



US00D629431S

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

(10) **Patent No.:** **US D629,431 S**  
(45) **Date of Patent:** **\*\* Dec. 21, 2010**

(54) **EXTRACTION HEAD FOR REMOVING CERAMIC FOAM FILTERS**

5,282,708 A 2/1994 Giannuzzi  
5,358,209 A \* 10/1994 Ward ..... 248/545

(75) Inventor: **Mark Vincent**, Leighton Buzzard (GB)

(Continued)

(73) Assignee: **Pyrotek Engineering Materials Limited**, Milton Keynes (GB)

FOREIGN PATENT DOCUMENTS

DE 197 21 766 A1 5/1997

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

(Continued)

(21) Appl. No.: **29/334,244**

OTHER PUBLICATIONS

(22) Filed: **Mar. 23, 2009**

International Search Report for PCT Application No. PCT/GB2006/002232, dated Dec. 1, 2006.

(30) **Foreign Application Priority Data**

(Continued)

Oct. 6, 2008 (EM) ..... 001015168

*Primary Examiner*—Patricia Palasik

(51) **LOC (9) Cl.** ..... **15-09**

(74) *Attorney, Agent, or Firm*—Knobbe Martens Olson & Bear LLP

(52) **U.S. Cl.** ..... **D15/139**

(58) **Field of Classification Search** ..... D8/70;  
D15/21, 138, 139, 140; 83/845; 403/331,  
403/381; 407/9, 33, 34, 42, 54, 63, 110,  
407/113, 114, 115; 408/210–214, 219, 224,  
408/226–230, 240

(57) **CLAIM**

See application file for complete search history.

The ornamental design for an extraction head for removing ceramic foam filters, as shown and described.

(56) **References Cited**

**DESCRIPTION**

U.S. PATENT DOCUMENTS

330,974 A 11/1885 Friedmann et al.  
2,504,978 A \* 4/1950 Henning ..... 175/383  
2,577,333 A \* 12/1951 Klum ..... 211/70.2  
3,207,242 A \* 9/1965 Miller ..... 175/394  
3,318,182 A 5/1967 Carlson  
3,654,690 A 4/1972 Hardin  
4,504,392 A 3/1985 Groteke  
4,593,872 A 6/1986 Svensson  
4,688,315 A 8/1987 Jannke  
D294,584 S \* 3/1988 Pedersen ..... D15/89  
4,753,562 A 6/1988 Hirayoshi  
4,892,429 A \* 1/1990 Giannuzzi ..... 411/383

FIG. 1 is a first perspective view of an extraction head for removing ceramic foam filters;

FIG. 2 is a second perspective view of an extraction head for removing ceramic foam filters;

FIG. 3 is a third perspective view of an extraction head for removing ceramic foam filters;

