



US00D847881S

(12) **United States Design Patent** (10) **Patent No.:** **US D847,881 S**
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(54) **AIR-OPERATED GRINDING DEVICE**

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

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(52) **U.S. Cl.**
 USPC **D15/124**

(58) **Field of Classification Search**
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 B24B 23/02; B24B 23/028; B24B 23/08;
 B24B 55/102; B24B 9/007; B24B 19/14;
 B24B 21/04; B24B 21/08; B24B 21/18;
 B24B 23/03; B24B 23/06; B24B 27/0015;
 B24B 27/0038; B24B 27/0069; B24B
 27/0084; B24B 29/00; B24B 37/04; B24B
 37/22; B24B 37/30; B24B 41/007; B24B
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 49/16; B24B 55/00; B24B 55/10; B24B
 57/00; B24B 7/182; B24B 7/188; B24B
 9/04; B24B 9/14

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,611,646 A *	10/1971	Cameron et al.	B24B 21/00 451/311
4,578,906 A *	4/1986	Appleton	B24B 23/06 451/297
4,707,944 A *	11/1987	Parsons	B24B 33/022 451/140
D321,465 S *	11/1991	Mikiya	D8/62
D331,585 S *	12/1992	Wolff	D15/124
D338,901 S *	8/1993	Chen	D15/124
D339,811 S *	9/1993	Price	D15/123
D395,054 S *	6/1998	Mochinzuki	D15/124
D620,509 S *	7/2010	Hauenstein	D15/124
10,137,554 B2 *	11/2018	Hsu	B24B 23/06

