US0D1041902S

(12) United States Design Patent

Hallein et al.

(10) Patent No.: US D1,041,902 S
(45) Date of Patent: ** Sep. 17, 2024

(54) **TOOTHBRUSH HEAD**

(71) Applicant: **The Gillette Company LLC**, Boston, MA (US)

(72) Inventors: **Christine Hallein**, Frankfurt (DE); **Uwe Jungnickel**, Koenigstein (DE); **Dominik Langhammer**, Frankfurt (DE)

(73) Assignee: **The Gillette Company LLC**, Boston, MA (US)

(**) Term: **15 Years**

(21) Appl. No.: **29/746,709**

(22) Filed: **Aug. 17, 2020**

Related U.S. Application Data

(62) Division of application No. 29/659,068, filed on Aug. 6, 2018, now Pat. No. Des. 960,581.

(30) **Foreign Application Priority Data**

Feb. 9, 2018 (WO) 6333101

(51) **LOC (14) Cl.** **28-03**

(52) **U.S. Cl.**
USPC **D4/101**

(58) **Field of Classification Search**
USPC D1/106, 199; D4/100–104, 108–111, D4/127, 128, 132–136, 138, 199; D8/61;
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,242,743 A 5/1941 Brown
3,103,680 A 9/1963 Abraham
(Continued)

FOREIGN PATENT DOCUMENTS

CA 2877731 A1 11/2009
CN 2131361 Y 5/1993
(Continued)

OTHER PUBLICATIONS

IFWorldDesignGuide | Entry | Oral-B CLIC, posted on Feb. 12, 2020, © 2021—iF Design [online], [site visited Feb. 26, 2021]. Available from Internet, <URL: https://ifworlddesignguide.com/entry/281978-oral-b-clic/>.*
(Continued)

Primary Examiner — Cary M Robinson
(74) *Attorney, Agent, or Firm* — Gregory S. Darley-Emerson

(57) **CLAIM**

The ornamental design for a toothbrush head, as shown and described.

DESCRIPTION

FIG. **1** is a perspective view of a first embodiment of a toothbrush head;
FIG. **2** is a front view thereof;
FIG. **3** is a right side view thereof;
FIG. **4** is a rear view thereof;
FIG. **5** is a left side view thereof;
FIG. **6** is a top plan view thereof;
FIG. **7** is a bottom view thereof.
FIG. **8** is a perspective view of a second embodiment of a toothbrush head;
FIG. **9** is a front view thereof;
FIG. **10** is a right side view thereof;
FIG. **11** is a rear view thereof;
FIG. **12** is a left side view thereof;
FIG. **13** is a top plan view thereof;
FIG. **14** is a bottom view thereof.
FIG. **15** is a perspective view of a third embodiment of a toothbrush head;
FIG. **16** is a front view thereof;
FIG. **17** is a right side view thereof;
FIG. **18** is a rear view thereof;
FIG. **19** is a left side view thereof;
FIG. **20** is a top plan view thereof; and,
FIG. **21** is a bottom view thereof.

