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

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(45) **Date of Patent:** **** May 17, 2011**

(54) **FILTER CARTRIDGE ASSEMBLY**

DESCRIPTION

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(73) Assignee: **Peerless Mfg. Co.**, Dallas, TX (US)

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

(21) Appl. No.: **29/361,828**

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(51) **LOC (9) Cl.** **23-01**

(52) **U.S. Cl.** **D23/209**

(58) **Field of Classification Search** D23/207,
D23/209; 210/232, 234, 236, 304, 323.1,
210/338, 437, 443, 447, 456-457, 497.01

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | | | | |
|-----------|-----|---------|-----------------|-------|---------|
| 4,057,502 | A * | 11/1977 | Crumrine et al. | | 210/440 |
| 4,613,438 | A | 9/1986 | DeGraffenreid | | |
| 4,715,954 | A | 12/1987 | DeGraffenreid | | |
| 4,749,485 | A | 6/1988 | DeGraffenreid | | |

(Continued)

OTHER PUBLICATIONS

Buzanowski, Mac et al., "Minimizing the Pressure Drop Across Filters with Multi Cylindrical Filter Tubes," American Filtration and Separation Society Annual Conference, Filter Modeling Session Paper No. AFS-61, Mar. 26-29, 2007, Orlando, FL, 5 pages, AFS.

(Continued)

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Assistant Examiner — Maurice Stevens

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(57) **CLAIM**

The ornamental design for a filter cartridge assembly, as shown and described.

This application is related to copending U.S. application Ser. No. 29/361,826, filed concurrently herewith and entitled "Filter Cartridge," U.S. application Ser. No. 29/361,825, filed concurrently herewith and entitled "Filter Cartridge," and U.S. application Ser. No. 29/361,824, filed concurrently herewith and entitled "Filter Cartridge," the disclosures of which are incorporated herein by reference.

FIG. 1 depicts a top plan view of a filter cartridge assembly having the claimed ornamental design;

FIG. 2 depicts a bottom plan view of the filter cartridge assembly of FIG. 1, showing the bottom side of a filter cartridge assembly having our design;

FIG. 3 is an elevation view from any of the left, right, front and back sides of the filter cartridge assembly of FIG. 1, showing the left, right, front or back side of a filter cartridge assembly having our design;

FIG. 4 is a perspective view of the filter cartridge assembly of FIG. 1, showing the top and sides of a filter cartridge assembly having our design;

FIG. 5 is a perspective view of the filter cartridge assembly of FIG. 1, showing the bottom and sides of a filter cartridge assembly having our design; and,

FIG. 6 is a perspective view of a filter housing having several filter cartridge assemblies of FIG. 1 installed therein. The housing is shown in phantom for environmental purposes only and forms no part of the claimed embodiment. The filter cartridge assemblies are shown in phantom except one because the appearance of a group of filter cartridge assemblies within the filter housing are not a part of the claimed ornamental design of this application.