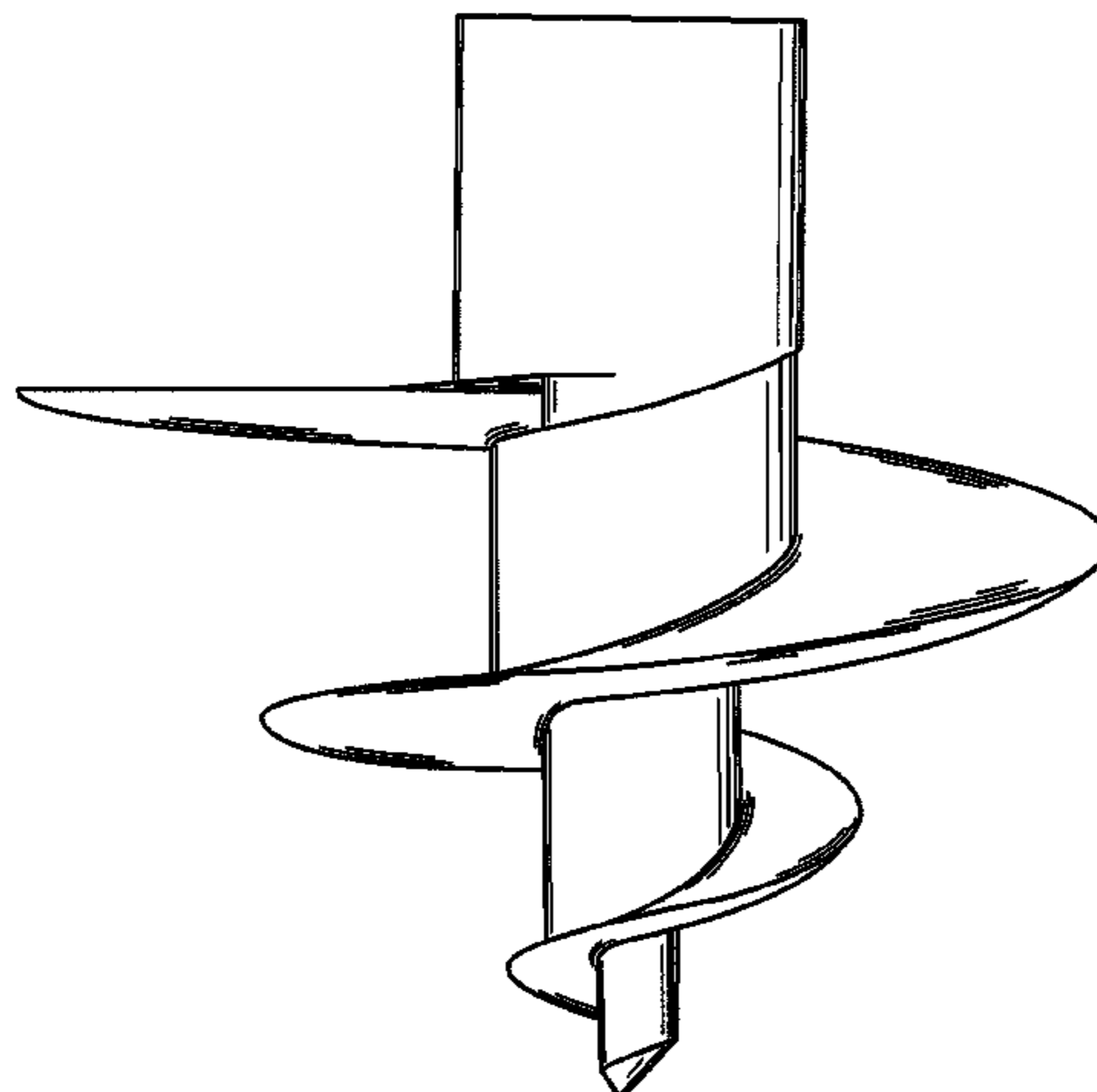
FIG. 4 is a fourth perspective view of an extraction head for removing ceramic foam filters;

FIG. 5 is a fifth perspective view of an extraction head for removing ceramic foam filters;

FIG. 6 is a top view of an extraction head for removing ceramic foam filters; and,

FIG. 7 is a bottom view of an extraction head for removing ceramic foam filters.

**1 Claim, 6 Drawing Sheets**



# US D629,431 S

Page 2

## U.S. PATENT DOCUMENTS

5,408,788 A \* 4/1995 Hamilton et al. .... 52/157  
5,575,122 A \* 11/1996 Hamilton et al. .... 52/157  
5,607,261 A \* 3/1997 Odom et al. .... 405/244  
5,718,153 A 2/1998 Borden  
5,794,727 A \* 8/1998 Murray ..... 175/394  
D398,363 S \* 9/1998 LoBue ..... D21/840  
5,820,319 A \* 10/1998 Hull et al. .... 408/214  
D421,532 S \* 3/2000 Koroncai ..... D6/417  
6,032,880 A \* 3/2000 Verrills et al. .... 248/530  
6,168,101 B1 \* 1/2001 Xie ..... 241/82.5  
6,321,861 B1 \* 11/2001 Leichter ..... 175/323  
6,412,235 B1 \* 7/2002 Pylant ..... 52/155  
6,817,810 B2 \* 11/2004 Jones ..... 405/252.1  
D518,286 S \* 4/2006 Santos ..... D3/17  
D546,167 S \* 7/2007 Noethe ..... D8/349  
D549,088 S \* 8/2007 Gallien ..... D8/387  
7,309,198 B1 \* 12/2007 Brown ..... 410/101  
D594,041 S \* 6/2009 Lin ..... D15/139  
2004/0154814 A1 \* 8/2004 Brennan ..... 174/6

