



US00D518177S

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

(10) **Patent No.:** **US D518,177 S**
(45) **Date of Patent:** **** Mar. 28, 2006**

- (54) **SAFETY TROCAR WITH PROGRESSIVE CUTTING TIP GUARDS AND GAS JET TISSUE DEFLECTOR**
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- (73) Assignee: **Erblan Surgical, Inc.**, Belmont, MA (US)
- (**) Term: **14 Years**
- (21) Appl. No.: **29/156,875**
- (22) Filed: **Mar. 8, 2002**
- (51) **LOC (8) Cl.** **24-02**
- (52) **U.S. Cl.** **D24/146**
- (58) **Field of Classification Search** D24/146, D24/147, 130; 606/184, 167, 170, 185; 604/164.01, 604/164.07, 264, 506, 274
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,527,291	A	2/1925	Zorraquin
2,623,521	A	12/1952	Shaw
2,630,803	A	3/1953	Baran
3,030,468	A	6/1962	Price
3,090,384	A	5/1963	Baldwin et al.
3,713,447	A	1/1973	Adair
3,774,604	A	11/1973	Danielsson
3,789,852	A	2/1974	Kim et al.
4,168,699	A	9/1979	Hauser

(Continued)

FOREIGN PATENT DOCUMENTS

RU	921554	4/1982
WO	WO 00/54648	9/2000
WO	WO 00/78387	12/2000
WO	WO 02/28295	4/2002

OTHER PUBLICATIONS

Magazine Article from *Smart Money*, Nov. 2001, entitled *The Trouble with Trocars* authored by Linda Carroll and Alfred Lubrano, pp. 94-102.

Freudenheim, Milt, *The New York Times*, Business Day, *The Tiniest, Kindest Cut of all/Small Incisions Make Surgeries Cheaper*, Wednesday, Jul. 10, 1991.

Shenot, Christine, *Investor's Daily*, *New Surgery: Faster, Cheaper, Less Painful*, Monday, Sep. 10, 1990.

Winslow, Ron, *The Wall Street Journal Eastern Edition*, *Cutting Edge: A Tiny TV Camera is Transforming Gallbladder Surgery*, vol. CCXVI No. 113, Monday, Dec. 10, 1990.

Ethicon News, *Less Invasive Surgical Techniques Inspire New ETHICON* Products*, Sep./Oct. 1990, vol. 38.

Brehm, Denise, *MIT Tech Talk*, *New Instrument Aims to Make Endoscopic Surgery Safer*, vol. 44, No. 26, Apr. 5, 2000.

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(57) **CLAIM**

The ornamental design for a safety trocar with progressive cutting tip guards and gas jet tissue deflector, as shown and described.

DESCRIPTION

FIG. 1 is a top, front and right side perspective view of a safety trocar with progressive cutting tip guards and gas jet tissue deflector showing my new design, the bottom and left front perspective view thereof being a mirror image of the perspective view shown, wherein the cutting blade thereof is shown in a guarded position;