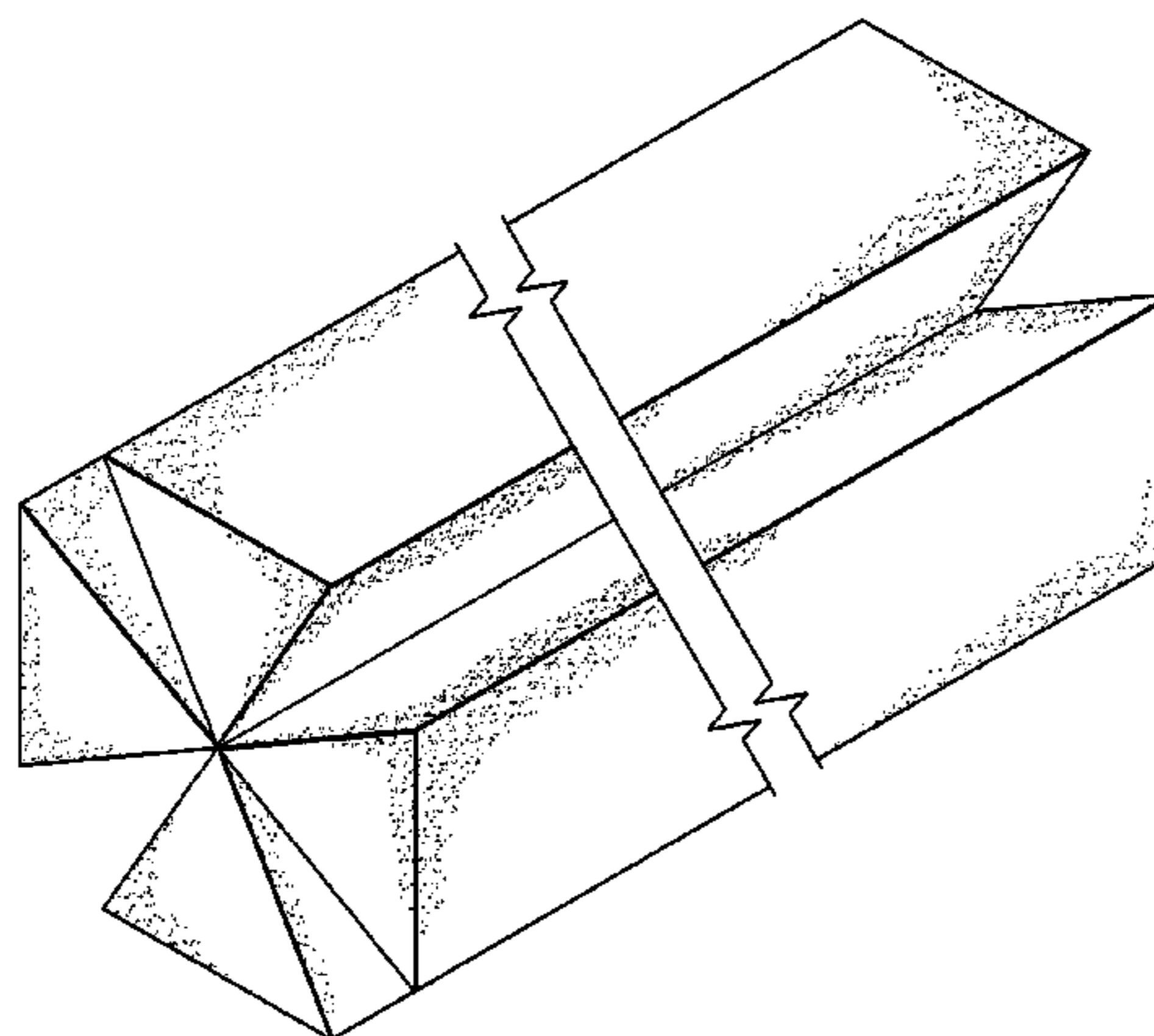
It should be understood that the labels used herein for describing orientation (e.g., front, rear, top, bottom, left, and right) are merely for reference, and the design may be disposed in any manner and still be within the scope of the present invention.

The design is shown broken away along its length to indicate unspecified length.

The broken line showing of unclaimed portions of the filter cartridge forms no part of the claimed design.

A Filter Separator often comprises several filter cartridges. The filter cartridges may be arranged within the housing of the Filter Separator so that an assembly (group) of these filter cartridges forms a design. The claimed design is an assembly of four triangular shaped filter cartridges.

1 Claim, 3 Drawing Sheets



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U.S. PATENT DOCUMENTS

| | | | | |
|--------------|------|---------|--------------------|---------|
| D398,368 | S * | 9/1998 | Schroer | D23/209 |
| 7,611,764 | B2 | 11/2009 | Komori et al. | |
| 2002/0178921 | A1 | 12/2002 | Kosmider et al. | |
| 2004/0168966 | A1 * | 9/2004 | Marheine | 210/232 |
| 2006/0006110 | A1 * | 1/2006 | Pas et al. | 210/338 |
| 2006/0174598 | A1 | 8/2006 | Mills et al. | |
| 2007/0246417 | A1 * | 10/2007 | Wright et al. | 210/232 |
| 2008/0164205 | A1 * | 7/2008 | Montelauro | 210/600 |
| 2010/0089812 | A1 * | 4/2010 | Talamali | 210/236 |

