennis and squash; by using the racket of the present invention, the user can learn quickly the standard and appropriate position and way of grip, and the swing movements can also be corrected; meanwhile, the racket is easy to be held tightly during use, which improves the safety of use.

BACKGROUND OF THE INVENTION

As a popular and effective sport for physical exercises, badminton is easy to learn and is not limited by sport field. Therefore, people play badminton in almost every community. The quality of badminton equipment is the key to the quality of the sport. Badminton, tennis and squash are all competitive sports, while it is based on correct, standard and appropriate grip and swing movements that the competitive performance of this type of sports is to be enhanced. A traditional badminton racket usually includes a head frame with a net provided within a frame, a shaft fixedly connected to the head frame, and a grip portion at the other end of the shaft. The user grips the grip portion and hit the shuttlecock with the net. The racket handle is a common octagonal column, which cannot show the correct way of grip; therefore, it wouldn't help a user grasp the key point of grip. In addition, badminton is an energy-consuming sport. The racket is likely to slip from the user's hand in case the user fails to grip it tightly; on the other hand, people usually tend to get tired for gripping the racket handle tightly over time, which may diminishes people's interests towards the sport. Handles of the known badminton rackets are all slender rods with small diameter, which do not conform to the conformation of human hands. Non-standard grips will decrease the flexibility, hinder the backhand strokes, and consequently affect the completion of the movements. Hence, it is a long felt need to improve the traditional racket handles used in badminton, tennis and squash so as to help the users to learn quickly the correct, standard and appropriate way of grip.

SUMMARY OF THE INVENTION

In order to overcome the problems of the prior art, the present invention provides a badminton racket handle structure which is simple, appropriate and easy to use, and can help the users learn the correct and appropriate way of grip and swing movements in badminton, tennis and squash; the racket handle structure of racket sports for training purpose with novel structure is easy to use and produce.

To achieve the above object, following technical solutions are adopted in the badminton racket handle structure for training purpose of the present invention:

A badminton racket handle structure for training purpose includes a head frame, a shaft connected to the head frame at one end, and a handle connected to the other end of the shaft. A plurality of groove positions are formed on the surface of the handle. A little finger position grip groove at a first groove position is formed near the bottom of the surface of the handle. A ring finger position grip groove at a second groove position is formed upward from the bottom of the surface of the handle. A middle finger position grip groove at a third groove position is formed upward from the bottom of the surface of the handle. A thumb position grip groove for forehand stroke at a forth groove position is formed upward from the bottom of the surface of the handle. A forefinger position grip groove at a fifth groove position is formed upward from the bottom of the surface of the handle. A thumb position grip groove for backhand stroke at a sixth groove position is formed upward from the bottom of the surface of the handle.

Preferably, upward from the bottom of the surface of the racket handle are provided in order with a little finger position grip groove, a ring finger position grip groove, a middle finger position grip groove, a thumb position grip groove for forehand stroke, a forefinger position grip groove and a thumb position grip groove for backhand stroke.

Preferably, the surface of the racket handle comprises four adjacent surfaces successively: a large back surface, a small front surface, a large front surface and a small back surface, with four small joint side surfaces each provided between each two adjacent surfaces. That is, the whole surface of the racket handle is formed by the large back surface, the small front surface, the large front surface and the small back surface as well as the four small joint side surfaces provided therebetween. The large back surface

is provided with the forefinger position grip groove on its upper portion; the small front surface is provided in order upward from its bottom with the little finger position grip groove, the ring finger position grip groove, the middle finger position grip groove and the forefinger position grip groove; the large front surface is provided in order upward from its bottom with the little finger position grip groove, the ring finger position grip groove, the middle finger position grip groove, the thumb position grip groove for forehand stroke and the thumb position grip groove for backhand stroke; the small back surface is provided in order upward from its bottom with the thumb position grip groove for forehand stroke and the thumb position grip groove for backhand stroke.

The training equipment for racket sports of the present invention enables the users to learn quickly the key points of grip by positioning the fingers on the racket handle so as to correct the swing movements, therefore providing better playing feelings and safety. The technical solution it adopts is to define the positions where each finger is supposed to be by grooves of a certain depth; the user will learn the correct grip by touching the racket handle so as to recognize these positions. The racket handle of the present invention marks the finger-positions by grooves, which enables the user to learn quickly the correct position and way of grip, and to grip the racket handle tighter with higher safety. The racket handle structure of the present invention conforms to the structure of human hands, making both forehand stroke and backhand stroke easy to perform; by using the racket handle of the present invention, the user can grip the racket handle with more strength and flexibility, enabling quickly, flexible and vigorous strokes.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is the schematic view of a badminton racket;

Figure 2 is the schematic structural view of the racket handle of the present invention spreaded out into a plane;

Figure 3 is the schematic structural view of the large front surface of the embodiment of the racket handle of the present invention;

