June 2, 1953 G. H. FORSYTH 2,640,698

TABLE TENNIS BAT

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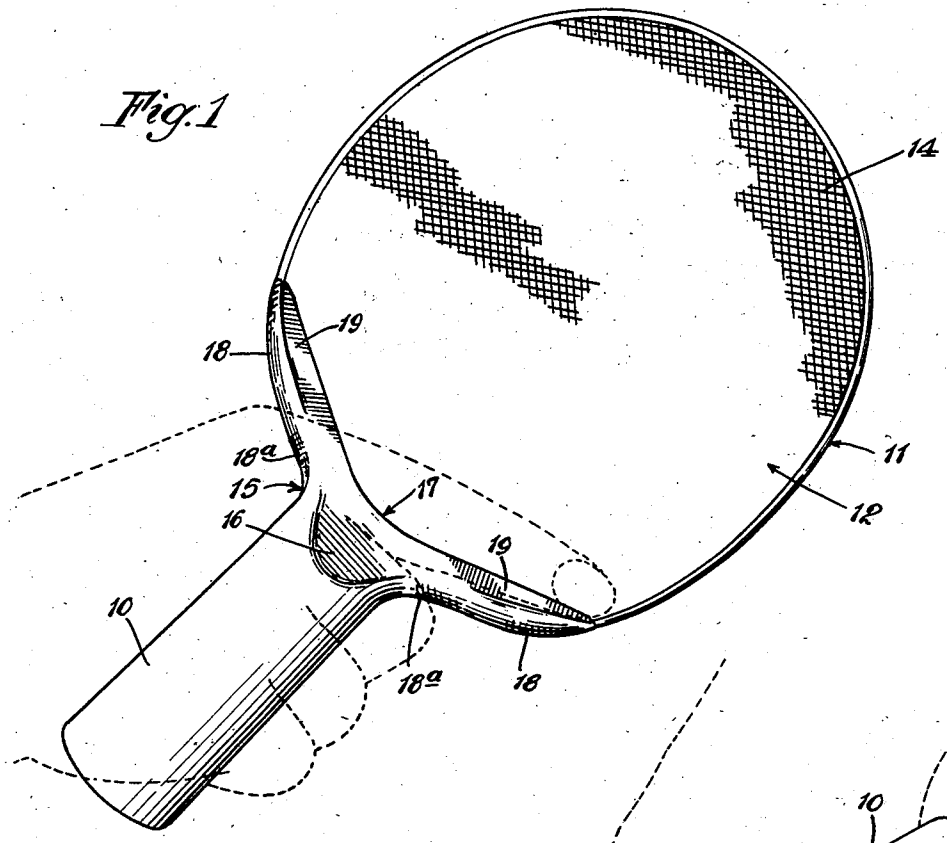
Fig. 1