* cited by examiner

Primary Examiner — Khawaja Anwar

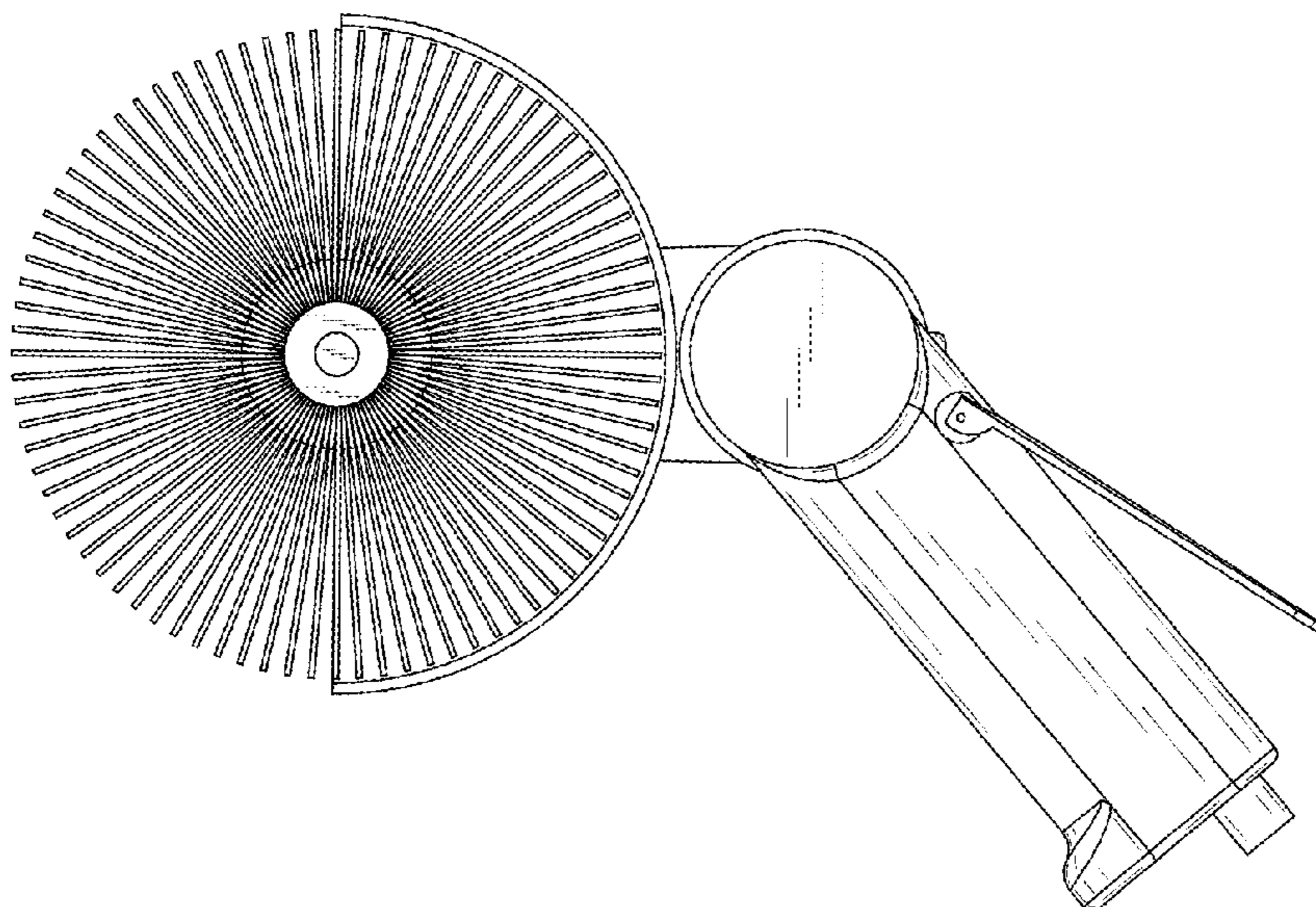
(57) **CLAIM**

The ornamental design for air-operated grinding device, as shown and described.

DESCRIPTION

FIG. 1 is a front view of the air-operated grinding device showing our new design;
 FIG. 2 is a back view thereof;
 FIG. 3 is a left side view thereof;
 FIG. 4 is a right side view thereof;
 FIG. 5 is a top view thereof;
 FIG. 6 is a bottom view thereof;
 FIG. 7 is a perspective view thereof; and,
 FIG. 8 is another perspective view thereof.

