

AUSTRALIA
PATENTS ACT 1990

673454

PATENT REQUEST : STANDARD PATENT

I/We being the person(s) identified below as the Applicant(s), request the grant of a patent to the person(s) identified below as the Nominated Person(s), for an invention described in the accompanying standard complete specification.

Full application details follow:

[71/70] Applicant(s)/Nominated Person(s):

Dunlop Limited

of

Silvertown House, Vincent Square, London, SW1P 2PL, United Kingdom

[54] Invention Title:

Cricket bats

[72] Name(s) of actual inventor(s):

Michael Edward CURTIS

[74] Address for service in Australia:

DAVIES COLLISON CAVE, Patent Attorneys, 1 Little Collins Street,
Melbourne, Victoria, Australia. Attorney Code: DM

Basic Convention Application(s) Details:

[31] Application Number	[33] Country	Code	[32] Date of Application
9319847.1	United Kingdom	GB	25 September 1993

DATED this TWENTIETH day of SEPTEMBER 1994



.....
a member of the firm of
DAVIES COLLISON CAVE for
and on behalf of the
applicant(s)

M060195.200994

AUSTRALIA
PATENTS ACT 1990
NOTICE OF ENTITLEMENT

We, **Dunlop Limited**, the applicant/Nominated Person named in the accompanying Patent Request state the following:-

The Nominated Person is entitled to the grant of the patent because the Nominated Person would, on the grant of a patent for the invention to the inventor, be entitled to have the patent assigned to the Nominated Person.

The Nominated Person is entitled to claim priority from the basic application listed on the patent request because the Nominated Person made the basic application, and because that application was the first application made in a Convention country in respect of the invention.

DATED this TWENTIETH day of SEPTEMBER 1994



.....
a member of the firm of
DAVIES COLLISON
CAVE for and on behalf
of the applicant(s)

(DCC ref: 1693139)



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(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. 673454

(54) Title
CRICKET BATS

International Patent Classification(s)
(51)^s **A63B 059/08**

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(71) Applicant(s)
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(56) Prior Art Documents
AU 5224/26 53.2 53.1

(57) Claim

1. Main body component for a cricket bat, comprising a casing of synthetic material substantially in the shape of at least the blade of a cricket bat and having, on the forward (front) surface of the blade shape, a recess for receiving a ball-striking face insert of wood or of material having wood-like ball-playing characteristics.

AUSTRALIA
PATENTS ACT 1990
COMPLETE SPECIFICATION

NAME OF APPLICANT(S):

Dunlop Limited

ADDRESS FOR SERVICE:

DAVIES COLLISON CAVE
Patent Attorneys
1 Little Collins Street, Melbourne, 3000.

INVENTION TITLE:

Cricket bats

The following statement is a full description of this invention, including the best method of performing it known to me/us:-

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CRICKET BATS

This invention relates to cricket bats.

Cricket bats conventionally are made primarily of wood, usually comprising a blade of willow owing to its light weight, toughness and resilience, and a handle, usually of laminated cane, spliced into the blade. Cricket bat blades of synthetic materials such as plastics resins have been proposed but generally have been found to be unsatisfactory in that they do not have the desirable playing characteristics of willow or do not conform to the regulations of the game of cricket which require a wooden striking surface of the blade.

The present invention provides a cricket bat which has ball-playing characteristics of a wooden ball-striking surface and advantages accruing from a separate body construction of synthetic material.

In accordance with one aspect of the invention there is provided a main body component for a cricket bat, comprising a casing of synthetic material substantially in the shape of at least the blade of a cricket bat and having, on the forward (front) surface of the blade shape, a recess for receiving a ball-striking face insert of wood or of material having wood-like ball-playing characteristics.

In accordance with a further aspect of the invention there is provided a cricket bat or a blade therefor having a main body component defined in the immediately preceding paragraph and a ball-striking face insert of wood or material having wood-like ball-playing characteristics located securely in the recess.

The main body component may have an integral handle and blade shape or may have only a blade shape to which a separately produced handle may be affixed. Such a separately produced handle may be, for instance, of conventional laminated cane type, comprising elastomeric interlayers if desired.

The blade casing incorporates a cavity which may be left hollow or may be filled with material.

When the main body component comprises an integral

blade-with-handle shape, the handle portion may incorporate a cavity or it may be substantially solid.

The recess on the forward surface of the blade shape of the main body component should be of a shape and dimensions sufficient to receive in secure attachment a face insert extending over at least a major part of the forward (front) face of the blade.

Preferably the recess extends longitudinally of the blade, and preferably the face insert provides effectively the full forward face of the blade. The recess may have a continuous or discontinuous periphery. In one preferred embodiment the recess is open at the toe end of the blade shape.

