



US00D481029S

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

(10) **Patent No.:** **US D481,029 S**

(45) **Date of Patent:** **\*\* Oct. 21, 2003**

(54) **LOOP ANTENNA**

(75) **Inventor:** **Junichi Noro, Akita (JP)**

(73) **Assignee:** **Mitsumi Electric Co., Ltd., Tokyo (JP)**

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

(21) **Appl. No.:** **29/164,861**

(22) **Filed:** **Aug. 2, 2002**

(30) **Foreign Application Priority Data**

Feb. 4, 2002 (JP) ..... 2002-002412

(51) **LOC (7) Cl.** ..... **14-03**

(52) **U.S. Cl.** ..... **D14/230**

(58) **Field of Search** ..... D14/230, 233,  
D14/238, 299; 343/895, 700 MS, 725, 741-744,  
866, 867, 853, 855, 729, 728, 726, 872

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

- 5,134,422 A \* 7/1992 Auriol ..... 343/895
- 6,121,929 A \* 9/2000 Olson et al. .... 343/700 MS
- 6,166,702 A \* 12/2000 Audenaerde et al. .... 343/795

- 6,229,488 B1 \* 5/2001 Lin et al. .... 343/700 MS
- 6,285,322 B1 \* 9/2001 Johannisson et al. 343/700 MS
- 6,559,804 B2 \* 5/2003 Nakano et al. .... 343/700 MS
- 6,563,469 B2 \* 5/2003 Miyata et al. .... 343/700 MS