1 Claim, 6 Drawing Sheets



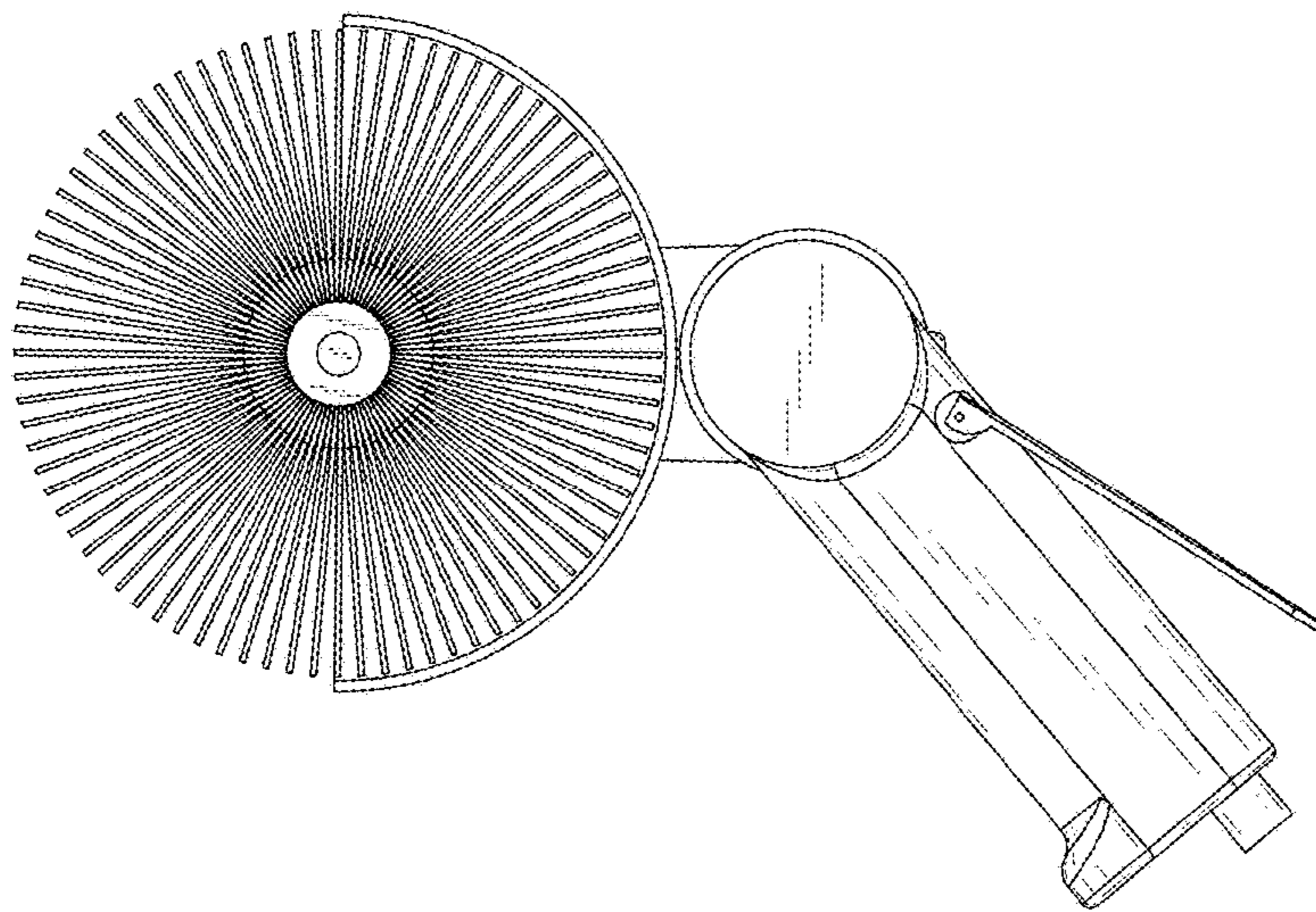


