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United States Patent [19]

Sato et al.

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[54] SOLENOID-OPERATED PILOT VALVE

5,699,834 12/1997 Hayashi et al. 137/884

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[73] Assignee: SMC Corporation, Tokyo, Japan

[57] CLAIM

[**] Term: 14 Years

The ornamental design for solenoid-operated pilot valve, as shown and described.

[21] Appl. No.: 29/094,693

DESCRIPTION

[22] Filed: Oct. 7, 1998

[30] Foreign Application Priority Data

Apr. 13, 1998 [JP] Japan 10-10529

[51] LOC (6) Cl. 23-01

[52] U.S. Cl. D23/233

[58] Field of Search D23/233-237,
D23/245; 137/596.13, 596.16, 884, 625.64

FIG. 1 is a top, front and right side perspective view of solenoid-operated pilot valve embodying our new design; FIG. 2 is a bottom, rear and left side perspective view thereof;

FIG. 3 is a front elevational view thereof;

FIG. 4 is a top plan view thereof;

FIG. 5 is a rear elevational view thereof;

FIG. 6 is a bottom plan view thereof;

FIG. 7 is a left side elevational view thereof;

FIG. 8 is a right side elevational view thereof; and,

FIG. 9 is a top, front and right side perspective view thereof shown when in use with a main valve.

The main valve illustrated in broken lines in FIG. 9 is shown for illustrative purposes only and forms no part of the claimed design.

The prongs are shown fragmented to indicate indeterminate length.

[56] References Cited

U.S. PATENT DOCUMENTS

| | | | | |
|------------|---------|----------------|-------|------------|
| D. 200,454 | 2/1965 | Everitt | | D23/233 |
| D. 246,908 | 1/1978 | Fetty | | D23/233 |
| D. 390,636 | 2/1998 | Hayashi et al. | | D23/233 |
| 4,856,560 | 8/1989 | Neff et al. | | 137/884 |
| 4,889,164 | 12/1989 | Hozumi et al. | | 137/625.64 |
| 5,437,306 | 8/1995 | Asou et al. | | 137/625.64 |
| 5,555,911 | 9/1996 | Fukano et al. | | 137/625.64 |