\* cited by examiner

*Primary Examiner*—Louis S. Zarfes

*Assistant Examiner*—Deanne Levy

(74) *Attorney, Agent, or Firm*—Sughrue Mion, PLLC

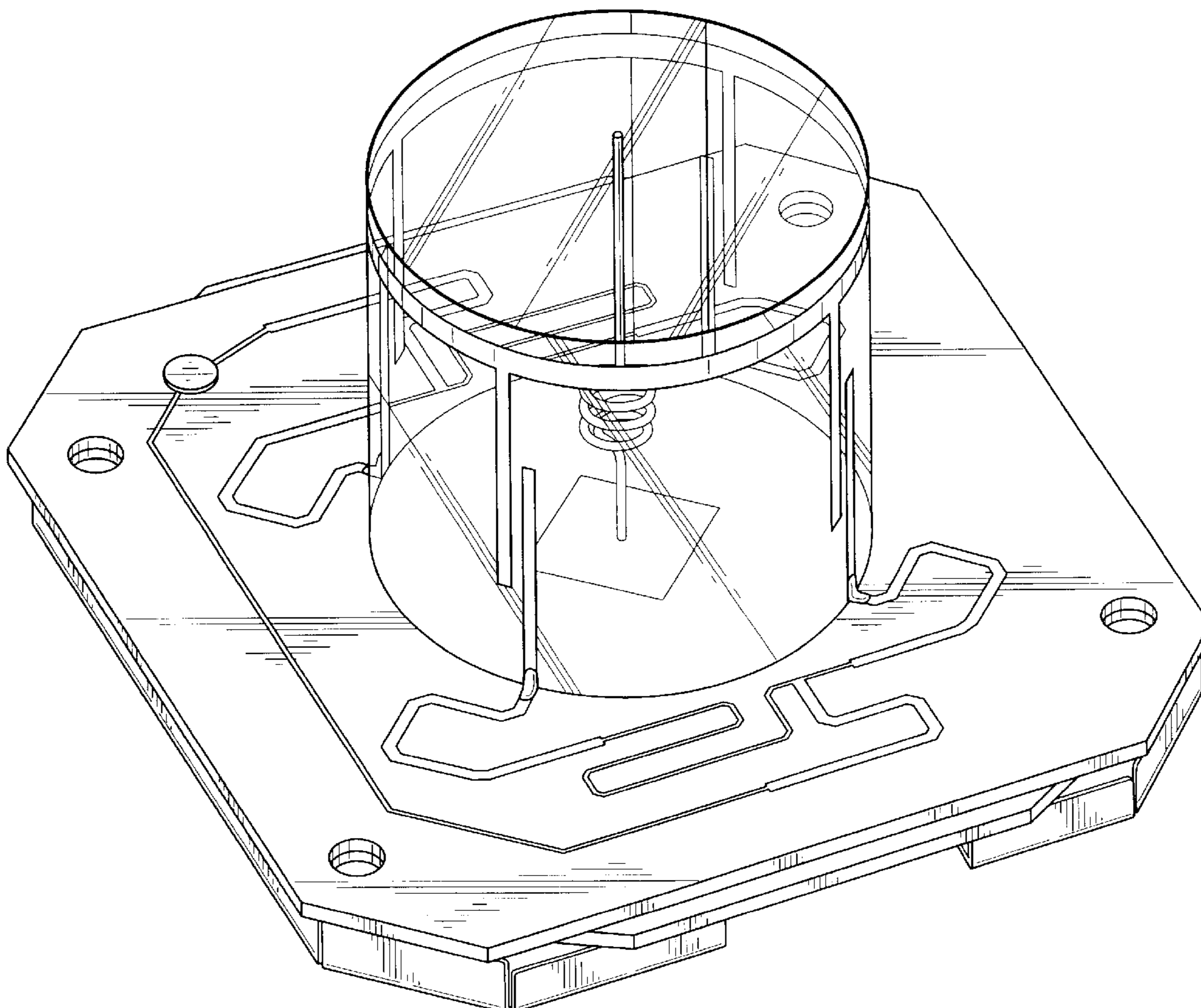
(57) **CLAIM**

The ornamental design for a loop antenna, as shown.

