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(12) **United States Design Patent**
Walter et al.

(10) **Patent No.:** **US D696,416 S**
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(54) **MIXING ELEMENT**

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

(21) Appl. No.: **29/398,427**

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(30) **Foreign Application Priority Data**

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(51) **LOC (9) Cl.** **24-01**

(52) **U.S. Cl.**
USPC **D24/220**

(58) **Field of Classification Search**
USPC D24/220, 221, 176, 180; D7/379;
D15/19, 138, 147; 366/172.1, 181.4,
366/307, 318, 320, 323, 336, 339;
222/145.6

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | |
|--------------|---------|------------------|
| D269,039 S | 5/1983 | Klein |
| D290,395 S | 6/1987 | Stevens et al. |
| 5,249,862 A | 10/1993 | Herold et al. |
| 6,244,740 B1 | 6/2001 | Wagner et al. |
| 6,394,643 B1 | 5/2002 | Bublewitz et al. |
| 6,443,612 B1 | 9/2002 | Keller |
| 6,523,992 B1 | 2/2003 | Bublewitz et al. |

| | | | | |
|--------------|---------|------------------|-------|---------|
| D472,323 S * | 3/2003 | Sand | | D24/220 |
| D474,271 S | 5/2003 | Iori et al. | | |
| D483,495 S | 12/2003 | Sand | | |
| 6,837,612 B2 | 1/2005 | Bublewitz et al. | | |

(Continued)

FOREIGN PATENT DOCUMENTS

| | | |
|----|----------|---------|
| DE | 20302987 | 4/2003 |
| EP | 1149627 | 10/2001 |
| WO | 98/43727 | 10/1998 |

OTHER PUBLICATIONS

Color photograph (one page) of a Penta Mixing Tip, 3M ESPE Item #71510 (white mixing tip shaft), which was made commercially available by 3M ESPE Dental Products prior to Sep. 20, 2004.

(Continued)

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(57) **CLAIM**

The ornamental design for a mixing element, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a new design for a mixing element;

FIG. 2 is a back view thereof;

FIG. 3 is a front view thereof;