1 Claim, 2 Drawing Sheets

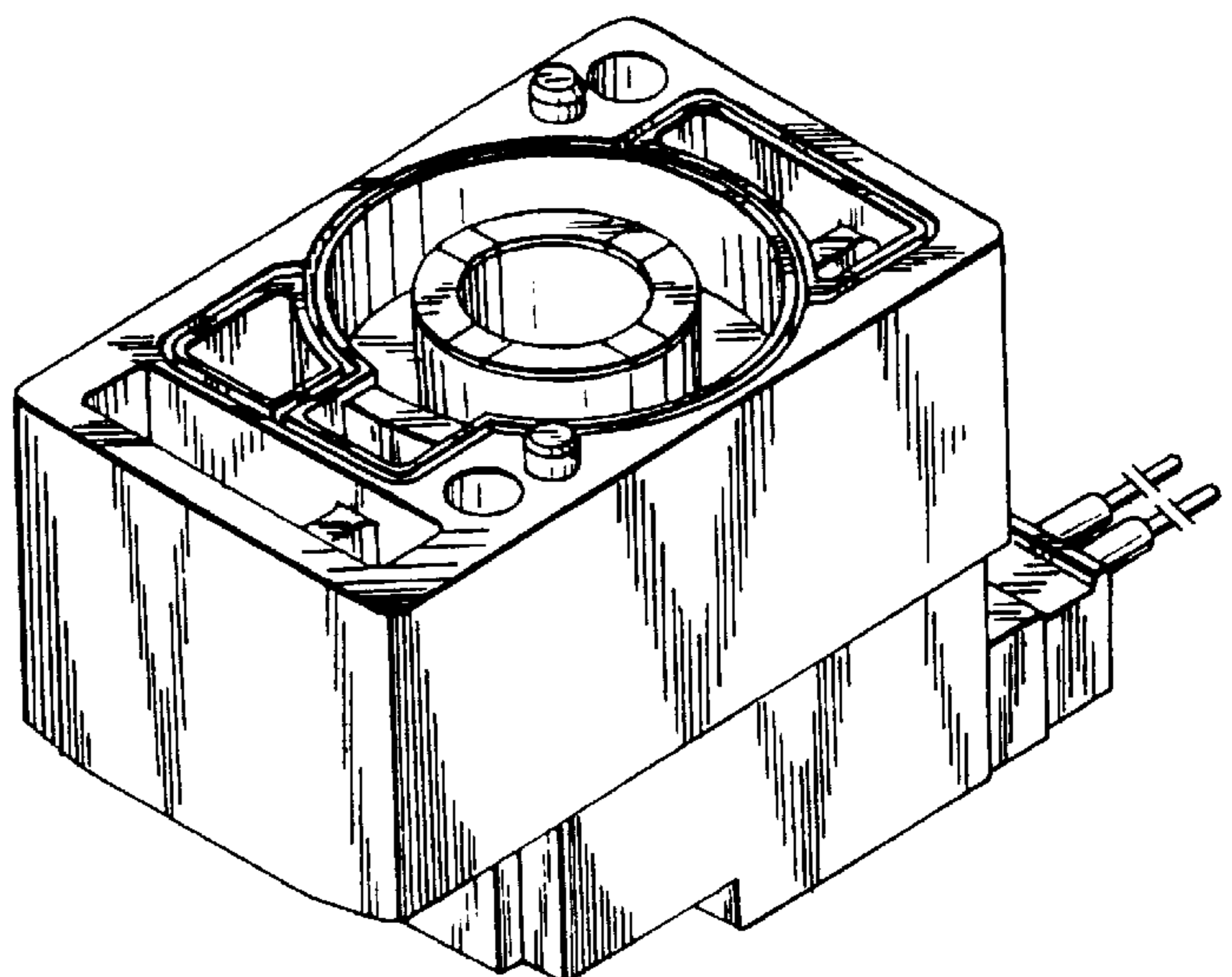
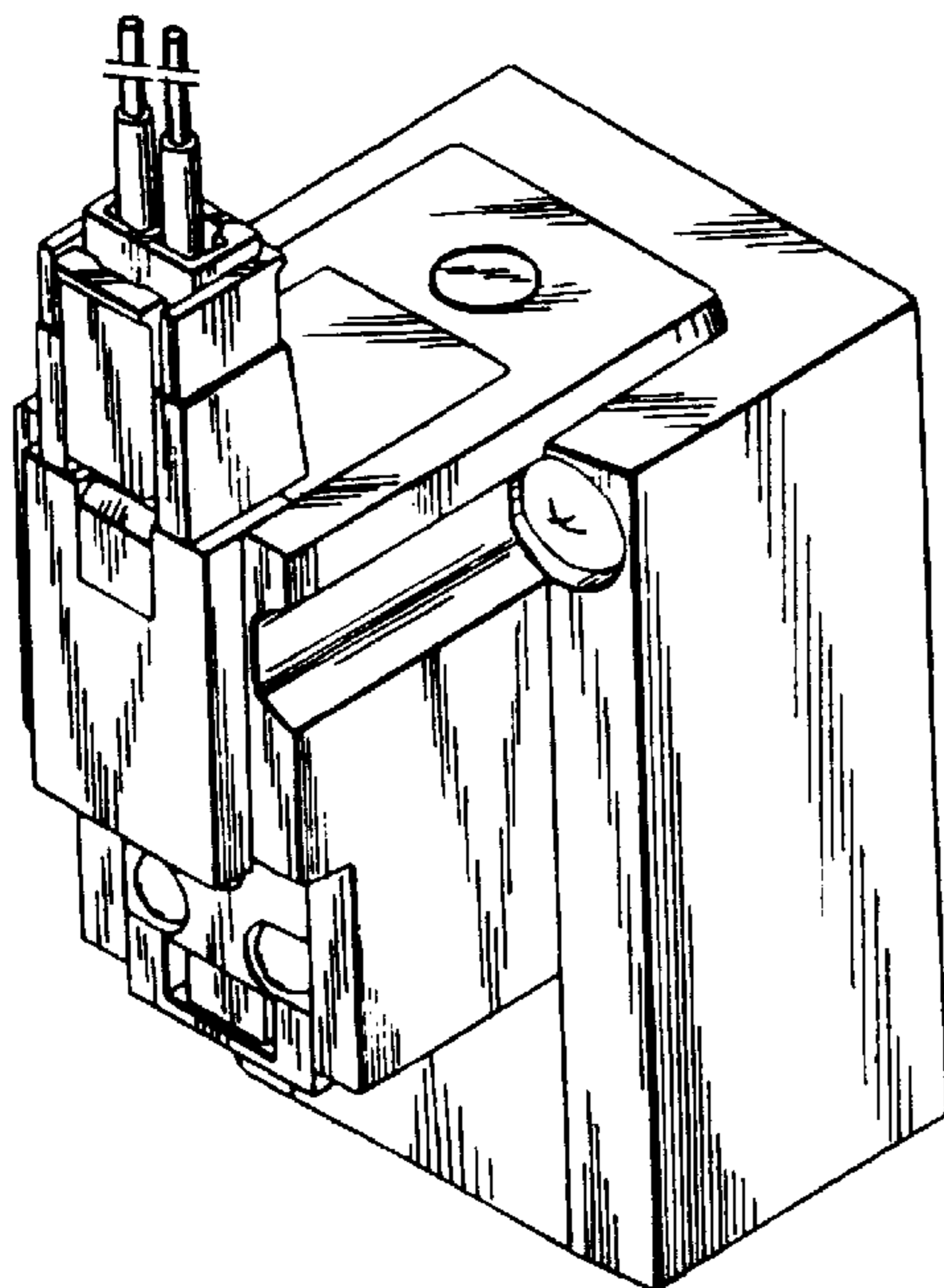