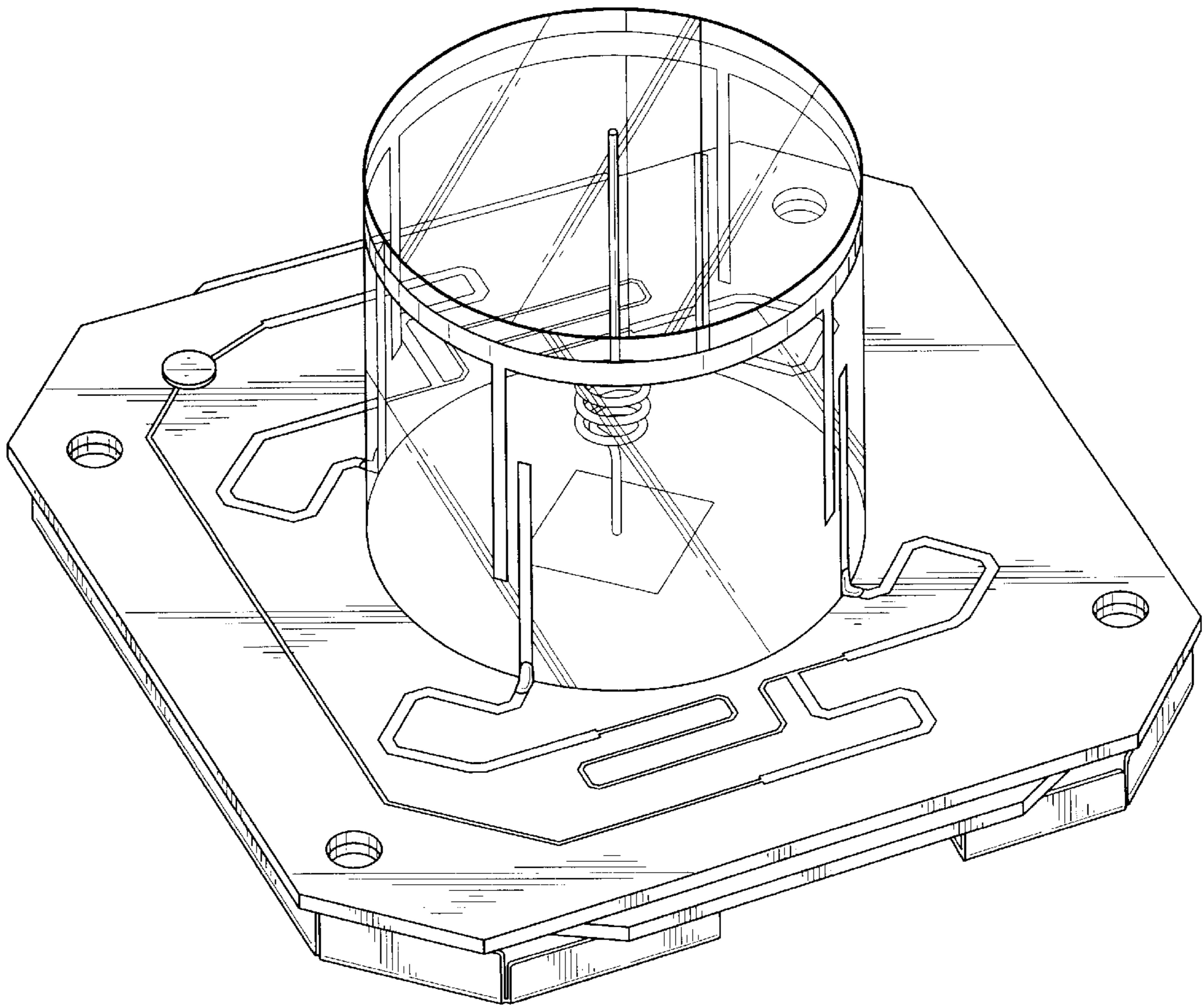
**DESCRIPTION**

FIG. 1 is a perspective view of the top, front and right side of a loop antenna showing my new design;  
 FIG. 2 is a perspective view of the bottom, rear and left side view thereof;  
 FIG. 3 is a front elevational view thereof;  
 FIG. 4 is a rear elevational view thereof;  
 FIG. 5 is a right side elevational view thereof;  
 FIG. 6 is a left side elevational view thereof;  
 FIG. 7 is a top plan view thereof; and,  
 FIG. 8 is a bottom plan view thereof.

