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(12) **United States Design Patent**
Chang

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(54) **RATCH WHEEL**

(56) **References Cited**

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U.S. PATENT DOCUMENTS

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6,668,686	B1 *	12/2003	Hsien	81/60
6,722,234	B2 *	4/2004	Hu	81/63.2
6,758,641	B2 *	7/2004	Hu	409/132
D498,776	S *	11/2004	Hu	D15/148
D498,778	S *	11/2004	Hu	D15/148
6,874,391	B2 *	4/2005	Hsien	81/60
7,044,029	B1 *	5/2006	Hopper et al.	81/63.2
7,178,429	B2 *	2/2007	Lin	81/60
D558,006	S *	12/2007	Tuan Mu	D8/21
8,051,747	B1 *	11/2011	Tsai	81/63.2
8,186,247	B1 *	5/2012	Chen	81/60

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

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* cited by examiner

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Primary Examiner — Randall Gholson

(52) **U.S. Cl.**
USPC **D8/25**

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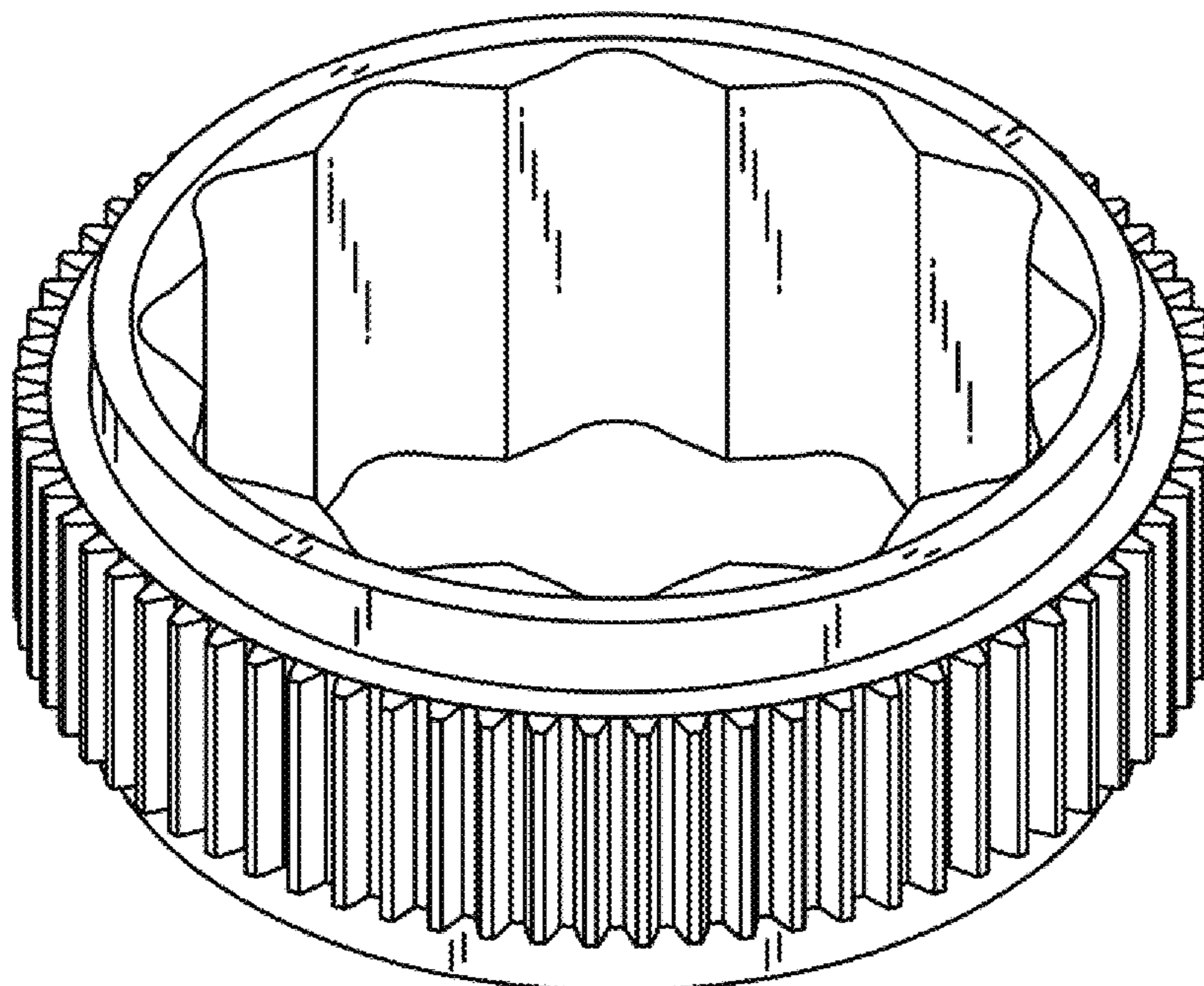
(58) **Field of Classification Search**
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D8/93, 94; 81/60–63.2, 177.1, 177.85,
81/177.8, 489, 125.1, 121.1, 119, 120,
81/176.1, 186, 177.9, 185.1, 176.2, 165,
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16/429, 441, 124.6; 7/100, 138, 168,
7/157; 280/124.167, 124.13, 124.134,
280/124.137; 267/273, 277, 154, 278
CPC B25B 13/04; B25B 13/463; B25B 13/08
See application file for complete search history.