FIG. 1

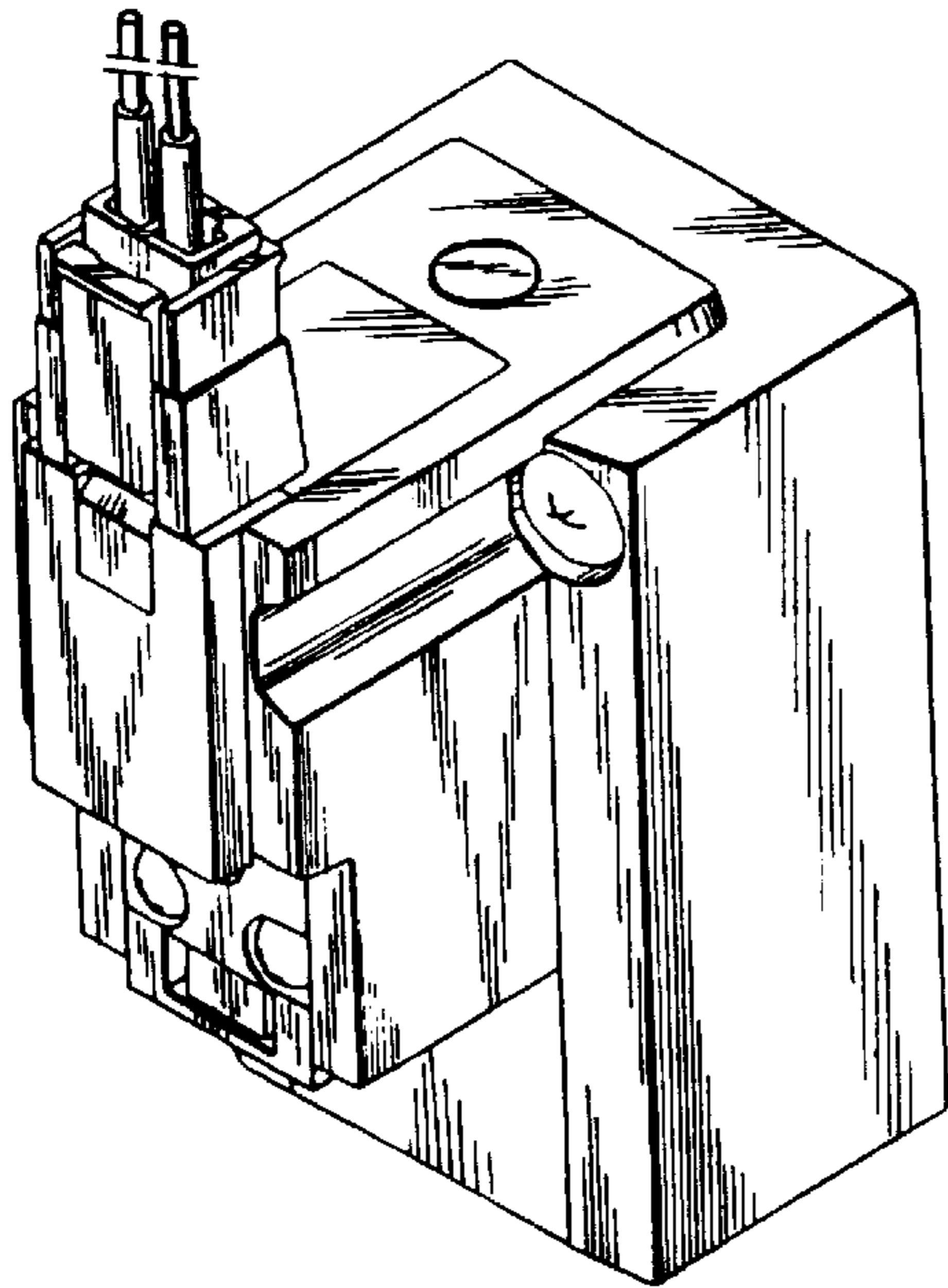


FIG. 2