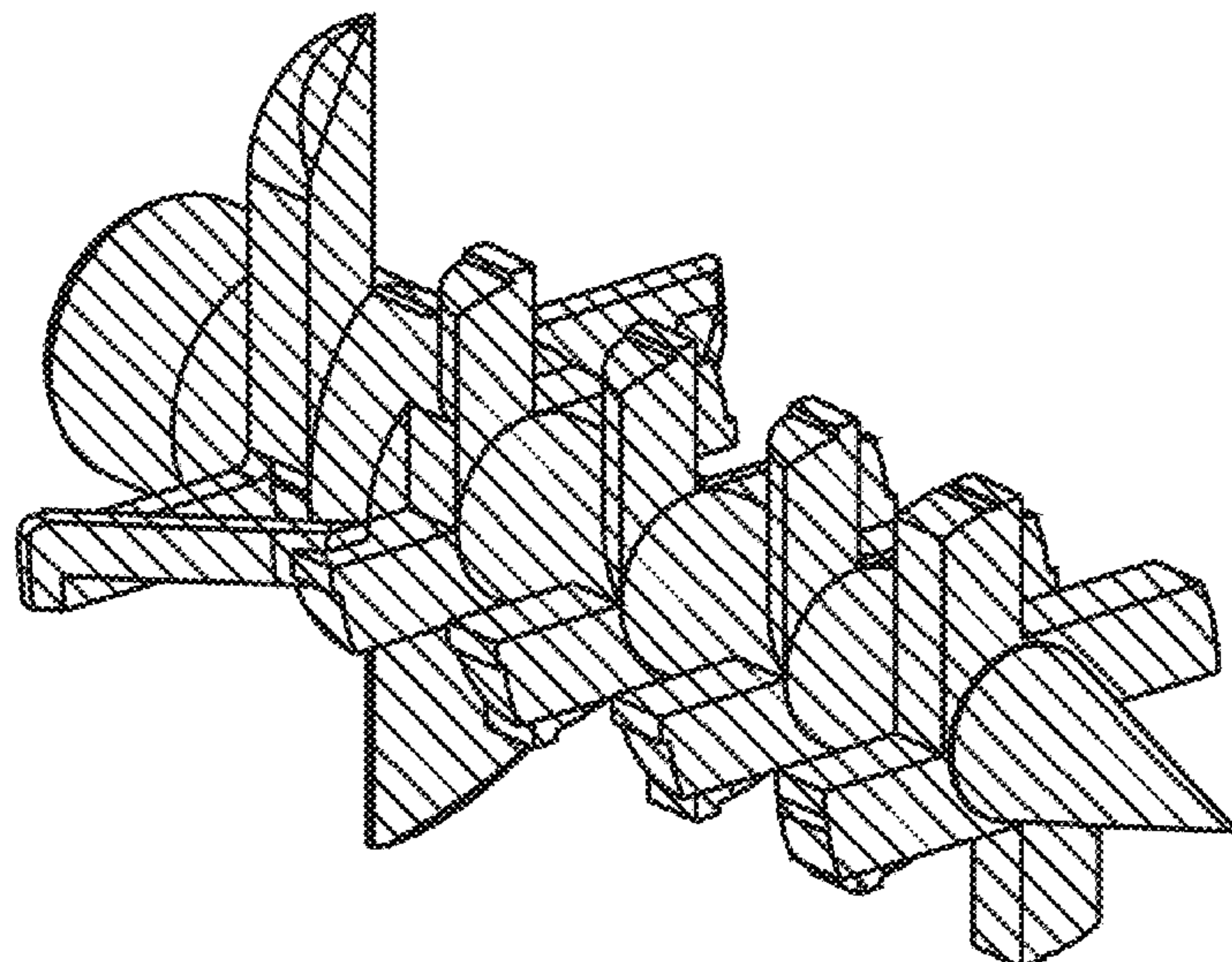
FIG. 4 is a side view thereof; and,

FIG. 5 is a top view thereof.

The broken lines in the drawing views are included for the purpose of illustrating portions of the mixing element that form no part of the claimed design.

The drawings are lined for color. The lining on the surfaces of the claimed design represents green.

1 Claim, 1 Drawing Sheet



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References Cited

U.S. PATENT DOCUMENTS

| | | | | |
|--------------|------|---------|------------------|-----------|
| 7,320,541 | B2 | 1/2008 | Wagner | |
| D571,479 | S | 6/2008 | Wagner | |
| D571,927 | S | 6/2008 | Wagner | |
| D607,476 | S * | 1/2010 | Saul | D15/138 |
| D608,800 | S * | 1/2010 | Ettlin | D15/138 |
| D617,001 | S | 6/2010 | Lee | |
| 7,731,413 | B2 * | 6/2010 | Busin et al. | 366/171.1 |
| D622,298 | S * | 8/2010 | Ettlin | D15/138 |
| 7,771,110 | B2 | 8/2010 | Wang | |
| D672,873 | S * | 12/2012 | An | D24/176 |
| 2001/0005338 | A1 | 6/2001 | Muhlbauer et al. | |
| 2002/0175186 | A1 | 11/2002 | Keller | |
| 2003/0137898 | A1 | 7/2003 | Wagner et al. | |
| 2004/0085854 | A1 | 5/2004 | Pauser et al. | |
| 2012/0218856 | A1 | 8/2012 | Walter | |

OTHER PUBLICATIONS

Color photograph (one page) of a MixPac Systems AG dynamic mixing tip (blue mixing tip shaft), which was publicly available prior to Sep. 20, 2004.

Color photograph (one page) of a Heraeus Kulzer GmbH dynamic mixing tip (grey mixing tip shaft), which was publicly available prior to Sep. 20, 2004.

Color photograph (one page) of a Heraeus Kulzer GmbH dynamic mixing tip (blue mixing tip shaft), which was publicly available prior to Sep. 20, 2004.

Color photograph (one page) of a Heraeus Kulzer GmbH dynamic mixing tip (white mixing tip shaft), which was publicly available prior to Sep. 20, 2004.