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

DESCRIPTION

FIG. 1 shows a perspective view of the present design.
FIG. 2 shows a front view of the present design.
FIG. 3 shows a rear view of the present design.
FIG. 4 shows a left side view of the present design.
FIG. 5 shows a right side view of the present design.
FIG. 6 shows a top view of the present design; and,
FIG. 7 shows a bottom view of the present design.

1 Claim, 4 Drawing Sheets



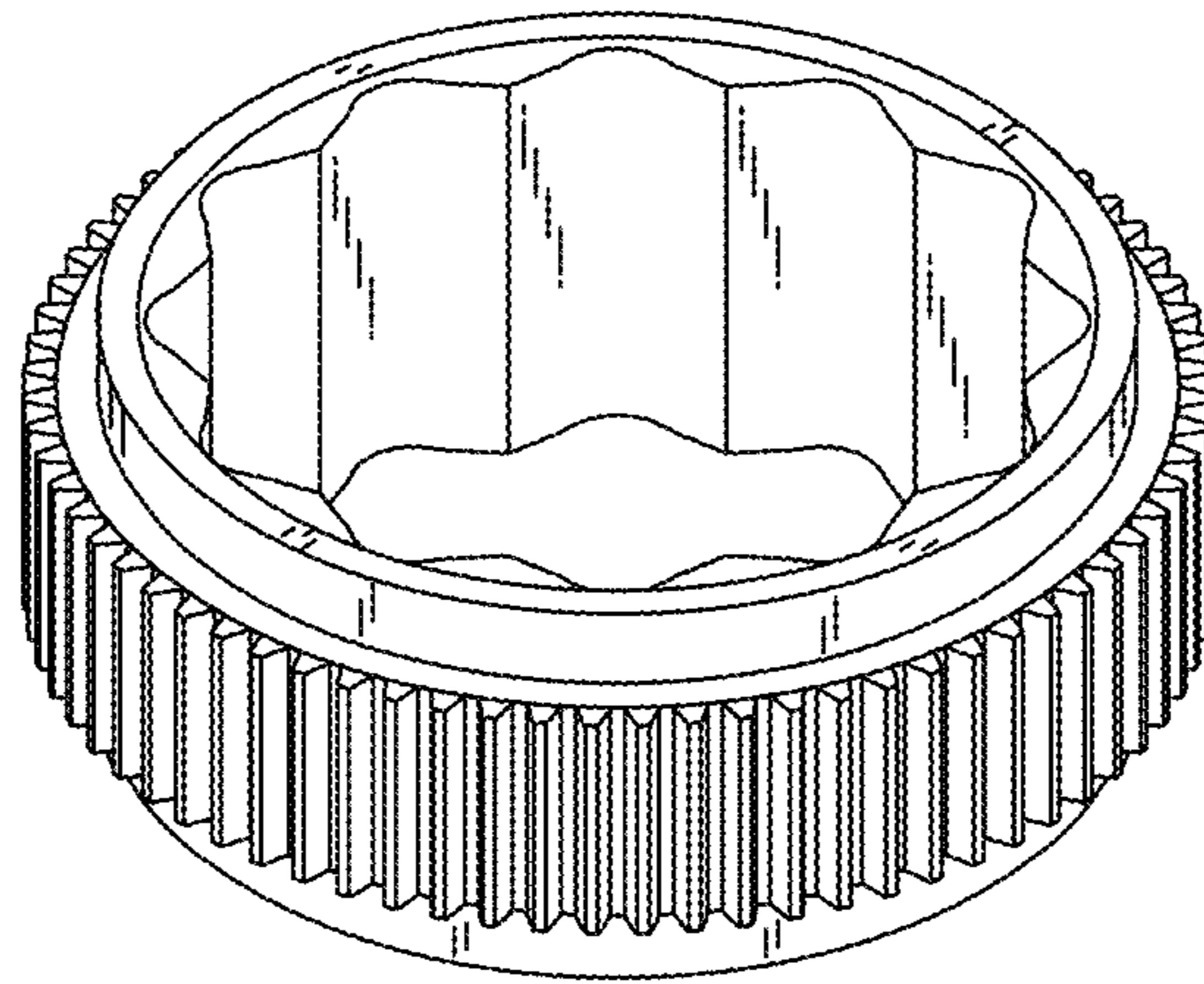


FIG. 1

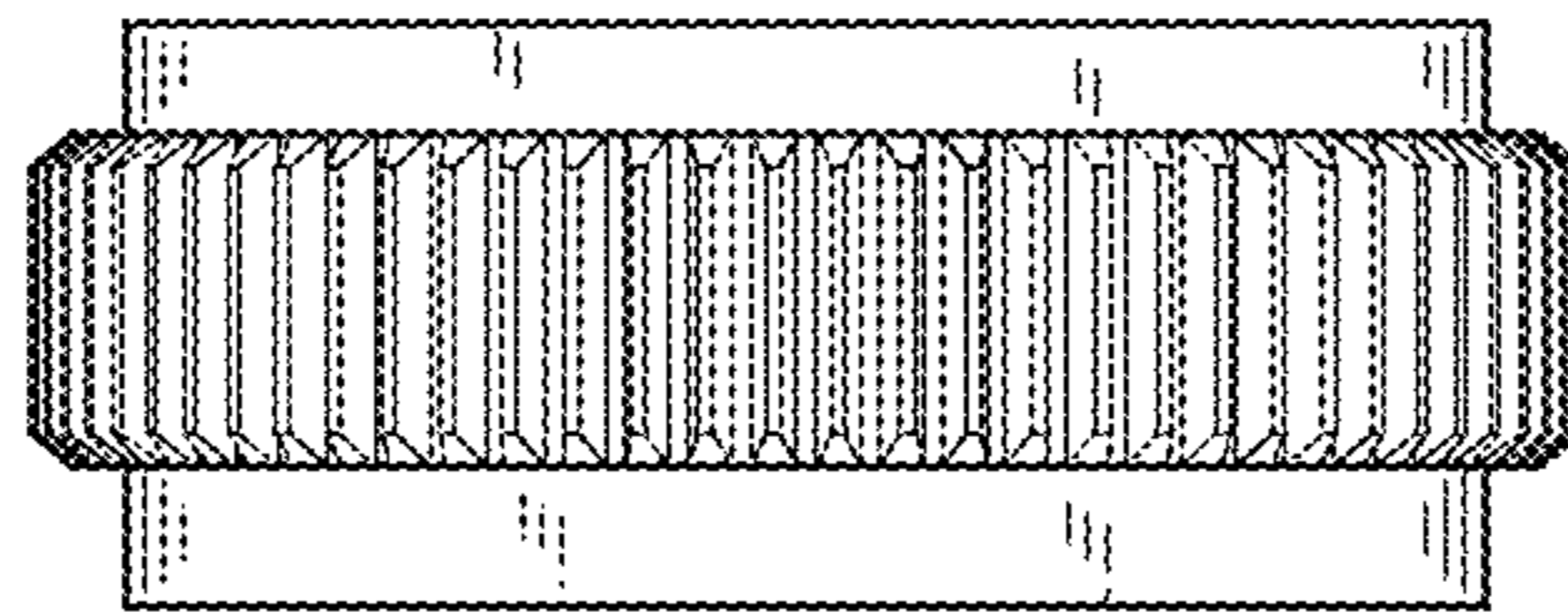