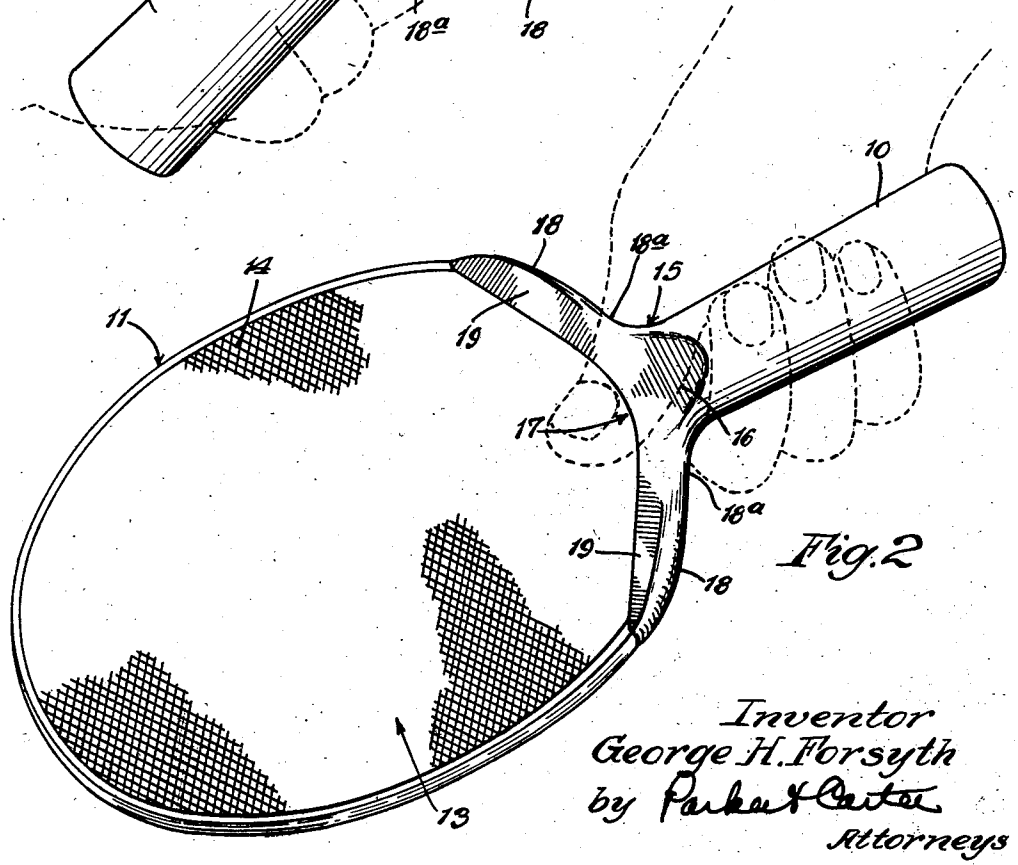


Fig. 2

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Fig. 3

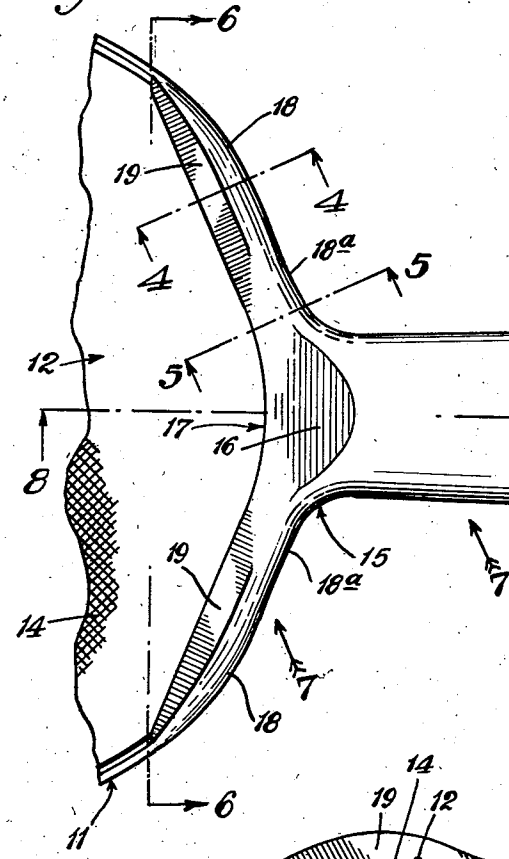

Fig. 4

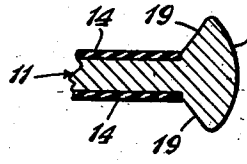

Fig. 5

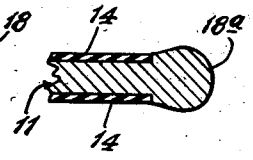

Fig. 7

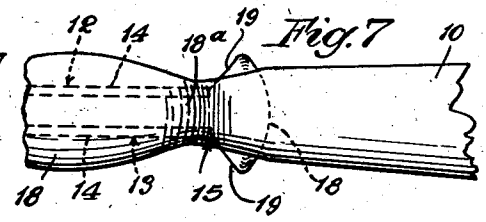

Fig. 6

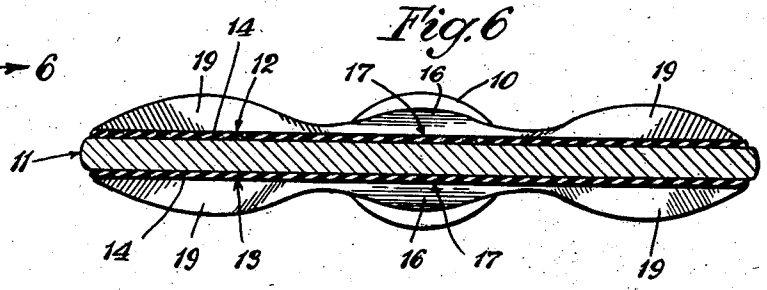

Fig. 8

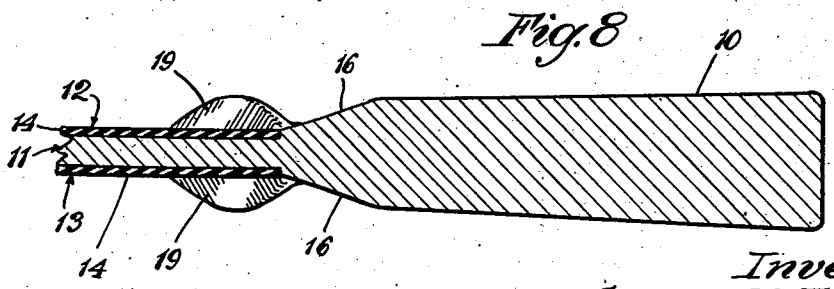