Fig.1

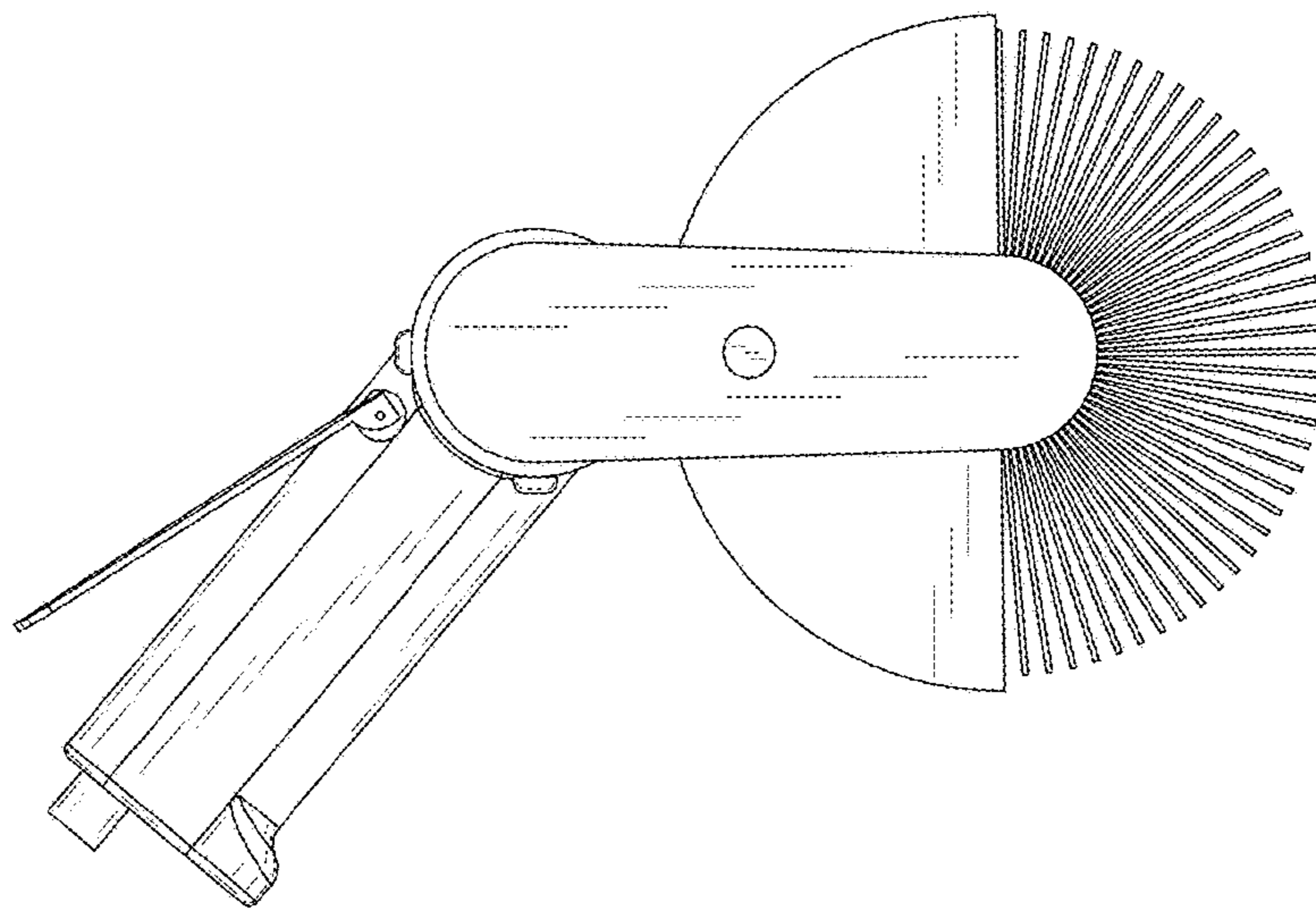


Fig.2