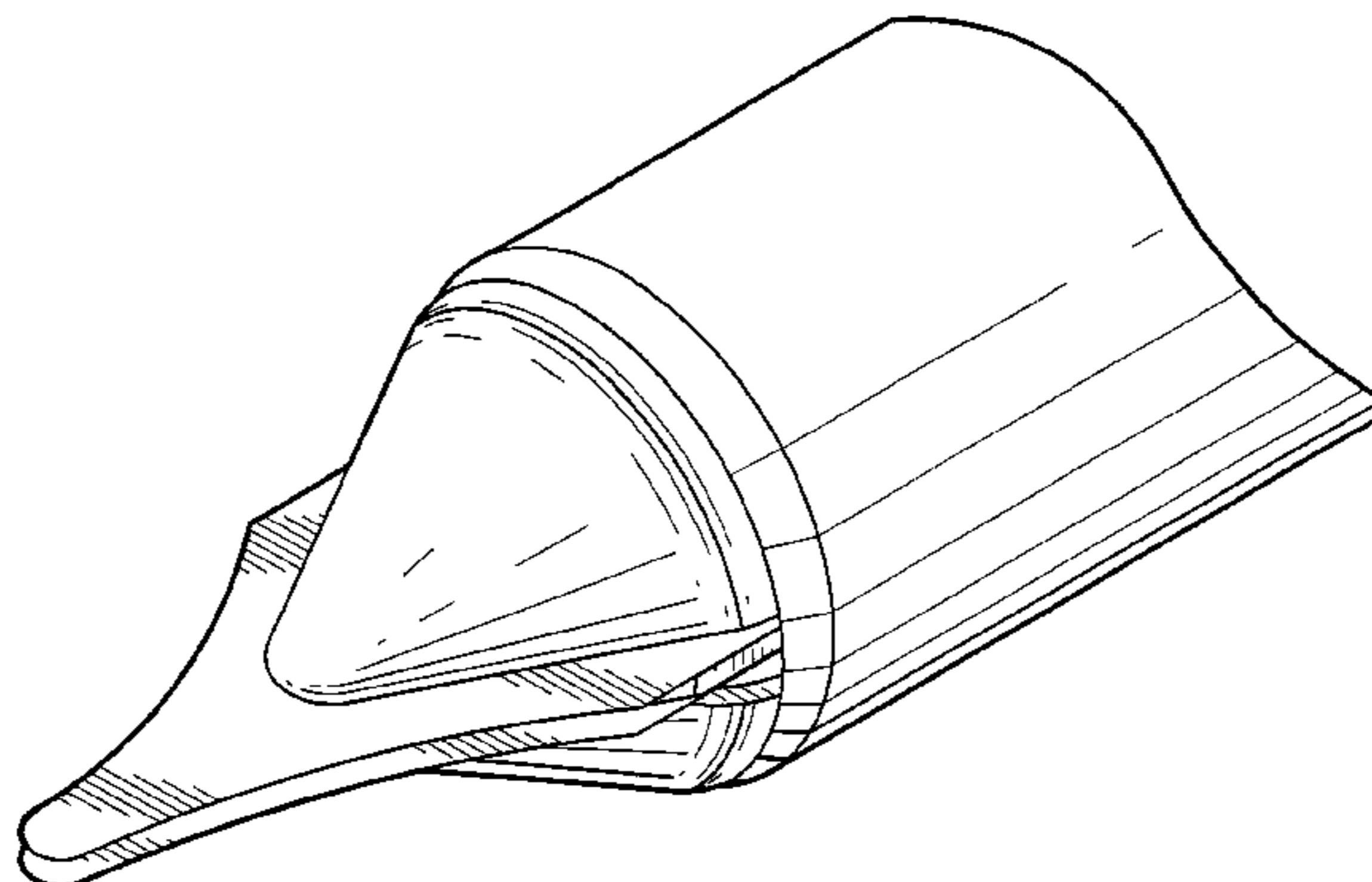
FIG. 2 is a top, front and right side perspective view thereof, the bottom and left front perspective being a mirror image of the perspective view shown, the cutting tip being shown in a partially exposed position;

FIG. 3 is a top, front and right side perspective view thereof, the bottom left and front perspective view being a mirror image thereof, wherein the cutting blade is shown in fully exposed position, with the guards retracted; and,

FIG. 4 is a perspective view as seen in FIG. 1.

The phantom lines showing in the drawings is for illustrative purposes only and forms no part of the claimed design.