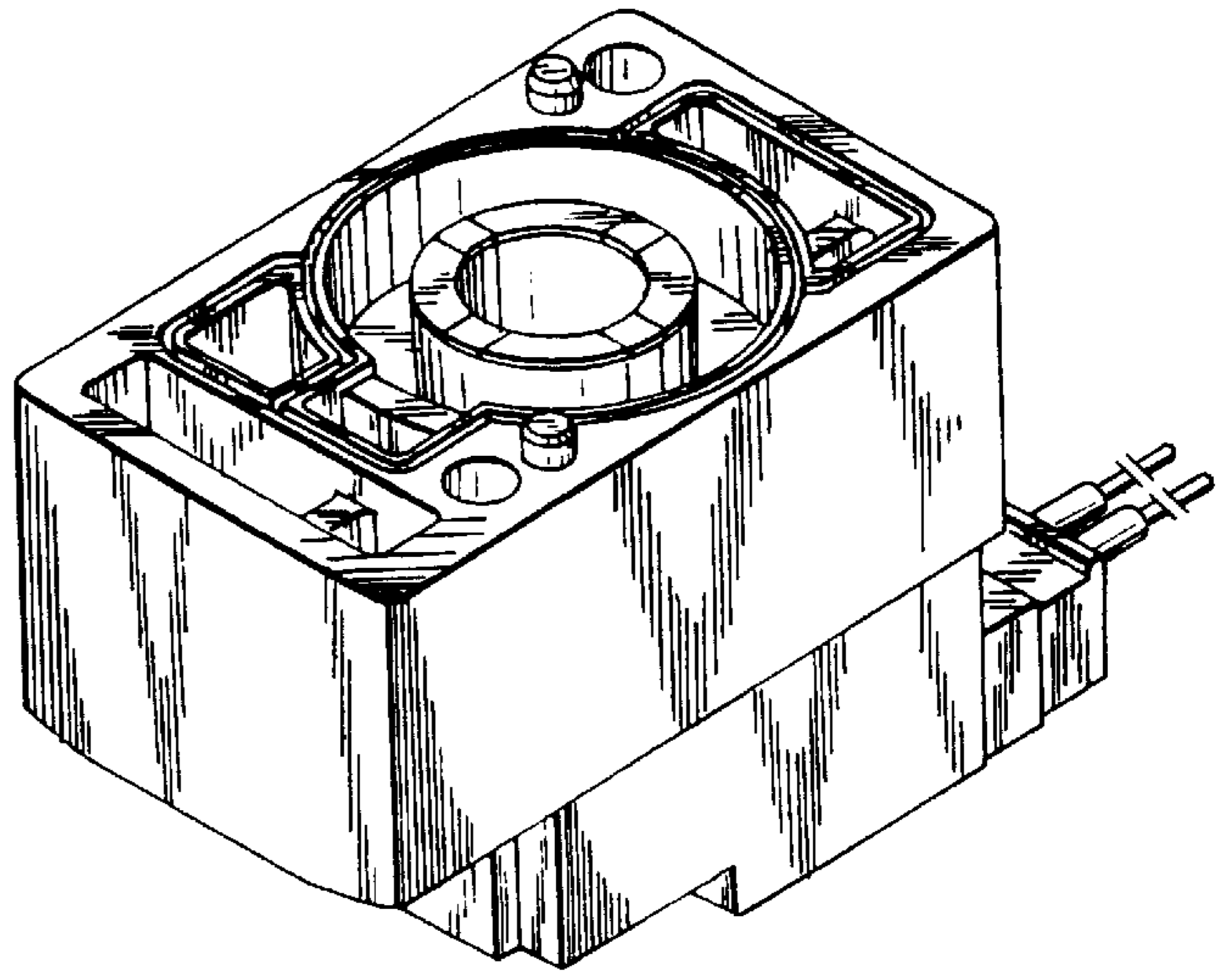


FIG. 9

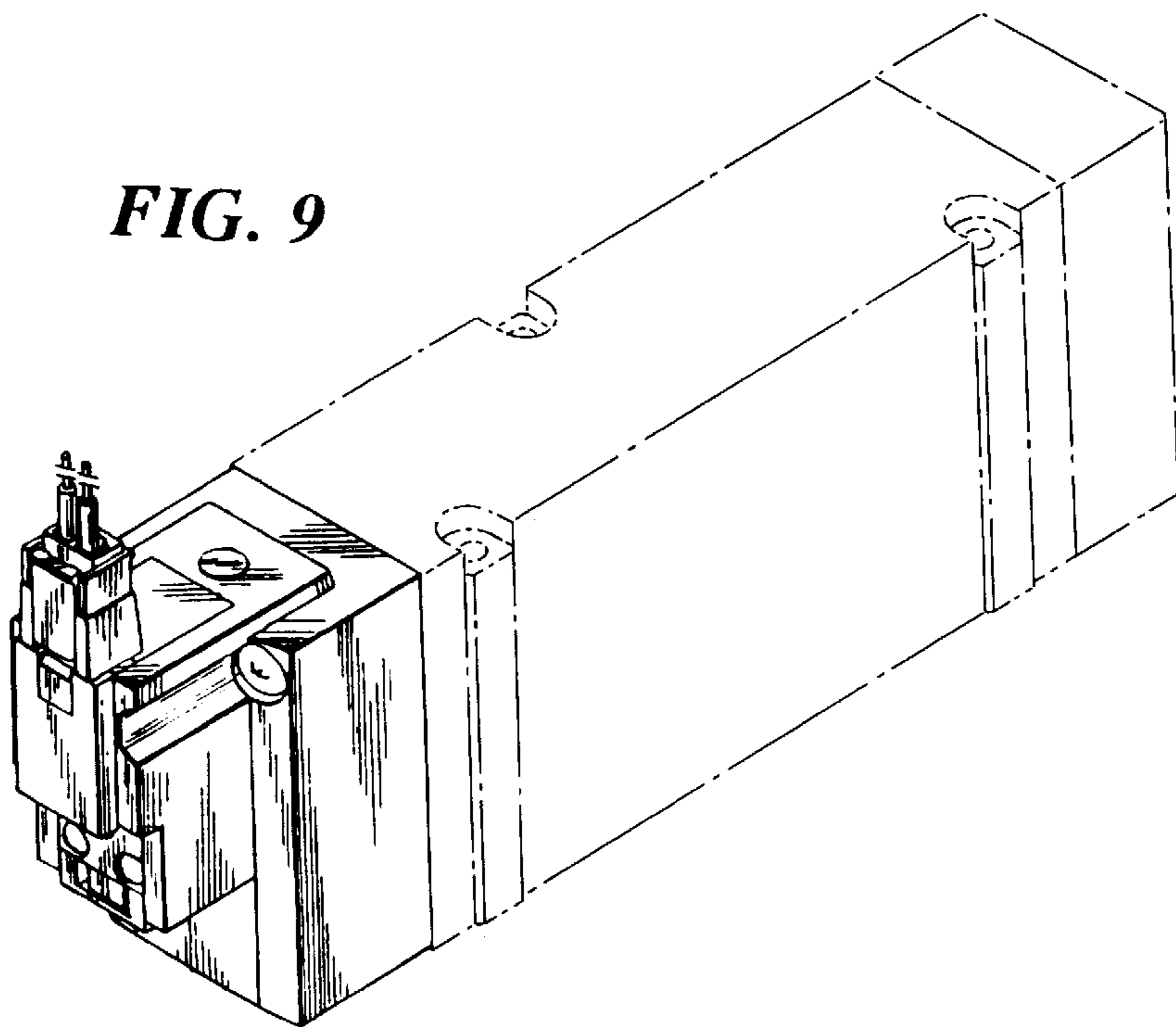


