



US00D716455S

(12) **United States Design Patent**
Rusin et al.

(10) **Patent No.:** **US D716,455 S**

(45) **Date of Patent:** **** Oct. 28, 2014**

(54) **DENTAL CAD/CAM MANDREL**

(71) Applicant: **3M Innovative Properties Company**,
St. Paul, MN (US)

(72) Inventors: **Richard P. Rusin**, Woodbury, NH (US);
Brady P. Haislet, Independence, MN
(US); **Darin J. Meyertholen**, Woodbury,
MN (US)

(73) Assignee: **3M Innovative Properties Company**,
St. Paul, MN (US)

(**) Term: **14 Years**

(21) Appl. No.: **29/443,581**

(22) Filed: **Jan. 18, 2013**

(51) **LOC (10) Cl.** **24-02**

(52) **U.S. Cl.**
USPC **D24/181**

(58) **Field of Classification Search**
USPC D24/152, 181, 155-156, 176;
433/49-50, 201.1, 202.1, 213, 34, 197;
264/16, 19, 138, 219, 266, 271.1;
428/542.8; 700/118

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,615,678 A 10/1986 Moermann
5,342,696 A * 8/1994 Eidenbenz et al. 428/542.8

(Continued)

FOREIGN PATENT DOCUMENTS

DE 19733161 9/2000

OTHER PUBLICATIONS

Sirona. The Dental Company. Overview: Brochure Sirona CAD/
CAM Materials (Mar. 23, 2012). “*Top quality geared to challenging*

applications.” Web. May 10, 2013. <http://www.sirona.com/ecomaXL/get_blob.php?name=A91100-M43-B191-01-7600.pdf&download=1>.

(Continued)

Primary Examiner — Wan Laymon

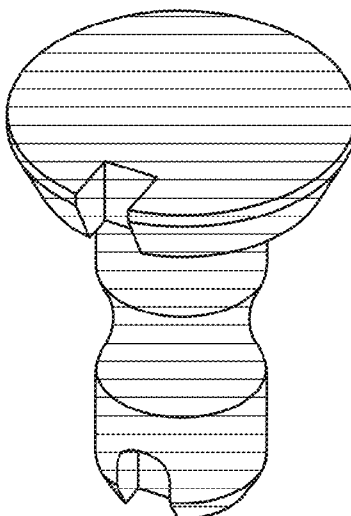
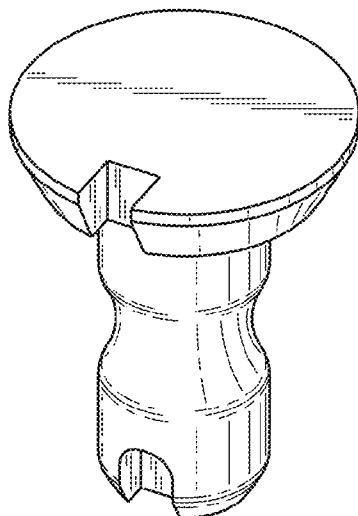
(57) **CLAIM**

The ornamental designs for the dental CAD/CAM mandrel,
as shown and described.

DESCRIPTION

FIG. 1 is a first perspective view of a dental CAD/CAM mandrel of the present invention;
FIG. 2 is a first side view thereof;
FIG. 3 is a second side view thereof;
FIG. 4 is a third side view thereof;
FIG. 5 is a top view thereof;
FIG. 6 is a bottom view thereof;
FIG. 7 is a second perspective view thereof, depicting in broken lines a dental blank that can be supported by the dental CAD/CAM mandrel of the invention;
FIG. 8 is a first perspective view of a dental CAD/CAM mandrel of the present invention, lined for the color blue;
FIG. 9 is a first side view thereof, lined for the color blue;
FIG. 10 is a second side view thereof, lined for the color blue;
FIG. 11 is a third side view thereof, lined for the color blue;
FIG. 12 is a top view thereof, lined for the color blue;
FIG. 13 is a bottom view thereof, lined for the color blue; and,
FIG. 14 is a second perspective view thereof, depicting in broken lines a dental blank that can be supported by the dental CAD/CAM mandrel of the invention, lined for the color blue.
The broken-line objects in FIGS. 7 and 14 are presented for illustrative purposes only and form no part of the claimed designs.

