



(11) **EP 4 344 755 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
28.08.2024 Bulletin 2024/35

(43) Date of publication A2:
03.04.2024 Bulletin 2024/14

(21) Application number: **24157442.5**

(22) Date of filing: **22.12.2021**

(51) International Patent Classification (IPC):
A63B 47/02 ^(2006.01) **A63B 60/50** ^(2015.01)
A63B 60/52 ^(2015.01) **A63B 53/04** ^(2015.01)

(52) Cooperative Patent Classification (CPC):
A63B 53/0487; A63B 47/02; A63B 53/0408;
A63B 53/0433; A63B 60/50; A63B 60/52;
A63B 53/0416; A63B 53/0437; A63B 53/0441;
A63B 2053/0491; A63B 2209/00

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR

(30) Priority: **23.12.2020 US 202063130312 P**
28.04.2021 US 202117243338
19.05.2021 US 202163190691 P
14.07.2021 US 202163203257 P
04.08.2021 US 202117444468
26.08.2021 US 202163260612 P

(62) Document number(s) of the earlier application(s) in
accordance with Art. 76 EPC:
21912175.3 / 4 267 264

(71) Applicant: **Karsten Manufacturing Corporation**
Phoenix, AZ 85029 (US)

(72) Inventors:
• **HIGDON, David A.**
Phoenix, 85029 (US)
• **CLARKE, Jacob T.**
Phoenix, 85029 (US)
• **HUANG, Yujen**
Phoenix, 85029 (US)
• **ALEXANDER, Murphy R.**
Phoenix, 85029 (US)
• **SCHIER, Matthew T.**
Phoenix, 85029 (US)
• **WANG, Calvin S.**
Phoenix, 85029 (US)
• **SERRANO, Anthony D.**
Phoenix, 85029 (US)

(74) Representative: **Mewburn Ellis LLP**
Aurora Building
Counterslip
Bristol BS1 6BX (GB)

(54) **MULTI-COMPONENT PUTTER**

(57) Embodiments of multi-component putters comprising an upper portion and a lower portion are described herein. The upper portion is formed from a first material having a first density and the lower portion is formed from a second material having a second density. The first density is less than the second density. The upper portion is

affixed to the lower portion via an adhesive or a combination of adhesives and interlocking geometry. The multi-component putter design provides increased forgiveness and moment of inertia compared to a putter formed from a single material.

EP 4 344 755 A3



EUROPEAN SEARCH REPORT

Application Number

EP 24 15 7442

5

10

15

20

25

30

35

40

45

50

55

1

EPO FORM 1503 03.82 (P04C01)

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|---|---|--|--|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (IPC) |
| X | KR 101 980 597 B1 (SONG KWON SUP [KR]) 22 May 2019 (2019-05-22) * paragraph [0009] - paragraph [0010] * * paragraph [0015] * * paragraph [0021] - paragraph [0022] * * paragraph [0029] * * paragraph [0047] * ----- | 1,9 | INV. A63B47/02 A63B60/50 A63B60/52 A63B53/04 |
| X | US 5 417 426 A (BAYER SYLVESTER L [US]) 23 May 1995 (1995-05-23) * the whole document * ----- | 1,2,8,9 | |
| | | | TECHNICAL FIELDS SEARCHED (IPC) |
| | | | A63B |
| -The present search report has been drawn up for all claims | | | |
| Place of search Munich | | Date of completion of the search 29 April 2024 | Examiner Tejada Biarge, Diego |
| CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document | | | |



Application Number

EP 24 15 7442

5

10

15

20

25

30

35

40

45

50

55

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1, 2, 8, 9

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



LACK OF UNITY OF INVENTION SHEET B

Application Number

EP 24 15 7442

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1, 2, 8, 9

Ball retention portion which is defined by a semicircular slot with a width between 0.25 inch and 1 inch.

1.1. claim: 8

Ball retrieval feature which is defined by a pear shape.

2. claim: 3

Ball retrieval which is defined by a recess in the upper portion and an aperture in the lower portion.

3. claims: 4-7

A ball retention portion which comprises a plurality of prongs.

4. claim: 10

An upper portion of a golf club head which comprises alignment features extending the entire length of the crown.

5. claim: 11

A putter golf club head which comprises a moment of inertia about the CG y-axis greater than 4000 g-cm².

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 24 15 7442

5

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

29 - 04 - 2024

10

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---------------------|----------------------------|---------------------|
| KR 101980597 B1 | 22 - 05 - 2019 | NONE | |
| US 5417426 A | 23 - 05 - 1995 | NONE | |

15

20

25

30

35

40

45

50

55

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82