FIG. 3

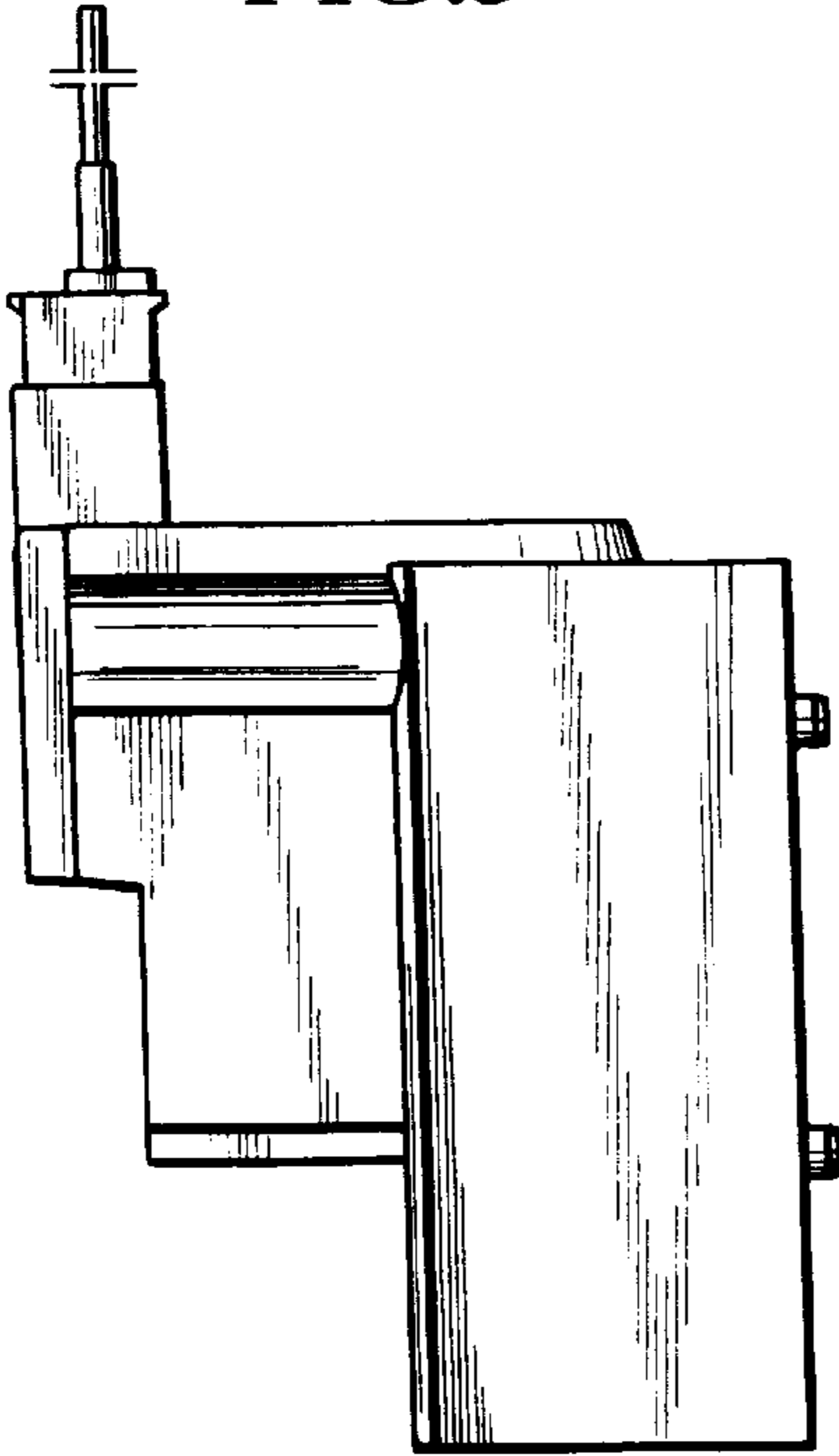