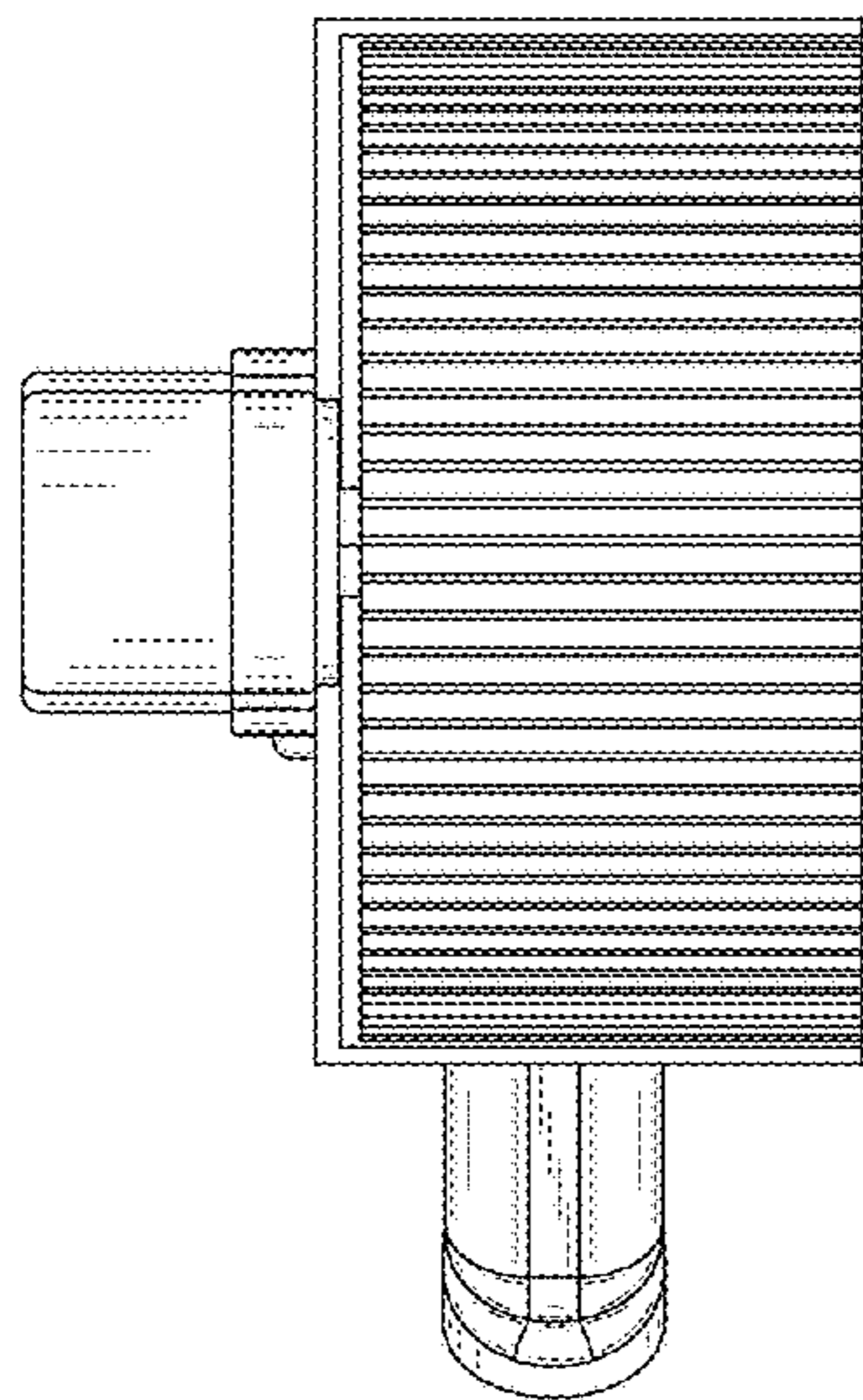


Fig.3

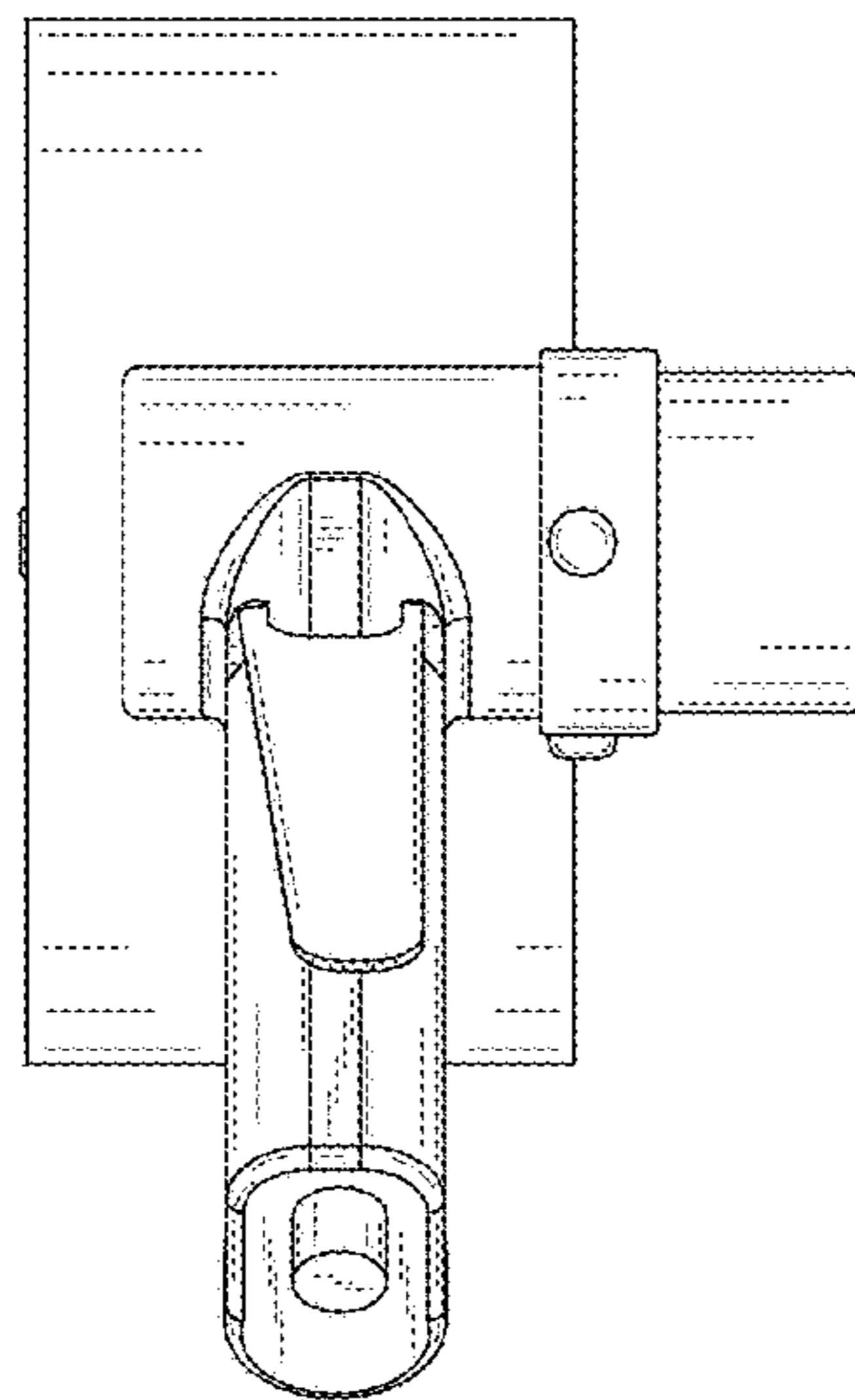