OTHER PUBLICATIONS

Buzanowski, Mac et al., "Optimization of Multi Cylindrical Filters for Industrial Gas Processing Plants," Proceedings of the 5th Joint ASME/JSME Fluids Engineering Conference, Jul. 30-Aug. 2, 2007, San Diego, CA, 3 pages, ASME.
U.S. Appl. No. 12/857,392, filed Aug. 16, 2010, Buzanowski.

* cited by examiner

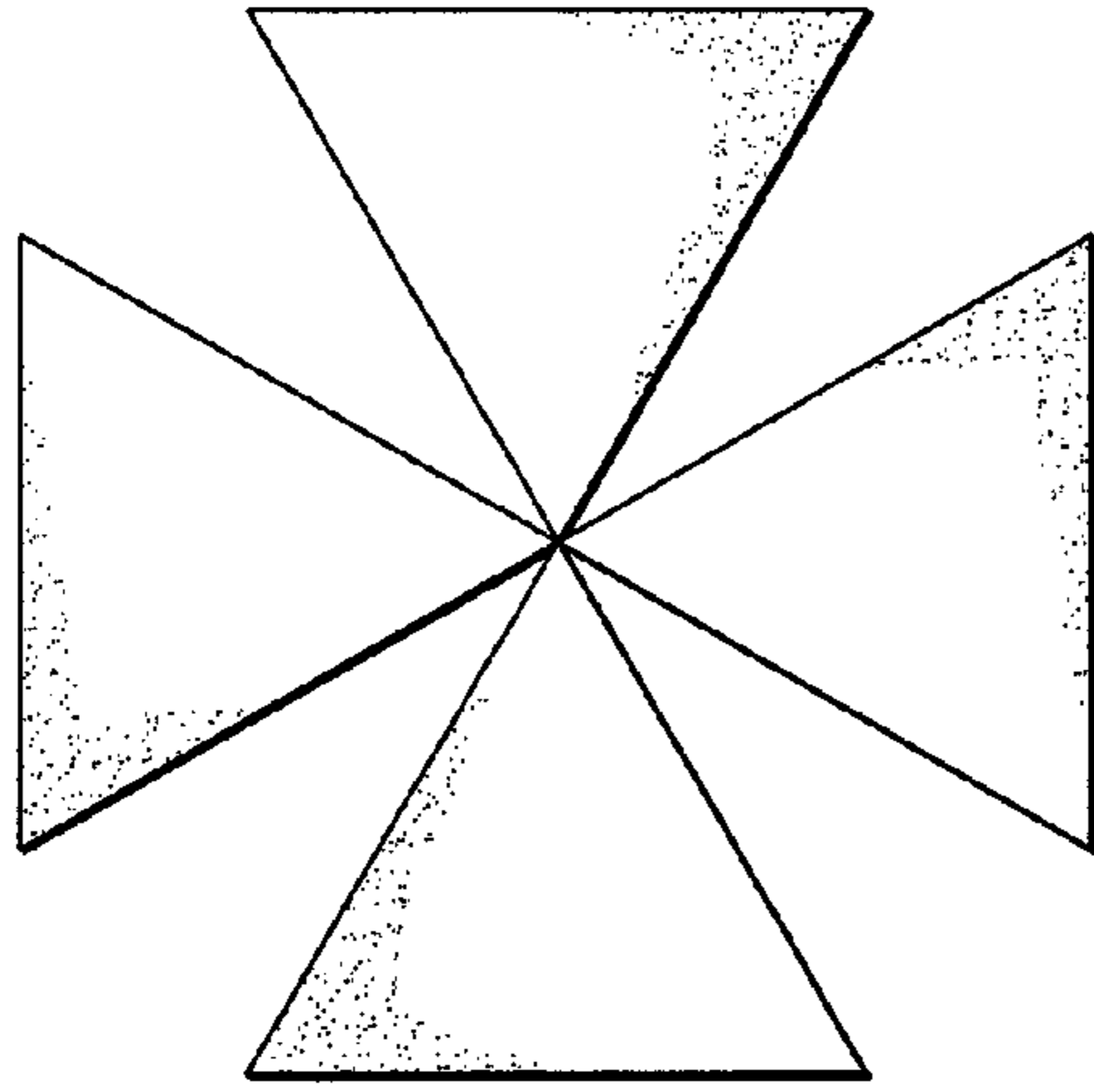


FIG. 1

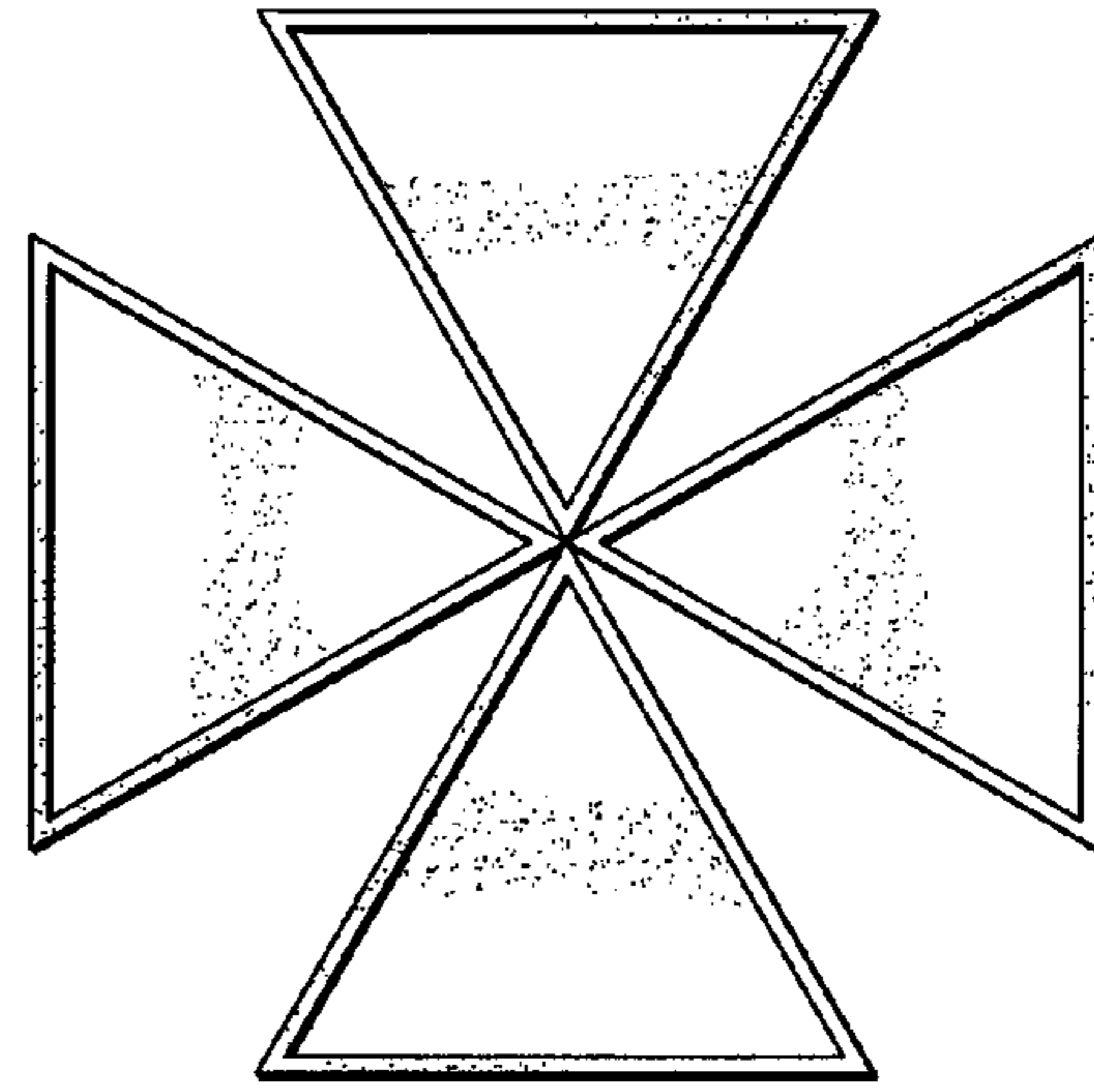