FIG. 4

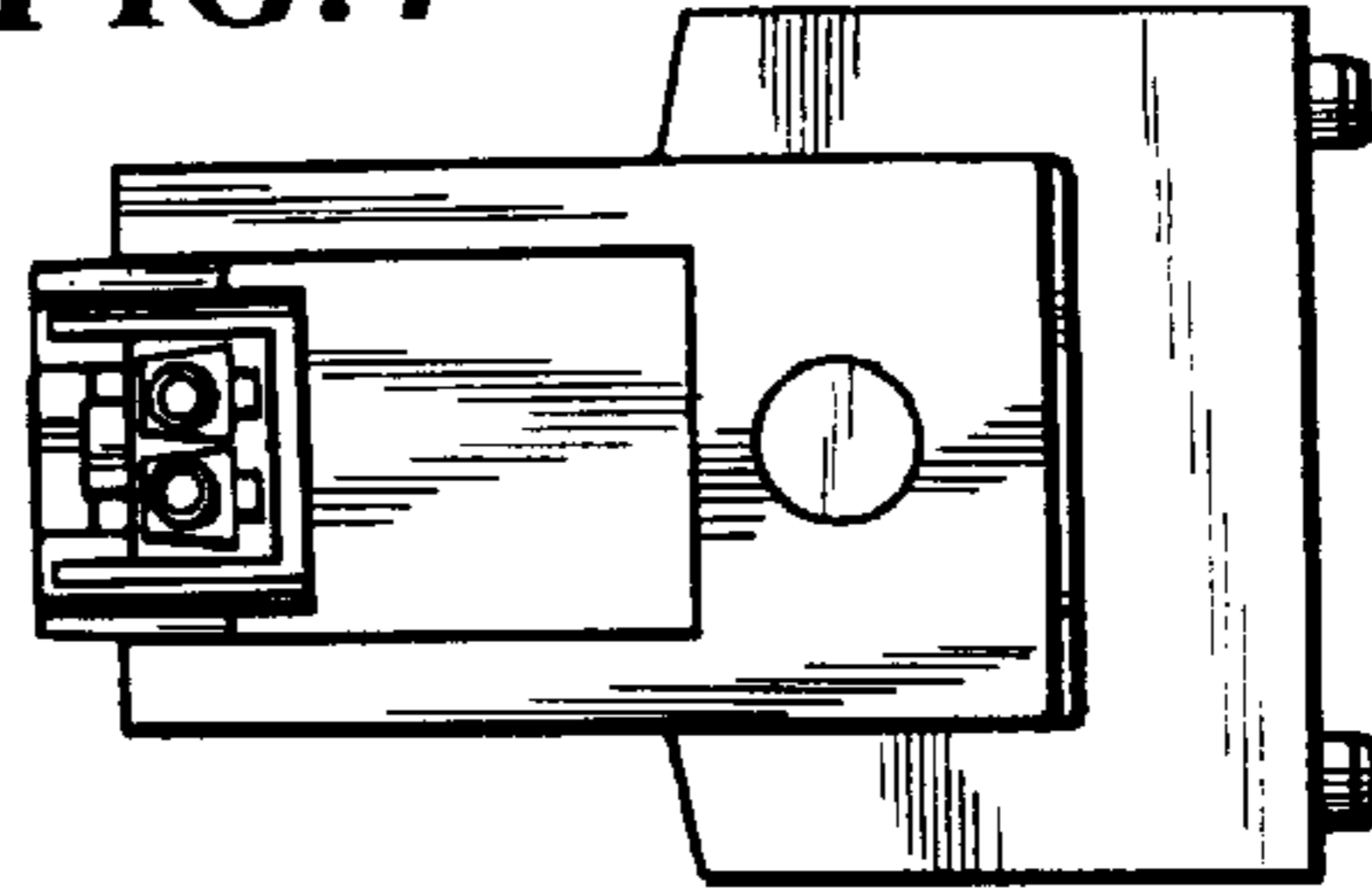


FIG. 6