2008/0019792 A1\* 1/2008 Ernst et al. .... 411/31

## FOREIGN PATENT DOCUMENTS

DE 20 2005 005 708 U1 6/2005  
EP 0 927 568 A1 7/1999  
GB 593548 10/1947  
GB 2 330 107 A 4/1999  
GB 2 359 039 A 8/2001  
GB 2 380 236 A 4/2003  
GB 2 428 619 A 2/2007  
WO WO 93/12312 A 6/1993  
WO WO 2007/012795 A 2/2007

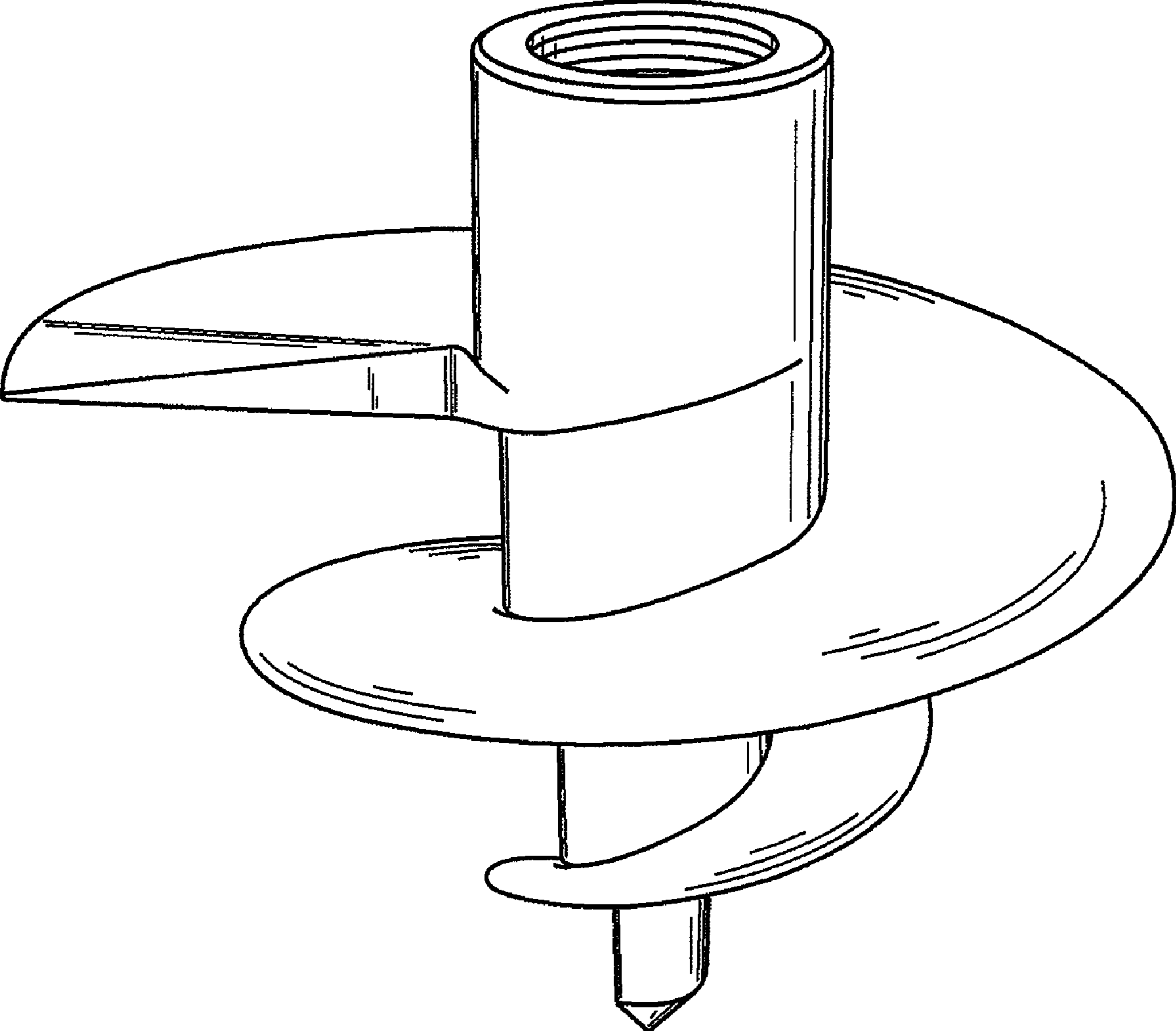
## OTHER PUBLICATIONS

International Search Report for GB Application No. GB0719981.3, dated Feb. 13, 2008.

International Search Report for corresponding GB Application No. GB0515153.5, dated Oct. 19, 2005.

International Search Report corresponding to PCT Application No. PCT/GB2008/003380, dated Jan. 21, 2009.