1 Claim, 3 Drawing Sheets

(58) **Field of Classification Search**
USPC D13/107, 108; D14/288; D24/119, 146, D24/147, 180; D28/7, 20; D30/158, 159
CPC A46B 5/00; A46B 5/0095; A46B 5/02; A46B 9/04; A46B 9/10; A46B 7/00; A46B 2200/1066; A46B 2200/1073; A46B 2200/1086
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,445,966	A		5/1969	Moore
3,735,492	A		5/1973	Karter
D229,249	S		11/1973	Castelli
4,461,053	A		7/1984	Nitzsche et al.
4,880,111	A		11/1989	Bagwell
5,137,039	A		8/1992	Klinkhammer
D334,844	S		4/1993	Lunderman
D336,040	S		6/1993	Philippe
5,233,891	A		8/1993	Arnold
5,533,429	A		7/1996	Kozak
D373,903	S		9/1996	Stutzer et al.
5,575,443	A		11/1996	Honeycutt
5,815,872	A		10/1998	Meginniss, III et al.
5,994,855	A		11/1999	Lundell
D420,910	S		2/2000	Stuppi
6,042,156	A		3/2000	Jackson
6,115,870	A		9/2000	Solanki et al.
6,223,391	B1		5/2001	Kuo
6,276,019	B1		8/2001	Leversby
6,345,406	B1		2/2002	Dodd
D454,251	S		3/2002	De et al.
D456,607	S		5/2002	Carlucci et al.
D465,655	S		11/2002	Kraemer
6,546,585	B1		4/2003	Blaustein
6,546,586	B2		4/2003	Cho
6,665,901	B2		12/2003	Driesen et al.
D489,002	S		4/2004	Meyer et al.
6,715,211	B1		4/2004	Chi
6,751,823	B2		6/2004	Biro
6,821,119	B2		11/2004	Shortt et al.
6,872,325	B2		3/2005	Bandyopadhyay et al.
6,954,961	B2		10/2005	Ferber et al.
6,957,468	B2		10/2005	Driesen et al.
6,968,590	B2		11/2005	Ponzini
6,978,504	B1		12/2005	Smith et al.
D515,816	S		2/2006	Jimenez et al.
D517,213	S		3/2006	Vu et al.
7,047,591	B2		5/2006	Hohlbein
7,055,205	B2		6/2006	Aoyama
7,137,166	B1		11/2006	Kraemer
D533,720	S		12/2006	Vu
7,240,390	B2		7/2007	Pfenniger et al.
D569,623	S	*	5/2008	Beedham D4/101
D577,493	S		9/2008	Wong
D578,768	S		10/2008	Geiberger
D579,664	S		11/2008	Fisher et al.
7,458,125	B2		12/2008	Hohlbein
7,520,016	B2		4/2009	Kressner
D598,198	S		8/2009	Crossman
D598,199	S		8/2009	Russell et al.
D599,556	S		9/2009	Russell et al.
D605,525	S		12/2009	Zitterkopf
D607,646	S		1/2010	Ino
D609,914	S		2/2010	Erskine-Smith et al.
D613,154	S		4/2010	Arnell
D617,843	S		6/2010	Heinke
7,788,756	B2		9/2010	Kraemer
7,836,537	B1		11/2010	Kumar
D630,019	S		1/2011	Wong
D630,020	S		1/2011	Wong
D631,345	S		1/2011	Gustafson
7,877,832	B2		2/2011	Reinbold
7,960,473	B2		6/2011	Kobayashi
D650,659	S		12/2011	Tucker
D652,626	S		1/2012	Gebski
D653,035	S		1/2012	Gebski
D656,817	S		4/2012	Tucker et al.
D657,565	S		4/2012	Gebski
D657,954	S		4/2012	Gebski
D658,381	S		5/2012	Gebski
D658,383	S		5/2012	Key et al.
8,210,580	B2		7/2012	Engel et al.
D669,687	S		10/2012	Heil et al.
D669,688	S		10/2012	Jimenez et al.
8,308,246	B2		11/2012	Chung
D674,195	S		1/2013	Nanda
D676,663	S		2/2013	Ptok et al.
8,387,196	B2		3/2013	Jimenez et al.
D684,469	S		6/2013	Collinet
8,464,388	B2		6/2013	Chen
D687,636	S		8/2013	Driesen et al.
D688,045	S	*	8/2013	Key D4/101
8,511,323	B2		8/2013	Jimenez et al.
D689,697	S		9/2013	Doumoto et al.
8,544,131	B2		10/2013	Braun et al.
8,549,691	B2		10/2013	Moskovich et al.
8,578,544	B2		11/2013	Brown, Jr. et al.
8,656,548	B2	*	2/2014	Jungnickel A61C 17/222 15/221
8,701,235	B2		4/2014	Kressner
D704,447	S		5/2014	Xi
8,763,189	B2		7/2014	Jungnickel et al.
8,763,196	B2		7/2014	Kraemer
8,769,758	B2		7/2014	Jungnickel et al.
D710,111	S		8/2014	Ding
8,800,093	B2		8/2014	Moskovich et al.
D712,247	S		9/2014	Lemahieu
D717,547	S		11/2014	Adriaenssen et al.
D718,057	S		11/2014	Massee et al.
D719,737	S		12/2014	Adriaenssen et al.
8,955,185	B2		2/2015	Huy
8,985,593	B1		3/2015	Gao
D734,614	S		7/2015	Driesen
9,126,346	B2		9/2015	Meier et al.
D747,609	S	*	1/2016	Watkins D4/101
D749,851	S		2/2016	Watkins
D751,295	S		3/2016	Lee et al.
D752,868	S		4/2016	Mcgarry et al.
D759,380	S	*	6/2016	Watkins D4/101
D759,381	S	*	6/2016	Watkins D4/101
D759,382	S		6/2016	Watkins
D759,383	S		6/2016	Watkins
D762,986	S		8/2016	May et al.
9,402,461	B2		8/2016	Brik et al.
D766,581	S		9/2016	Bloch et al.
D767,895	S		10/2016	Stebila et al.
D768,996	S		10/2016	Xi et al.
D771,388	S		11/2016	Since
9,486,066	B2		11/2016	Bresselschmidt
D773,822	S		12/2016	Sikora et al.
D775,469	S		1/2017	Sikora et al.
D776,936	S		1/2017	Fretwell et al.
9,538,836	B2		1/2017	Mintel et al.
D778,062	S		2/2017	Schmid
9,572,553	B2		2/2017	Post
9,596,928	B2		3/2017	Pardo et al.
D787,189	S		5/2017	Fretwell et al.
9,635,928	B2		5/2017	Morgott
9,642,682	B2		5/2017	Kato
D788,469	S		6/2017	Mcgarry et al.
9,675,168	B2		6/2017	Jungnickel et al.
D790,859	S		7/2017	Mcgarry et al.
D791,485	S		7/2017	Mcgarry et al.
D793,735	S		8/2017	Zavalloni
D794,336	S		8/2017	Zavalloni
D795,419	S		8/2017	Kohler
9,724,180	B1	*	8/2017	Liu A46B 5/0095
9,724,181	B2		8/2017	Schaefer et al.
9,737,134	B2		8/2017	Moskovich
D799,217	S		10/2017	Massee
D799,218	S		10/2017	Okai
D799,835	S		10/2017	Okai
9,775,693	B2		10/2017	Fattori
9,788,926	B2		10/2017	Franke