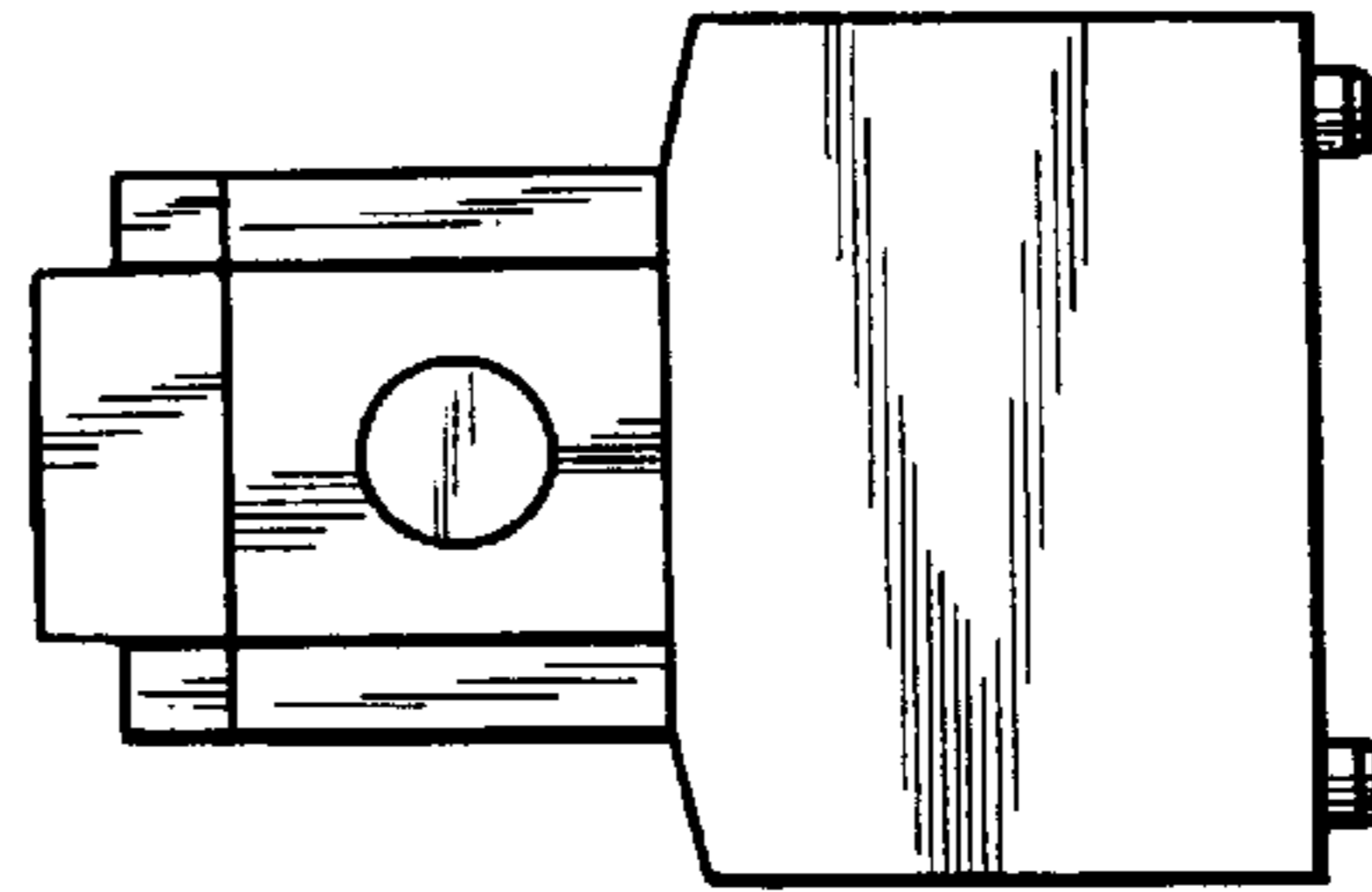


FIG. 5

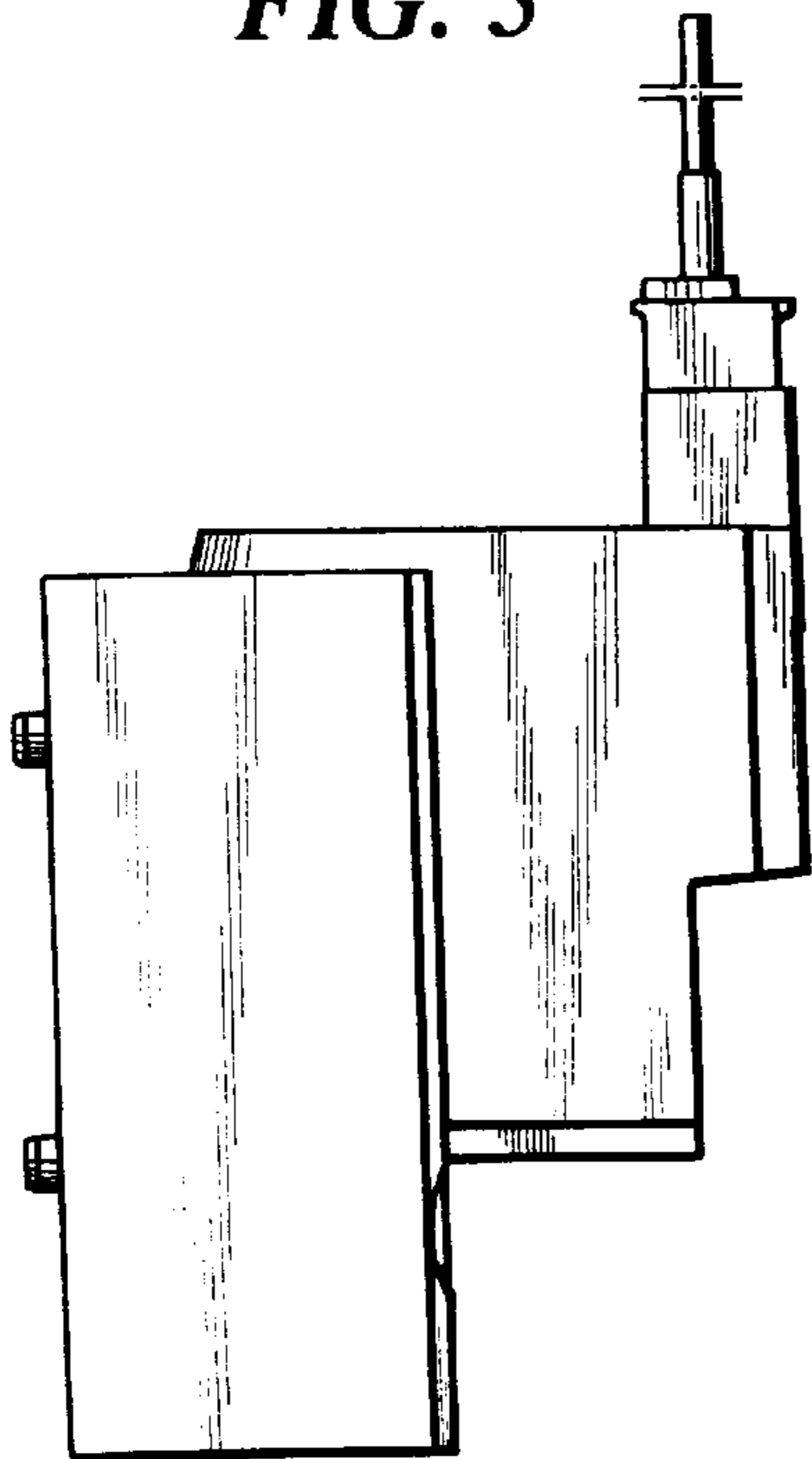


