



US00RE46197E

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(12) **Reissued Patent**  
**Takahashi et al.**

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(54) **CUTTING INSERT**  
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(21) Appl. No.: **29/404,265**  
(22) Filed: **Oct. 18, 2011**  
**Related U.S. Patent Documents**

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Filed: **Jan. 4, 2008**

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Dec. 5, 2007 (JP) ..... 2007-033431  
Dec. 5, 2007 (JP) ..... 2007-033432

(51) **LOC (10) Cl.** ..... **15-09**  
(52) **U.S. Cl.**  
USPC ..... **D15/139**  
(58) **Field of Classification Search**  
USPC ..... D15/138, 139, 140; 407/33-52, 77,  
407/107-120  
See application file for complete search history.

(56) **References Cited**  
**U.S. PATENT DOCUMENTS**  
6,079,912 A \* 6/2000 Rothballer ..... 407/114  
D482,706 S \* 11/2003 Svensson ..... D15/139

(Continued)  
**FOREIGN PATENT DOCUMENTS**  
JP D1321033 2/2008  
*Primary Examiner* — Phillip S Hyder  
(74) *Attorney, Agent, or Firm* — Leason Ellis LLP

(57) **CLAIM**  
The ornamental design for a cutting insert, as shown and described.

**DESCRIPTION**

FIG. 1 is a perspective view of a first embodiment of the cutting insert.

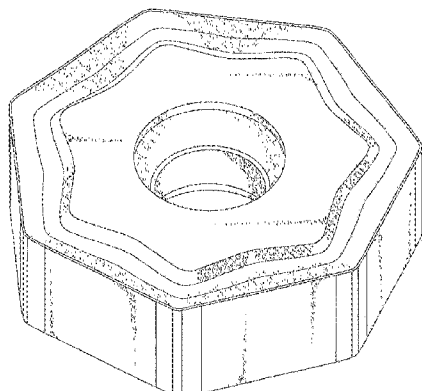
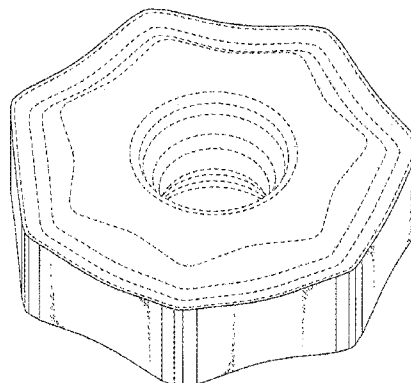


FIG. 2 is a front elevation view thereof. A rear elevation view is identical with the front elevation view.  
FIG. 3 is a top plan view thereof.  
FIG. 4 is a bottom plan view thereof.  
FIG. 5 is a right side elevation view thereof. A left side elevation view is identical with the right side elevation view.  
FIG. 6 is a cross-sectional view thereof taken along line 6-6 in FIG. 2.  
FIG. 7 is a cross-sectional view thereof taken along line 7-7 in FIG. 2.  
FIG. 8 is a perspective view of a second embodiment of the cutting insert.  
FIG. 9 is a front elevation view thereof. A rear elevation view is identical with the front elevation view.  
FIG. 10 is a top plan view thereof.  
FIG. 11 is a bottom plan view thereof.  
FIG. 12 is a right side elevation view thereof. A left side elevation view is identical with the right side elevation view.  
FIG. 13 is a cross-sectional view thereof taken along line 13-13 in FIG. 9.  
FIG. 14 is a perspective view of a third embodiment of the cutting insert.  
FIG. 15 is a front elevation view thereof. A rear elevation view is identical with the front elevation view.  
FIG. 16 is a top plan view thereof.  
FIG. 17 is a bottom plan view thereof.  
FIG. 18 is a right side elevation view thereof. A left side elevation view is identical with the right side elevation view; and,  
FIG. 19 is a cross-sectional view thereof taken along line 19-19 in FIG. 15.  
*FIG. 20 is a perspective view of a fourth embodiment of the cutting insert showing our new design.*  
*FIG. 21 is a front elevation view of the fourth embodiment. The rear elevation view is identical to the front elevation view.*  
*FIG. 22 is a top plan view of the fourth embodiment.*  
*FIG. 23 is a bottom plan view of the fourth embodiment.*  
*FIG. 24 is a right side-elevation view of the fourth embodiment. The left side elevation view is identical to the right side elevation view; and,*  
*FIG. 25 is a cross-sectional view of the fourth embodiment taken along line 25-25 in FIG. 21.*  
*The broken lines in FIGS. 20 through 25 depict portions of the cutting insert in which the design is embodied that are not considered part of the claimed design.*