FIG. 2

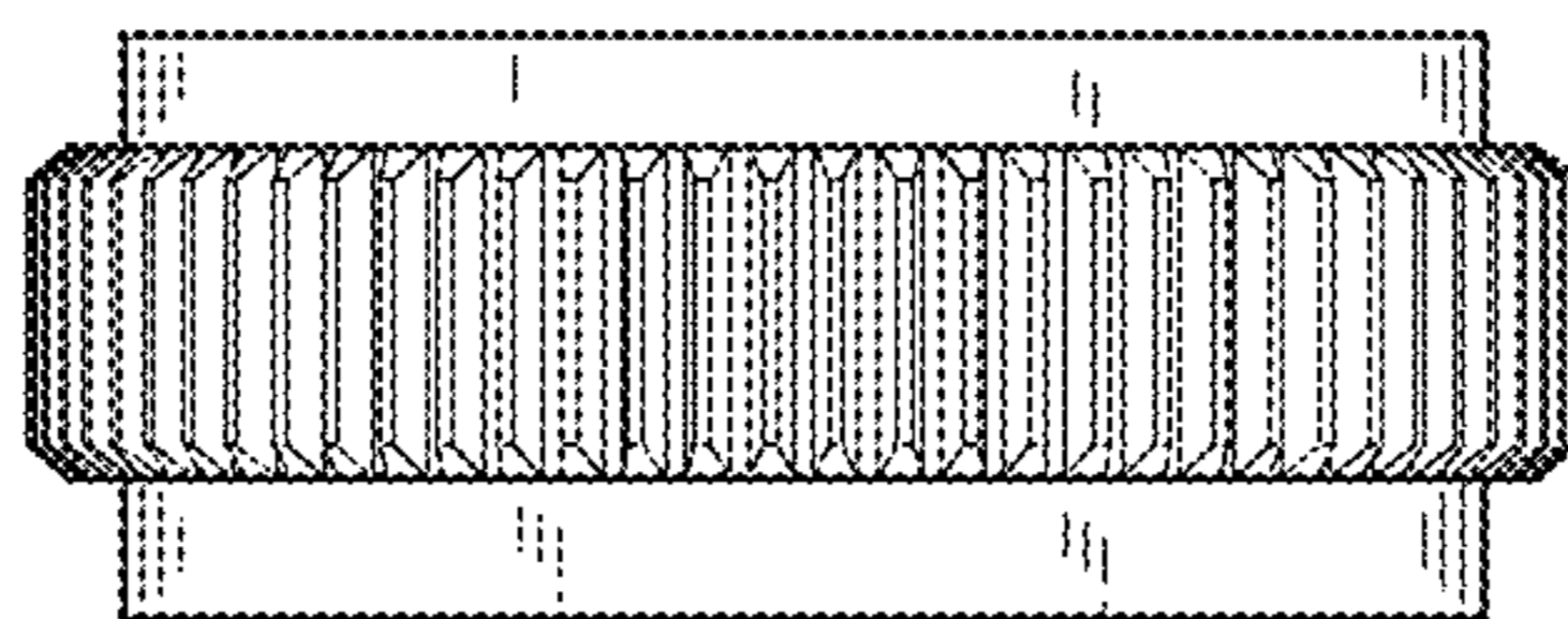


FIG. 3

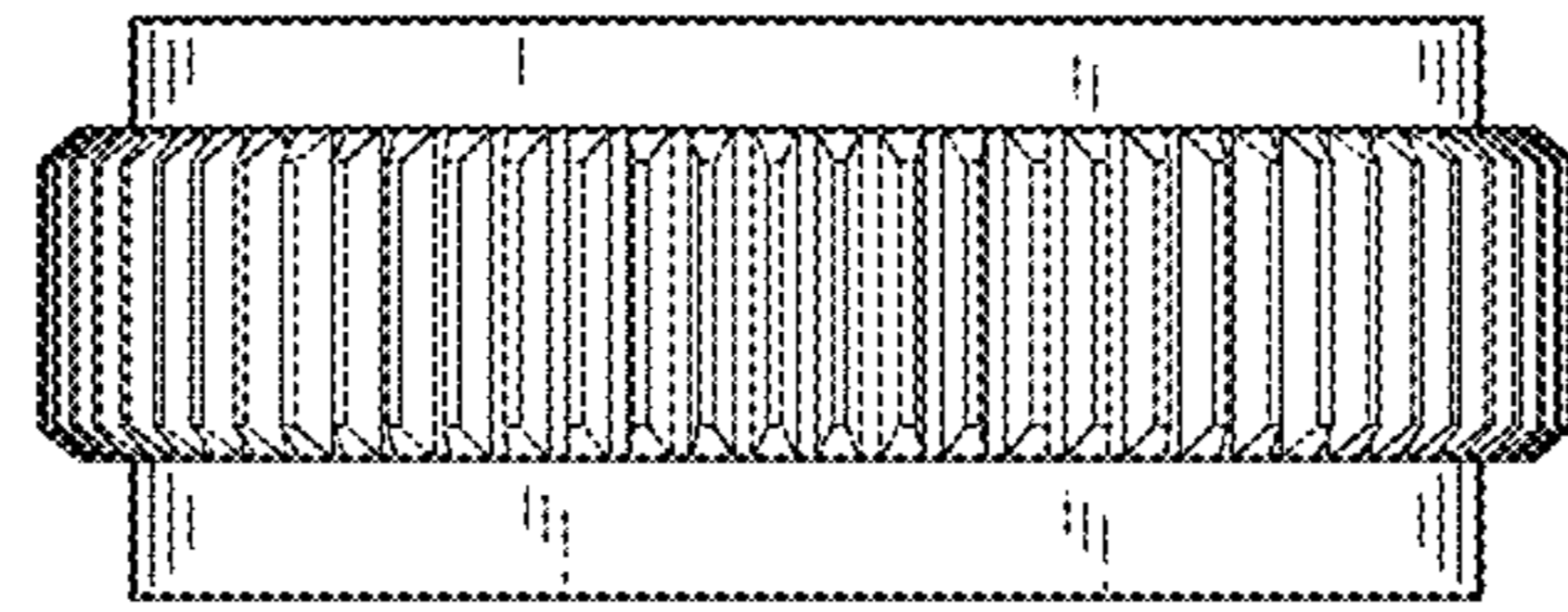


FIG. 4