Fig.4

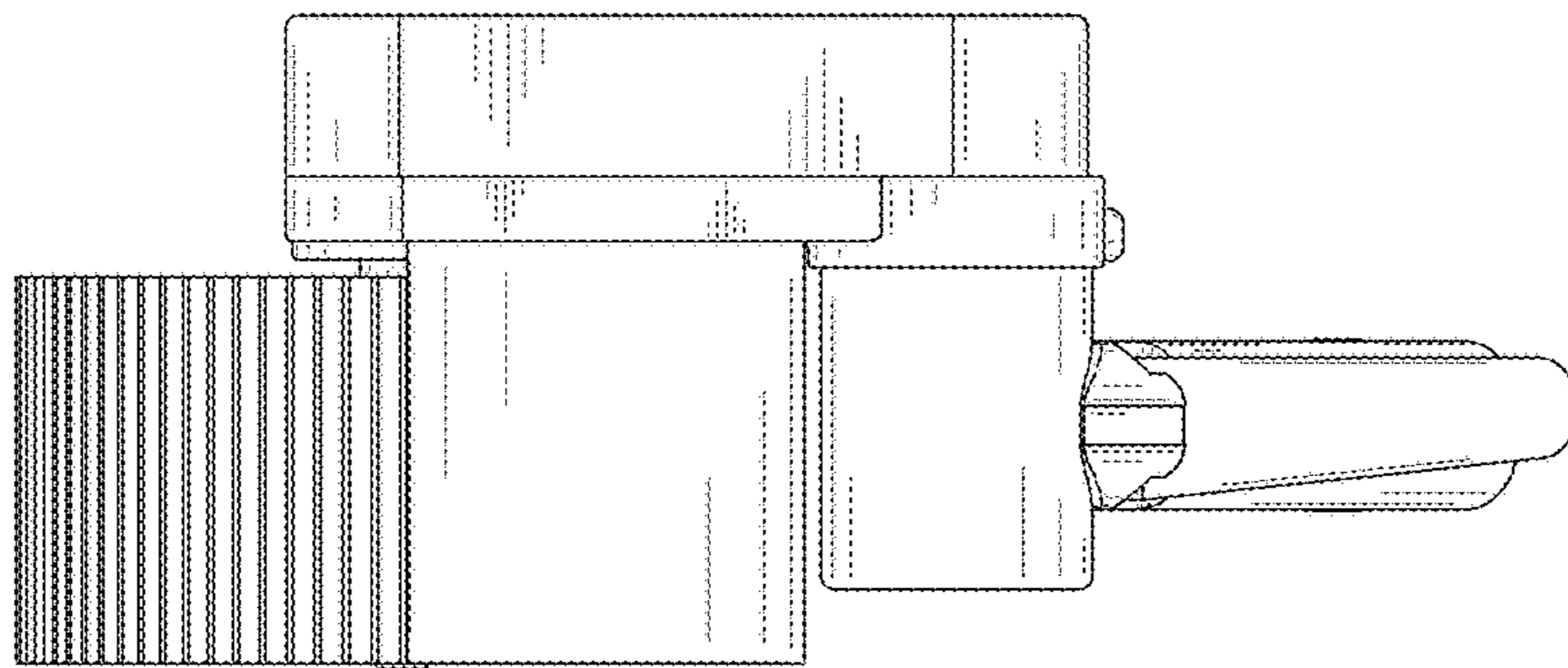


Fig.5