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Fig. 9

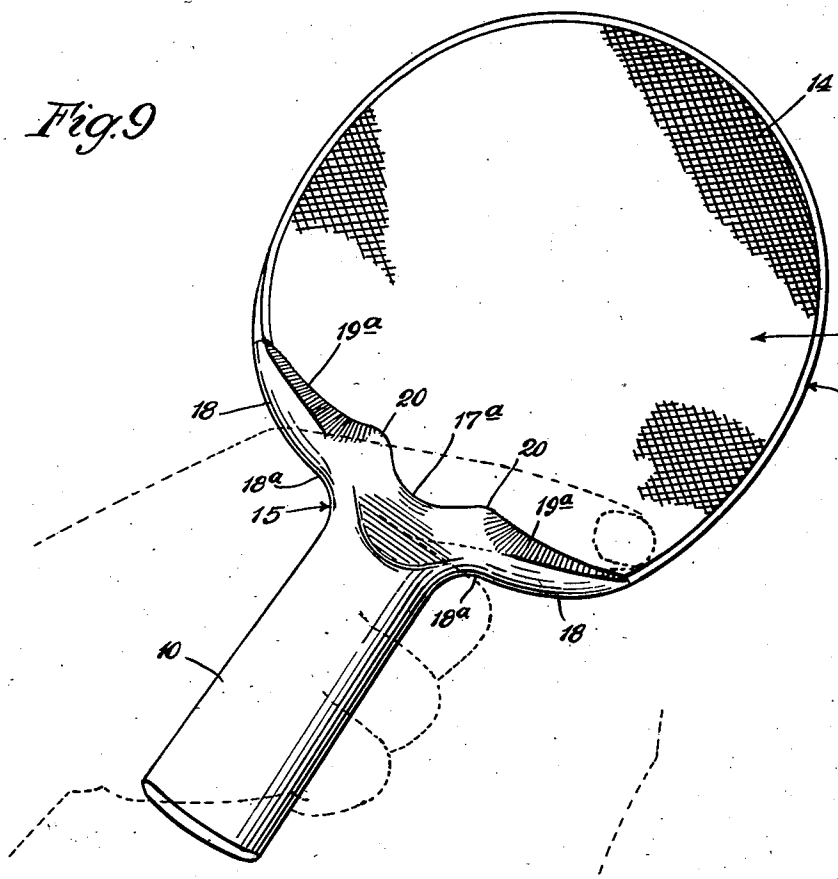

Fig. 10

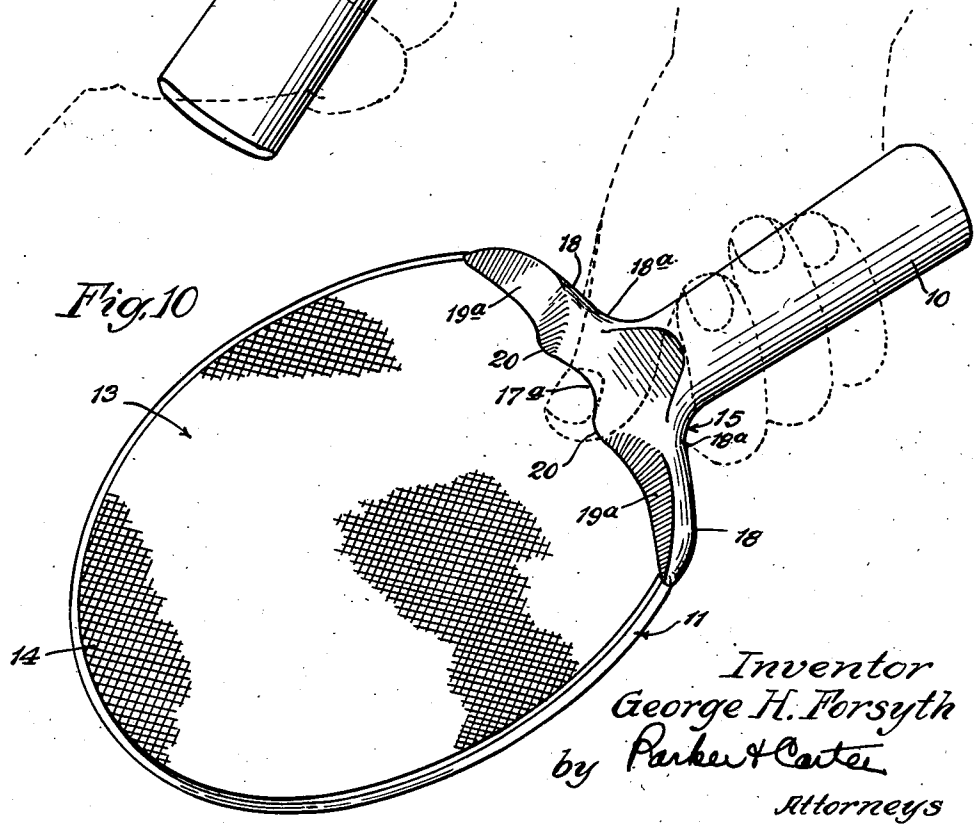

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TABLE TENNIS BAT

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Fig. 11

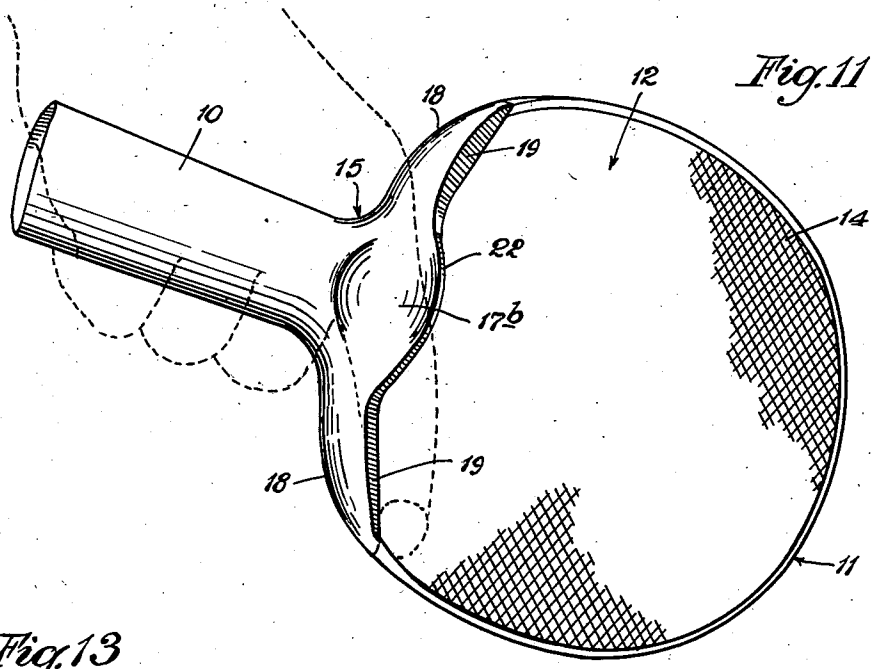

Fig. 13

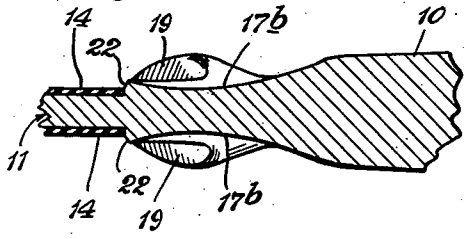

Fig. 12

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UNITED STATES PATENT OFFICE

2,640,698

TABLE TENNIS BAT

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Application March 27, 1950, Serial No. 152,059

5 Claims. (Cl. 273—76)

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This invention relates to improvements in bats or paddles of the kind particularly designed for use in playing table tennis, ping pong or games of a similar character.