(56) **References Cited**

U.S. PATENT DOCUMENTS

D801,696 S 11/2017 Mcgarry et al.
D805,306 S 12/2017 Massee
9,865,184 B2 1/2018 Jungnickel et al.
D813,550 S 3/2018 Xi et al.
D814,195 S 4/2018 Sikora et al.
D815,838 S 4/2018 Xi et al.
D818,274 S 5/2018 Bauernfeind
D819,337 S 6/2018 Yuan et al.
D819,973 S 6/2018 Greve et al.
9,987,109 B2 6/2018 Sokol et al.
9,993,066 B2 6/2018 Bresselschmidt et al.
D824,174 S 7/2018 Altmann et al.
D824,175 S 7/2018 Yan
10,021,959 B2 7/2018 Jimenez et al.
10,021,962 B2 7/2018 Tschol et al.
10,058,089 B1 8/2018 Stephens
D828,036 S 9/2018 Wainless et al.
D831,358 S 10/2018 Altmann et al.
D833,753 S 11/2018 Axelrod et al.
D834,324 S 11/2018 Hielscher
10,123,809 B2 11/2018 Dishon
D834,833 S 12/2018 Martensson
10,149,532 B2 12/2018 Tschol et al.
D838,991 S 1/2019 Choi et al.
10,182,644 B2 1/2019 Jimenez et al.
10,189,972 B2 1/2019 Stibor et al.
10,195,005 B2 2/2019 Wallström et al.
D844,995 S 4/2019 Wong et al.
D845,636 S 4/2019 Porter et al.
10,244,855 B2 4/2019 Wechsler
10,244,857 B2 4/2019 Nelson et al.
10,314,387 B2 6/2019 Jungnickel et al.
D854,331 S 7/2019 Hielscher
D854,332 S 7/2019 Hielscher
D854,334 S 7/2019 Hielscher
D854,835 S 7/2019 Hielscher et al.
D855,997 S 8/2019 Hielscher et al.
D855,998 S 8/2019 Hielscher et al.
10,376,039 B2 8/2019 Jungnickel
D860,653 S 9/2019 Xi
10,413,390 B2 9/2019 Yao
D861,351 S 10/2019 Albay et al.
D862,223 S 10/2019 Brands
D863,772 S 10/2019 Hu
D863,773 S 10/2019 Hu
10,426,249 B2 10/2019 Hohlbein et al.
10,485,328 B2 11/2019 Jimenez et al.
D868,479 S 12/2019 Papazian
D868,480 S 12/2019 Papazian
D868,482 S 12/2019 Papazian
D869,853 S 12/2019 Papazian
D874,156 S 2/2020 Altmann et al.
D874,830 S 2/2020 Choi et al.
10,548,392 B2 2/2020 Robinson et al.
10,548,393 B2 2/2020 Xi et al.
10,561,481 B2 2/2020 Fugger
D879,474 S 3/2020 Pauschitz
D880,165 S 4/2020 Oh et al.
D880,166 S 4/2020 Oh et al.
D880,870 S 4/2020 Greve
D880,871 S 4/2020 Choi
D881,581 S 4/2020 Smigel
D881,584 S 4/2020 Porter et al.
D882,271 S 4/2020 Mote
10,631,623 B2 4/2020 Kraemer
D883,676 S 5/2020 Jimenez et al.
D884,351 S 5/2020 Albay et al.
D884,354 S 5/2020 Albay et al.
10,639,133 B2 5/2020 Bloch et al.
10,642,228 B1 5/2020 Cardinali et al.
10,660,430 B2 5/2020 Jimenez et al.
10,660,733 B2 5/2020 Schaefer et al.
D887,145 S * 6/2020 Hu D4/101
D887,147 S * 6/2020 Jimenez D4/104
D887,148 S 6/2020 Okai
10,667,892 B2 6/2020 Bartschi et al.
10,687,611 B2 6/2020 Tschol
10,694,839 B2 6/2020 Tschol
D889,844 S 7/2020 Greve
D890,528 S 7/2020 Albay et al.
D891,114 S 7/2020 Kuang
D891,115 S 7/2020 Damavandi
D891,116 S * 7/2020 Feng D4/101
10,702,051 B2 7/2020 Tschol
10,702,053 B2 7/2020 Tschol
10,709,533 B2 7/2020 Bloch
10,729,232 B2 8/2020 Jungnickel
10,743,646 B2 8/2020 Jimenez et al.
10,743,650 B2 8/2020 Katano
10,750,847 B2 8/2020 Dengler
D894,610 S 9/2020 Albay et al.
D895,295 S * 9/2020 Xu D4/101
D895,296 S * 9/2020 Hu D4/101
10,758,327 B2 9/2020 Katano et al.
10,792,136 B2 10/2020 May et al.
D901,183 S * 11/2020 Jungnickel D4/104
10,835,025 B2 * 11/2020 Kirchhofer A46D 3/00
10,835,028 B2 * 11/2020 Gatzemeyer A46B 15/0006
10,842,255 B2 11/2020 Görich et al.
10,864,065 B2 12/2020 Fritsch et al.
10,869,742 B2 12/2020 Fritsch et al.
10,874,205 B2 * 12/2020 Alinski A46B 9/04
10,874,492 B2 12/2020 Sodo
D906,678 S * 1/2021 Ge D4/100
D906,688 S 1/2021 Porter et al.
D907,369 S 1/2021 Yang
10,881,195 B2 * 1/2021 Nanda A46B 5/00
D909,065 S * 2/2021 Mote D4/104
10,925,384 B2 * 2/2021 Hohlbein C08L 23/142
D912,988 S 3/2021 Langhammer
D912,989 S 3/2021 Albay et al.
D916,466 S * 4/2021 Albay D4/101
D917,298 S 4/2021 Hallein et al.
D919,301 S 5/2021 Zhao
D922,075 S * 6/2021 Yuan D4/101
11,033,096 B2 6/2021 Bloch et al.
D926,048 S 7/2021 Hallein et al.
D926,049 S 7/2021 Hallein et al.
11,051,605 B2 7/2021 Tschol
D927,972 S 8/2021 Hallein et al.
11,103,054 B2 8/2021 Altmann et al.
D930,988 S 9/2021 Albay et al.
D930,989 S 9/2021 Albay et al.
D930,990 S 9/2021 Hallein et al.
D931,617 S 9/2021 Hallein et al.
D931,619 S 9/2021 Hallein et al.
D932,777 S 10/2021 Albay et al.
D933,368 S 10/2021 Albay et al.
D933,967 S 10/2021 Martinez
D935,187 S 11/2021 Hu
D935,188 S 11/2021 He et al.
D935,192 S * 11/2021 He D4/101
D936,484 S 11/2021 Haliein et al.
D937,582 S * 12/2021 Deng D4/101
D938,732 S * 12/2021 Deng D4/101
11,219,302 B2 1/2022 Alinski et al.
D944,531 S 3/2022 Brönner
D945,775 S 3/2022 Albay et al.
D947,538 S * 4/2022 Yoon D4/101
D947,539 S * 4/2022 Zhao D4/101
D948,220 S * 4/2022 Lee D4/101
D949,573 S 4/2022 Zhao
D950,248 S 5/2022 Albay et al.
D950,249 S 5/2022 Albay et al.
D951,651 S 5/2022 Veronneau
D953,038 S 5/2022 Albay et al.
D953,744 S 6/2022 Altmann et al.
D954,442 S 6/2022 Zhao et al.
11,364,102 B2 6/2022 Barnes et al.
11,369,462 B2 6/2022 Fritsch et al.
D957,135 S 7/2022 Jungnickel et al.
D957,822 S 7/2022 Jungnickel et al.
D957,823 S 7/2022 Albay et al.
11,375,802 B2 7/2022 Jungnickel