1 Claim, 3 Drawing Sheets



US D518,177 S

U.S. PATENT DOCUMENTS					
			5,674,237 A	*	10/1997 Ott 606/185
			5,676,682 A		10/1997 Yoon 606/185
4,177,814 A	12/1979	Knepshield et al.	5,690,663 A		11/1997 Stephens 606/185
4,403,617 A	9/1983	Tretinyak	5,690,664 A		11/1997 Sauer et al.
4,431,426 A	2/1984	Groshong et al.	5,697,913 A		12/1997 Sierocuk et al.
4,491,132 A	1/1985	Aikins	5,709,671 A		1/1998 Stephens et al. 604/264
4,535,773 A	8/1985	Yoon	5,772,660 A		6/1998 Young et al.
4,556,059 A	12/1985	Adamson, Jr.	5,776,112 A		7/1998 Stephens et al. 604/264
4,601,710 A	7/1986	Moll	5,797,943 A		8/1998 Danks et al. 606/185
4,654,030 A	3/1987	Moll et al.	5,807,338 A		9/1998 Smith et al.
4,747,831 A	5/1988	Kulli	5,824,002 A		10/1998 Gentelia et al.
4,808,168 A	2/1989	Warring	5,860,996 A		1/1999 Urban et al.
4,813,426 A	3/1989	Haber et al.	5,868,773 A		2/1999 Danks et al. 606/185
4,902,280 A	2/1990	Lander	5,879,332 A		3/1999 Schwemberger et al.
4,906,236 A	3/1990	Alberts et al.	5,882,340 A		3/1999 Yoon
4,922,602 A	5/1990	Mehl	5,904,699 A		5/1999 Schwemberger et al.
4,931,042 A	6/1990	Holmes et al.	5,916,232 A		6/1999 Hart
4,952,207 A	8/1990	Lemieux	5,947,930 A		9/1999 Schwemberger et al.
5,009,643 A	4/1991	Reich et al.	5,980,493 A		11/1999 Smith et al.
5,030,206 A	7/1991	Lander	5,984,941 A		11/1999 Wilson et al. 606/185
5,066,288 A	11/1991	Deniega et al.	5,989,228 A		11/1999 Danks et al.
5,104,382 A	4/1992	Brinkerhoff et al.	5,997,510 A		12/1999 Schwemberger 604/164
5,114,407 A	5/1992	Burbank	6,017,356 A	*	1/2000 Frederick et al. 606/185
5,116,353 A	5/1992	Green	6,030,402 A		2/2000 Thompson et al.
5,147,316 A	9/1992	Castillenti	6,036,711 A	*	3/2000 Mozdierz et al. 606/185
5,152,754 A	10/1992	Plyley et al.	6,063,099 A		5/2000 Danks et al. 606/185
5,215,526 A	6/1993	Deniega et al.	6,080,174 A		6/2000 Dubrul et al.
5,224,952 A	7/1993	Deniega et al.	6,197,041 B1		3/2001 Shichman et al.
5,246,425 A	9/1993	Hunsberger et al.	D443,360 S	*	6/2001 Haberland D24/146
5,248,298 A	9/1993	Bedi et al.	6,497,716 B1		12/2002 Green et al.
5,256,149 A	10/1993	Banik et al.	6,719,746 B1	*	4/2004 Blanco 604/164.01
5,267,965 A	12/1993	Deniega	2001/0039430 A1		11/2001 Dubrul et al.
5,279,567 A	1/1994	Ciaglia et al.	2001/0041907 A1		11/2001 Hill
5,295,993 A	3/1994	Green	2002/0004646 A1		1/2002 Manhes
5,314,417 A	5/1994	Stephens et al.	2002/0007153 A1		1/2002 Wells et al.
5,318,580 A	6/1994	Gresl, Jr.	2002/0013597 A1		1/2002 McFarlane
5,318,585 A	6/1994	Guy et al.	2002/0019609 A1		2/2002 McFarlane
5,320,610 A	6/1994	Yoon	2002/0019639 A1		2/2002 Dorn
5,364,372 A	11/1994	Danks et al. 604/264	2002/0026207 A1		2/2002 Stellion et al.
5,372,588 A	12/1994	Farley et al.	2002/0045846 A1		4/2002 Kaplon et al.
5,387,197 A	2/1995	Smith et al. 604/164	2002/0077637 A1		6/2002 Vargas et al.
5,399,167 A	3/1995	Deniega 604/164	2002/0133188 A1	*	9/2002 O'Heeron et al. 606/185
5,431,676 A	7/1995	Dubrul et al.	2002/0143236 A1		10/2002 Sauer et al.
D362,066 S	* 9/1995	Petruschke et al. D24/146	2002/0156432 A1		10/2002 Racenet et al.
D364,924 S	* 12/1995	Medema D24/146	2002/0183775 A1	*	12/2002 Tsonton et al. 606/185
5,522,833 A	6/1996	Stephens et al.	2002/0188247 A1		12/2002 Peery
5,545,150 A	8/1996	Danks et al. 604/256	2002/0198554 A1		12/2002 Whitman et al.
5,569,160 A	10/1996	Sauer et al.	2003/0004528 A1		1/2003 Ishikawa
5,607,440 A	3/1997	Danks et al. 606/185	2003/0004529 A1		1/2003 Tsonton et al.
5,609,604 A	3/1997	Schwemberger et al.	2003/0023257 A1		1/2003 Ishikawa et al.
5,620,456 A	4/1997	Sauer et al. 606/185	2003/0023259 A1		1/2003 Dubrul et al.
5,624,459 A	4/1997	Kortenbach et al. 606/185	2003/0100914 A1	*	5/2003 O'Heeron et al. 606/185
5,658,236 A	8/1997	Sauer et al.			
5,669,885 A	9/1997	Smith 606/184			