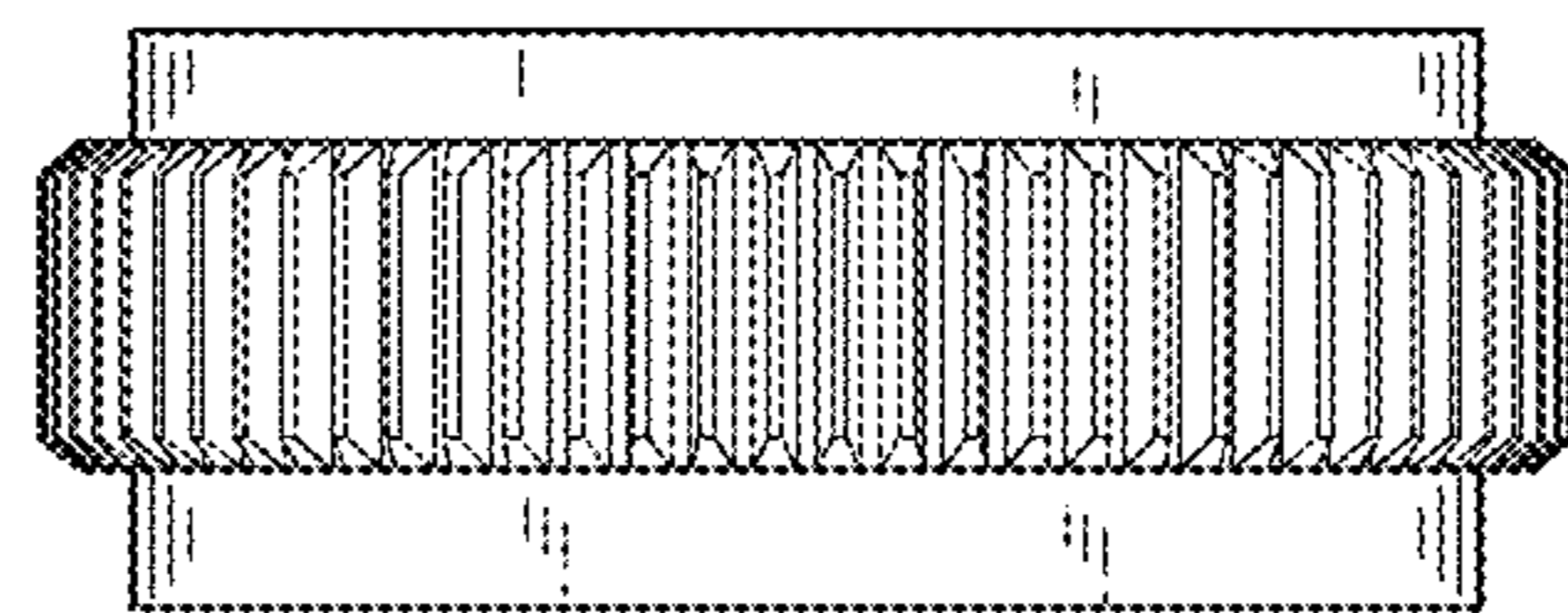


FIG. 5

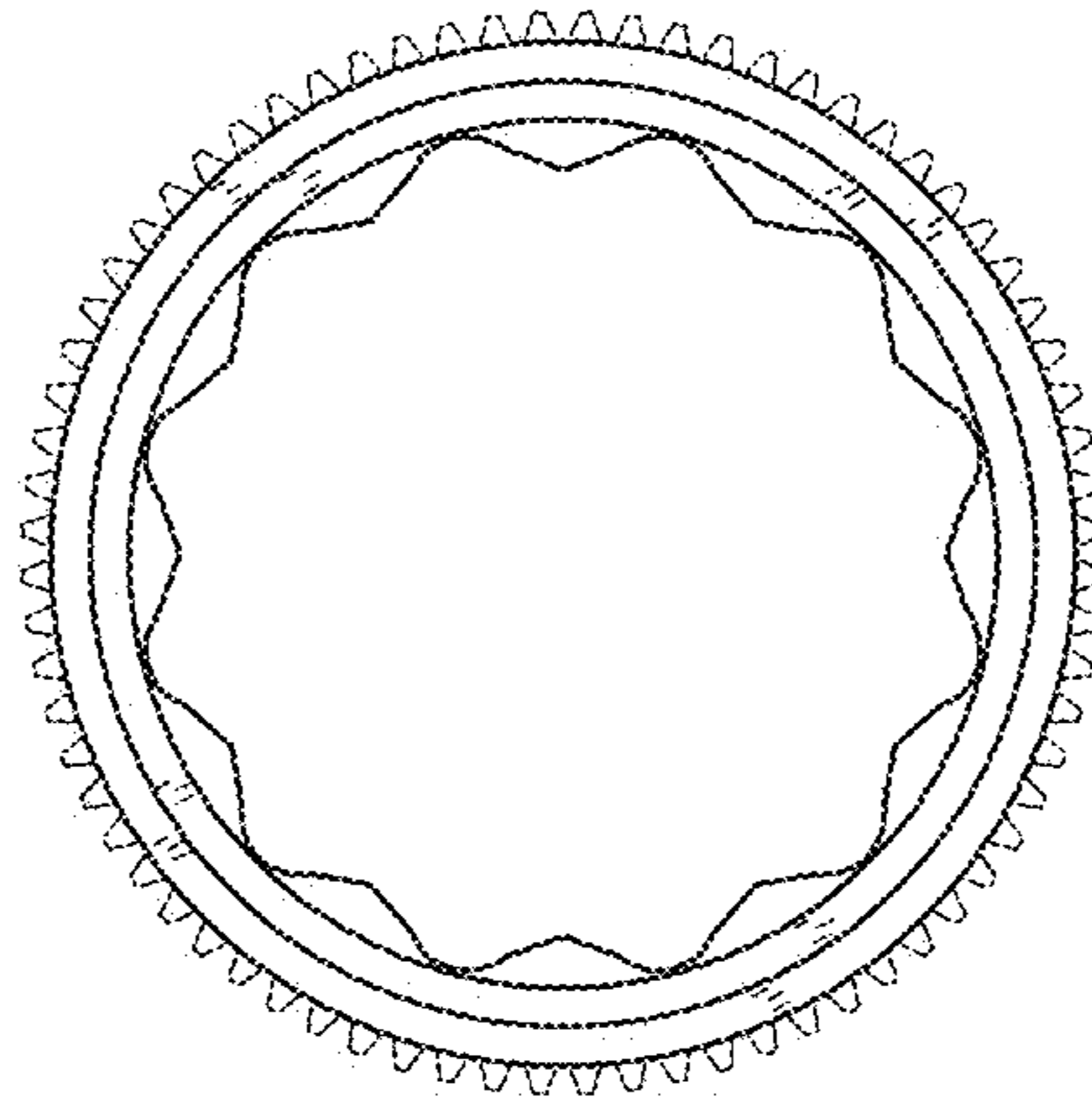


FIG. 6

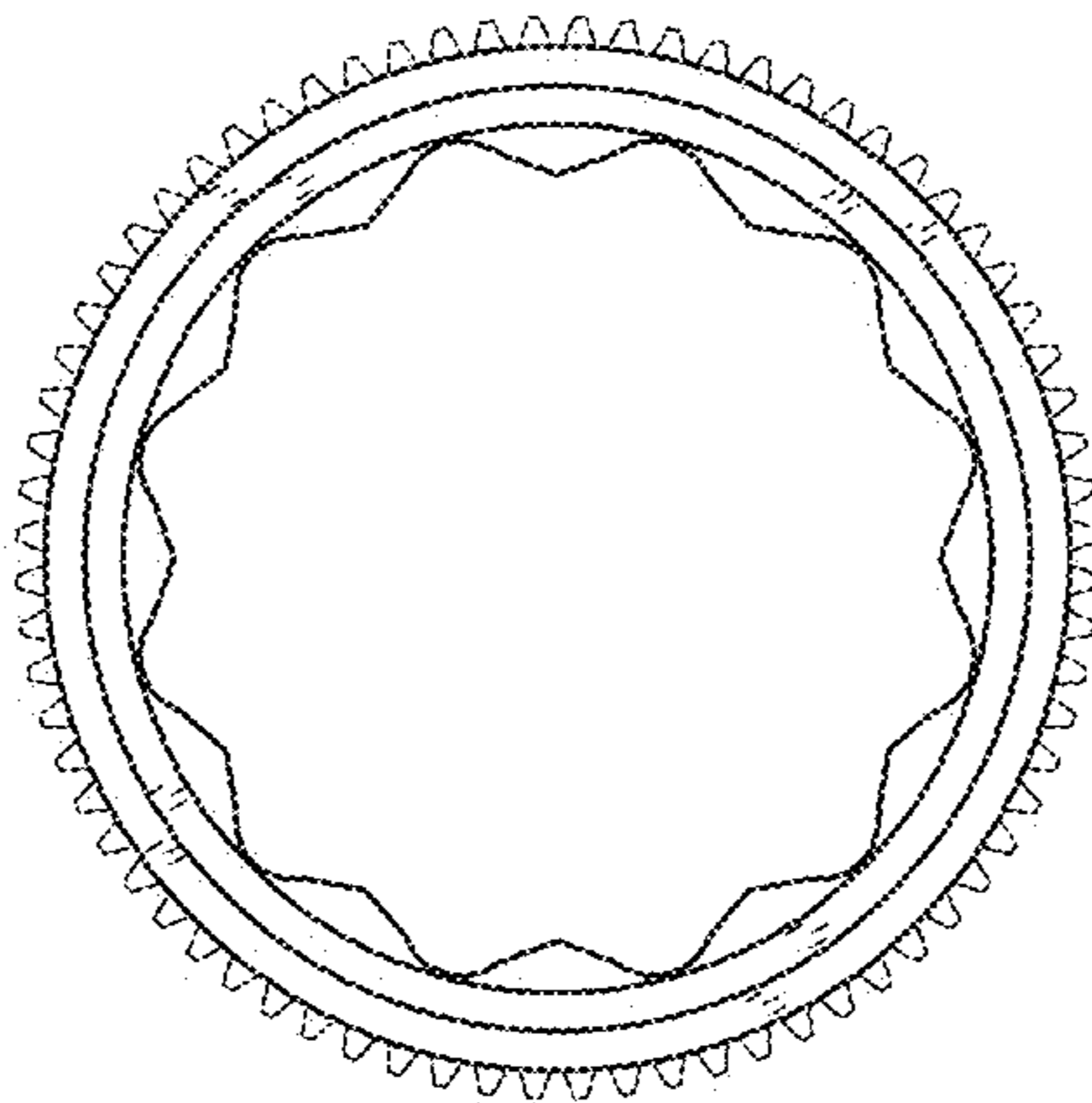


FIG. 7