

# Appari's Magic Cricket Bat

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**Abstract - Appari's magic cricket bat is the bat in which the weight of bat is increased at the point of percussion. Just by increasing the weight at the center of percussion one can hit the ball very well, and for same effort the ball can drop/travel more distance. The weight of bat can be increased by adding heavy weight material e.g mercury at the center of percussion of the bat. The weight of the bat can be increased by using unbreakable glass tubes completely filled with mercury on the back side of the bat. The shape of the glass tubes may be circular, triangular or any other may be used which gives good fixity application with wood and gives better appearance to the bat. Also the unbreakable glass tubes used of different diameters so that players can choose the bat as per their capacity. The colour of glass tubes which are completely filled with mercury can be kept black to avoid the problem of reflection of light.**

**KEY WORDS- Cricket Bat, Center Of Percussion, Mercury, Appari**

## I INTRODUCTION

The World's the famous game is cricket. All cricket players are choosing the bat as per their own choice so that they can play well. If we made available the Appari's magic bat, all cricket players will choose the Appari's magic bat only.

## II DESIGN

The Appari's magic bat consists of the weight of bat is increased at the center of percussion of the bat.

1. The shape of the existing bat on back side is triangular throughout the length. i.e. from handle to the bottom of the bat
2. Re move some portion of triangular portion of the bat which will give facility to connect the unbreakable black colour glass tubes completely filled with mercury.
3. Attach the completely filled mercury unbreakable glass tubes on backside of the bat by adhesives and clips or any other means.
4. The lengths of the completely filled mercury back colour glass tubes should be kept different for different bats..
5. The center of percussion of the bat and the center of gravity of the attached unbreakable black colour glass tubes completely filled with mercury should be maintained same.
6. The diameter and lengths of the completely filled mercury glass tubes may be kept different for different bats , so that cricket players can choose the bat as per their own choice.

7. Also the number of attached unbreakable black colour glass tube completely filled may be one, two, three, four ....which maintains the principle of keeping the center of percussion and center of gravity of attached material ( total number of attached glass tubes completely filled with mercury) should be maintained same.
8. As the center of percussion of cricket bat lies at a distance of  $L/3$  from the bottom edge of the bat. The maximum length of any attached glass tube completely filled with mercury will be  $2 \times L/3 = 2L/3$ . And the center of gravity of attached weight and center of percussion of the bat will be same i. e. at a distance of  $L/3$  from the bottom edge of the bat. However attached number of glass tubes completely filled with mercury may be one, two, three, four,.....which maintains the point of center of gravity of attached weight and center of percussion is same.
9. Any other aesthetic appearance can be given to make the cricket bat more beautiful without changing the principle of center of percussion.
10. By attaching the unbreakable back colour glass tubes completely filled with mercury maintains the principle of center of percussion/ sweet spot.
11. The shape of glass tubes may be circular, triangular or any other shape which will give better facility to connect the glass tubes and the wood and give the better appearance.
12. Any other method may also be used so that the center of gravity of attached material and center of percussion of the bat maintains the same point.
13. Even by using this principle the center of percussion of the magic bat can be changed as per the requirement of the cricket player .
14. The material of the bat can also be changed. i.e. instead of using wood the unbreakable plastic bat can be made and manufactured very easily by attaching the heavy weight material mercury at the center of percussion. This concept save the nature.

### III SALIENT FEATURES AND CONCLUSIONS

1. A ball can travel/ drop more distance with same effort.
2. The extra boundaries will come in picture for eight and ten runs.
3. Stadium sizes will increase in future.
4. Rural development will become easy.
5. Real enjoyment of cricket will be possible for cricket players.
6. The use of plastic instead of wood for various bats saves the nature.
7. National economy will improve.

### REFERENCES

- [1] S.S. Dharane, V. V. Patil, A.V. Malge, "Magic Cricket Bat And National Economy", 'International Journal of Innovations In Engineering And Technology (IJET)', ISSN: 2319 – 1058, Volume 3 Issue 3 February 2014, pp 136