* cited by examiner

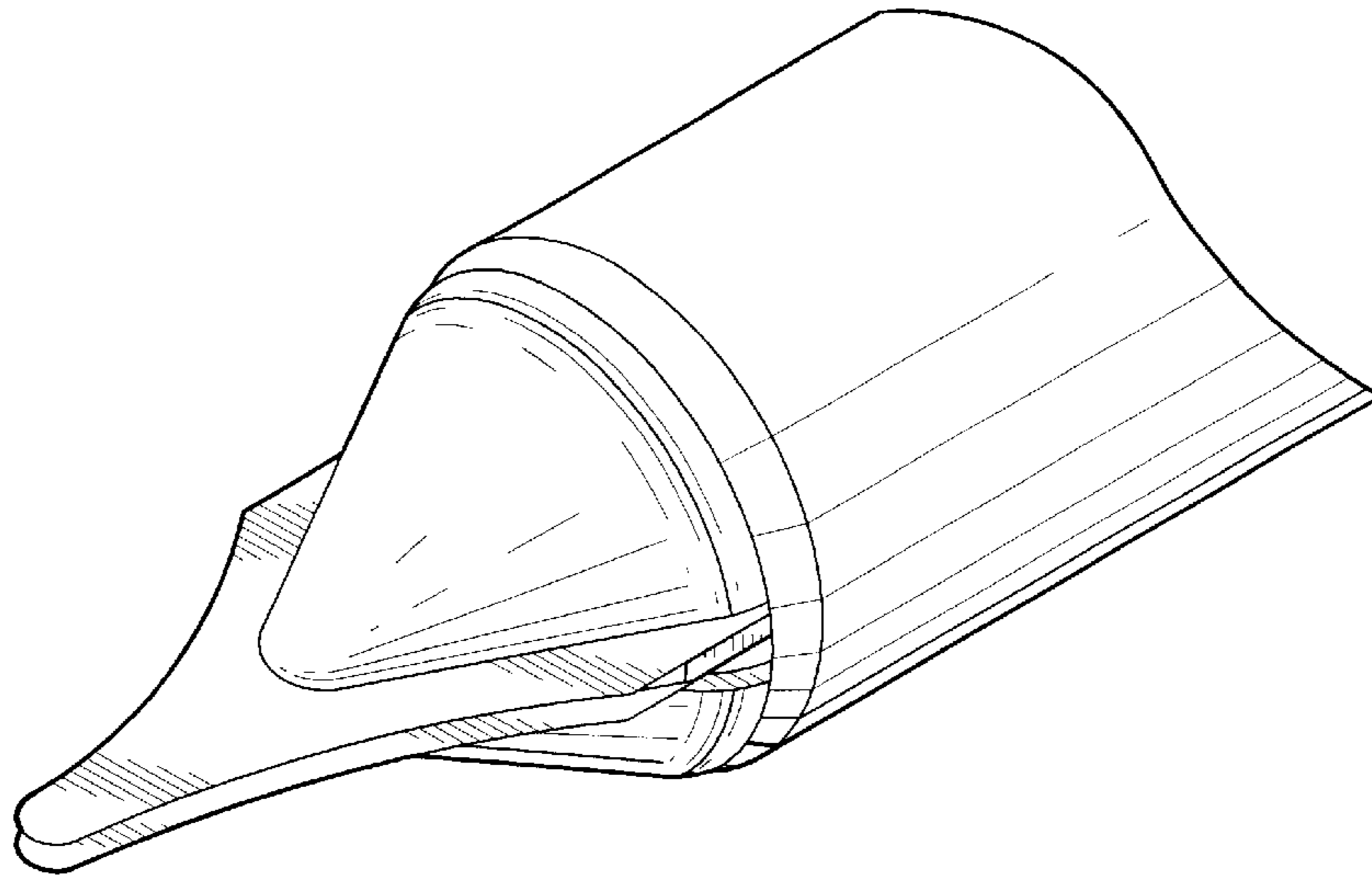