(56) **References Cited**

U.S. PATENT DOCUMENTS

11,382,409 B2 7/2022 Jungnickel et al.
11,388,984 B2 7/2022 Jungnickel
11,388,985 B2 7/2022 Jungnickel et al.
D959,148 S 8/2022 Damavandi
D959,841 S 8/2022 Langhammer
D960,581 S 8/2022 Hallein et al.
D960,583 S 8/2022 Hallein et al.
11,399,622 B2 8/2022 Jungnickel
11,400,627 B2 8/2022 Jungnickel et al.
11,425,991 B2 8/2022 Stoerkel et al.
D962,650 S 9/2022 Huang
D963,345 S 9/2022 Ji et al.
D964,040 S 9/2022 Feng
D968,819 S 11/2022 Tan et al.
D970,894 S 11/2022 Huang
D970,895 S * 11/2022 Li D4/110
D970,896 S 11/2022 Peng
D970,897 S 11/2022 Safavi
D971,609 S 12/2022 Takahashi et al.
D972,302 S 12/2022 Jones et al.
D972,304 S * 12/2022 Peng D4/101
D972,305 S 12/2022 Liang
D972,846 S 12/2022 Altmann et al.
D974,766 S 1/2023 Choi et al.
D976,009 S * 1/2023 Gan D4/104
11,547,116 B2 1/2023 Wingfield et al.
11,553,782 B2 1/2023 Jungnickel et al.
11,553,784 B2 1/2023 Jungnickel
11,553,999 B2 1/2023 Scherrer et al.
11,571,060 B2 2/2023 Jungnickel
D980,630 S 3/2023 Walter
D983,529 S * 4/2023 Choi D4/101
D984,136 S 4/2023 Albay et al.
D985,278 S 5/2023 Sprosta et al.
11,659,922 B2 5/2023 Jungnickel
D988,000 S 6/2023 He
11,672,633 B2 6/2023 Jungnickel et al.
11,684,148 B2 6/2023 Farrell et al.
D994,341 S 8/2023 Hallein
D998,974 S 9/2023 Albay
D1,000,122 S * 10/2023 Albay D4/101
11,865,748 B2 1/2024 Jungnickel
D1,014,975 S * 2/2024 Albay D4/101
D1,014,977 S 2/2024 Hallein
D1,014,978 S * 2/2024 Shen D4/101
D1,018,056 S * 3/2024 Zhou D4/101
D1,018,064 S * 3/2024 Lu D4/101
D1,019,146 S 3/2024 Albay
D1,023,578 S * 4/2024 Sedic D4/100
D1,023,579 S * 4/2024 Kurahashi A61C 17/20 D4/101
D1,025,607 S * 5/2024 Khayat D4/101
2001/0035079 A1 11/2001 Kesinger et al.
2003/0077107 A1 4/2003 Kuo
2003/0205492 A1 11/2003 Ferber et al.
2004/0187889 A1 9/2004 Kemp et al.
2005/0268414 A1 12/2005 Kim
2006/0021173 A1 2/2006 Huber
2006/0048323 A1 3/2006 Rueb
2007/0071541 A1 3/2007 Vila
2007/0131241 A1* 6/2007 Nanda A61C 17/221 132/311
2007/0163064 A1 7/2007 Wong et al.
2007/0222109 A1 9/2007 Pfenniger et al.
2008/0022484 A1 1/2008 Caruso
2008/0183249 A1 7/2008 Kitagawa et al.
2009/0013489 A1 1/2009 Binet
2009/0144920 A1 6/2009 Nanda
2010/0115724 A1* 5/2010 Huang A46B 9/025 15/167.1
2010/0263148 A1 10/2010 Jimenez
2010/0325828 A1 12/2010 Braun et al.
2011/0047729 A1 3/2011 Iwahori et al.
2011/0225758 A1 9/2011 Chung
2011/0265818 A1 11/2011 Jungnickel et al.
2012/0036663 A1 2/2012 Chen
2012/0096665 A1 4/2012 Ponzini
2012/0112566 A1 5/2012 Doll
2012/0124759 A1 5/2012 Fritsch
2012/0192366 A1 8/2012 Cobabe et al.
2012/0272923 A1 11/2012 Stephens
2012/0272996 A1 11/2012 Jimenez
2013/0000061 A1 1/2013 Park
2013/0255017 A1 10/2013 Lee
2013/0308994 A1 11/2013 Wu et al.
2014/0012165 A1 1/2014 Cockley
2014/0151931 A1 6/2014 Altonen et al.
2014/0359959 A1 12/2014 Jungnickel et al.
2014/0371729 A1 12/2014 Post
2015/0010765 A1 1/2015 Munro
2015/0107423 A1 4/2015 Martn
2015/0113747 A1 4/2015 May et al.
2015/0128367 A1 5/2015 Jungnickel et al.
2015/0170811 A1 6/2015 Tanigawa et al.
2015/0173502 A1 6/2015 Sedic
2016/0022393 A1 1/2016 Yoshida et al.
2016/0081465 A1 3/2016 Metter
2016/0135580 A1 5/2016 Tschol et al.
2016/0220012 A1 8/2016 Sprosta et al.
2016/0270520 A1 9/2016 Lee
2016/0338807 A1 11/2016 Bloch
2017/0020277 A1 1/2017 Barnes et al.
2017/0128178 A1 5/2017 Schmidt et al.
2017/0333172 A1 11/2017 Zheng
2018/0021116 A1 1/2018 Störkel
2018/0035797 A1 2/2018 Mahawar
2018/0064516 A1 3/2018 Wu
2018/0092449 A1 4/2018 Straka et al.
2018/0110601 A1 4/2018 Mighall et al.
2018/0140404 A1 5/2018 Schaefer et al.
2018/0168326 A1 6/2018 Davies-Smith et al.
2018/0235355 A1 8/2018 Jungnickel et al.
2019/0029787 A1 1/2019 Zhou
2019/0104835 A1 4/2019 Alinski
2019/0125065 A1 5/2019 Altmann
2019/0151058 A1 5/2019 Okai et al.
2019/0174906 A1 6/2019 Bloch
2019/0175320 A1 6/2019 Bloch et al.
2019/0200740 A1 7/2019 Jungnickel
2019/0200742 A1 7/2019 Jungnickel
2019/0200743 A1 7/2019 Jungnickel
2019/0200748 A1 7/2019 Gorich et al.
2019/0201745 A1 7/2019 Mccarthy
2019/0231063 A1 8/2019 May et al.
2019/0246779 A1 8/2019 Jungnickel et al.
2019/0246781 A1 8/2019 Jungnickel et al.
2019/0351463 A1 11/2019 Wupendram
2020/0031038 A1 1/2020 Rodriguez Outon
2020/0077778 A1 3/2020 Jungnickel
2020/0179089 A1 6/2020 Serval
2020/0315334 A1 10/2020 Meidl
2020/0359779 A1 11/2020 Dengler et al.
2020/0368003 A1 11/2020 Claire-Zimmet et al.
2020/0391371 A1 12/2020 Nelson
2020/0397130 A1 12/2020 Ganninger et al.
2020/0397134 A1 12/2020 Ganninger et al.
2020/0397136 A1 12/2020 Ganninger et al.
2020/0397137 A1 12/2020 Ganninger et al.
2021/0030145 A1* 2/2021 Lee A61C 17/3481
2021/0045857 A1 2/2021 Fritsch et al.
2021/0106131 A1 4/2021 Wainless et al.
2021/0145162 A1 5/2021 Baertschi
2021/0145539 A1 5/2021 Greve
2021/0145557 A1 5/2021 May et al.
2021/0186671 A1* 6/2021 Gatzemeyer A46B 15/0038
2021/0259818 A1 8/2021 Jungnickel et al.
2022/0061513 A1 3/2022 Jungnickel
2022/0071380 A1 3/2022 Huang
2022/0142344 A1 5/2022 Jungnickel
2022/0142345 A1 5/2022 Jungnickel
2022/0142346 A1 5/2022 Jungnickel
2022/0142347 A1 5/2022 Jungnickel
2022/0143854 A1 5/2022 Jungnickel
2022/0143884 A1 5/2022 Jungnickel

