April 19, 1966 W. F. SALISBURY 3,246,894

BASEBALL TRAINING BAT OR SIMILAR ARTICLE

Filed March 11, 1963

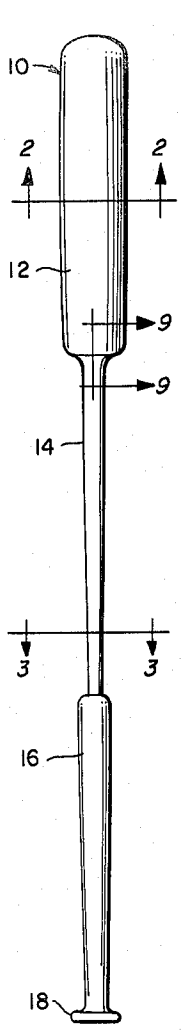


FIG.-1

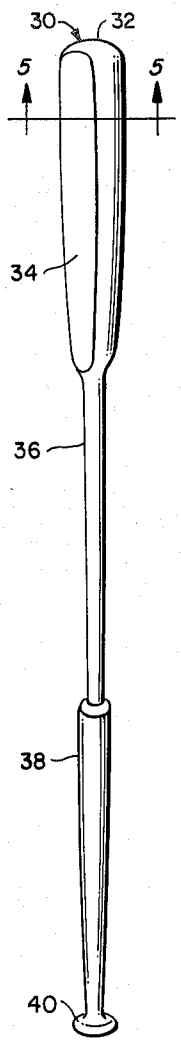


FIG.-4

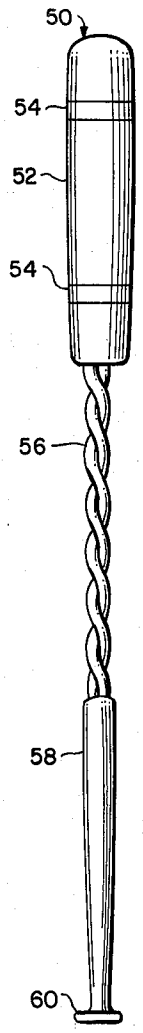


FIG.-6

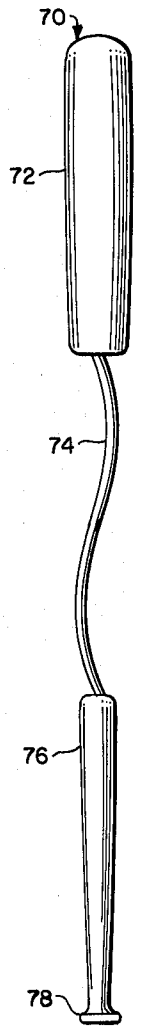


FIG.-7

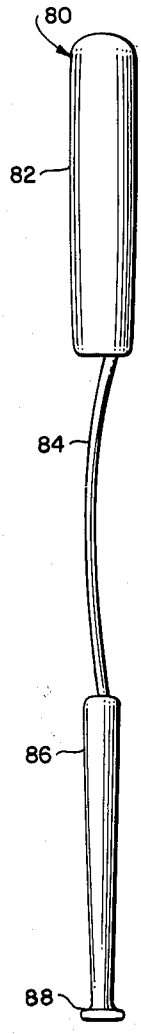


FIG.-8

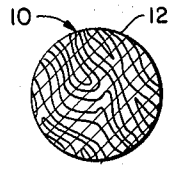


FIG.-2

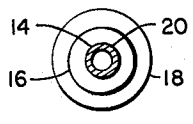


FIG.-3

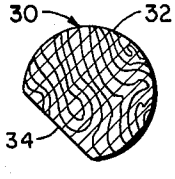


FIG.-5

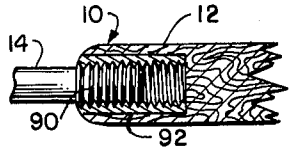


FIG.-9

INVENTOR.
WILLIAM F. SALISBURY

BY Edward O. Anell

ATTORNEY

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BASEBALL TRAINING BAT OR SIMILAR ARTICLE

William F. Salisbury, 13924 Premier, Bellflower, Calif.

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This invention relates to baseball training bats and has for its object to provide a device for improving the visual acuity and long-ball hitting ability of the user.

Although natural ability is important for doing anything well, aptitude is not enough to become a good baseball batter. To achieve this requires practice and training. As explained in the book "How to Hit," by Mize, Henry Holt & Company, New York, copyright 1953, the way to become an outstanding hitter is to grip the bat loosely, tightening the grip when starting to swing into the ball. The batter should swing into the ball with the bat perfectly parallel to the ground, snapping the bat into the ball by using a wrist action, whereby the top wrist and hand roll over the bottom ones. The quicker the snap, the more the ball will be pulled. In every instance, the ball should be hit squarely, not under nor in a downwards motion.