Figure 4 is the schematic structural view of the small back surface of the embodiment of the racket

handle of the present invention;

Figure 5 is the schematic structural view of the large back surface of the embodiment of the racket handle of the present invention;

Figure 6 is the schematic structural view of the small front surface of the embodiment of the racket handle of the present invention;

Figure 7 is the schematic structural view of the racket handle of the present invention used for left-hand spreaded out into a plane;

Figure 8 is the schematic structural view of the large front surface of the racket handle for left-hand stroke of the present invention;

Figure 9 is the schematic structural view of the small front surface of the racket handle for left-hand stoke of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Features, technical solutions and the specific object and function as well as the advantages and spirit of the present invention will become clear by the following detailed description with reference to the embodiments and the accompanying drawings.

The racket handle of the present invention includes the following components (devices): a head frame 1, a shaft 2, a handle 3, a large back surface 4, a small front surface 5, a large front surface 6, a small back surface 7, a little finger position grip groove 8, a middle finger position grip groove 9, a ring finger position grip groove 10, a forefinger position grip groove 11, a thumb position grip groove 12 for backhand stroke , a thumb position grip groove 12 for forehand stroke , small joint side surface 14.

Figure 2 is the schematic structural view of the embodiment of the racket handle structure for badminton training purpose of the present invention (take the racket handle for right-hand stroke for example) spreaded into a plane. The badminton racket handle structure for training purpose includes a head frame 1 connected to a shaft 2, and a handle 3 provided at the other end of the shaft 2. A plurality of groove positions are formed on the surface of the racket handle 3: a little finger position grip groove 8

at a first groove position is formed near the bottom of the surface of the racket handle 3; a ring finger position grip groove 10 at a second groove position is formed upward from the bottom of the surface of the racket handle 3; a middle finger position grip groove 9 at a third groove position is formed upward from the bottom of the surface of the racket handle 3; a thumb position grip groove 13 for forehand stroke at a forth groove position is formed upward from the bottom of the surface of the racket handle 3; a forefinger position grip groove 11 at a fifth groove position is formed upward from the bottom of the surface of the racket handle 3; a thumb position grip groove 12 for backhand stroke at a sixth groove position is formed upward from the bottom of the surface of the racket handle 3. Therefore, the following grip grooves are provided in order upward from the bottom of the surface of the handle: a little finger position grip groove 8, a ring finger position grip groove 10, a middle finger position grip groove 9, a thumb position grip groove 13 for forehand stroke, a forefinger position grip groove 11 and a thumb position grip groove 12 for backhand stroke.

The surface of the racket handle 3 comprises four adjacent surfaces successively: a large back surface 4, a small front surface 5, a large front surface 6 and a small back surface 7, with four small joint side surfaces 14 each provided between each two adjacent surfaces. That is, the whole surface of the racket handle 3 is formed by the large back surface 4, the small front surface 5, the large front surface 6 and the small back surface 7 as well as the four small joint side surfaces 14 provided therebetween. The large back surface 4 is provided with the forefinger position grip groove 11 on its upper portion; the small front surface 5 is provided in order upward from its bottom with the little finger position grip groove 8, the ring finger position grip groove 10, the middle finger position grip groove 9, and the forefinger position grip groove 11; the large front surface 6 is provided in order upward from its bottom with the little finger position grip groove 8, the ring finger position grip groove 10, the middle finger position grip groove 9, the thumb position grip groove 13 for forehand stroke and the thumb position grip groove 12 for backhand stroke ; the small back surface 7 is provided in order upward from its bottom with the thumb position grip groove 13 for forehand stroke and the thumb position grip groove 12 for backhand stroke .

In accordance with different types of human hands and different ways of playing badminton, tennis and squash, the racket handle structure of the present invention for training purpose provides different

hand-positions and finger-positions. According to the design practice of the racket handle 3 of badminton, tennis and squash, finger position grip grooves on handle 3 can be integrally designed in the racket handle mode, or can be cut by the cutting tool after the racket is manufactured.

A human hand comprises five finger positions, i.e. the little finger position, the ring finger position, the middle finger position, the forefinger position and the thumb position. A player should perform different grips and swing movements according to the different courses of shuttlecock/ball. All five fingers are in touch with the racket handle simultaneously when gripping a racket and each finger is in a specific position according to different grips. Generally, there are two types of grips in racket sports: grip for forehand stroke and grip for backhand stroke. The difference between them is the different thumb position on the handle, while the rest finger positions remain the same. Appropriate grooves of finger positions processed on the racket handle will facilitate the user to recognize the positions, increasing the friction between the racket handle and human hand, making the racket easy to be held tightly with higher safety.

