A baseball swing practicing device according to the present invention includes a fixed weight (20) fixed at one end of a shaft (10), a grip unit (30) fixed at the other end of the shaft (10), a movable weight (42) fitted onto the shaft such that the movable weight moves via centrifugal force along the shaft (10) during a swinging action, an elastic repulsion member (44) fitted to the shaft (10) at the side between the movable weight (42) and the fixed weight (20) to provide an elastic repulsion force for an accurate timing by adjusting the speed where the movable weight (42) collides with the fixed weight (20) in accordance with the swing speed, and a stopper (46) fitted to the shaft (10) at the side between the movable weight (42) and the grip unit (30) to adjust the moving range of the movable weight (42). The baseball swing training device of the present invention enables the timing of an impact moment in a swinging action and the timing of a hitting moment in an actual hitting action to accurately correspond to each other, and allows adjustment of the device in accordance with the ability of the player using the device. The repeated actual swing training not only increases the wrist force but also improves power and swing speed in an efficient manner, and enables a player to visually confirm the impact moment and the arc trajectory during the daytime and the nighttime via the light emitted from a luminous body or a thicker as well as the sound (hitting sound) at the impact moment during the swing training, thus correcting the hitting posture and increasing the concentration at the hitting moment.
BASEBALL SWING TRAINING DEVICE

TECHNICAL FIELD

[0001] The present invention relates to practice baseball swings applied to practice baseball bats. In particular, to deal with the pitcher’s fast pitches the impact using the baseball swing practicing device exactly matches actual hitting moment. The device strengthens the wrist and optimizes the power and speed of the hitter’s swing. The strike sound and swing trajectory is visible, which enables the hitter to adjust their swing and enhance their concentration when swinging.

BACKGROUND ART

[0002] Generally, players use conventional hitting devices that automatically pitch balls or hit a fixed object several times using the bat.

[0003] Players practice their swings many times before the actual match to maintain the efficiency of swinging senses.

[0004] Currently, players swing two or three bats, according to the hitter, and practice their hitting.

[0005] This method is used before the player is actually put into the game because they remember the weight of the bat at practice.

[0006] However, when repeating this method may cause problems in their swinging stance and cause issues that the hitter cannot actually confirm their balance at swinging point and may not perform a proper stance.

[0007] To solve the problems of conventional swinging practices, the fixed weight was fixed at one end of the shaft and grip unit fixed at the other end and a movable weight was fitted onto the shaft such that the movable weight moves via centrifugal force along the shaft during the swinging action, which makes a hitting sound proportional to the impact on the fixed weight.

[0008] However, this type of swinging practice device cannot prepare the hitter for various pitching and fast pitching of the pitcher and also cannot strengthen the wrist and optimize the power and speed of swings, which causes issues hitting and long hitting rates, due to the reason that the movable weight hitting the fixed weight according to centrifugal force does not completely help find the hitting moment.

[0009] Furthermore, correcting swinging stances and concentration is a great issue because the impact and trajectory of the swing at day and night cannot be visually confirmed.

SUMMARY OF THE INVENTION

[0010] Taking the issues into account the purpose of the present invention is to practice synchronizing the impact when swinging and impact when actually hitting the baseball, as well as, the enhancement of wrist power and optimization of the swing in power and speed.

[0011] The present invention not only provides hitting sounds at the impact moment during practice regardless of the time, but also provides visual confirmation on the swing trajectory and enhances concentration at the hitting moment.

[0012] The present invention is designed to adjust the device according to the hitter’s ability.

[0013] The present invention comprises: a movable weight fitted onto the shaft such that the movable weight moves via centrifugal force along the shaft during a swinging action, an elastic repulsion member fitted to the shaft at the side between the movable weight and the fixed weight to provide an elastic repulsion force for an accurate timing by adjusting the speed where the movable weight collides with the fixed weight in accordance with the swing speed, and a stopper fitted to the shaft at the side between the movable weight and the grip unit to adjust the moving range of the movable weight.

[0014] A big drilled hole is formed, which is greater than the external diameter of the shaft, so that the movable weight can easily move along the shaft toward the center axis of the body. A protrusion is formed, which is smaller than the body, so that one side of the elastic repulsion member can be fixed into body and at the same time fitted onto the external diameter.

[0015] As a preferred embodiment, the present invention has a luminous body attached to the fixed weight.

[0016] As a preferred embodiment, the present invention has a switch that is removable at the end of the perimeter of the fixed weight.