FIG. 2

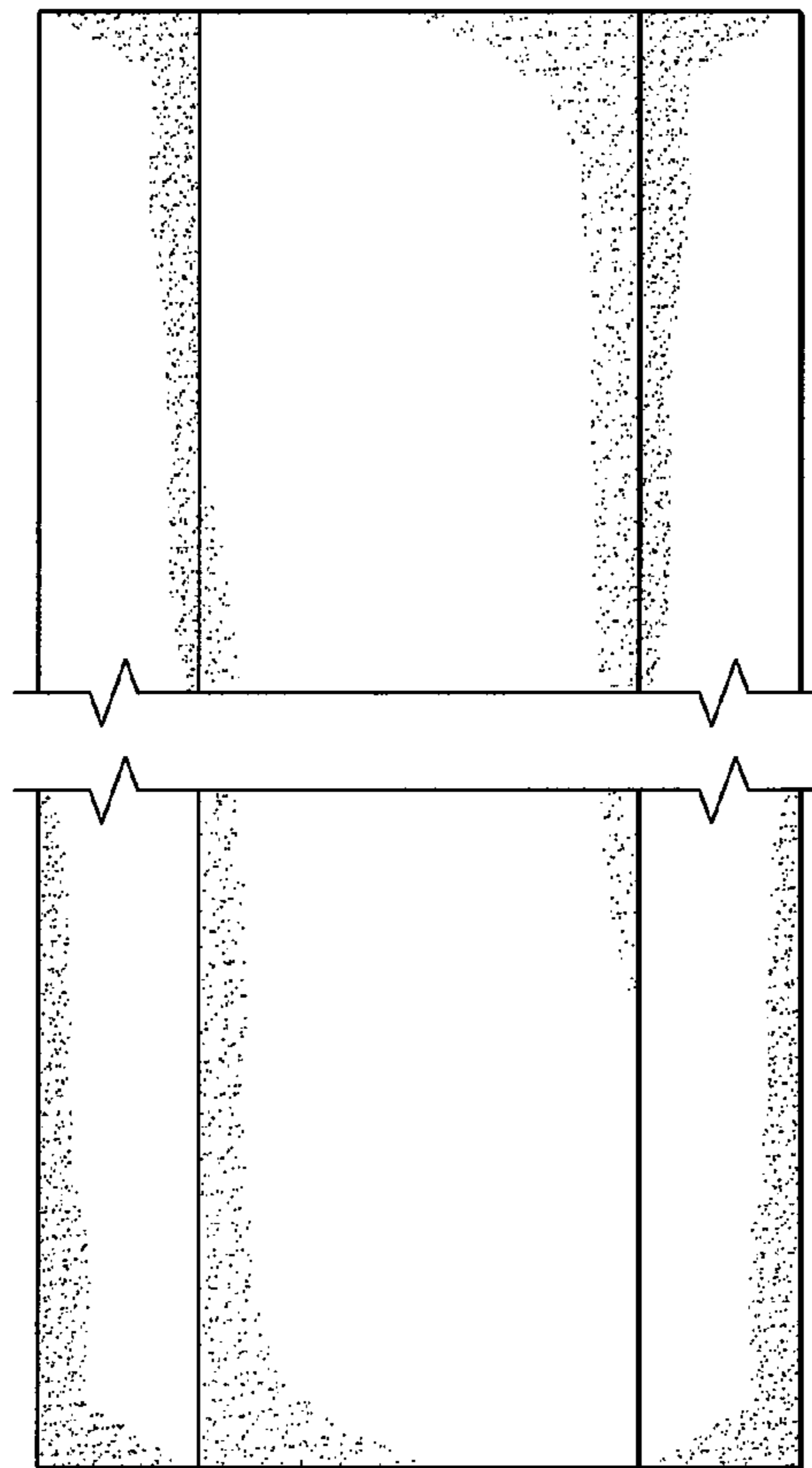


FIG. 3

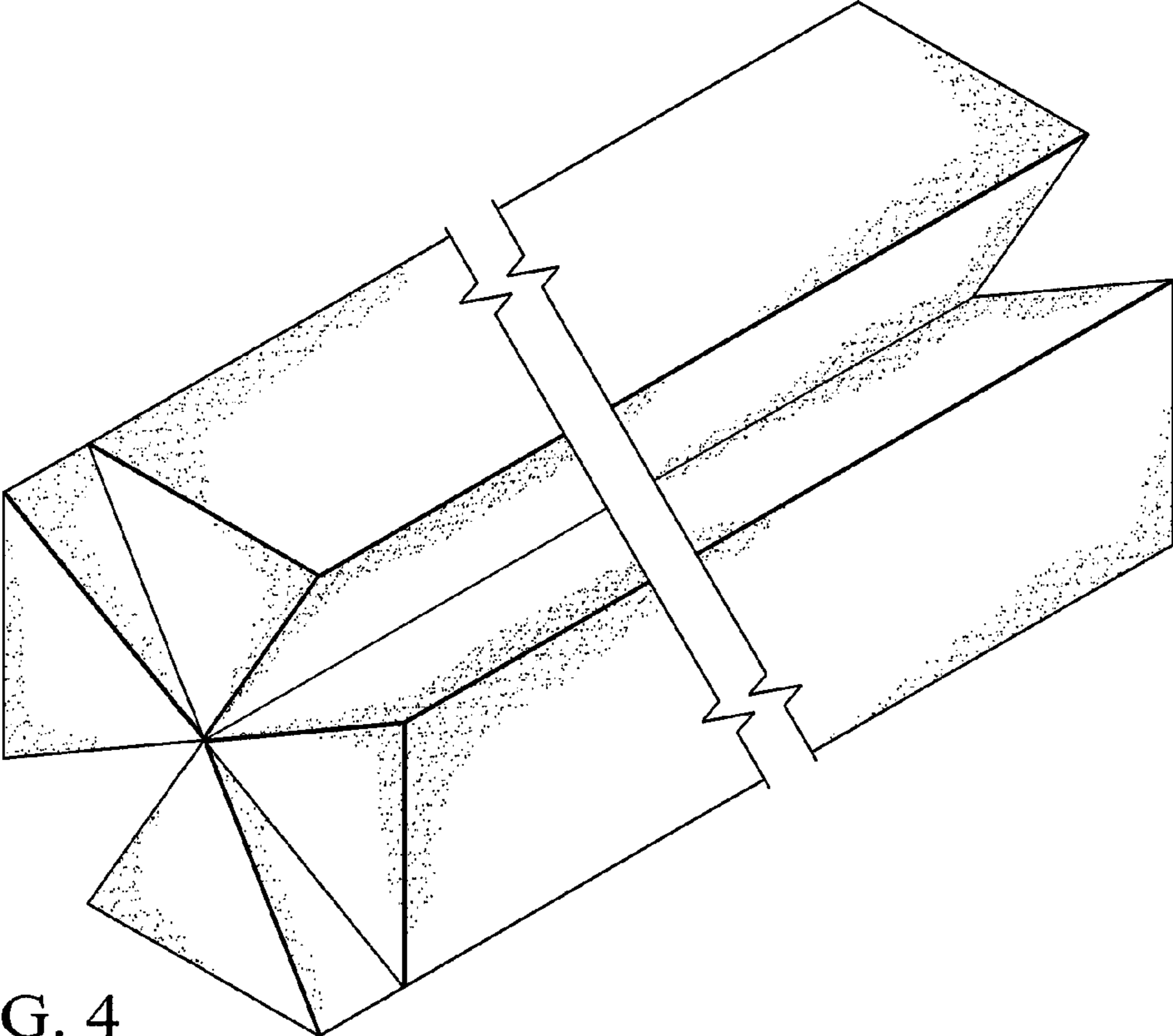