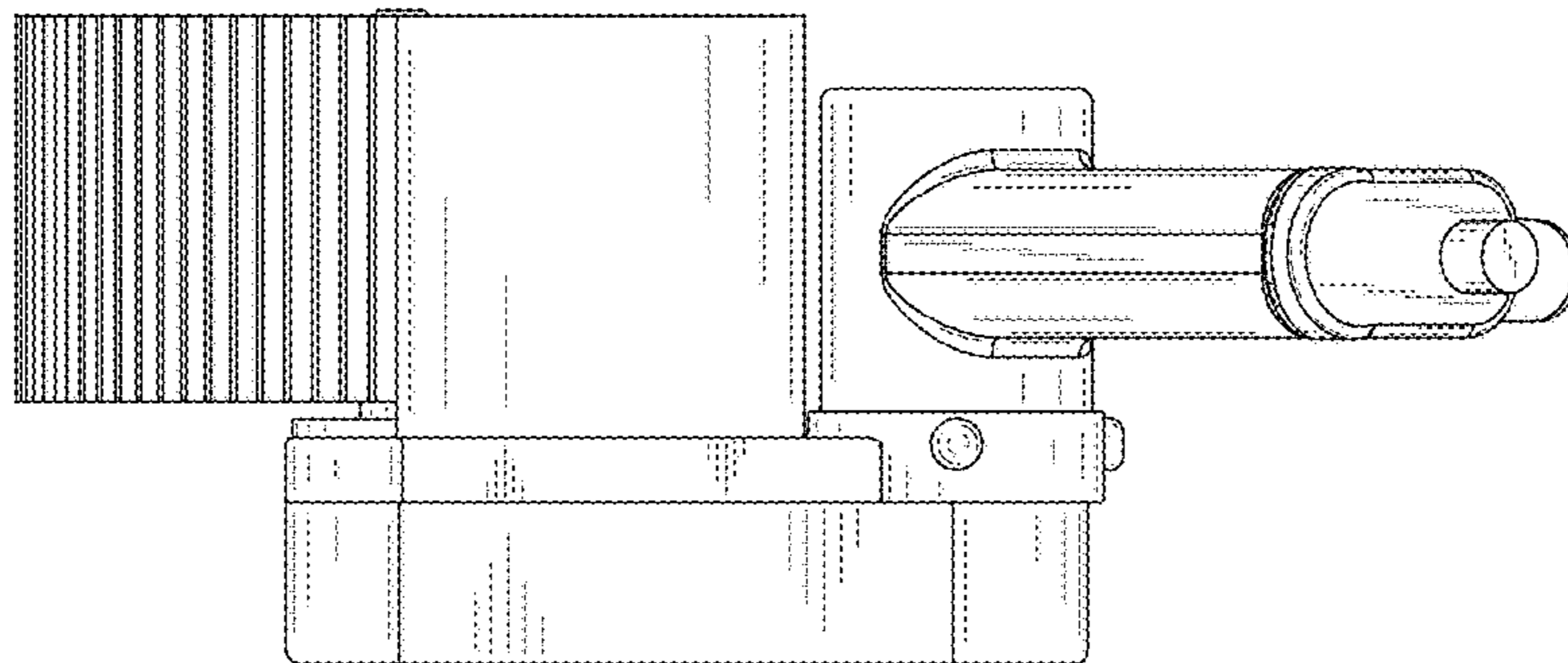


Fig.6

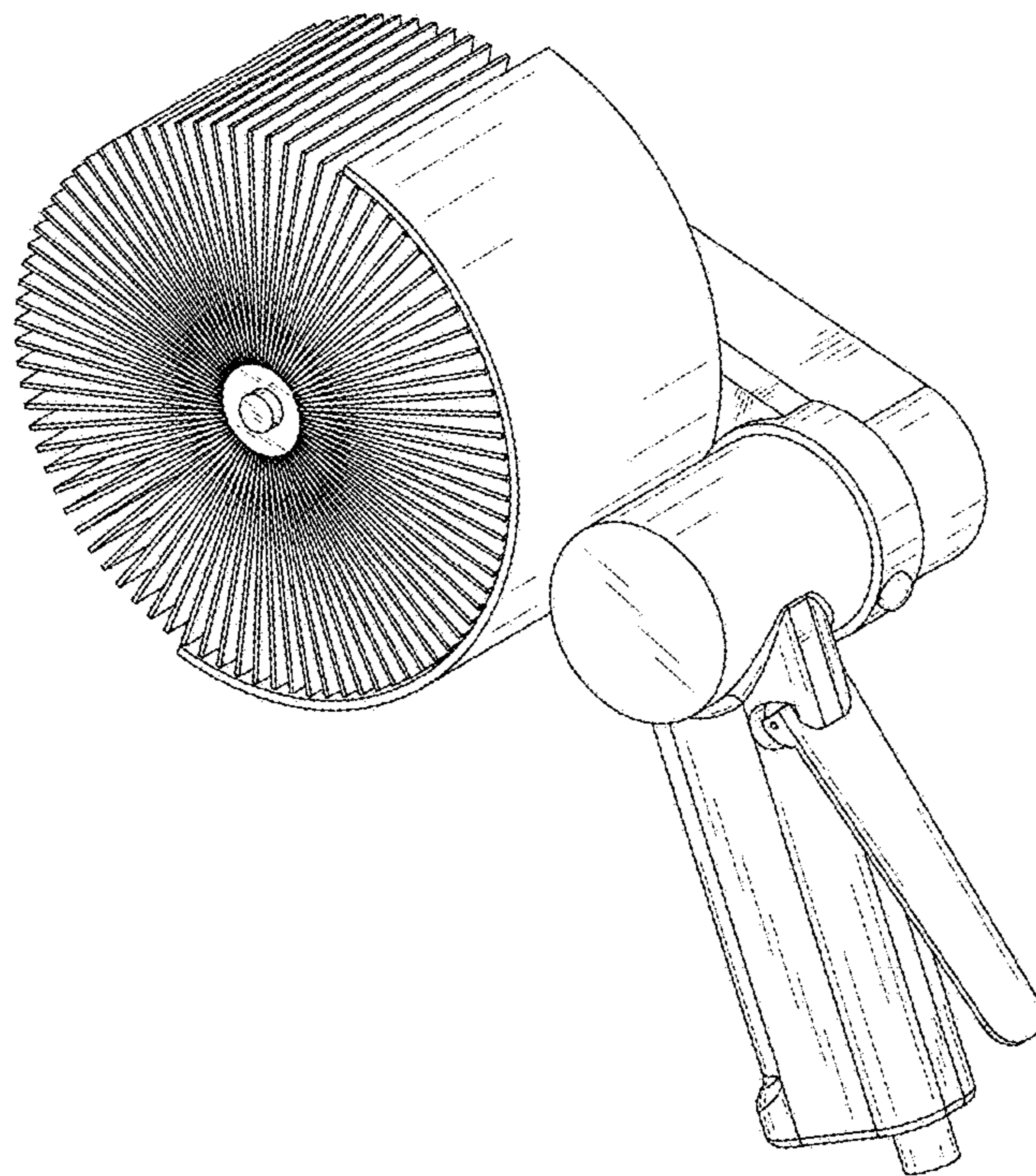