FIG. 1

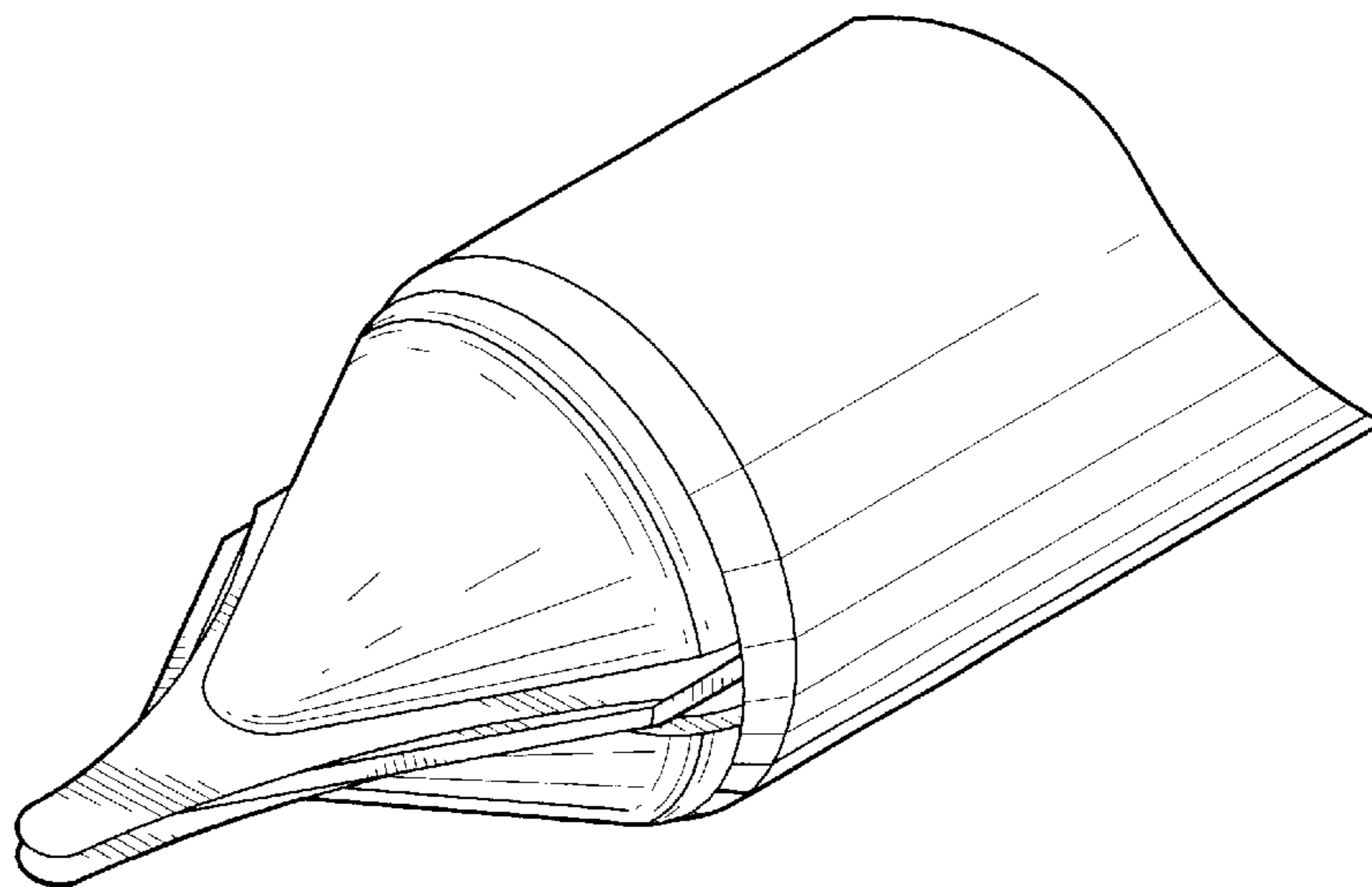