1 Claim, 4 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

5,939,211 A * 8/1999 Mormann 428/542.8
6,224,371 B1 5/2001 De Luca
6,627,327 B2 * 9/2003 Brunzell et al. 428/542.8
6,660,400 B1 12/2003 Hintersehr
6,669,875 B2 * 12/2003 Meyertholen et al. 264/16
7,214,435 B2 * 5/2007 Meyertholen et al. 428/542.8
D618,807 S * 6/2010 Konrad et al. D24/181
7,985,119 B2 * 7/2011 Basler et al. 433/202.1
8,186,998 B2 5/2012 Rothenberger
8,443,502 B2 * 5/2013 Galehr 433/49
2007/0050072 A1 * 3/2007 Schwotzer 700/118
2009/0075238 A1 3/2009 Galehr

2010/0028834 A1 2/2010 Galehr
2010/0297580 A1 11/2010 Niewiadomski
2011/0042880 A1 2/2011 Konrad
2011/0229857 A1 9/2011 Niewiadomski
2013/0062801 A1 * 3/2013 Giordano 264/16

OTHER PUBLICATIONS

Sirona. The Dental Company. inCoris: Processing Instructions inCoris ZI meso (Jan. 16, 2012). Web. May 10, 2013. <<http://td.sirona.com/pdf/6229418.pdf>>.
Sirona. The Dental Company. inCoris: Processing Instructions inCoris ZI (Jan. 19, 2012). Web. May 10, 2013. <<http://td.sirona.com/pdf/6172568.pdf>>.