**1 Claim, 25 Drawing Sheets**

**Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue; matter printed in italics indicates the additions made by reissue.**

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(56)

## References Cited

### U.S. PATENT DOCUMENTS

6,641,337 B1 *	11/2003	Rothballer .....	407/114	D573,164 S *	7/2008	Nitzsche .....	D15/139
6,935,815 B2 *	8/2005	Schwaner et al. ....	407/114	D603,433 S *	11/2009	Zastrozynski .....	D15/139
D559,286 S *	1/2008	Waggle et al. ....	D15/139	D621,429 S *	8/2010	Zastrozynski .....	D15/139
				D633,534 S *	3/2011	Chen et al. ....	D15/139
				2004/0007115 A1 *	1/2004	Schwaner et al. ....	83/835

\* cited by examiner

FIG. 1

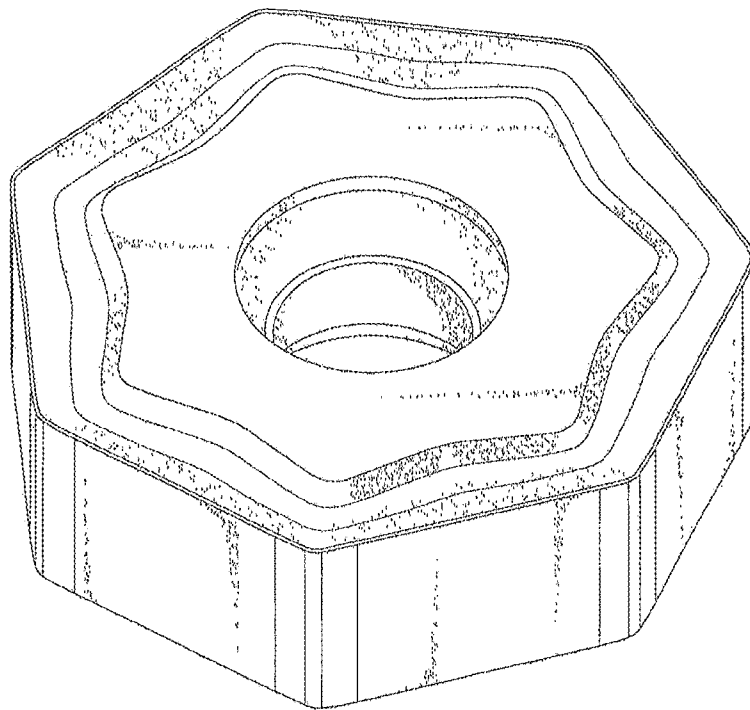


FIG. 2

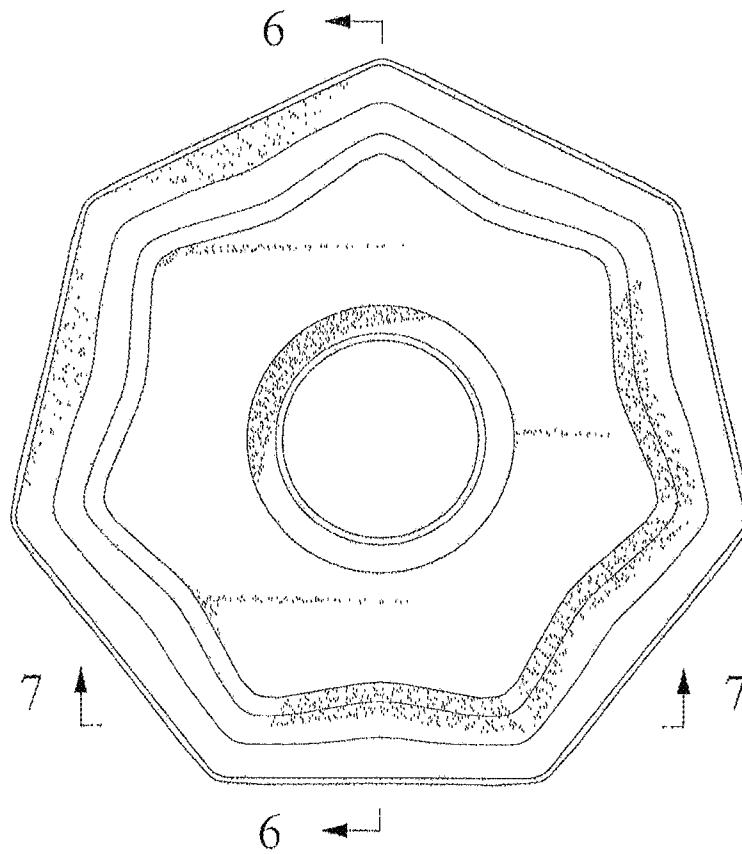


FIG. 3

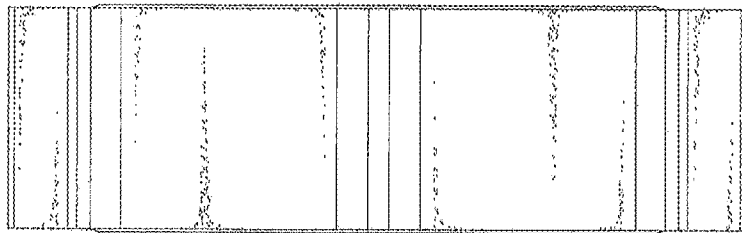


FIG. 4

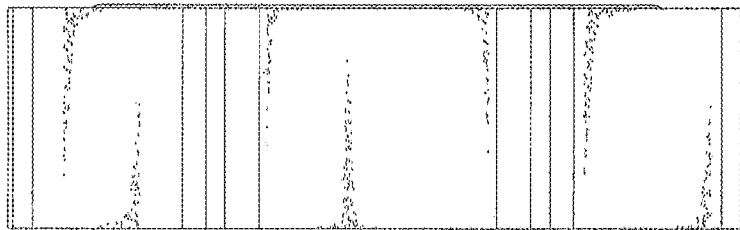