FIG. 2

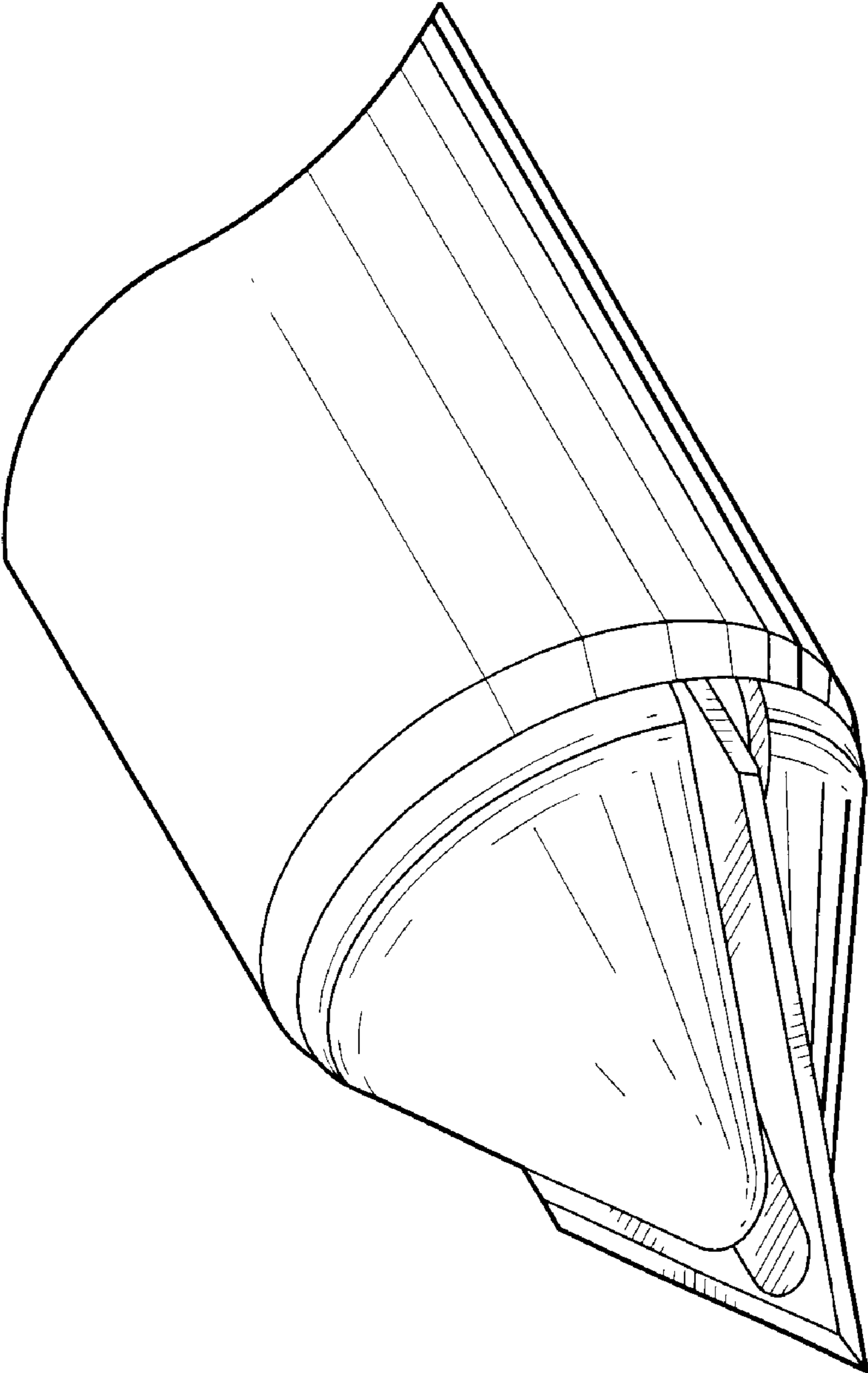