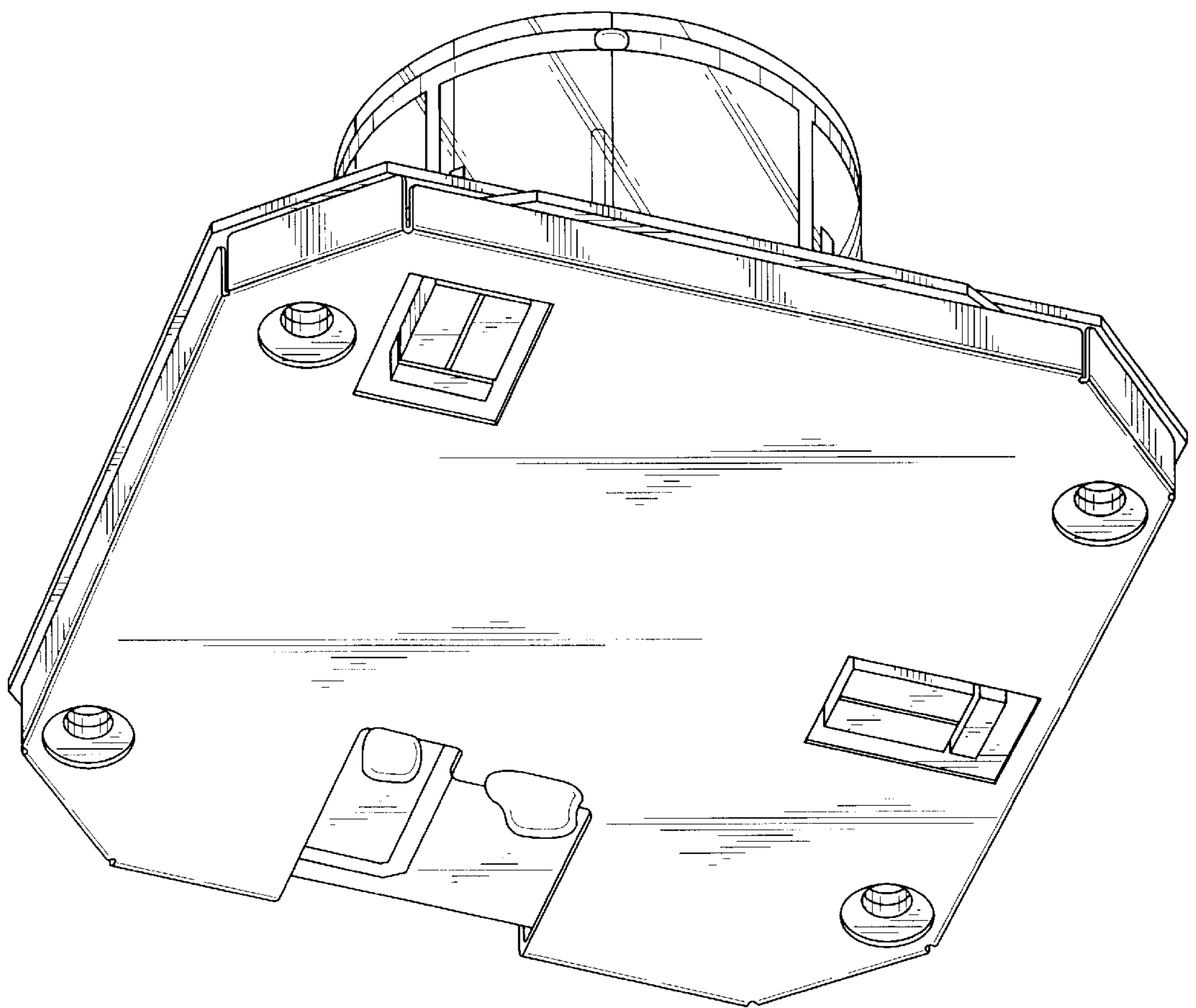
**1 Claim, 6 Drawing Sheets**