The depth of the recess preferably should be sufficient to receive a face insert of thickness sufficient at least to confer the playing characteristics of a willow surface. The recess depth may be substantially uniform or it may vary, for instance, longitudinally and/or laterally.

Examples of suitable recess depths are in the range 1 to 4 cm.

The surface of the recess may be substantially smooth or it may be grooved and/or roughened to promote secure attachment of a face insert. The recess may have a groove or flange on its peripheral wall to receive a complementary flange or groove on the peripheral wall of the face insert, for instance to provide a dovetail joint between a face insert tenon and a recess mortise.

The synthetic material of the casing suitably is of plastics material and preferably is of reinforced plastics material. The plastics material may be thermoplastic or thermosetting. Examples of suitable thermosetting materials are epoxy, phenolic and polyester resins. An example of a suitable thermoplastic material is nylon.

The plastics material preferably is fibre reinforced. Examples of suitable fibre materials are carbon, glass and aramid.

The wall thickness of the blade shape casing suitably should be sufficient to confer the requisite rigidity, strength and weight for a cricket bat, taking into account properties of the particular synthetic material

employed for the casing and properties of the material, if any, contained within the encased cavity. By way of example the casing wall thickness may be in the range 3 to 7 mm.

The cavity encased by the blade shape casing suitably may contain other material, for instance to confer sound and/or vibrational characteristics to the blade. For example, the cavity may be filled with cellular plastics or rubber, for instance a polyurethane foam.

If desired, a blade having a non-uniform weight distribution, for instance longitudinally and/or laterally, may be achieved by selection of the thickness of the casing wall and/or the density distribution of the cavity-filling material.

The main body component preferably is a moulded article. The casing may be produced by, for example, compression moulding and/or injection moulding.

The face insert may be affixed, or partially affixed, in the forward recess of the casing during moulding of the main body component. For instance, the face insert may be assembled with, or as part of, the mould for the main body component so that the casing synthetic material becomes self-bonded to the face insert during the moulding process.

Alternatively the face insert may be affixed in the recess of a preformed main body component. Means for affixing the face insert in the recess of a preformed main body component include any one or more of: bonding by use of an adhesive composition, mechanical attachment by complementary interlocking formations on the insert and recess, and mechanical securement by screws or the like.

If desired, the face insert may be located by sliding into the recess through an opening in the peripheral wall of the recess, for instance at the toe end of the blade shape.

In any case, preferably the face insert should have a snug fit with the recess at least at the blade face so that there is no discernible gap or step at the adjoining face edges.

The face insert preferably is of wood, especially willow, but

alternatively may be of other material having ball-playing properties similar to those of wood, for example nylon.

If desired the cricket bat or the blade therefor may incorporate one or more other inserts at various locations such as are referred to in our United Kingdom Patent Application No. 9319846.3.

An embodiment of the invention will now be described by way of example only with reference to the accompanying drawings in which: -

Figure 1 is a front view of a cricket bat according to ~~an~~^{an} embodiment of the invention; and

Figure 2 is a cross-sectional view along the line T-T in Figure 1.

Figure 1 shows in diagrammatic form, a moulded main body component comprising an integral shape of handle 1 and blade 2, the blade shape 2 being of a synthetic material casing 3 encasing a cavity filled with material 4, e.g. cellular plastics material, and the blade shape having a front surface longitudinal recess 5 in which is securely located a wooden (willow) face insert 6. In this embodiment, the recess 5 is open at the toe end 7 of the blade shape and the toe end of the face insert 6 provides the toe end of the blade of the bat.



THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. Main body component for a cricket bat, comprising a casing of synthetic material substantially in the shape of at least the blade of a cricket bat and having, on the forward (front) surface of the blade shape, a recess for receiving a ball-striking face insert of wood or of material having wood-like ball-playing characteristics.
2. Component according to Claim 1 wherein the synthetic material of the casing is plastics material.
3. Component according to Claim 2 wherein the plastics material is fibre-reinforced.
4. Component according to any of the preceding Claims wherein the casing is a moulded article.
5. Component according to Claim 4 wherein the casing is a compression- and/or injection-moulded article.
6. Component according to any of the preceding Claims wherein the casing encases a cavity containing solid material.
7. Component according to Claim 6 wherein the cavity contains plastics or rubber cellular material.
8. Component according to any of Claims 1 to 5 wherein the casing encases a cavity which is left empty.
9. Component according to any of the preceding Claims wherein the recess extends longitudinally of the blade shape.
10. Component according to Claim 9 wherein the periphery of the recess is open at the toe end of the blade shape.
11. Component according to any of the preceding Claims having a non-uniform weight distribution resulting at least partially from variation of the casing wall thickness and/or, when solid material is contained in the casing cavity, density distribution of said contained solid material.
12. Main body component for a cricket bat, substantially as described with reference to, and/or as shown in, the accompanying drawings.
13. Component according to Claim 1 and substantially as described herein.