[0017] As a preferred embodiment, the present invention has an elastic repulsion member that is a coil spring form; such that when one end touching the fixed weight heads toward the other end touching the movable weight the pitch is more narrowed.

[0018] As a preferred embodiment, the present invention has a control bolt that is setup to connect with one of the many fixed holes that are forming the shaft on the circumference of the stopper.

[0019] As a preferred embodiment, the present invention has a shaft that is used as a carrier to include additional subsidiary movable weight, which is located between the stopper and the movable weight.

[0020] The present invention has an elastic repulsion force that provides accurate timing by adjusting the speed of the movable weight where the movable weight moves via centrifugal force during the swing. The repetition of practicing swings influences the strengthening of the wrist and optimizes power and speed of the swing.

[0021] In addition, by attaching a luminous body onto the perimeter of the fixed weight visual confirmation, along with the sound at impact, can be made while practicing swings. The light from the luminous body aids the player in correcting the swinging stance and enhancing concentration by showing the impact moment and trajectory of the swing.

[0022] Also, the grip unit and shaft are removable, where subsidiary movable weight can be additionally setup or an elastic repulsion member with greater elastic repulsion force can be replaced to the shaft, so that players can adjust according to their abilities.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] FIG. 1 and FIG. 4 illustrates the first preferred embodiment.

[0024] FIG. 1 illustrates the whole perspective view.

[0025] FIG. 2 illustrates the whole cross-sectional view.

[0026] FIG. 3 illustrates the whole cross-sectional view before the swing.

[0027] FIG. 4 illustrates the whole cross-sectional view after the swing.

[0028] FIG. 5 and FIG. 8 illustrates the second preferred embodiment.

[0029] FIG. 5 illustrates the whole cross-sectional view.

[0030] FIG. 6 illustrates the whole disassembled cross-sectional view.

[0031] FIG. 7 illustrates the unit cross-sectional view of the switch attached to the fixed weight.
FIG. 8 illustrates the unit cross-sectional view of the grip unit and shaft connection.

<table>
<thead>
<tr>
<th>&lt;Significant Terms for Figures&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>10: shaft</td>
</tr>
<tr>
<td>20: fixed weight</td>
</tr>
<tr>
<td>32: insert hole</td>
</tr>
<tr>
<td>42: movable weight</td>
</tr>
<tr>
<td>42b: drilled hole</td>
</tr>
<tr>
<td>44: elastic repulsion member</td>
</tr>
<tr>
<td>48: control bolt</td>
</tr>
<tr>
<td>60: switch</td>
</tr>
<tr>
<td>12: fixed hole</td>
</tr>
<tr>
<td>30: grip unit</td>
</tr>
<tr>
<td>40: swinging adjustment unit</td>
</tr>
<tr>
<td>42a: body</td>
</tr>
<tr>
<td>42c: protrusion</td>
</tr>
<tr>
<td>46: stopper</td>
</tr>
<tr>
<td>48a: subsidiary movable weight</td>
</tr>
<tr>
<td>50: fixed bolt</td>
</tr>
</tbody>
</table>

DETAILED DESCRIPTION OF THE INVENTION

Below, the first preferred embodiment will be explained and FIG. 1 or FIG. 4 can be used as reference.

The present invention comprises: a shaft 10, fixed weight 20 fixed at one end of a shaft 10, a grip unit 30 fixed at the other end of the shaft 10, a movable weight 42 fitted onto the shaft such that the movable weight moves via centrifugal force along the shaft 10 during a swinging action.

Thus, the shaft uses rigid material, such as, stainless steel pipe. Fixed holes 12 are formed along the perimeter with a constant interval so that the stopper can be fixed at one of the holes for the swinging adjustment unit 40. Flange 14 is formed to match the fixed weight 2 so that the swinging adjustment unit 40 does not breakaway when impact occurs among the movable and fixed weight 20.

The fixed weight is a cylindrical form that uses metal, wood, rubber and fiber as its material. A drilled hole 20a is formed in the center of the axis direction, where the shaft 10 is inserted. Furthermore, on one side of the drilled hole 20a a first stepped hole 20b is a coaxial form so that the flange 14 of the shaft 10 is clinched. For the center of the axis direction, the second stepped hole 20c is a coaxial form so that elastic repulsion member 44 can be inserted later on the fitted swinging adjustment unit 40 on the other side of shaft 10 of the drilled hole 20a.