It is now generally recognized that muscle relaxation is perhaps the most important factor in perfecting and maintaining a high degree of skill in practically all athletic endeavors requiring alertness, quickness and precision of movement. This is particularly true as applied to table tennis and similar games, wherein a relaxed grip of the bat is of the greatest aid to players, both expert and beginner.

The principal object of the invention is to provide a novel form of bat including finger and thumb rest areas at the base of the blade, cooperating to conform to the hand of the player, permitting the bat to be gripped loosely to relieve much of the tension of the muscles of the hand, wrist and forearm during play.

A further object of the invention is to provide a hand-conforming grip which is especially suitable for all the conventional types of hand grips now used in playing table tennis, but which aids the player in acquiring the most effective grip for skillful play.

A still further object of the invention is to provide a hand-conforming grip which aids the player in obtaining greater flexibility and ease in stroke making without loss of control and in imparting an accelerated spin to the ball resulting in greater deceptivity in rebound from the playing surface, regardless of the type of hand grip employed.

Other objects and advantages of the invention will appear from time to time as the following description proceeds.

The invention may best be understood by reference to the accompanying drawings, in which:

Figure 1 is a plan view of a bat made in accordance with my invention and illustrating the manner in which the bat lends itself to gripping by one of the most commonly-used hand grips employed in table tennis; namely, the "tennis" grip;

Figure 2 is a view in part perspective showing the opposite side of the bat when held with the same "tennis" grip illustrated in Figure 1;

Figure 3 is an enlarged fragmentary detailed section showing the base portion of the form of bat shown in Figures 1 and 2;

Figure 4 is a detailed section taken on line 4—4 of Figure 3;

Figure 5 is a detailed section taken on line 5—5 of Figure 3;

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Figure 6 is a detailed section taken on line 6—6 of Figure 3;

Figure 7 is a fragmentary side view, looking in the direction of the arrows 7—7 of Figure 3;

Figure 8 is a detailed section taken on line 8—8 of Figure 3;

Figure 9 is a view similar to Figure 1, but showing a modified form of thumb and finger-conforming members along the base of the striking faces of the bat;

Figure 10 is a view of the reverse side of the bat shown in Figure 8;

Figures 11 and 12 are views of the obverse and reverse sides of a bat having still another modified form of thumb and finger-conforming members;

Figure 13 is an enlarged detailed section taken on line 13—13 of Figure 11.

Referring now to details of the embodiment of my invention shown in Figures 1 to 9, inclusive, of the drawings, the bat consists essentially of a handle 10 and an integral blade 11 with opposed striking faces 12 and 13. Said handle and blade are of conventional length and overall dimensions commonly employed for playing table tennis and similar games. The opposed striking faces 12 and 13 of the blade may have a cover or facing 14 of suitable friction material, such as rubber. The handle 10 projects, as usual, from one end of the generally elliptical blade 11 in longitudinal alignment therewith, said handle being of greater thickness than the blade. The handle joins the blade at a neck area, indicated generally at 15, where the handle merges into the base of the blade at opposite faces of the bat along longitudinally tapering surfaces 16, 16 forming part of central thumb rest areas 17, 17.

The neck area 15 merges laterally into shoulder portions 18, 18 formed along the base of the blade at a diverging angle to each other. The shoulder portions 18 have elongated finger rests 19, 19 rising at a substantial oblique angle to the adjacent striking faces 12 and 13 of the blade, as shown in Figures 3 to 7. It will be especially observed in these figures that the raised finger rests 19, 19 are disposed well beyond the neck area 15 so that one of said finger rests will be in position for engagement by the forefinger of the hand when the handle is gripped with said forefinger extending in a normal outwardly and forwardly extending angle in engagement with one of the striking surfaces along the base of the blade. In these figures, the bat is shown as held by the so-called "tennis grip," which is the grip generally favored by table tennis players and is used by

expert players almost exclusively. Whether the forefinger engages one or another of the four finger rests 19,19 depends upon whether the bat is gripped in the right or left hand, and which striking face of the bat the forefinger engages. In all cases, the forefinger is restrained by one of the finger rests 19 from slipping off the adjacent edge of the striking face.