(56) **References Cited**

U.S. PATENT DOCUMENTS

2022/0145075	A1	5/2022	Jungnickel	
2022/0146024	A1	5/2022	Lin	
2022/0152891	A1	5/2022	Jungnickel et al.	
2022/0232963	A1	7/2022	Coody	
2022/0240661	A1	8/2022	May et al.	
2022/0408907	A1	12/2022	Zwimpfer	
2023/0363521	A1	11/2023	Jungnickel	
2023/0368881	A1*	11/2023	Jungnickel	G16H 20/00

FOREIGN PATENT DOCUMENTS

CN	1229341	A	9/1999
CN	1241123	A	1/2000
CN	201949160	U	8/2011
CN	202269590	U	6/2012
CN	202843252	U	4/2013
CN	202959287	U	6/2013
CN	105411165	A	3/2016
CN	205198181	U	5/2016
CN	305050218		2/2019
CN	305198218		6/2019
DE	3241118	A1	8/1984
DE	4412301	A1	10/1995
DE	202013001159	U1	3/2013
EM	000149562-0005		12/2005
EM	002453472-0002		8/2014
EM	EU003175470-0002		7/2016
EM	EU004362952-0001		9/2017
EP	0423510	A1	4/1991
EP	2229917	A1	9/2010
GB	8099504000-9000		11/2017
GB	2556019	A	5/2018
IN	201817043186	A	11/2018
IN	342925-001-0001		3/2022
IN	342927-001-0001		4/2022
IN	342924-001-0001		5/2022
JP	H05305010	A	11/1993
JP	H1199016	A	4/1999
JP	1232984	S	3/2005
JP	3206625	B2	9/2016
JP	1620904	S	12/2018
KR	20060042059	A	4/2010
KR	20100043124	A	4/2010
KR	20160000035	A	1/2016
KR	20160121554	A	10/2016
RU	77426	S	2/2011
RU	89542	S	8/2014
TR	0996950002		3/2019
TW	215726-0001		12/2021
WO	2008052210	A2	5/2008
WO	2008052250	A1	5/2008
WO	2011075133	A1	6/2011
WO	2013172834	A1	11/2013
WO	2014197293	A1	12/2014
WO	093043		6/2017
WO	2017139256	A1	8/2017
WO	2017155033	A1	9/2017
WO	D087319-006		2/2018

OTHER PUBLICATIONS

Walmart | Philips Sonicare Sensitive Replacement Toothbrush Heads, posted on Apr. 30, 2019, © 2020 Walmart [online], [site visited Nov. 5, 2020]. Available from Internet, URL:https://www.walmart.com/ip/Philips-Sonicare-Sensitive-replacement-toothbrush-heads-for-sensitive-teeth-HX6053-64-3-PK/21264305/.