\* cited by examiner



**FIG. 1**

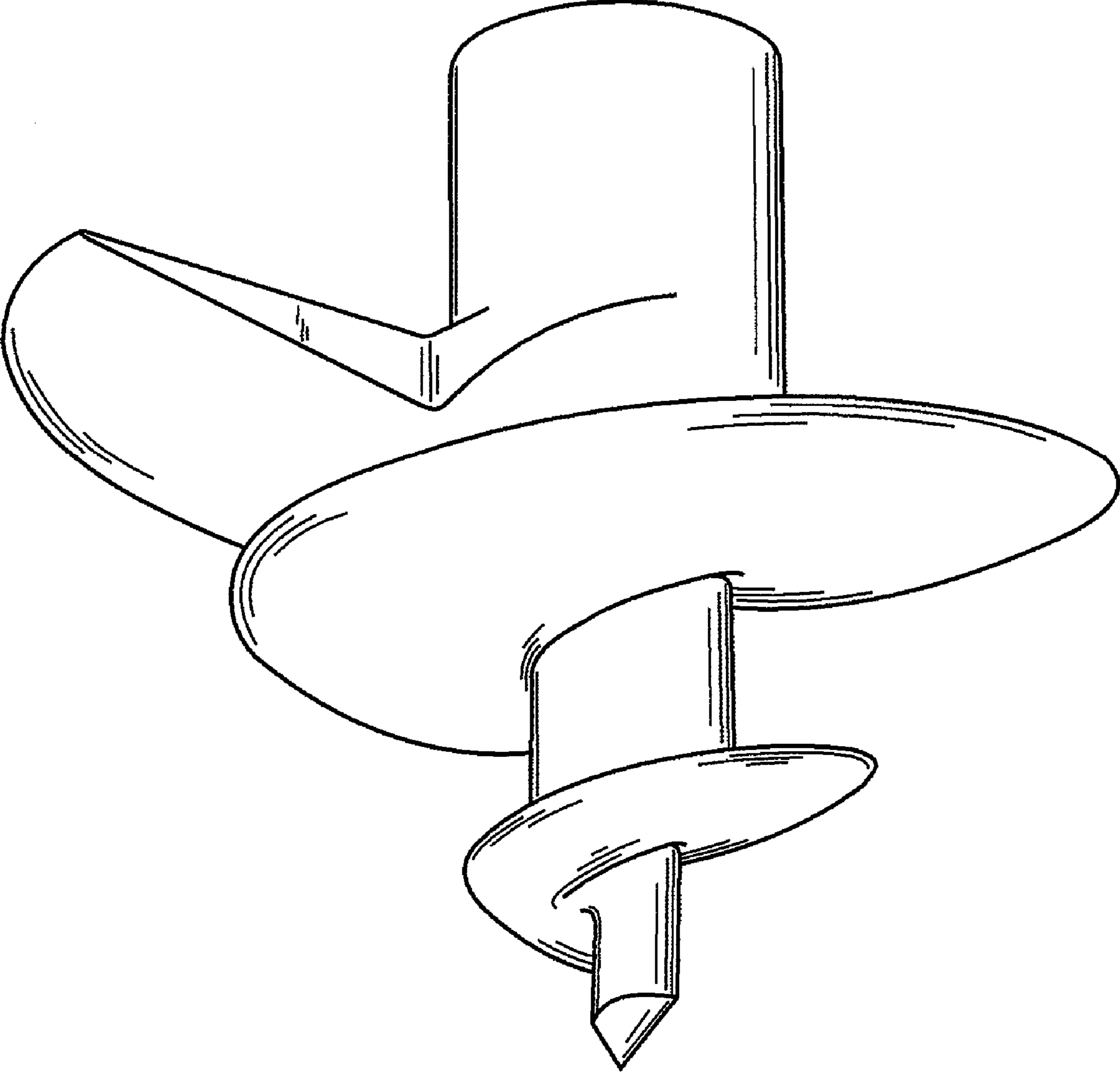
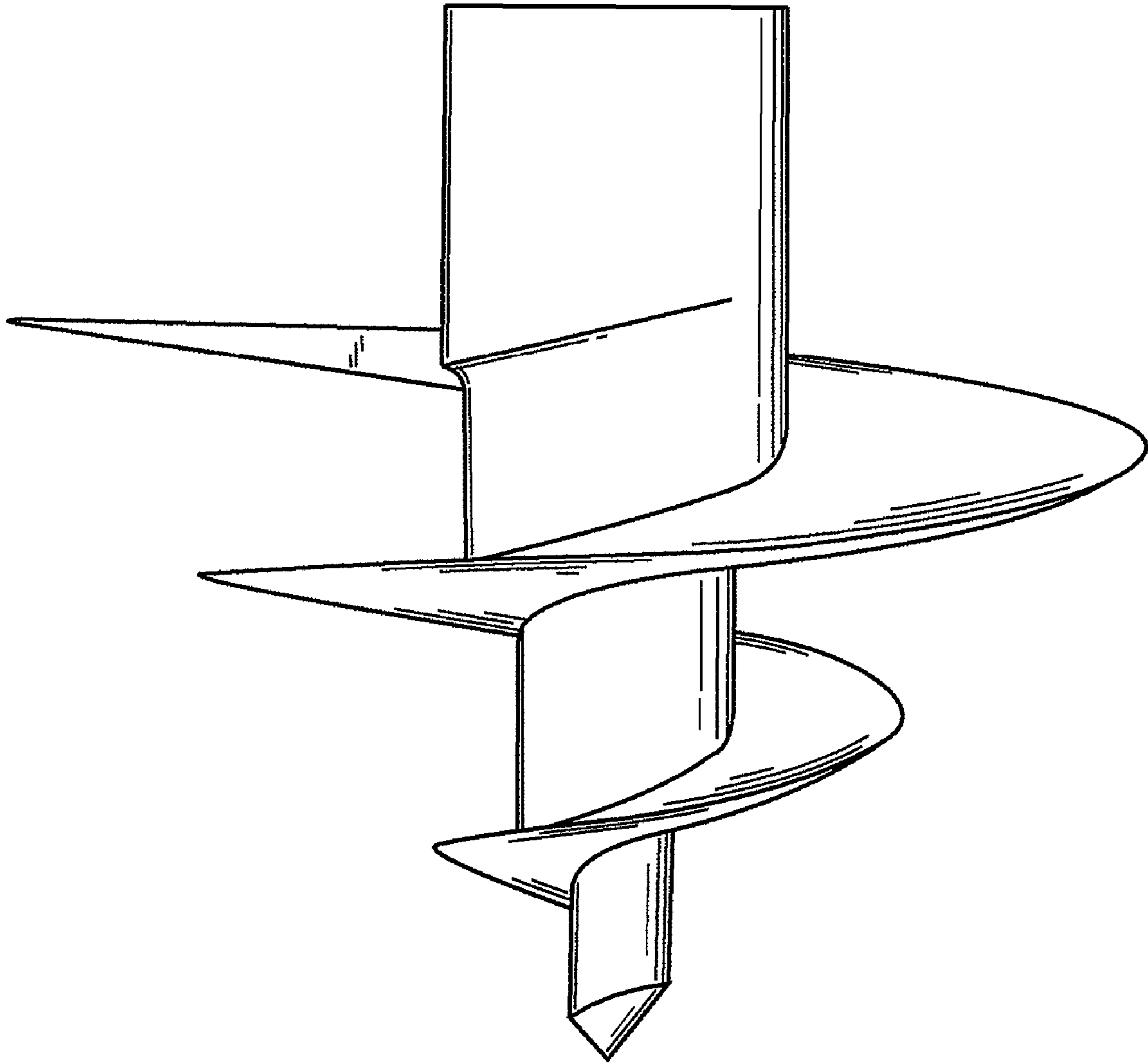