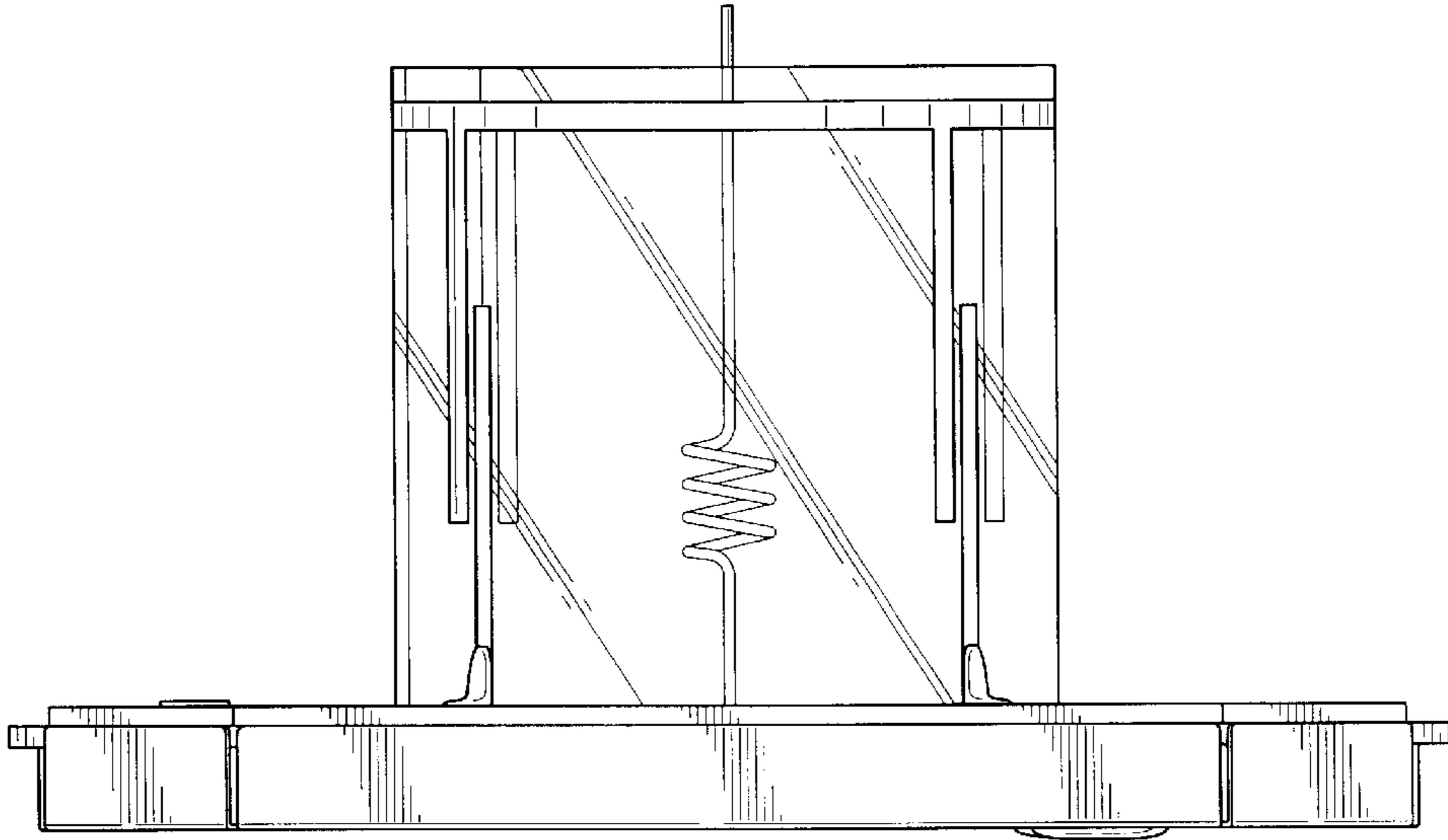
*FIG. 1*



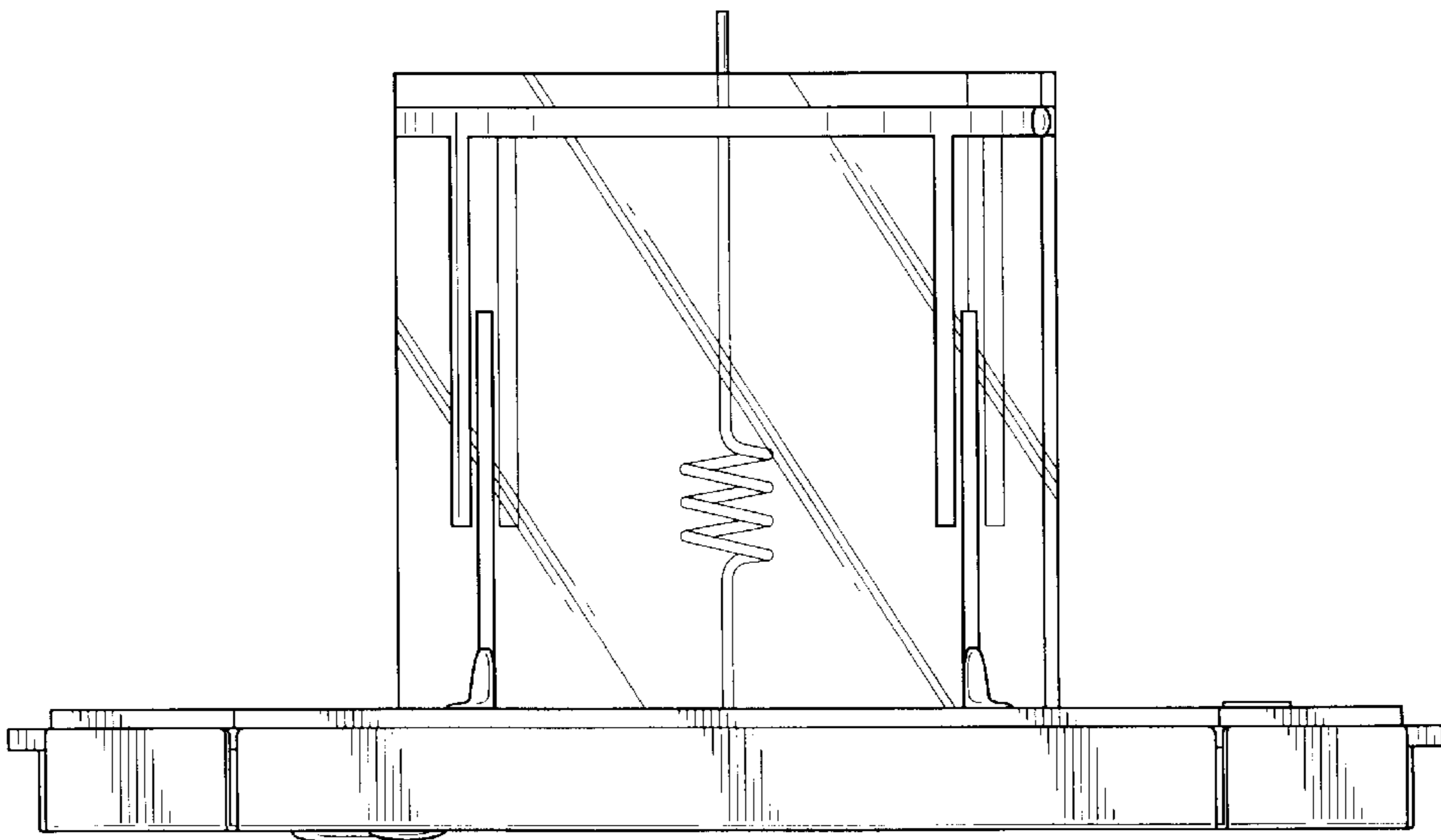