FIG. 5

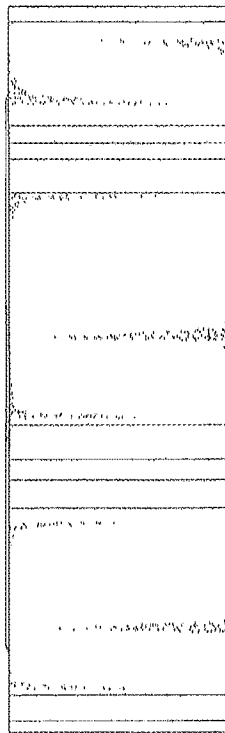


FIG. 6

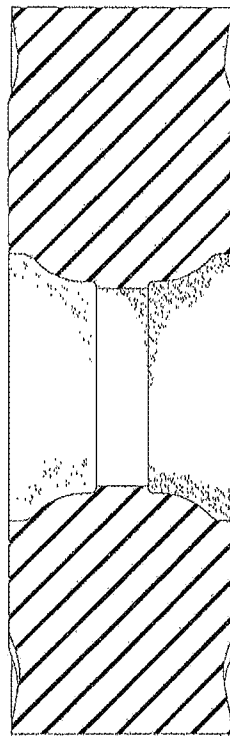


FIG. 7

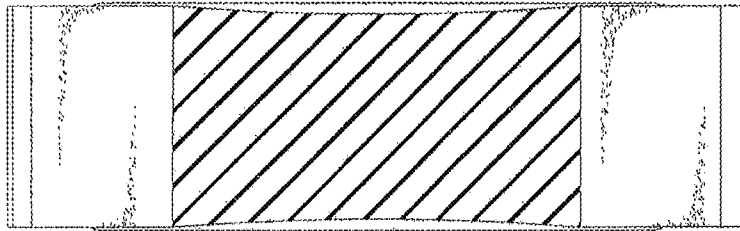


FIG. 8

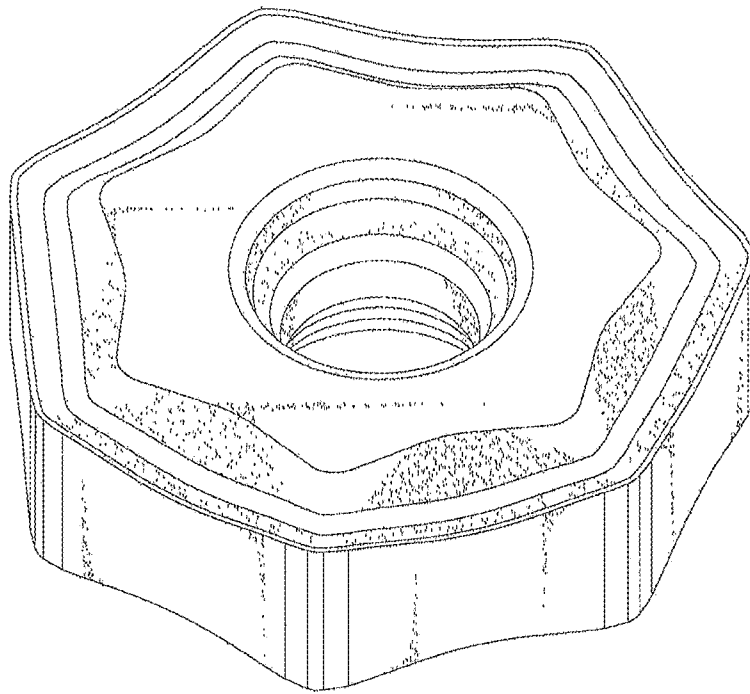


FIG. 9

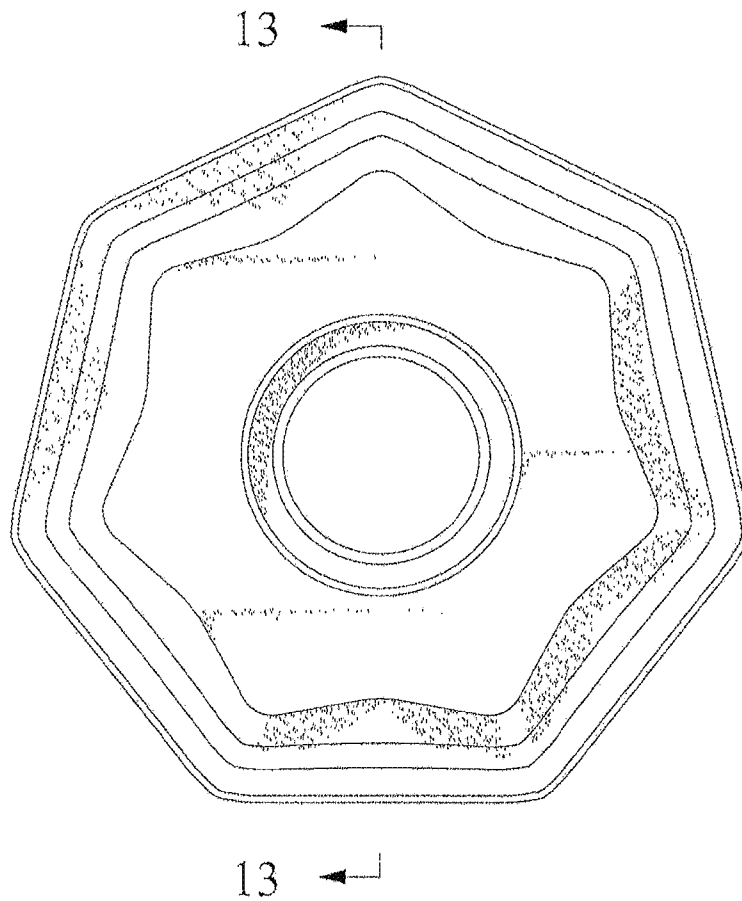


FIG. 10