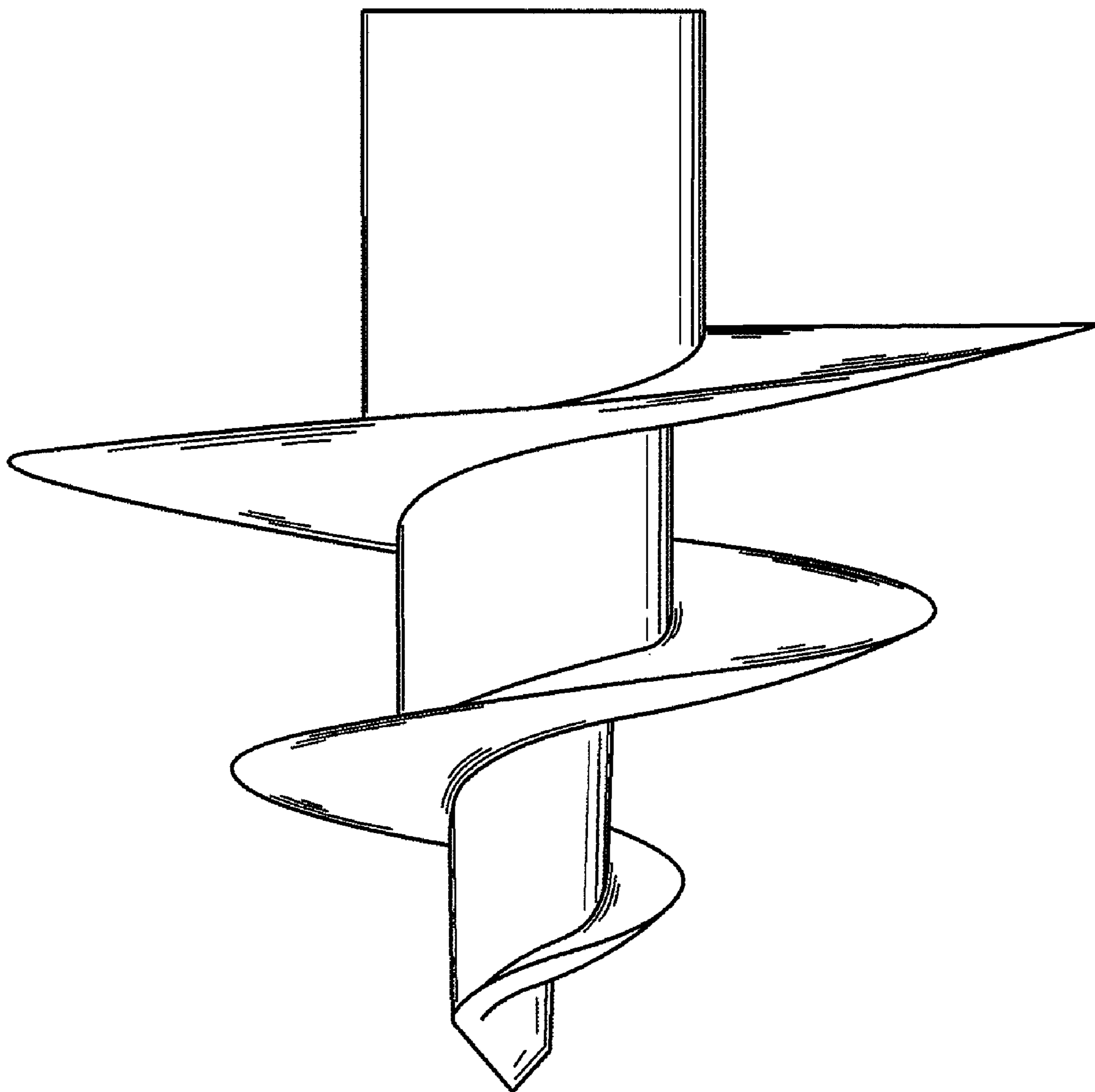