It will further be observed that the finger rests 19, 19 are each disposed at a distance well beyond the normal reach of the player's thumb, and that said areas are gradually reduced in height as they approach the neck 15, until they disappear by merging into the central thumb rest areas 17, one of which normally receives the thumb in gripping engagement thereagainst (see Figure 2). Both are practically in the same plane as the adjacent striking surface of the bat.

It will now be understood that, when the bat is gripped with the tennis grip, as shown in Figure 1, the forefinger of the hand will extend in substantially straight position, engaging the stroking face along a so-called "finger groove," extending from the outer end of the proximate finger-gripping area 19 to the opposite side of the neck area 15. The two "finger grooves" and the finger rests 19, 19 on each side of the bat are preferably disposed at a widely diverging angle to each other, and at approximately a 65-degree angle to the longitudinal axis of the blade. These similar finger grooves, four in number, can best be seen by viewing the bat edgewise at an oblique angle across the neck 15 and in line with the finger rest areas 19, as shown in Figure 7.

When the bat is gripped with the tennis grip, as shown in Figures 1 and 2, the thumb will engage the area 17 and the adjacent tapered surface 16 on the opposite side of the bat. The areas 16 and 17 therefore lend themselves to reception of the thumb to aid in holding the bat naturally and loosely in the hand without undue strain on the muscles of the hand, wrist or forearm.

As will be seen in Figure 5, the shoulder portion at the base of the blade, where the neck extends laterally to join the finger rest portions 19, 19 is substantially of the same thickness as the overall thickness of the blade where the "finger grooves" cross each other diagonally on opposite sides of the blade. This arrangement is especially advantageous in using the tennis grip, as it permits the ball of the first knuckle joint between the base of the forefinger and the first metacarpus bone of the average hand to be directly engaged with the face of the bat in the area 17 where the two "finger grooves" intersect each other. This is not possible in prior art structures where excessively thick reenforcing ribs join the neck and shoulders so as to hold the knuckle joint away from the face of the bat in the area above mentioned. Thus, the bat can be normally gripped between the thumb on one side and the first knuckle joint on the other to provide opposed ball-and-socket connections at the base of the blade thereby affording, in effect, a universal joint between the hand and bat, to insure increased flexibility in manipulation of the bat, with relaxed tension on the muscles of the hand, wrist and forearm, but without loss of control.

When the striking surfaces of the blade are each provided with a thickness of friction material 14 as shown, it will be noted that a bead 18*a* of increased thickness is formed along the two shoulder portions 18 to serve as a strengthening reinforcement between the blade and handle.

It will be understood further that the grip-conforming bat, including the lateral finger rests 19 and the central thumb rest areas 17, is equally well adapted for all other conventional types of grips employed in playing table tennis, such as the "pen-holder," "palm" and "open-fan" grips. In all such types of grips, it will be found that the thumb and fingers engage the bat so that the latter can be held in a loose, relaxed manner, and in particular that the fingers, whether it be the forefinger in the tennis grip, or the forefinger and second finger in the pen-holder grip, or all the fingers in the open-fan grip, will be engaged with one or more of the finger rests 19 to insure the desired relaxed gripping of the bat, which insures greater flexibility of the wrist and forearm, resulting in increased ease in manipulating the bat during play.

My novel hand-conforming grip also aids the beginner in assuming the most effective gripping position, no matter which form of grip he may wish to employ. Both beginner and expert also find it possible to execute both forehand and backhand strokes with far greater ease and precision than is possible with conventional bats heretofore employed.

Figures 9 and 10 show a modified form of bat having the same essential features hereinbefore described in connection with the form shown in Figures 1 to 8 inclusive, but wherein the meeting bases of the thumb rest area portion 17*a* and the finger rests 19*a* are extended longitudinally along the opposite striking faces of the bat so as to form somewhat more pronounced ridge portions 20, 20 at opposite sides of the concave thumb rest portion 17*a*. With this modified form of gripping surface, the ridge portions 20, 20 present a slightly more concaved thumb rest area 17*a* substantially in alignment with the handle, so as to afford somewhat more lateral rolling support for the thumb than is the case with the form shown in Figures 1 to 8.

Figures 11, 12 and 13 illustrate another modified form of grip, wherein the thumb rest portion 17*a* is extended at its base still farther out along the central portion of the blade, with an arcuate terminal edge 22 raised slightly above the adjacent striking surface so as to form a generally bowl-shaped rest 17*b*. This modified form of thumb rest may be preferred by some players because it affords somewhat more support for the thumb in the direction of the outer end of the blade than is the case with the other forms of thumb rests herein shown and described.