"All Office Actions, U.S. Appl. No. 29/659,068".

U.S. Appl. No. 29/819,318, dated Dec. 14, 2021 Devran Albay et al.

U.S. Appl. No. 29/814,060, dated Nov. 3, 2021 Christine Hallein et al.

U.S. Appl. No. 29/814,616, dated Nov. 8, 2021 Christine Hallein et al.

U.S. Appl. No. 29/659,068, dated Aug. 6, 2020 Christine Hallein et al.

U.S. Appl. No. 29/787,707, dated Jun. 8, 2021 Uwe Jungnickel et al.

U.S. Appl. No. 29/746,718, dated Aug. 17, 2020, Dominik Langhammer.

U.S. Appl. No. 29/757,499, dated Nov. 6, 2020 Christine Hallein et al.

U.S. Appl. No. 29/752,903, dated Sep. 29, 2020 Uwe Jungnickel et al.

U.S. Appl. No. 29/752,912, dated Sep. 29, 2020 Uwe Jungnickel et al.

U.S. Appl. No. 29/762,793, dated Dec. 18, 2020 Uwe Jungnickel et al.

U.S. Appl. No. 29/787,712, dated Jun. 8, 2021 Uwe Jungnickel et al.

U.S. Appl. No. 29/699,695, dated Jul. 29, 2019 Niclas Altmann et al.

U.S. Appl. No. 29/743,560, dated Jul. 22, 2020 Devran Albay et al.

U.S. Appl. No. 29/758,268, dated Nov. 13, 2020 Devran Albay et al.

U.S. Appl. No. 29/758,249, dated Nov. 13, 2020 Devran Albay et al.

U.S. Appl. No. 29/758,251, dated Nov. 13, 2020 Devran Albay et al.

U.S. Appl. No. 29/758,276, dated Nov. 13, 2020 Devran Albay et al.

U.S. Appl No. 29/758,274, dated Nov. 13, 2020 Devran Albay et al.

U.S. Appl. No. 29/786,732, dated Jun. 2, 2021 Devran Albay et al.

U.S. Appl. No. 29/786,746, dated Jun. 2, 2021 Devran Albay et al.

U.S. Appl. No. 29/794,152, dated Jun. 10, 2021 Devran Albay et al.

U.S. Appl. No. 29/782,323, dated May 6, 2021 Christine Hallein et al.

All Office Actions; U.S. Appl. No. 29/814,060, filed Nov. 3, 2021.

All Office Actions; U.S. Appl. No. 29/814,616, filed Nov. 8, 2021.

Ail Office Actions; U.S. Appl. No. 29/819,318, filed Dec. 14, 2021.

All Office Actions; U.S. Appl. No. 29/646,252, filed May 2, 2018.

All Office Actions; U.S. Appl. No. 29/659,078, filed Aug. 6, 2018.

All Office Actions; U.S. Appl. No. 29/681,302, filed Feb. 25, 2019.

All Office Actions; U.S. Appl. No. 29/695,301, filed Jun. 18, 2019.

All Office Actions; U.S. Appl. No. 29/699,695, filed Jul. 29, 2019.

All Office Actions; U.S. Appl. No. 29/704,079, filed Aug. 30, 2019.

All Office Actions; U.S. Appl. No. 29/743,560, filed Jul. 22, 2020.

All Office Actions; U.S. Appl. No. 29/746,718, filed Aug. 17, 2020.

All Office Actions; U.S. Appl. No. 29/752,903, filed Sep. 29, 2020.

All Office Actions; U.S. Appl. No. 29/752,912, filed Sep. 29, 2020.

All Office Actions; U.S. Appl. No. 29/755,910, filed Oct. 23, 2020.

All Office Actions; U.S. Appl. No. 29/757,497, filed Nov. 6, 2020.

All Office Actions; U.S. Appl. No. 29/757,499, filed Nov. 6, 2020.

All Office Actions; U.S. Appl. No. 29/758,249, filed Nov. 13, 2020.

All Office Actions; U.S. Appl. No. 29/758,251, filed Nov. 13, 2020.

All Office Actions; U.S. Appl. No. 29/758,268, filed Nov. 13, 2018.

All Office Actions; U.S. Appl. No. 29/758,274, filed Nov. 13, 2020.

All Office Actions; U.S. Appl. No. 29/758,276, filed Nov. 13, 2020.

All Office Actions; U.S. Appl. No. 29/761,083, filed Dec. 7, 2020.

All Office Actions; U.S. Appl. No. 29/761,085, filed Dec. 7, 2020.

All Office Actions; U.S. Appl. No. 29/761,086, filed Dec. 7, 2020.

All Office Actions; U.S. Appl. No. 29/761,090, filed Dec. 7, 2020.

All Office Actions; U.S. Appl. No. 29/762,793, filed Dec. 18, 2020.

All Office Actions; U.S. Appl. No. 29/782,323, filed May 6, 2021.

All Office Actions; U.S. Appl. No. 29/786,732, filed Jun. 2, 2021.

All Office Actions; U.S. Appl. No. 29/786,746, filed Jun. 2, 2021.

All Office Actions; U.S. Appl. No. 29/787,707, filed Jun. 8, 2021.

All Office Actions; U.S. Appl. No. 29/787,712, filed Jun. 8, 2021.