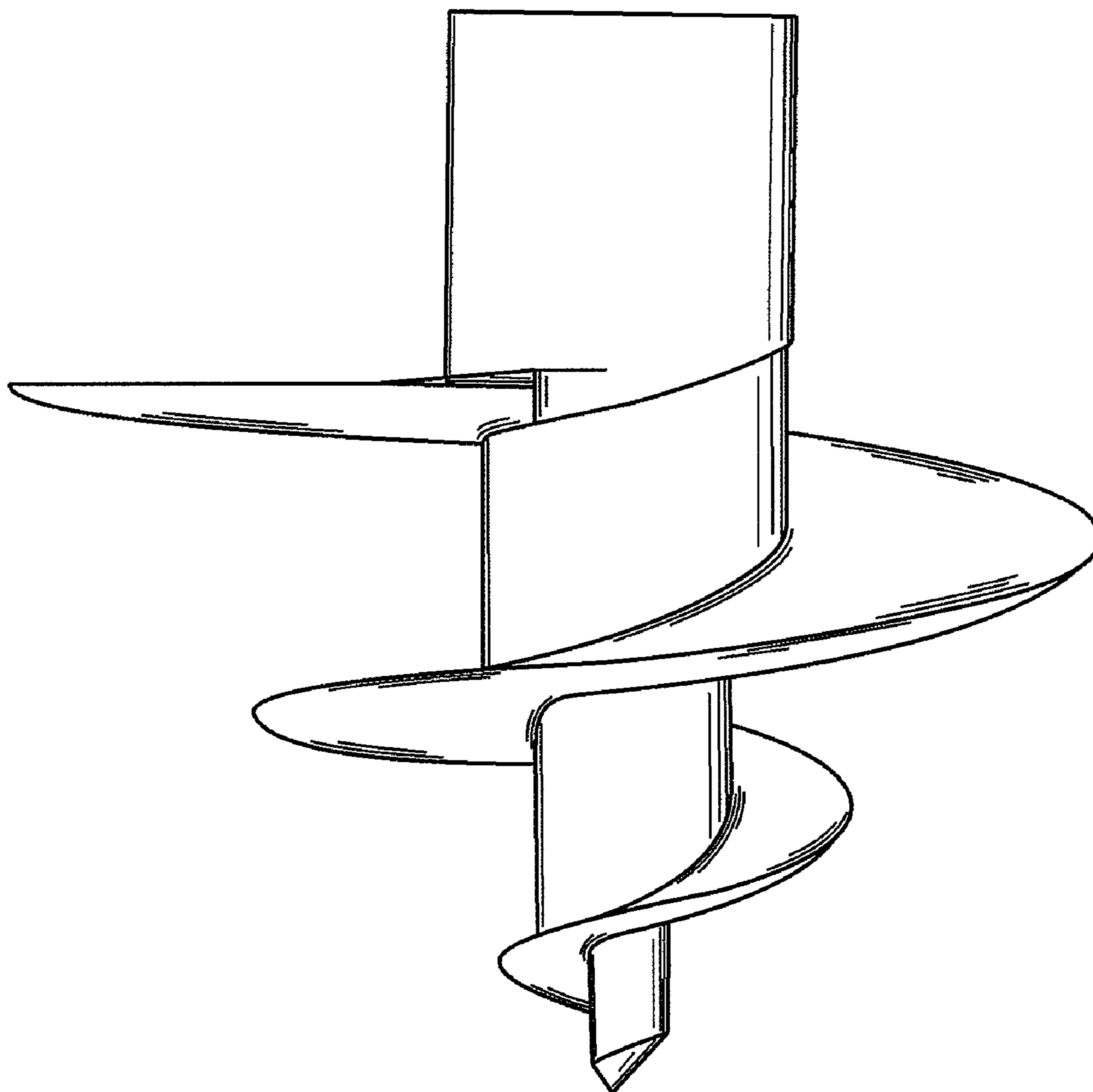
FIG. 2



**FIG. 3**