FIG. 3

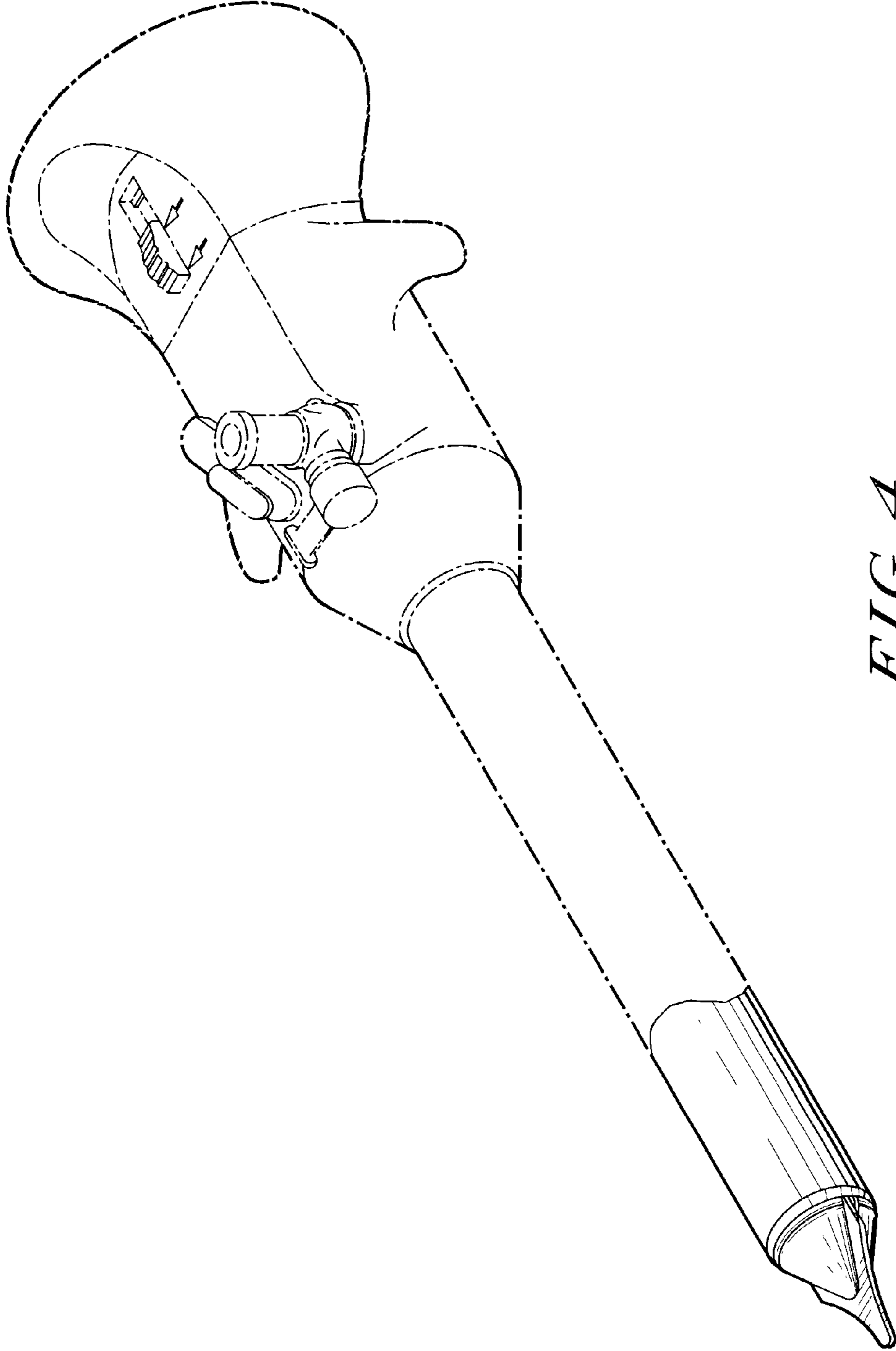


FIG. 4