Furthermore, a luminous body 22 is attached to the perimeter of the fixed weight 20.

The grip unit 30 uses wood, rubber and fiber as its material and properly uses wood to insert and fix the shaft 10 into the center using adhesives. The exterior form can be shaped to resemble the handle of a baseball bat.

Swinging adjustment unit 40 comprise of a movable weight 42 fitted onto the shaft such that the movable weight moves via centrifugal force along the shaft 10 during a swinging action, an elastic repulsion member 44 fitted to the shaft 10 at the side between the movable weight 42 and the fixed weight 20 to provide an elastic repulsion force for an accurate timing by adjusting the speed where the movable weight 42 collides with the fixed weight 20 in accordance with the swing speed, and a stopper 46 fitted to the shaft 10 at the side between the movable weight 42 and the grip unit 30 to adjust the moving range of the movable weight 42.

The movable weight 42 is a cylindrical form that uses metal, wood, rubber and fiber as its material. A big drilled hole 42b is formed, which is greater than the external diameter of the shaft, so that the movable weight 42 can easily move along the shaft toward the center axis of the body 42a. Protrusion 42a is formed, which is smaller than the body 42a, so that one side of the elastic repulsion member 44 can be fixed into body 42a and at the same time fitted onto the external diameter.

The elastic repulsion member is a coil spring form, such that when one end touching the fixed weight 20 heads toward the other end touching the movable weight 42 the pitch is more narrowed.

A control bolt 48 is setup for the stopper 46 to connect with one of the many fixed holes that are forming the shaft 10 on the circumference of the stopper 46.

In the figure unit 24, which has no reference, is the finish material fixed by injection on the first stepped hole 20b of the fixed weight 20.

Next, the second preferred embodiment will be explained and FIG. 5 or FIG. 8 can be used as reference.

For reference, the present invention performed the same form for the second preferred embodiment as the first, so terms and signs will be maintained with no further explanation.

For the second preferred embodiment comprise of a shaft 10, a fixed weight 20 fixed at one end of a shaft 10, a grip unit 30 fixed at the other end of the shaft 10, a movable weight 42 fitted onto the shaft such that the movable weight moves via centrifugal force along the shaft 10 during a swinging action, an elastic repulsion member 44 fitted to the shaft 10 at the side between the movable weight 42 and the fixed weight 20 to provide an elastic repulsion force for an accurate timing by adjusting the speed where the movable weight 42 collides with the fixed weight 20 in accordance with the swing speed, and a stopper 46 fitted to the shaft 10 at the side between the movable weight 42 and the grip unit 30 to adjust the moving range of the movable weight 42, and subsidiary movable weight 50 that helps empower the swing, which is located between the stopper 46 and the movable weight 42.

A removable switch 60 is setup at the end of the perimeter of the fixed weight 20, so that the impact moment and swing trajectory can be confirmed to also bring the swing stance to enhance concentration. The switch 60 is setup in a case that illuminates with a LED lamp, impact sensor, timer that operates via the sensor, switching socket to control the timer, and a battery that uses the switching socket to provide power to the LED lamp.

The grip unit 3 forms insert holes 32 that fit the shaft 10 on one side of the body at a constant depth. The inner perimeter of the insert holes 32 and outer perimeter of the shaft 10 are screw connected forming a spiral side 16 34. The outer side of the body has a fixed bolt 70 that drills through the grip unit 30 so that the shaft 10 does not move or rotate from the grip unit 30.

Thus, the fixed bolt 70 is screw connected that makes the grip unit 30 dented and binds the outer perimeter of the shaft 10 strongly to the end.

Subsidiary movable weight 50 uses metal, wood, rubber and fiber as its material and forms a ring effect from the weighed material.

Next, the actions and effects of the first and second preferred embodiment are introduced.

When the trainee holds the grip unit 30 and stands, the movable weight 42 moves along the shaft 10 toward the grip unit 30 according to the weight and elastic repulsion force of the elastic repulsion member 44 as in FIG. 3.

When swinging the bat, the movable 42 moves along the shaft 10 toward the fixed weight 20 according to the
weight and centrifugal force, so that the elastic repulsion member 44 of coil spring form pressurized and at the same
time causes an impact sound.

[0054] Since the applied elastic repulsion member 44 narrows the pitch as one end touching the fixed weight 20 heads
toward the other end touching the movable weight 42, the speed of the swing degree can be adjusted according to the
elastic repulsion force.