The two modified forms of grips shown in Figures 9 and 10, and 11 to 13, respectively, have substantially the same characteristic "finger slots" of the form shown in Figures 1 to 8, wherein said finger slots cross each other at the thumb rest area in lines along the finger rests at a widely diverging angle to each other on each face of the bat.

Although I have shown and described certain embodiments of my invention, it will be understood that I do not wish to be limited to the exact construction shown and described, but that various changes and modifications may be made without department from the spirit and scope of the invention as defined in the appended claims.

I claim:

1. A bat for playing table tennis and the like, comprising a blade having substantially parallel striking faces on opposite sides thereof, a rela-

tively thick handle rigidly connected to said blade to form a neck with laterally extending shoulders along the base of said blade, and a pair of upstanding finger rests fixed along said shoulders at the base of each of said striking faces with the inner ends of said finger rests tapered downwardly toward the striking faces at opposite sides of the neck, the pair of finger rests on each side of the blade being disposed at substantially equal, widely diverging oblique angles to the longitudinal axis of said handle, to form two substantially straight finger receiving grooves extending from the outer end of each of said finger rests to the opposite side of the neck and intersecting each other at the neck area.

2. A bat for playing table tennis and the like, comprising a blade having substantially parallel striking faces on opposite sides thereof, a relatively thick handle rigidly connected to said blade to form a neck with laterally extending shoulders along the base of said blade, a pair of upstanding finger rests fixed along said shoulders at the base of each of said striking faces, with the inner ends of said finger rests tapered downwardly at opposite sides of the neck to form a depressed thumb rest area at the neck substantially in the same plane as the proximate striking face, and the pair of finger rests on each side of the blade being disposed at a widely diverging angle to each other to provide substantially straight finger-receiving grooves extending from the outer end of each of said finger rests to the opposite side of the neck and intersecting each other at the thumb rest area.

3. A bat for playing table tennis and the like, comprising a blade having substantially parallel striking faces on opposite sides thereof, a relatively thick handle rigidly connected to said blade to form a neck with laterally extending shoulders along the base of said blade, a pair of upstanding finger rests fixed along said shoulders at the base of each of said striking faces, with the inner ends of said finger rests tapered downwardly at opposite sides of the neck to form a depressed thumb rest area at the neck substantially in the same plane as the proximate striking face, and the pair of finger rests on each side of the blade being disposed at equal angles of approximately 65 degrees to the longitudinal axis of said blade, to provide substantially straight finger-receiving grooves extending from the outer end of each of said finger rests to the opposite side of the neck

and intersecting each other at the thumb rest area.

4. A bat for playing table tennis and the like, comprising a blade having substantially parallel striking faces on opposite sides thereof, a relatively thick handle rigidly connected to said blade to form a neck with laterally extending shoulders along the base of said blade, a pair of upstanding finger rests fixed along said shoulders at the base of each of said striking faces, with the inner ends of said finger rests tapered downwardly at opposite sides of the neck to form a depressed thumb rest area at the neck, the pair of finger rests on each side of the blade being disposed at substantially equal, widely diverging oblique angles to the longitudinal axis of said handle, to form two substantially straight finger receiving grooves extending from the outer end of each of said finger rests to the opposite side of the neck and intersecting each other at the thumb rest area, but the depressed thumb rest area at the neck being extended longitudinally beyond the inner ends of said finger rests and terminating in an upwardly dished arcuate rim to produce a generally bowl-shaped thumb rest surface.

5. A bat for playing table tennis and the like, comprising an elongated blade having substantially parallel striking faces on opposite sides thereof, a pair of upstanding finger rests fixed along the base of each of said striking faces with the inner ends of said finger rests tapered downwardly toward the striking faces, the pair of finger rests on each side of the blade being disposed at substantially equal, widely diverging oblique angles to the longitudinal axis of said blade to form two substantially straight finger receiving grooves extending from the outer end of said finger rests to the opposite side of the base and intersecting each other at said base.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,961,473	Baltzley	June 5, 1934
2,293,312	Sewell	Aug. 18, 1942

FOREIGN PATENTS

Number	Country	Date
455,529	Great Britain	Oct. 22, 1936