All Office Actions; U.S. Appl. No. 29/794,152, filed Jun. 10, 2018.

Oral-B Brush, announced 2020 [online], [site visited Jul. 24, 2020], Available from internet, URL: https://www.amazon.com/Oral-B-Manual-Toothbrush-Replacement-Magnetic/dp/B07XZ2P6M6 (Year: 2020).

All Office Actions; U.S. Appl. No. 29/836,682, filed Apr. 28, 2022.

All Office Actions; U.S. Appl. No. 29/836,827, filed Apr. 29, 2022.

Quip Adult Smart Electric Toothbrush—Sonic Toothbrush with Bluetooth and Rewards App, Travel Cover and Mirror Mount, Soft Bristles, Timer, and Metal Handle—All-Black, Retrieved from Internet: https://www.amazon.com/Quip-Electric-Toothbrush-Black-Travel/dp/B081FYJ8H6/ref=sr_1_4_mod_primary_new, Aug. 30, 2022, 10 pages.

(56) **References Cited**

OTHER PUBLICATIONS

"Oral-8 iO Seri. 10 Realargeable Electric Powered Toothbrush with iO Sense Charger and 4 Replacement Brush Heads, Write", 2023, 6 pages. https://www.amazon.com/dp/B0C2SCXW3G/?th=1.
"Spring Plungers push fit stainless steel", KIPP, Jul. 13, 2023, 1 page.
"Steel and Stainless Steel Press Fit Ball Plunger with Stainless Ball", Northwestern Tools, Jul. 13, 2023, 1 page.
All Office Actions; U.S. Appl. No. 29/862,858, filed Dec. 13, 2022.
All Office Actions; U.S. Appl. No. 29/881,718, filed Jan. 5, 2023.
All Office Actions; U.S. Appl. No. 29/889,760, filed Apr. 17, 2023.
All Office Actions; U.S. Appl. No. 29/889,761, filed Apr. 17, 2023.
All Office Actions; U.S. Appl. No. 29/889,762, filed on Apr. 17, 2023.
All Office Actions; U.S. Appl. No. 29/895,592, filed on Jun. 23, 2023.
Braun Oral B Interspace Compatible Replaceable Toothbrush Head for, Retrieved from Internet: https://www.bing.com/images/search?view=detailV2&ccid=I4t%2bnLb4&id=690B1BD46692AD9B08E8DACADBC887B35BAC6B6A&thid=OIP.I4tnLb41xOg2SH8K1Gs5wHaHa&mediaurl=https%3a%2f%2fae01.alicdn.com%2ficf%2fHTB17EkeM)XXXXX(b0XpXXq6xXFXXXN%2fBraun-Oral-B-INTERSPACE-Compatible-Replaceable-Toothbrush-Heads-for-Electric-Toothbrush, Jan. 26, 2019, 3 pages.
CAEtool, Density of Materials, Retrieved from Internet: https://caetool.com/2017/10/12/p0016/, Dec. 12, 2022, 3 pages.
David R. Cagna et al, "Use of a Powered Toothbrush for Hygiene of Edentulous Implant-Supported Prosthese", Compendium, Retrieved from Internet: https://www.aegisdentalnetwork.com/cced/2011/05/use-of-a-powered-toothbrush-for-hygiene-of-edentulous-implant-supported-prosthese, May 2011, 6 pages.
Oral-B Clic Manual Toothbrush, Matte Black, with 1 Bonus Replacement Brush Head and Magnetic Toothbrush Holder, Retrieved from internet—https://www.amazon.co.uk/Oral-B-Manual-Toothbrush-Replacement-Magnetic/dp/B07XZ2P6M6/, Dec. 19, 2019, 5 pages.
Oral-B Clic Toothbrush with Magnetic Brush Holder, Retrieved from Internetl : https://www.target.com/p/oral-b-clic-toothbrush-chrome-black-with-I-replaceable-brush-head-and-magnetic-holder/-/A-78325167, Oct. 12, 2022, 12 pages.
Oral-B Interproximal Clean Replacement Brush Head, 2 count, Interproximal Clean Brush Head Bundle, Oral B, Retrieved from Internet: https://web.archive.org/web/20220913042153/https://oralb.com/en-us/products/bundle-oral-b-interproximal-clean-replacement-brush-head-2-count/, Sep. 13, 2022, 8 pages.
Oral-B iO Series 7 plus edition Electric Toothbrush/Electric Toothbrush, posted on Jul. 31, 2022 [online], [retrieved Jan. 30, 2021]. Retrieved from internet, internet, ref="https://www.amazon.de/dp/B0B5B3DZQG/?th=1".
Oral-B Pro 3 3900 Electric Toothbrush/Electric Toothbrush, posted Jul. 31, 2022 [online], [retrieved Jan. 30, 2021]. Retrieved from internet, internet, ref="https://www.amazon.de/dp/B0B5B3DZQG/?th=1".
Philips One Battery Toothbrush posted Aug. 12, 2022 [online], [retrieved Jan. 30, 2021]. Retrieved from internet, https://"blankwww.amazon.co.uk/dp/B0B9H4Y3LQ?th=1a " Year 2022.
Erik Gregersen, "Compounds", Britannica, Iron—Compounds, Ailotropes, Reactions, Retrieved from Internet: https://www.britannica.com/science/iron-chemicalelement/Compounds#ref93312, Year 2007, 3 pages.
Jaime Aparecido Cury et al., "The Importance of Fluoride Dentifrices to the Current Dental Caries Prevalence in Brazil", Faculty of Dentistry of Piracicaba, Nov. 24, 2004, pp. 167-174.
"The Proven Material for Metal Replacement", Grivory GV, Provided by EMS-Grivory, year 2014, 36 pages.
All Office Actions; U.S. Appl. No. 29/925,899, filed on Jan. 26, 2024.
All Office Actions; U.S. Appl. No. 29/925,904, filed on Jan. 26, 2024.
Oral B Clic Starter Kit, Online retrived from "https://www.amazon.ca/dp/B0B61Y8JRW?th=1", 2022, 2 Pages.
Density of Plastic Materials, Online retrieved from "https://omnexus.specialchem.com/polymer-property/density", 2024, 12 Pages.