Following are the description of specific finger positions:

the little finger position grip groove 8: the first groove position upward from the bottom of the surface of the racket handle 3, which is a single position, fixing the bottom of the racket handle 3 when gripping;

the ring finger position grip groove 10: the second groove position counting upward from the bottom of the surface of the racket handle 3, which is a single position, fixing the bottom of the racket handle 3 when gripping;

the middle finger position grip groove 9: the third groove position counting upward from the bottom of the surface of the racket handle 3, which is a single position;

the thumb position grip grooves: the forth and sixth groove positions counting upward from the bottom of the surface of the racket handle 3, which are respectively the thumb position grip groove 13 for forehand stroke and the thumb position grip groove 12 for backhand stroke; that is, the forth groove position upward from the bottom of the surface of the racket handle 3 is the thumb position of the thumb

position grip groove 13 for forehand stroke, and the sixth groove position upward from the bottom of the surface of the racket handle 3 is the thumb position of the thumb position grip groove 12 for backhand stroke;

the forefinger position grip groove 11: the fifth groove position counting upward from the bottom of the surface of the racket handle 3.

The schematic structural view of the racket handle for left hand, as shown in Figure 7, is the horizontal mirror symmetry of the racket handle structure for right hand of Figure 2. The schematic structural view of the large front surface of the racket handle for left-hand (see Figure 8) is the horizontal mirror symmetry of the schematic structural view of the large front surface of the racket handle for right-hand. The schematic structural view of the small front surface of the racket handle for left-hand (see Figure 9) is the horizontal mirror symmetry of the schematic structural view of the small front surface of the racket handle for right-hand. The racket handle 3 of racket sports of the present invention for training purpose is an aid helping the user grip the racket and correct the swing movements by providing the finger positions. The user will recognize these finger positions by touching grooves of certain depth, and then quickly and correctly learn the standard and appropriate grip position; the swing movements can also be corrected. In addition, the racket is easy to be held tightly during use, which improves its safety.

It should be understood that the above embodiment is used to illustrate the technical solution instead of to limit the protection scope of the present invention. Based on the disclosure of the present invention, those skilled in the art can make various modifications to the embodiment without departure from the spirit of the present invention.

WHAT IS CLAIMED IS:

1. A badminton racket handle structure for training purpose, comprising:

a head frame (1);

a shaft (2) connected to the head frame (1) at one end;

a handle (3) connected to the other end of the shaft (2);

wherein a plurality of groove positions are formed on the surface of the racket handle (3), a little finger position grip groove (8) at a first groove position is formed near the bottom of the surface of the racket handle (3); a ring finger position grip groove (10) at a second groove position is formed upward from the bottom of the surface of the racket handle (3); a middle finger position grip groove (9) at a third groove position is formed upward from the bottom of the surface of the racket handle (3); a thumb position grip groove (13) for forehand stroke at a forth groove position is formed upward from the bottom of the surface of the racket handle (3); a forefinger position grip groove (11) at a fifth groove position is formed upward from the bottom of the surface of the racket handle (3); a thumb position grip groove (12) for backhand stroke at a sixth groove position is formed upward from the bottom of the surface of the racket handle (3).

2. The badminton racket handle structure for training purpose of claim 1, wherein the surface of the racket handle (3) comprises four adjacent surfaces successively: a large back surface (4), a small front surface (5), a large front surface (6) and a small back surface (7), with four small joint side surfaces (14) each provided between each two adjacent surfaces; the whole surface of the racket handle (3) is formed by the large back surface (4), the small front surface (5), the large front surface (6) and the small back surface (7) as well as the four small joint side surfaces (14) provided therebetween..

3. The badminton racket handle structure for training purpose of claim 2, wherein the forefinger position grip groove (11) is provided on an upper portion of the large back surface (4).

4. The badminton racket handle structure for training purpose of claim 2, wherein the small front surface (5) is provided in order upward from its bottom with the little finger position grip groove (8), the ring finger position grip groove (10), the middle finger position grip groove (9), and the forefinger position grip groove (11).

5. The badminton racket handle structure for training purpose of claim 2, wherein the large front surface (6) is provided in order upward from its bottom with the little finger position grip groove (8), the ring finger position grip groove (10), the middle finger position grip groove (9), the thumb position grip groove (13) for forehand stroke and the thumb position grip groove (12) for backhand stroke.

6. The badminton racket handle structure for training purpose of claim 2, wherein the small back surface (7) is provided in order upward from its bottom with the thumb position grip groove (13) for forehand stroke and the thumb position grip groove (12) for backhand stroke .

7. The badminton racket handle structure for training purpose of claim 1, wherein the surface of the racket handle (3) is provided in order upward from its bottom with the little finger position grip groove (8), the ring finger position grip groove (10), the middle finger position grip groove (9), the thumb position grip groove (13) for forehand stroke, the forefinger position grip groove (11) and the thumb position grip groove (12) for backhand stroke.