FIG. 7

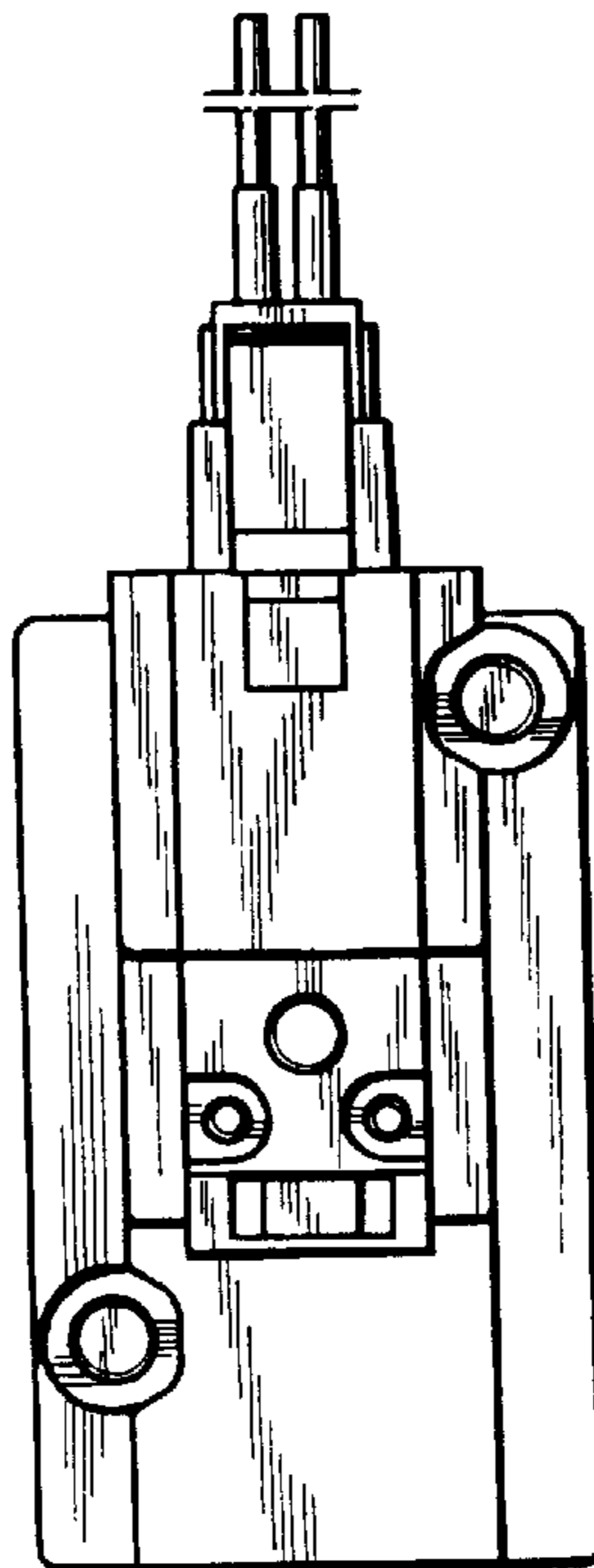


FIG. 8