It is, therefore, important to train a batter to concentrate on the ball and hit it with the preferred portion of the bat. Unless the ball is hit with the correct portion of the bat, the resulting ball will go a short distance, the bat may be broken, the resulting vibration may hurt the batter's hands, or the batter's hands may themselves be hit by the baseball. It is, therefore, important to train the batter to hit the ball with the correct portion of the bat at all times.

In the past, regulation bats have been used for training. These have the deficiency of having no special means of identifying the correct portion of the bat so that the batter is certain he is hitting the ball with the correct portion thereof. Another device previously used was a net arranged at the end of the bat handle. If the batter was holding the bat correctly and met the ball at the right portion of the device, the ball was snagged in a net. While such a device does improve the swing of the batter, it has the disadvantage of not resembling a regulation bat in mass, weight distribution and handling characteristics. Accordingly, while a batter may achieve proficiency with this net device, it does not necessarily carry over when he utilizes a regulation bat in a baseball game.

In the present invention, the above disadvantages are overcome and the above object achieved by providing a baseball bat for use in training comprising a regulation barrel portion and a regulation handle portion joined by a central portion of a reduced size, thereby providing a non-linear outer periphery of the bat, in contrast to regulation baseball bats. The central portion is of the size and material giving absolute rigidity to the bat but providing a very minimum of contact area to a baseball. As a consequence, the batter must impact the ball with the preferred barrel portion or he will usually not hit the ball at all. By limiting the effective hitting area of the bat while retaining the characteristics of a regulation bat, the batter is trained to properly swing the bat to meet the ball at the proper place and consequently improve his ability as a long-ball hitter.

This and other objects, aspects, features and advantages of my invention will be seen by the examination of the following specification in accordance with the attached drawings wherein:

FIG. 1 is a front elevation of the Training Bat of the present invention;

FIG. 2 is a top section taken through the barrel of the bat of FIG. 1 along section line 2—2;

FIG. 3 is a top sectional view of the reduced central portion of the bat taken along section line 3—3 of FIG. 1;

FIG. 4 is an isometric view of an alternate embodiment of the improved bat of my invention, showing a flat hitting surface on the barrel portion thereof;

FIG. 5 is a top section through the barrel portion of the bat of FIG. 4 taken along section line 5—5;

FIG. 6 is the front elevational view of another embodiment of my invention showing a demarcation of the preferred hitting zone and the barrel portion and the use of a torsion bar as the central portion;

FIG. 7 shows yet another embodiment of the invention where the reduced central portion is sinuous in configuration; and

FIG. 8 is yet another embodiment wherein the central portion is bowed along its longitudinal axis, and

FIG. 9 is a section along line 9—9 of FIG. 1, showing one means of joining the bat barrel to the central section.

Referring now to FIGS. 1–3, the present invention is seen to comprise a generally cylindrical tapered barrel portion **12** joined to a regulation gripping or handle portion **16** having a flared butt end **18**, preventing the batter's hand from slipping off the handle, said barrel portion **12** being joined to said handle portion **16** by a cylindrical central section of greatly reduced diameter. The central section **14** is made of as small diameter as possible to expose a minimum of hitting area to a baseball, but yet impart absolute rigidity to the bat **10**. In a preferred embodiment, utilizing a 34 inch bat, the barrel portion measured 9 inches along its length, the reduced central portion measured 12 inches, and the handle portion including the butt end **18** measured approximately 13 inches. The relationship of the portions will vary from bat to bat, and hitter to hitter, depending among other things upon the desires of the hitter as to weight, length, handle and barrel thickness, and model of bat preferred.

Although the central cylindrical portion **14** may be solid, FIG. 3 shows that central portion **14** having a central cavity **20** therein. The use of a hollow central portion will make the bat lighter, and for certain applications, where it is desired to attenuate the vibration of the bat when it impacts the baseball, the hollow central portion is arranged such that it comprises a tuned resonant cavity which, together with the remainder of the bat **10** has a resonant frequency which lies outside the range of frequency generated by the impact of the baseball bat **10** with a baseball. Attenuation of vibration is desirable for many reasons, among them being reduction of bat breakage, reduction of pain and injury to players and in the case of novice players, increasing their confidence by elimination of such undesirable vibrations.

It is also desirable that the intermediate central portion be made of a material which is denser than that comprising the handle and the barrel portions. It is desirable that the total mass of the reduced central portion of the one material equal the mass of a hypothetical regulation central portion made of the same material as the barrel and the handle. If the bat of the present invention is constructed in that manner, the weight distribution along the longitudinal axis, and the total weight will be identical to that of a regulation bat. The player will then be able to readily transfer the skills acquired with the instant training bat to a regulation bat as used in organized play.