FIG. 4

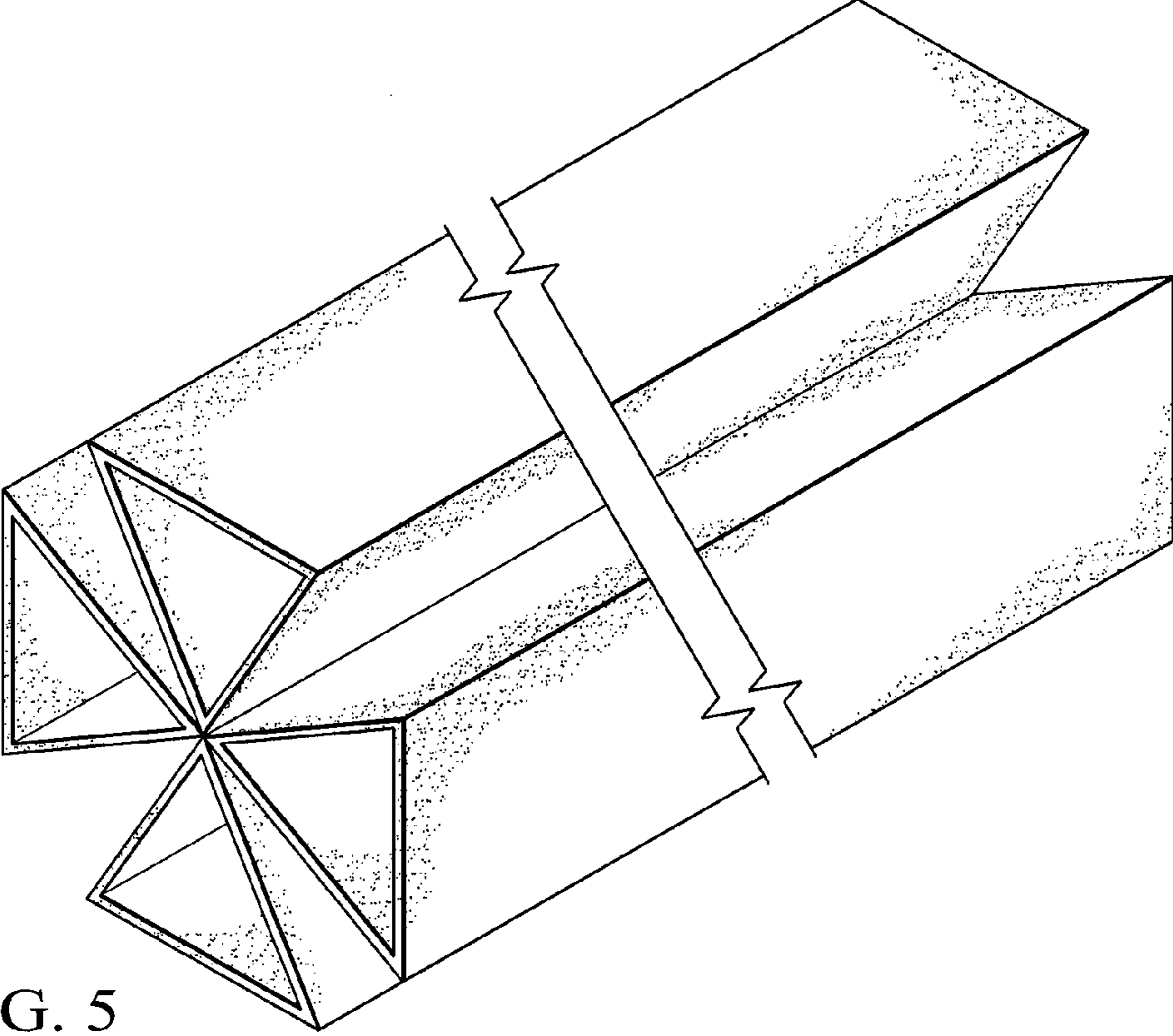


FIG. 5

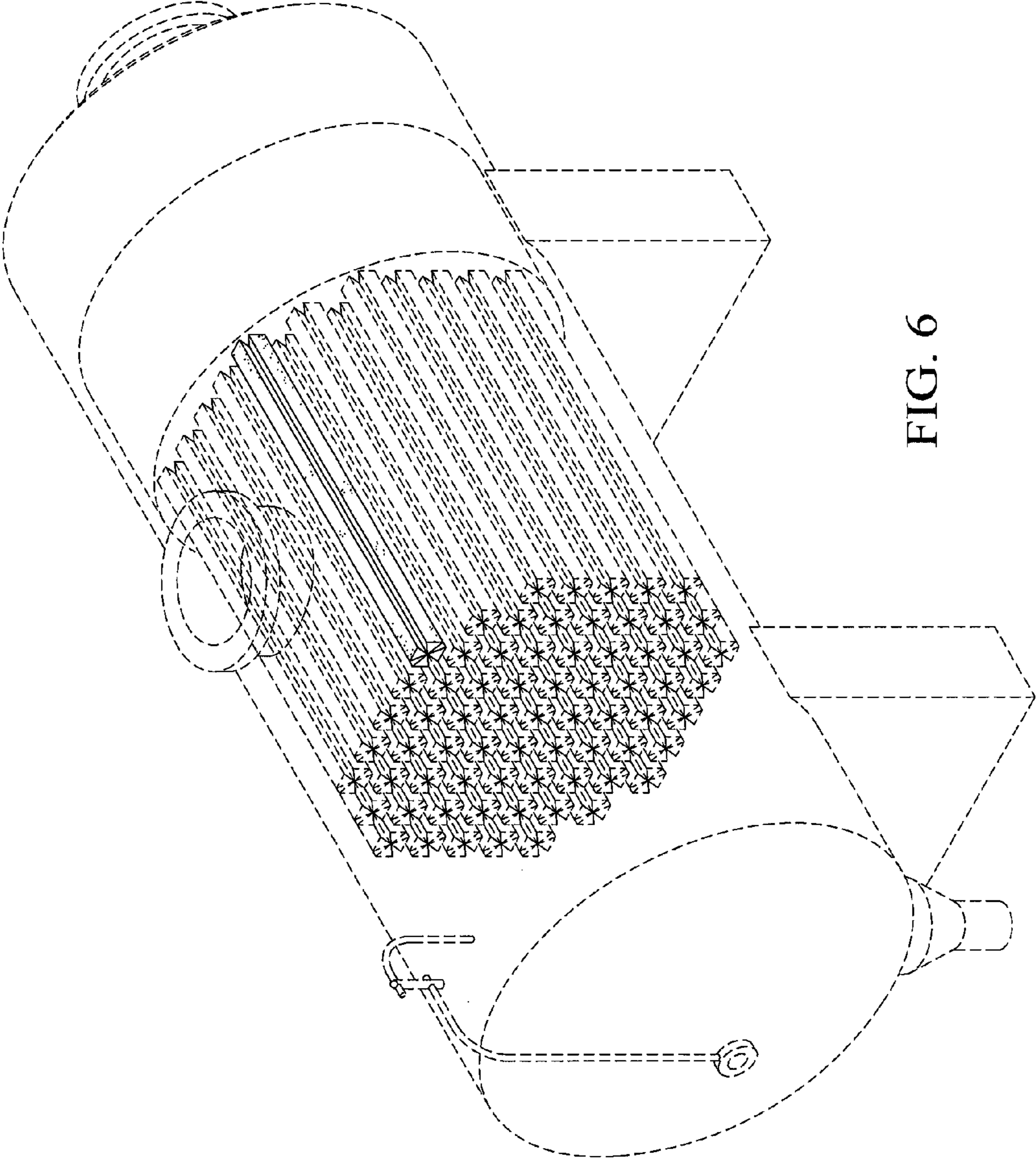


FIG. 6