Fig.7

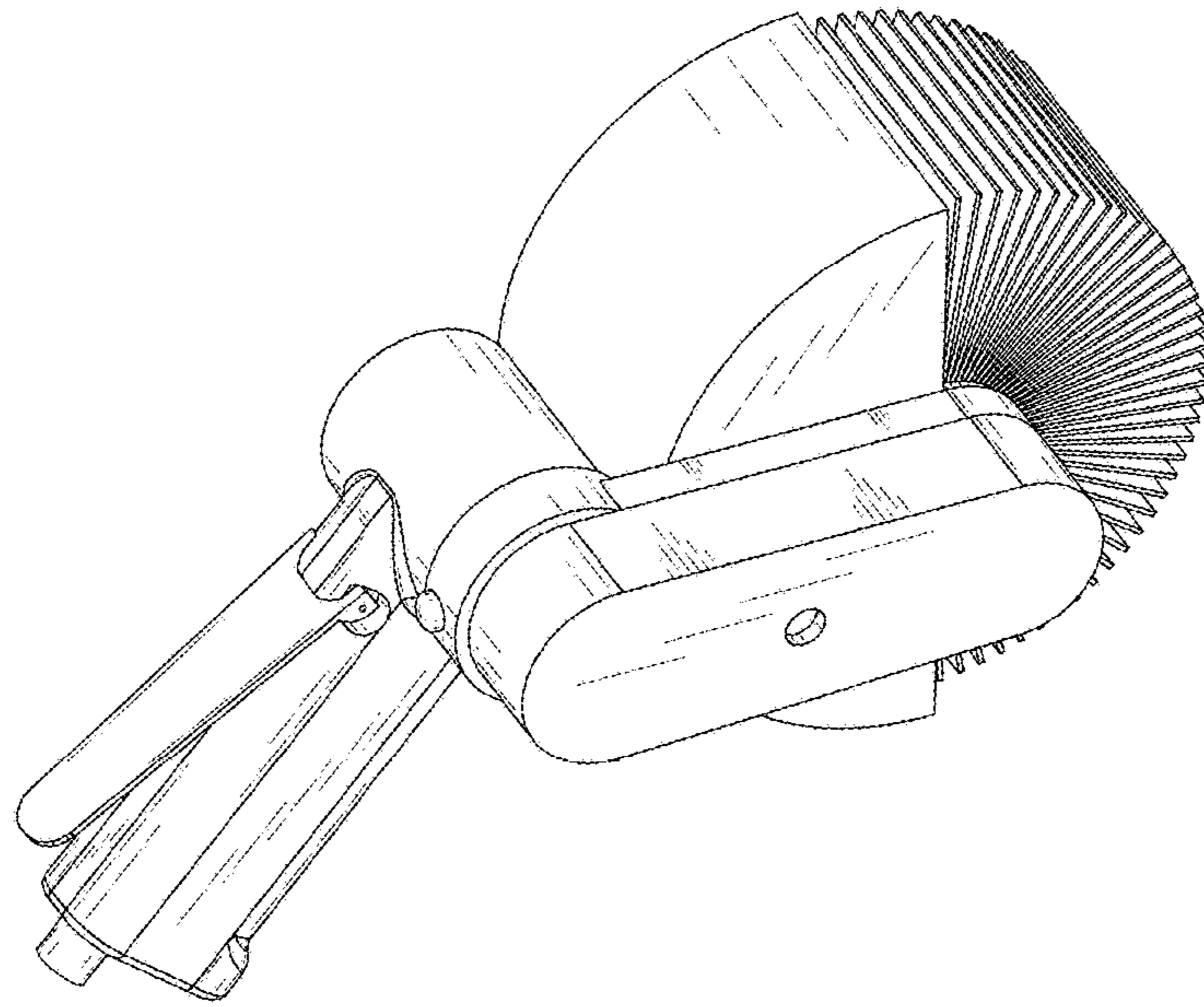


Fig.8