* cited by examiner

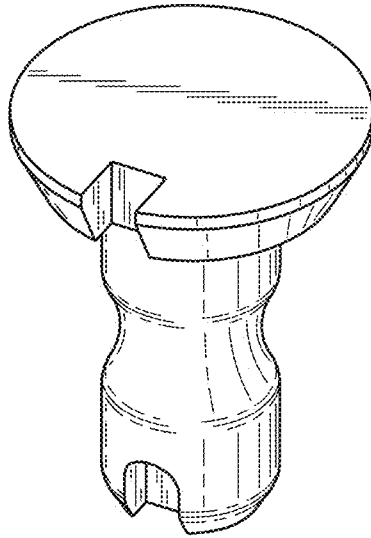


Fig. 1

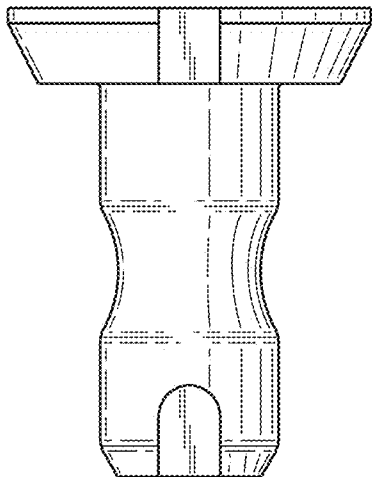


Fig. 2

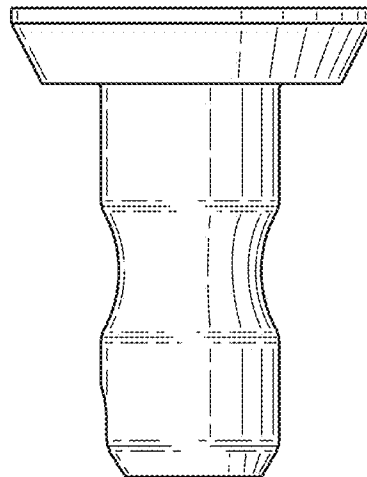


Fig. 3

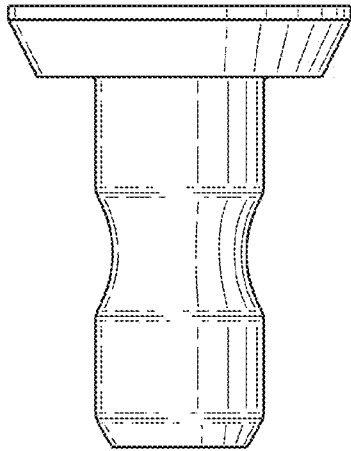


Fig. 4

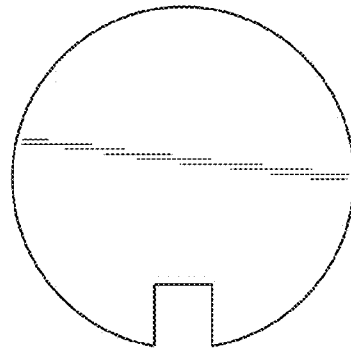


Fig. 5

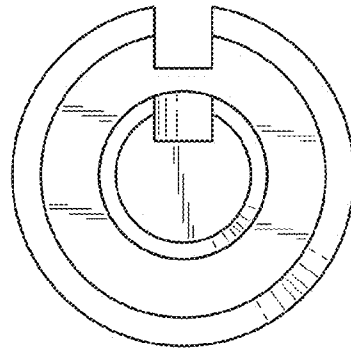


Fig. 6

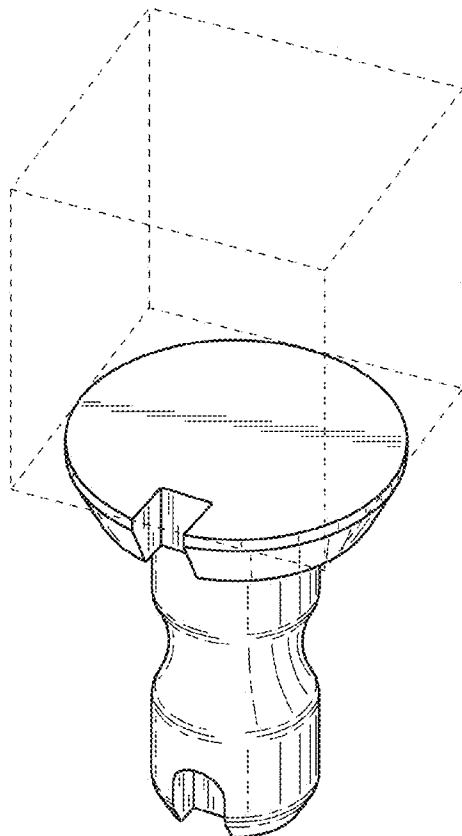


Fig. 7

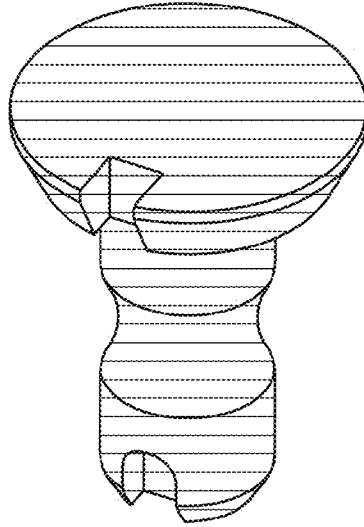


Fig. 8

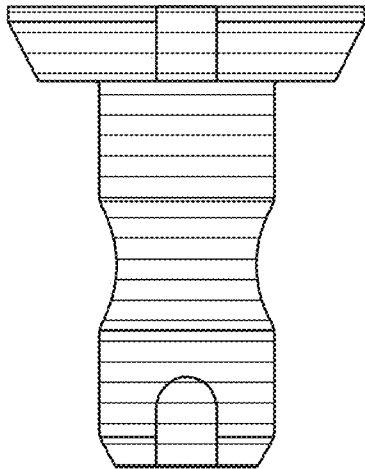


Fig. 9

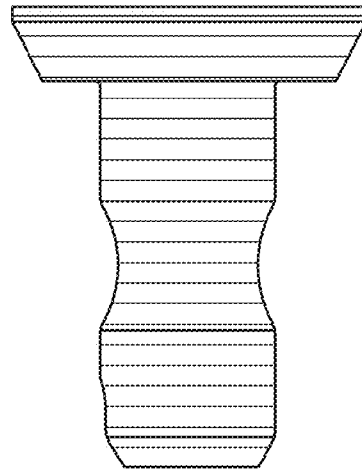


Fig. 10

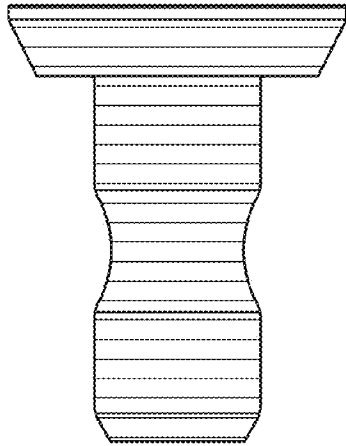


Fig. 11

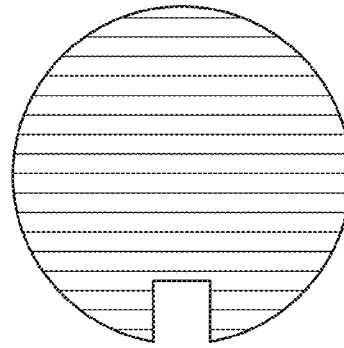


Fig. 12

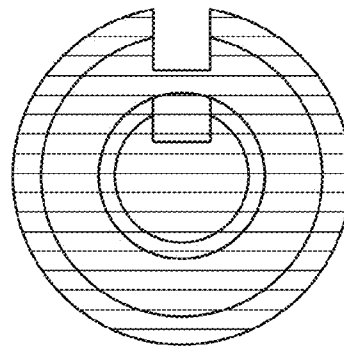