* cited by examiner

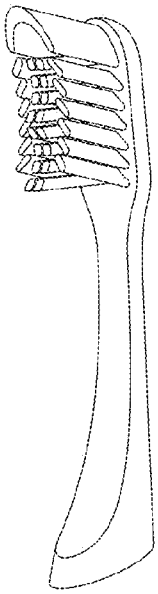

FIG. 1

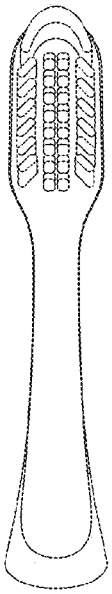

FIG. 2

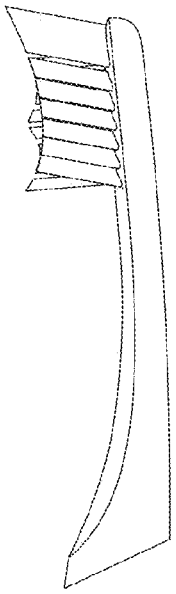

FIG. 3

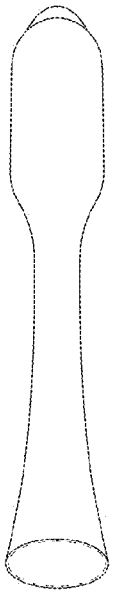

FIG. 4

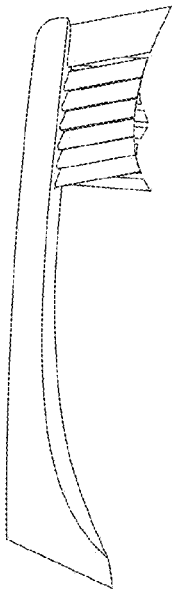

FIG. 5

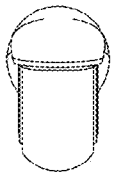

FIG. 6

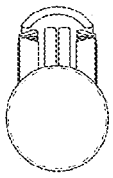

FIG. 7

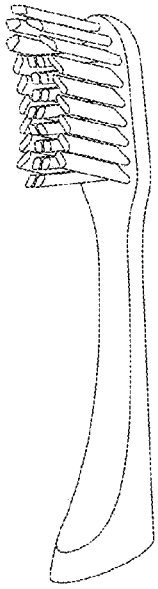

FIG. 8

FIG. 9

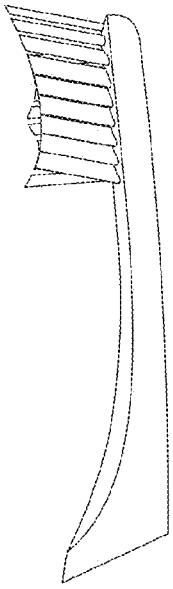

FIG. 10

FIG. 11

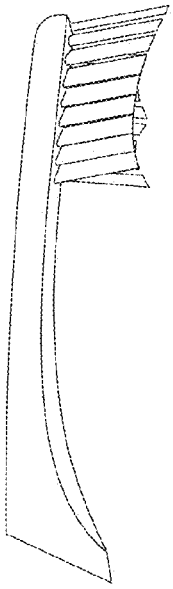

FIG. 12

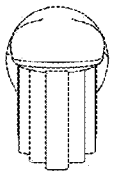

FIG. 13

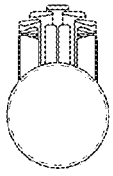

FIG. 14

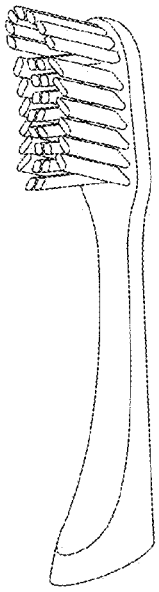

FIG. 15

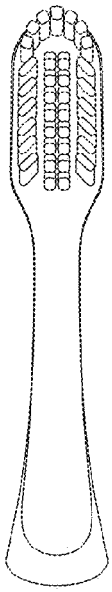

FIG. 16

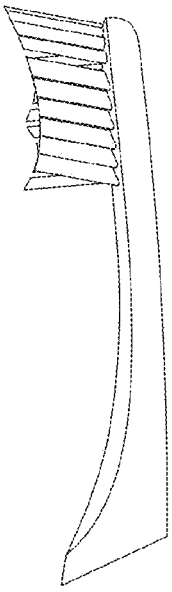

FIG. 17

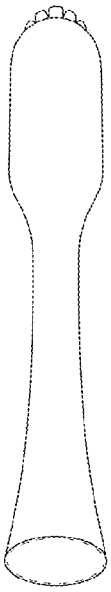

FIG. 18

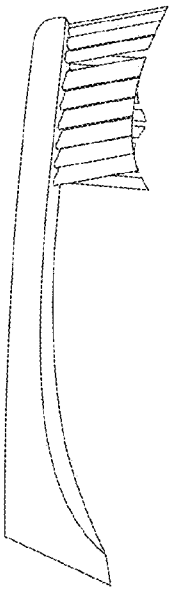

FIG. 19

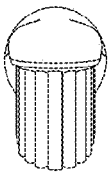

FIG. 20

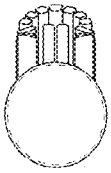

FIG. 21