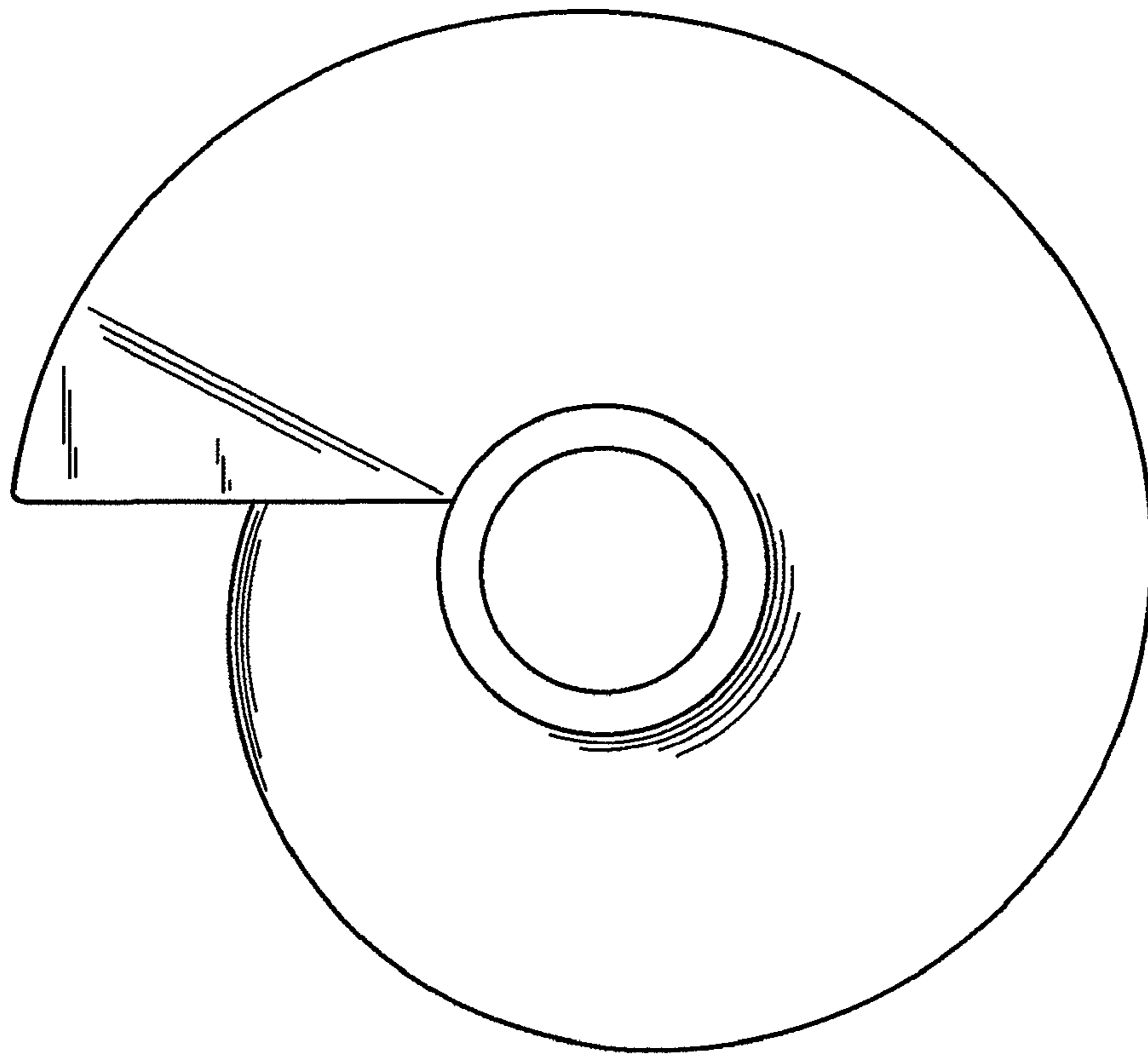
**FIG. 4**



*FIG. 5*



*FIG. 6*



*FIG. 7*