Fig. 13

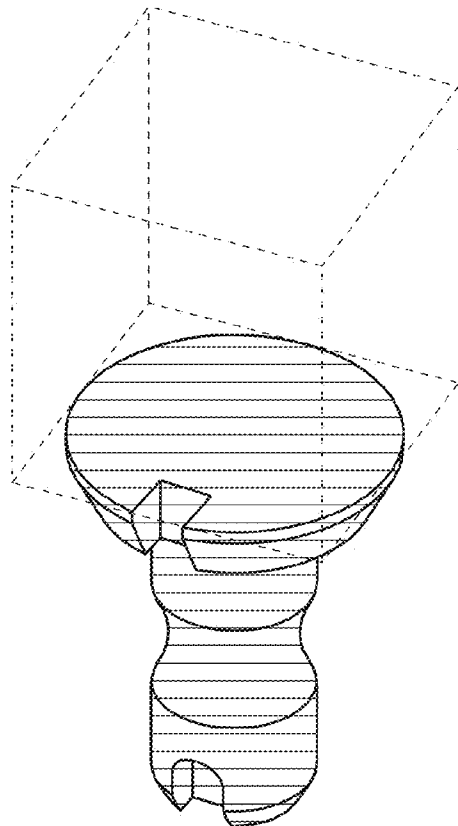


Fig. 14

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : D716,455 S
APPLICATION NO. : 29/443581
DATED : October 28, 2014
INVENTOR(S) : Rusin et al.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the title page

Item [72], Line 1, delete "NH" and insert -- MN --, therefor.

Item [72], Line 2, delete "Independence," and insert -- Maple Plain, --, therefor.

Item [56], Line 3, Delete "Brunsell et al." and insert -- Reidt et al. --, therefor.

Signed and Sealed this
Sixteenth Day of February, 2016



Michelle K. Lee
Director of the United States Patent and Trademark Office