Color photograph (one page) of a Kettenbach GmbH & Co. KG Panasil Binetics Putty Dynamic Mixer Mixing Tip (white mixing tip shaft), which was publicly available prior to Sep. 20, 2004.

Color photograph (one page) of a Kettenbach GmbH & Co. KG dynamic mixing tip (white mixing tip shaft), which was publicly available prior to Sep. 20, 2004.

Color photograph (one page) of a Kettenbach GmbH & Co. KG dynamic mixing tip (grey mixing tip shaft), which was publicly available prior to Sep. 20, 2004.

Color photograph (one page) of a DMG Chemisch-Pharmazeutische Fabrik GmbH dynamic mixing tip, which was publicly available prior to Sep. 20, 2004.

Color photograph (one page) of a DMG Chemisch-Pharmazeutische Fabrik GmbH Honigum—Heavy, MixStar Tip, which was publicly available prior to Sep. 20, 2004.

* cited by examiner

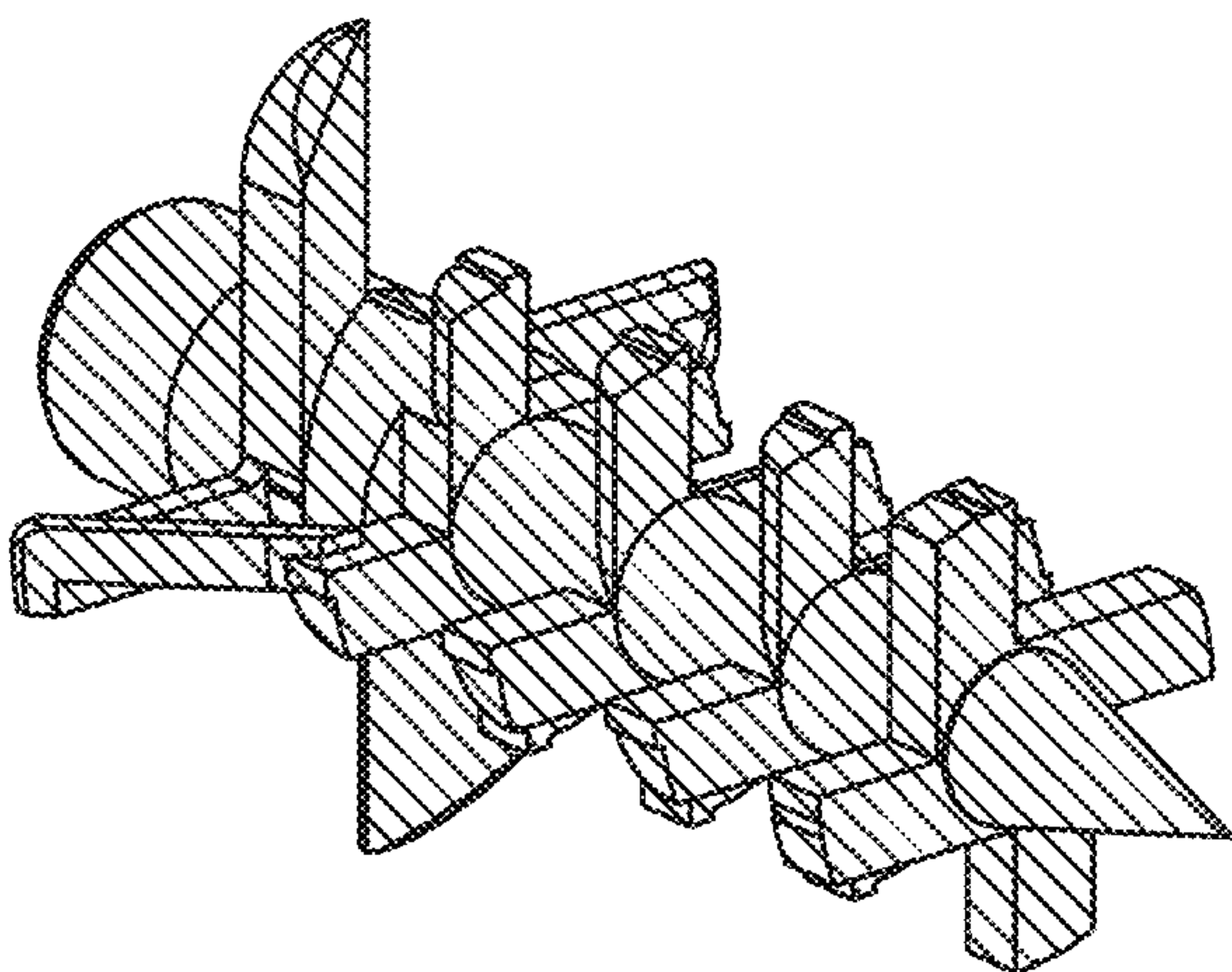