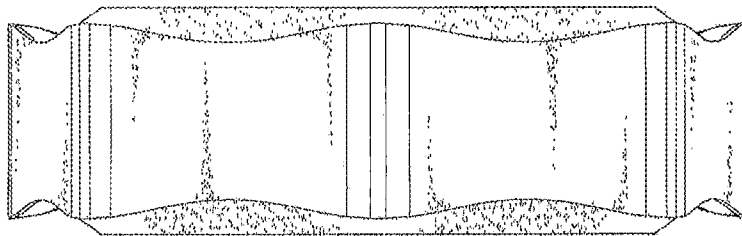


FIG. 11

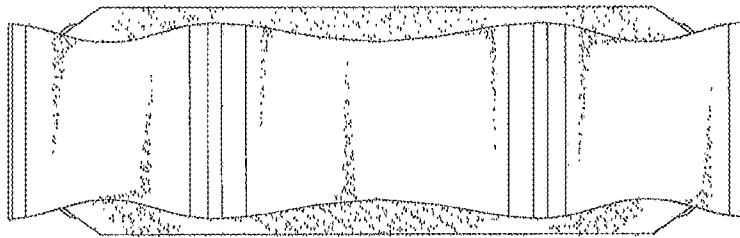


FIG. 12

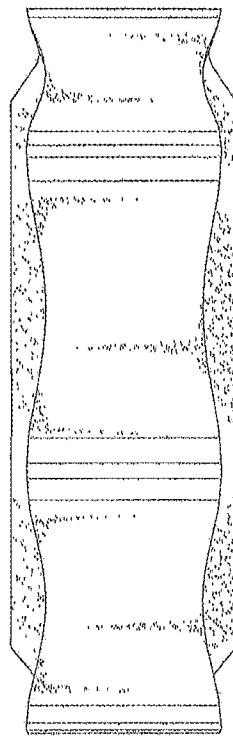


FIG. 13

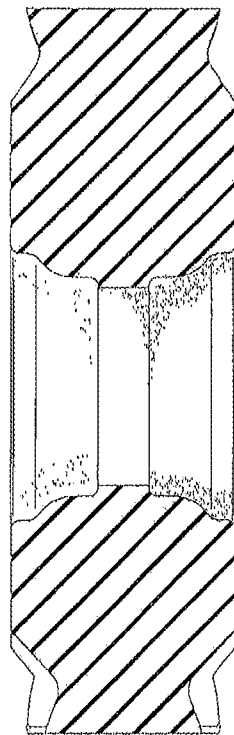


FIG. 14

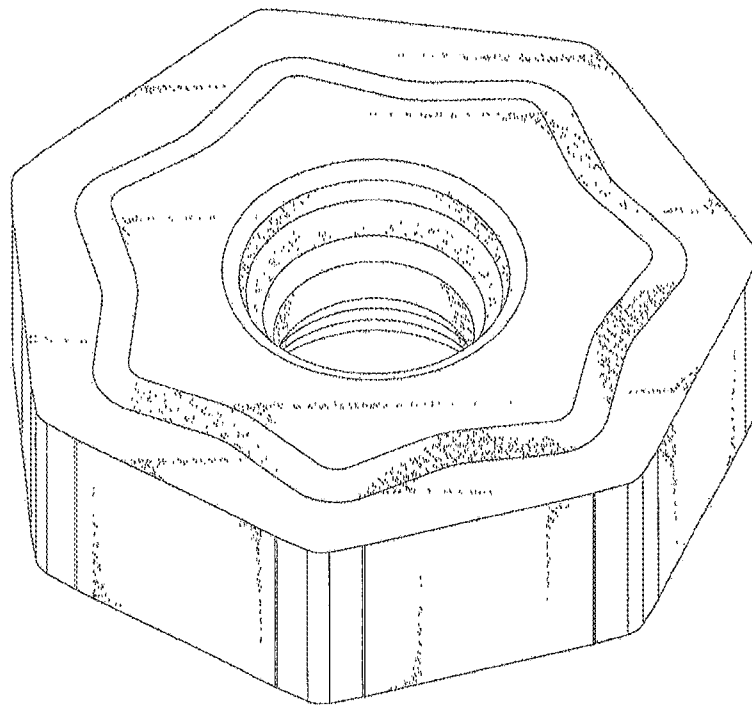


FIG. 15

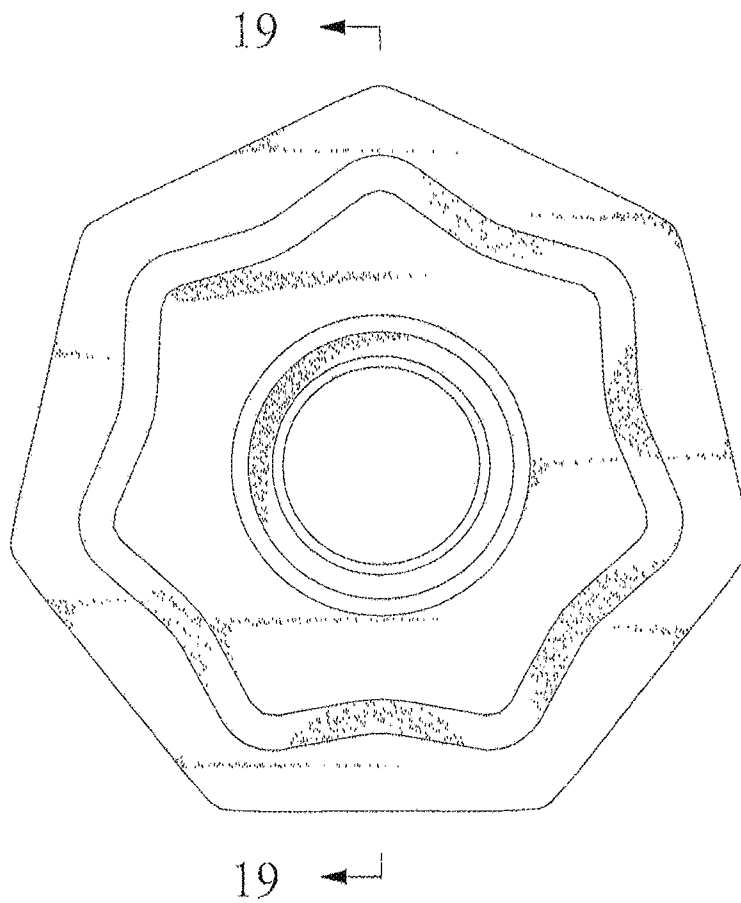