[0055] For example, if the centrifugal force greatly exceeds the elastic repulsion force of the elastic repulsion member 44
the movable weight 42 impacts the fixed weight 20 greatly, which results in a loud hitting sound. On the other hand, when
the centrifugal force nearly exceeds the elastic repulsion force of the elastic repulsion member 44 the movable weight 42
impacts the fixed weight 20 subtly, which results in a different sound.

[0056] However, if the centrifugal force is less than the elastic repulsion force of the elastic repulsion member 44 the
movable weight 42 will not be able to reach the fixed weight 20 and no impact or sound will occur.

[0057] Additionally, according to the replacement of the movable weight 42 and subsidiary movable weight along with
the elastic repulsion member 44 with different elastic repulsion force, the trainees can adjust the difficulty of the
device. This characteristic provides the trainee to accurately practice the timing of the swing and empower the wrist, as
well as, optimize the speed and power of their swing.

[0058] Thus, the shaft 10 and grip unit 30 are screw connected and removable as shown in FIG. 6, so that when the
grip unit 30 is detached from the shaft 10, a subsidiary movable weight 50 can be added in between the stopper 46 and
movable weight 42 at the end of the shaft 10 or replacing the elastic repulsion member 44 with a greater elastic repulsion
force, the device requires more power and speed in the trainees swings. This function can help the trainees to manage
different speeds and styles of pitching.

[0059] Since the elastic repulsion force of the elastic repulsion member 44 can be adjusted according to the position of
the stopper 46, the movable weight 42 and subsidiary movable weight 50 speed, starting point, weight and swing trajec-
tory according to the trainee's swinging stance and speed can change the centrifugal force.

[0060] The luminous body 22 and switch 60 attached onto the perimeter of the fixed weight 20 causes the swinging practice visual effects and aids other than impact sounds so that the impact moment and swinging trajectory can be confirmed to correct the swinging stance and also enhance concentration.

[0061] As the present invention may be embodied in several forms without departing from the spirit or essential charac-
teristics thereof, it should also be understood that the above-described examples are not limited by any of the details of the
foregoing description, unless otherwise specified, but rather should be construed broadly within its spirit and scope as
defined in the appended claims, and therefore all changes and modifications that fall within the means and bounds of the
claims, or equivalences of such means and bounds are therefore intended to be embraced by the appended claims.

What is claimed is:
1. A baseball swing practicing device comprising: fixed
weight (20) fixed at one end of a shaft (10), a grip unit (30)
fixed at the other end of the shaft (10), a movable weight (42)
fixed onto the shaft such that the movable weight moves via
centrifugal force along the shaft (10) during a swinging
action, an elastic repulsion member (44) fitted to the shaft
(10) at the side between the movable weight (42) and the
fixed weight (20) to provide an elastic repulsion force for an
accurate timing by adjusting the speed where the movable
weight (42) collides with the fixed weight (20) in accordance
with the swing speed, and a stopper (46) fitted to the shaft (10)
at the side between the movable weight (42) and the grip unit (30)
to adjust the moving range of the movable weight (42), wherein
a big drilled hole (42b) is formed, which is greater than the
external diameter of the shaft, so that the movable weight (42)
can easily move along the shaft toward the center axis of the
body (42a), wherein a protrusion (42c) is formed, which is
smaller than the body (42a), so that one side of the elastic
repulsion member (44) can be fixed into body (42a) and at the
same time fitted onto the external diameter.
2. The apparatus of claim 1, wherein is screw connected
between the shaft (10) and fixed weight (20) for correspond-
ence.
3. The apparatus of claim 1, wherein a luminous body (22)
is attached to the fixed weight (20).
4. The apparatus of claim 1, wherein the switch (60) is
removable at the end of the perimeter of the fixed weight (20).
5. The apparatus of claim 1, wherein the elastic repulsion
member (44) is a coil spring form, such that when one end
touching the fixed weight (20) heads toward the other end
touching the movable weight (42) the pitch is more narrowed.
6. The apparatus of claim 1, wherein a control bolt (48) is
setup for the stopper (46) to connect with one of the many
fixed holes that are forming the shaft (10) on the circumfer-
ce of the stopper (46).
7. The apparatus of claim 1, wherein the shaft (10) is used
as a carrier to include additional subsidiary movable weight
(50), which is located between the stopper and the movable
weight.