14. Cricket bat having a main body component in accordance with any of the preceding Claims and having a face insert of wood or of material with wood-like ball-playing characteristics located securely in said forward recess to provide a ball-striking forward surface of the blade of the bat.
15. Cricket bat according to Claim 14 wherein the face insert is of willow wood.
16. Cricket bat according to Claim 14 or 15 wherein the face insert provides at least a major part of the forward face of the blade.
17. Cricket bat according to any of Claims 14 to 16 wherein the face insert is located securely in the recess by means comprising complementary interlocking formations on the insert and recess.
18. Cricket bat according to any of Claims 14 to 17 wherein the face insert has been located in the recess by sliding the face insert through an opening in the recess periphery.
19. Cricket bat according to any of Claims 14 to 18 having a wooden handle.
20. Cricket bat according to any of Claims 14 to 19 having a handle of laminated cane type.
21. Cricket bat substantially as described with reference to, and/or as shown in, the accompanying drawings.
22. Cricket bat according to Claim 14 and substantially as described herein.

~~23. The steps, features, compositions and compounds~~
disclosed herein or referred to or indicated in the
specification and/or claims of this application,
individually or collectively, and any and all combinations
~~of any two or more of said steps or features.~~

DATED this 9th day of December, 1994

Dunlop Limited

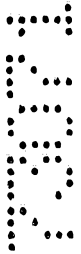
by DAVIES COLLISON CAVE

Patent Attorneys for the applicant(s)



ABSTRACT
CRICKET BATS

Main body component for a cricket bat, comprises a casing of synthetic material substantially in the shape of at least the blade of a cricket bat and having, on the forward (front) surface of the blade shape, a recess for receiving a ball-striking face insert of wood or of material having wood-like ball-playing characteristics.



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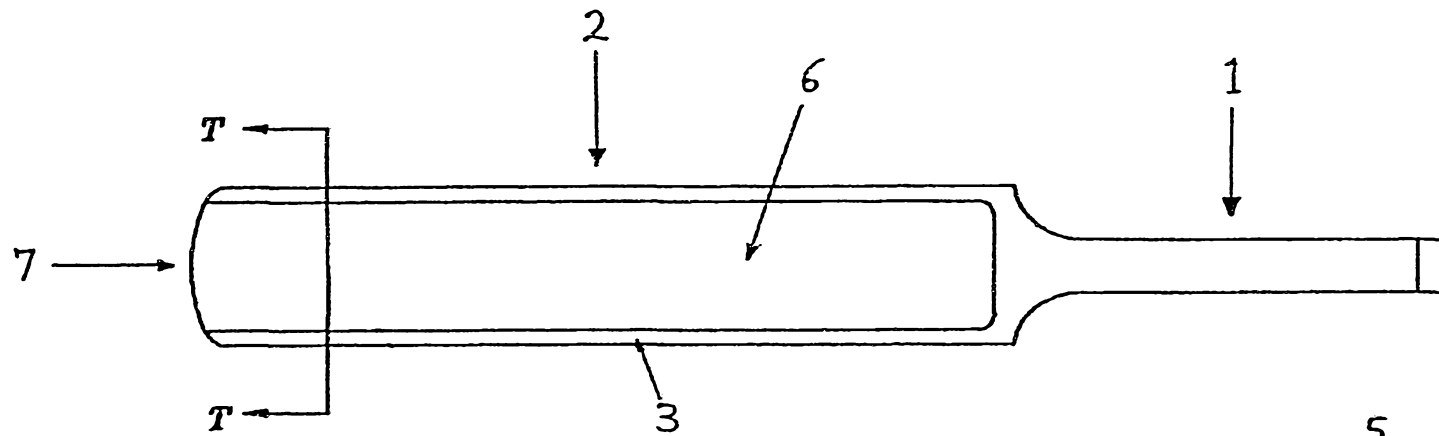


FIG. 1

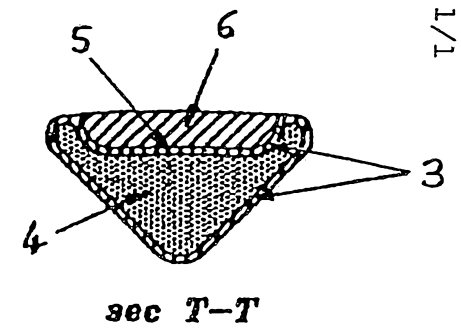


FIG. 2

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