FIG. 16

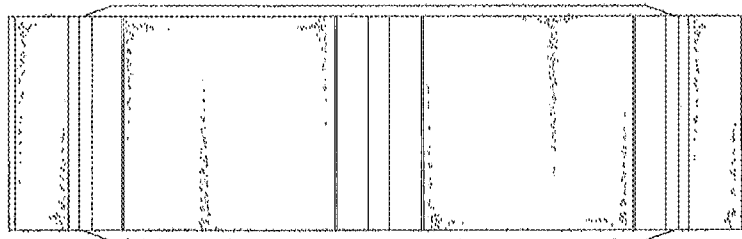


FIG. 17

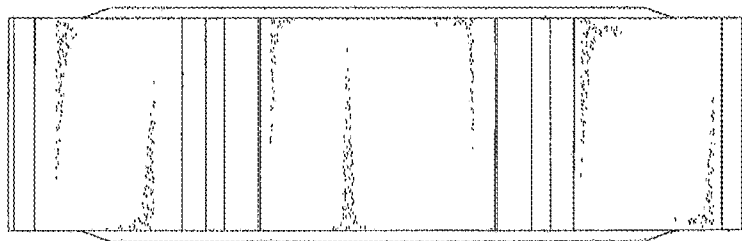


FIG. 18

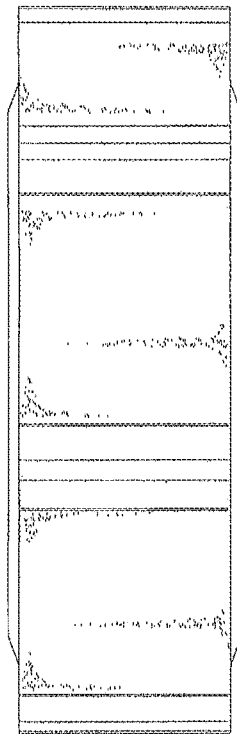


FIG. 19

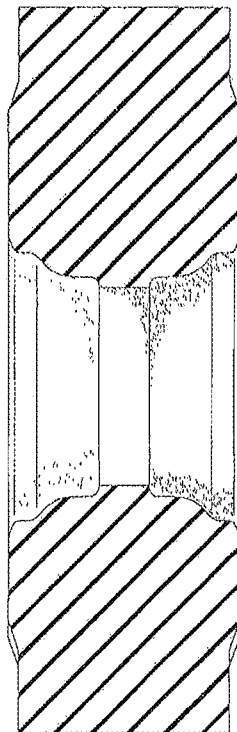


FIG. 20  
(NEW)

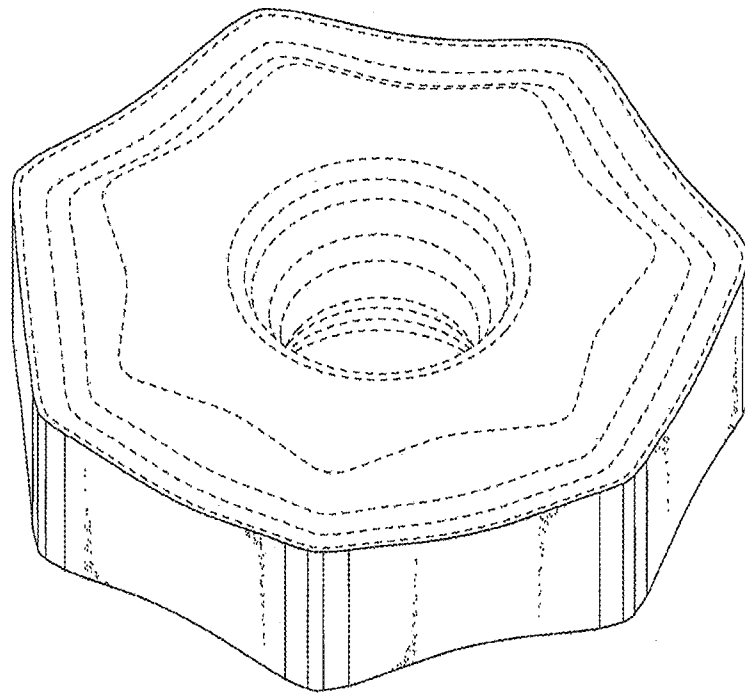


FIG. 21  
(NEW)