FIG. 1

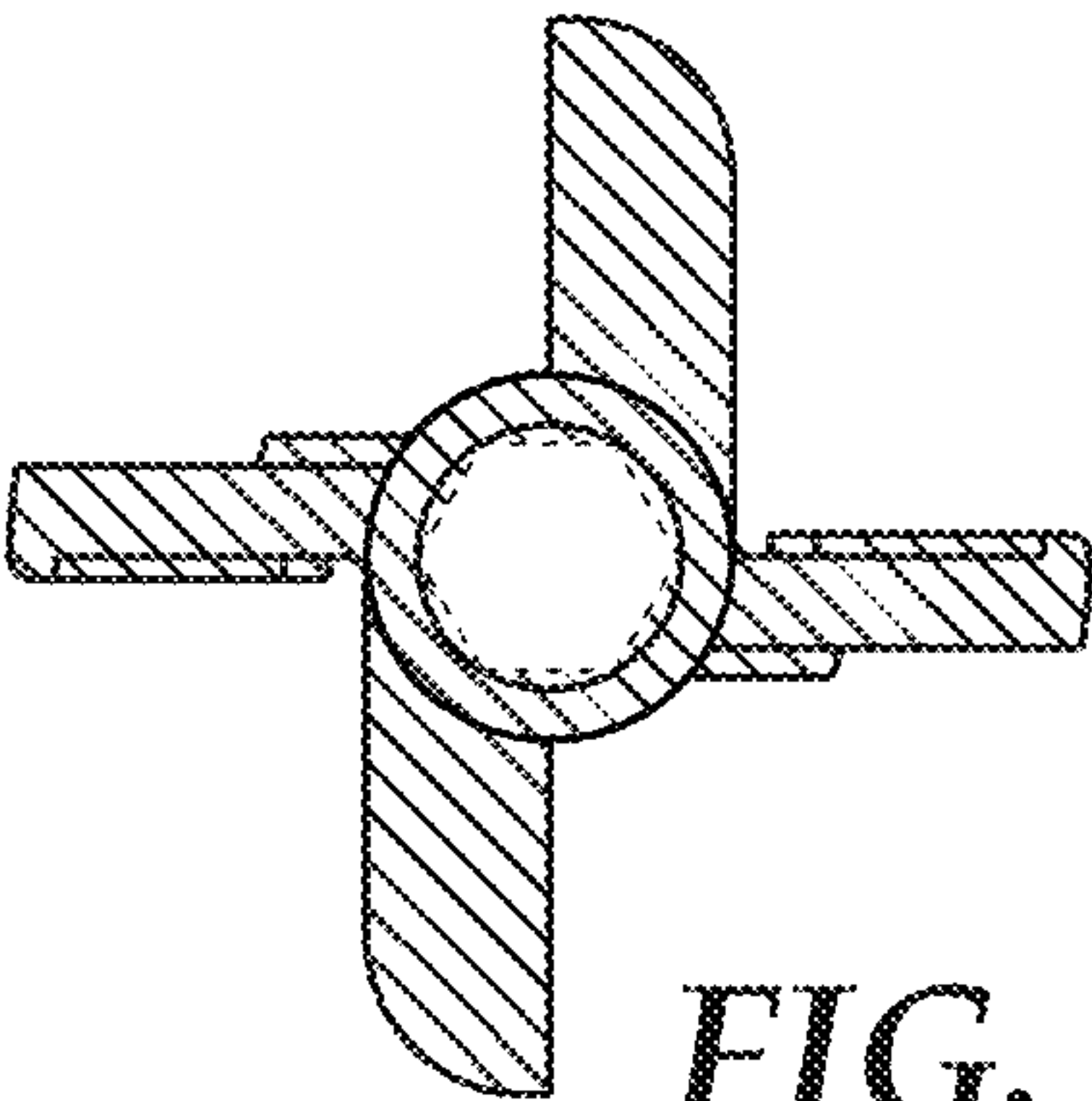


FIG. 2

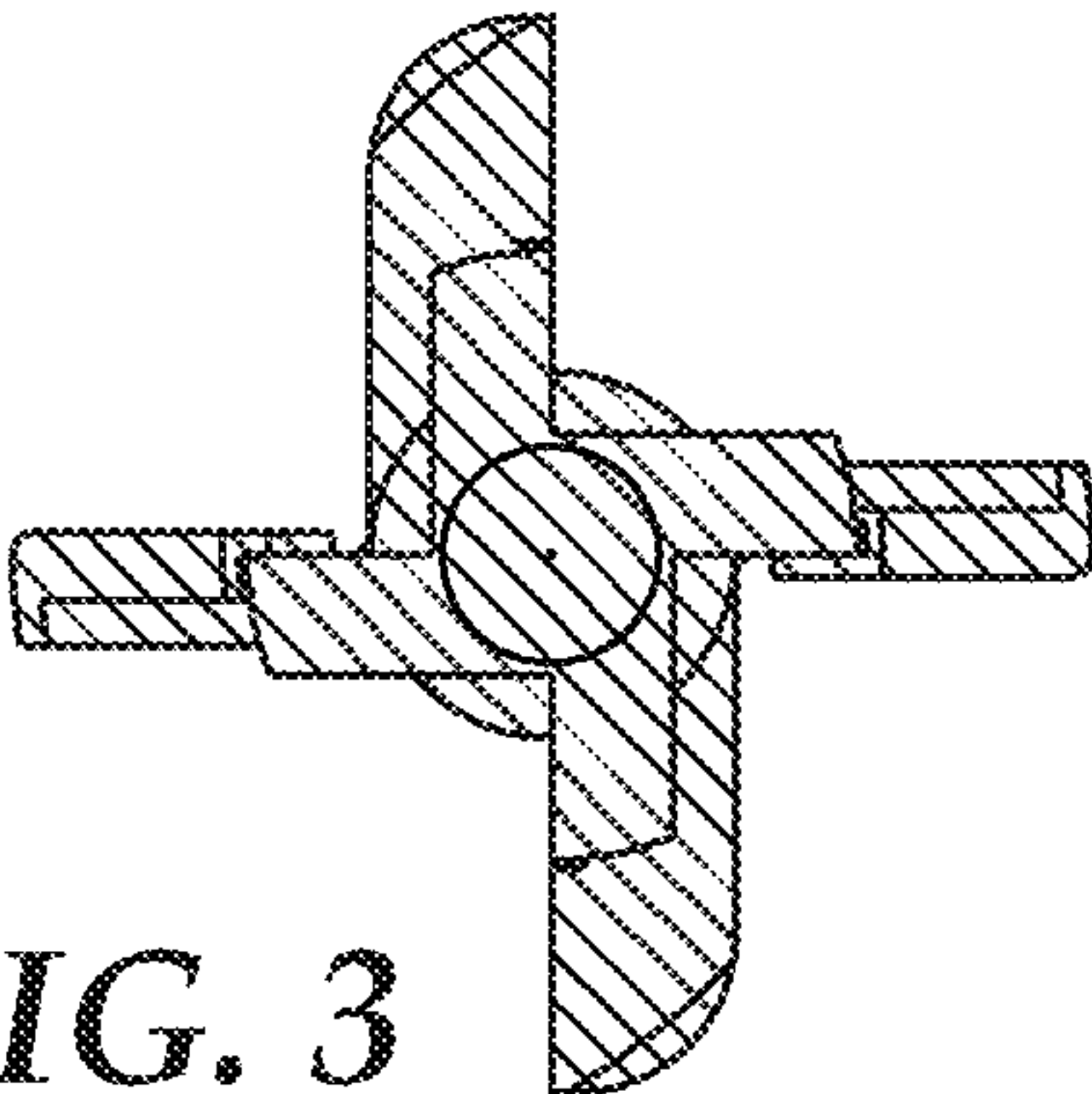


FIG. 3

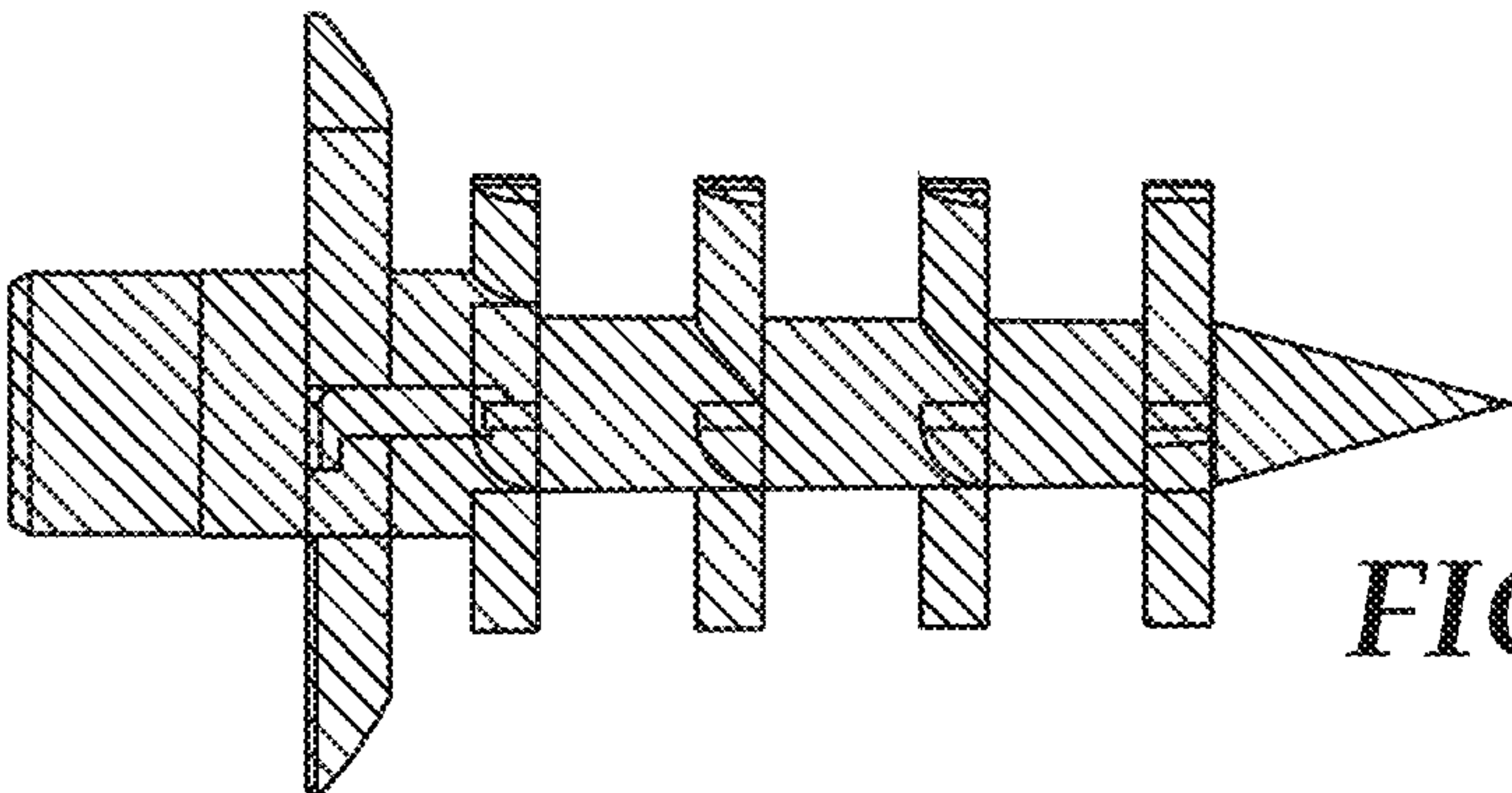


FIG. 4

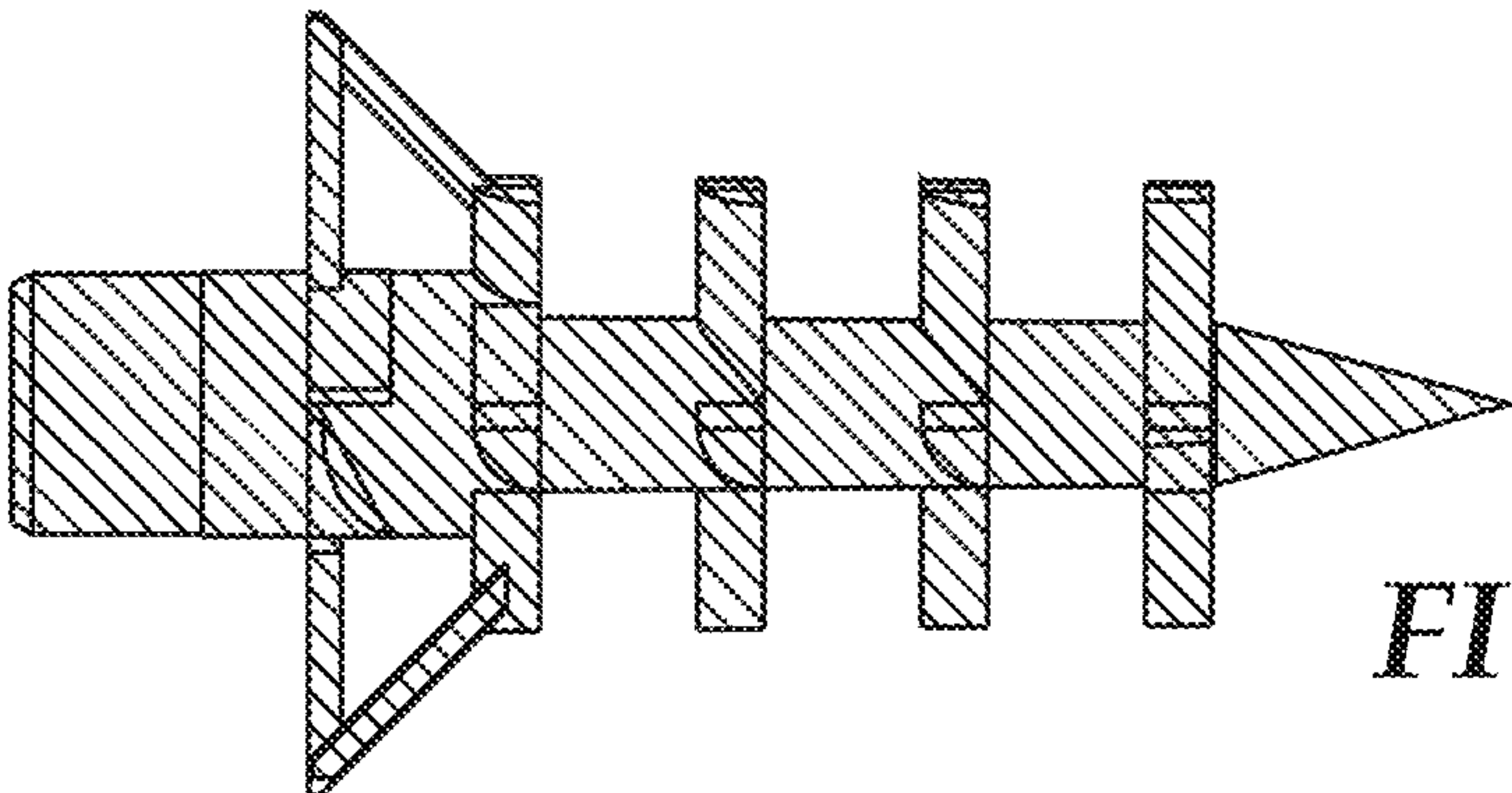


FIG. 5