FIGS. 4 and 5 show another embodiment of the present invention wherein a flat surface **34** is provided on the barrel **32** of the bat **30**, said barrel being joined to the handle **38** having a flared butt **40** by a central section **36** of reduced diameter. The addition of a flat surface **34** has the added advantage of enabling the batter to determine that he has kept his bat parallel to the ground throughout his swing into the ball, and has not chopped the ball and hit under it as he snapped his wrists during the swing. The bat described in FIGS. 4 and 5 could be

the same as that described in FIGS. 1, 2 and 3 or the other embodiments in all other respects.

In FIG. 6 is shown still another embodiment which demonstrates two additional features which may be incorporated. The bat **50** has a barrel **52** joined to a handle **58** with a flaring butt portion **60** by a central portion **56** in a unique continuous twist configuration. The barrel portion **52** is shown to have placed thereon a pair of spaced apart stripes **54** on the outer circumference thereof. The purpose of these stripes **54** is to define the preferred hitting region of said barrel, to achieve long ball hitting. In a 34 inch bat having a 9 inch barrel previously described, the first stripe would be arranged 2 inches from the outer end of the barrel **52** and the second stripe would be 7 inches down from the top of the barrel, thereby affording a 5 inch hitting zone. The stripes can be painted on the barrel or comprise a plastic inlay. Alternatively, the preferred hitting zone of the barrel could be made a different color or a different hue than the other portions of the barrel, to visually set off the preferred hitting zone.

Novel central section **56** is a torsion bar, a device which converts shock forces such as the impact of the ball on the barrel **52** of the bat **50** into a twisting motion, thereby preventing imparting of the shock forces to the hands of the batter on the handle **58**. Torsion bars are well known, having found great use in the automobile suspension and other arts.

FIG. 7 shows another embodiment of the bat **70** wherein the barrel portion **72** is joined to the handle portion **76** having a flared butt end **78** by a sinuous, undulating, S-shaped central member **74**.

FIG. 8 shows yet another embodiment wherein the bat **80** comprises a barrel portion **82** joined by a bowed central portion **84** to the handle portion **86**, said handle portion also having the flared butt end **88** to prevent the batters hand from slipping off the handle.

The baseball training bat shown herein can be made of one solid piece, or in sections which join together, depending upon the embodiment and the features selected.

FIG. 9 shows one means of attaching the central portion **14** to the barrel **12** when it is desired to fabricate the bat **10** in several sections. A threaded section **90** is arranged on the end of the central portion **14**, which is adapted to thread into a thread-receiving member **92** which is arranged within the body of the barrel portion **12**. Other joining means, well known in the art, may be used. These bats can be made from wood such as hickory or ash, fiberglass, aluminum, manganese, alloys, plastics, papier-mache, or similar materials. The selection of material would again depend upon the preference of the user and the particular variation desired. For example, for young children, it would be preferable to use plastic bats, and the entire structure thereof could be hollow.

Although the invention has been described in detail with respect to particular preferred examples, it will be understood by those people in the art after understanding the invention, that various changes and modifications may be made without departing from the spirit and scope of the invention, and it is intended, therefore, in the appended claims to cover all such changes and modifications.

I claim:

1. A baseball bat comprising:
(a) a generally annular conical barrel portion,
(b) a handle portion, and
(c) a central portion joining said handle and barrel portions,
(d) said barrel portion tapering from its largest to its smallest diameter in a direction toward said handle portion,
(e) said central portion having a reduced outer diameter less than that of said barrel and said handle portions,
(f) said central portion of reduced diameter being of a material of a mass substantially equal to that of a central portion of a regulation baseball bat.

2. A baseball bat as described in claim **1** wherein said central portion is sinuous.

3. A baseball bat as described in claim **1** wherein said central portion is of a hollow tubular material.

4. A baseball bat as described in claim **3** wherein said hollow central portion comprises a tuned resonant cavity, the dimensions of which cause the resonant frequency of said bat to lie outside the range of frequencies generated by the impact of said baseball bat with a baseball.

5. A baseball bat as described in claim **1** wherein said central portion is a torsion bar.

6. A baseball bat as described in claim **1** wherein said central portion comprises means for converting shock impacts to said bat to a twisting motion.

7. A baseball bat as described in claim **1** wherein said central portion comprises substantially ⅓ the length of the bat.

8. A baseball bat as described in claim **1** wherein the generally annular conical barrel portion has a flat lateral surface thereon.

9. A baseball bat as described in claim **1** wherein a plurality of stripes are spaced apart on the outer circumference of said barrel portion to define a preferred region for impacting a baseball.

10. A baseball bat as described in claim **1** wherein part of said barrel portion is pigmented differently than the remainder of said barrel portion to define a preferred region for impacting a baseball.

11. A baseball bat as described in claim **1** wherein said barrel portion contains marking means thereon to define a preferred region for impacting a baseball.

12. A baseball bat as described in claim **1** wherein the bat is constructed of a material selected from the class of materials consisting of wood, glass fiber, metals, metal-alloys, plastic and papier-mache.

13. A baseball bat as described in claim **3** wherein said central portion is bowed.

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RICHARD C. PINKHAM, *Primary Examiner.*