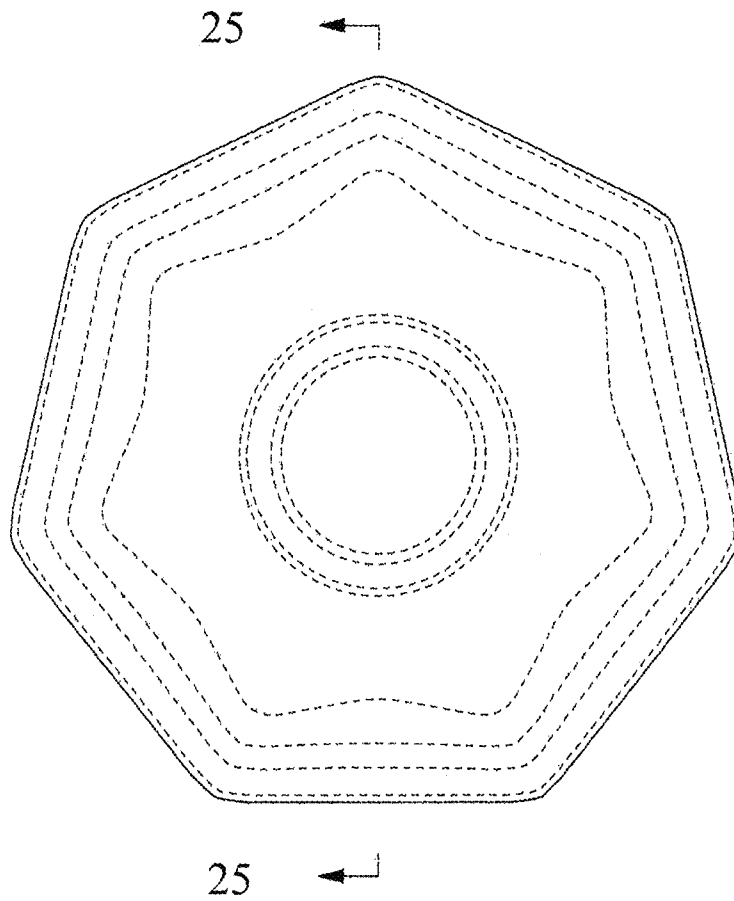


FIG. 22  
(NEW)

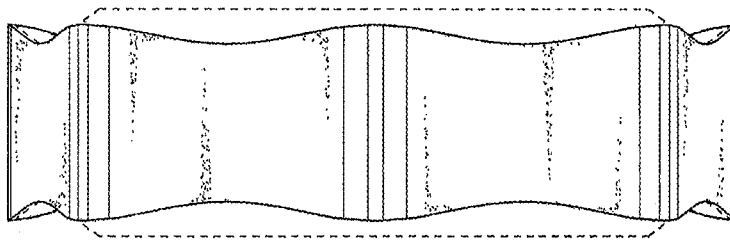


FIG. 23  
(NEW)

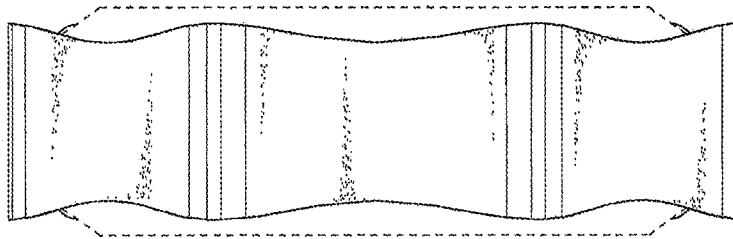


FIG. 24  
(NEW)

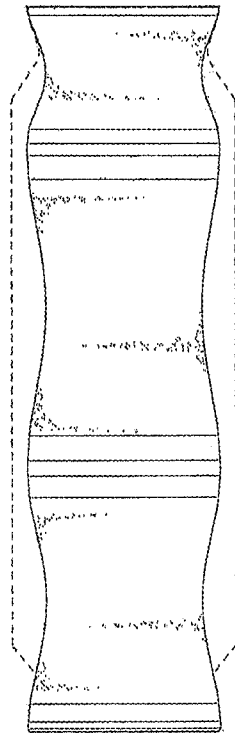


Fig. 25  
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