*FIG. 2*



*FIG. 3*

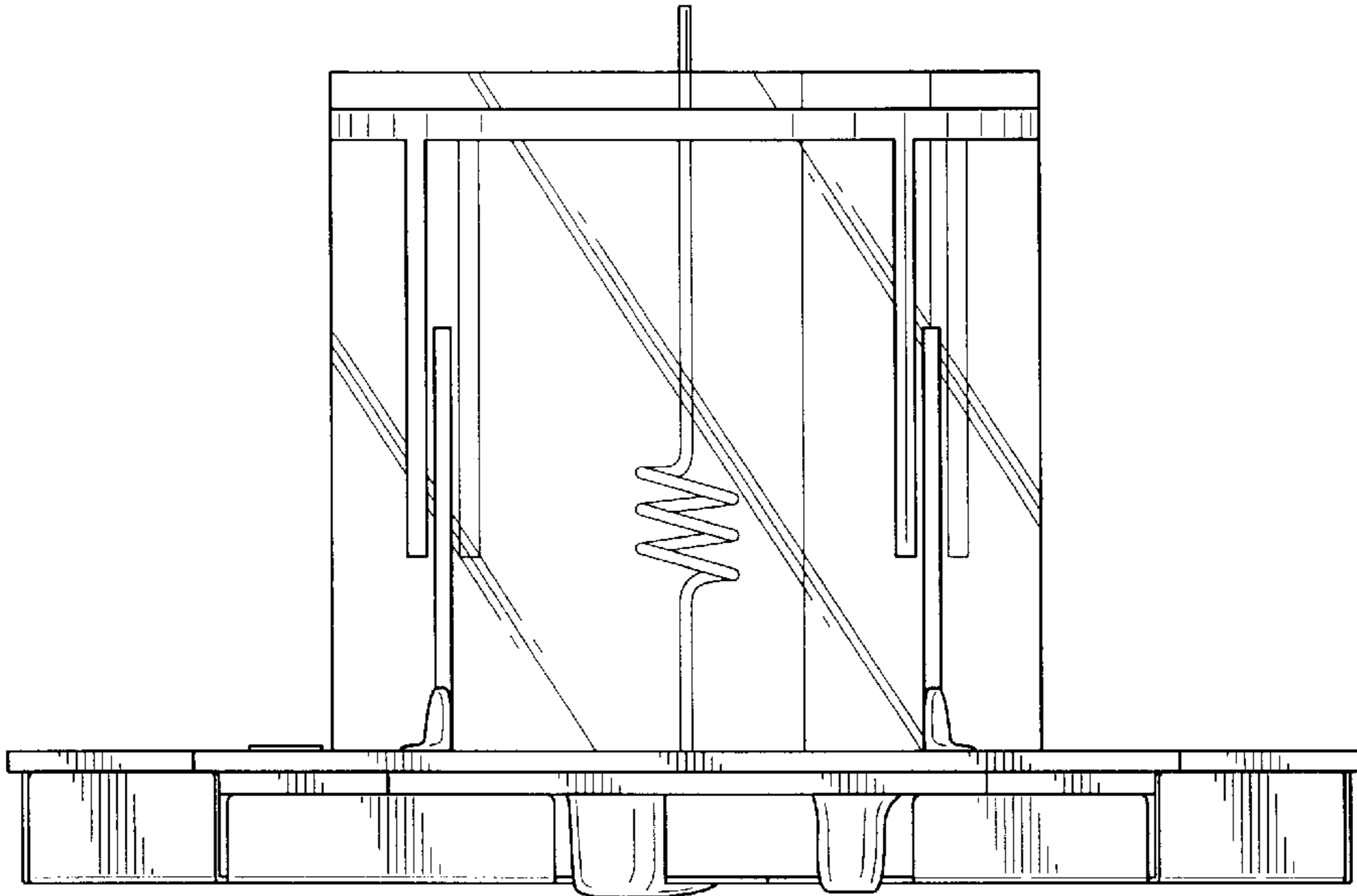


*FIG. 4*

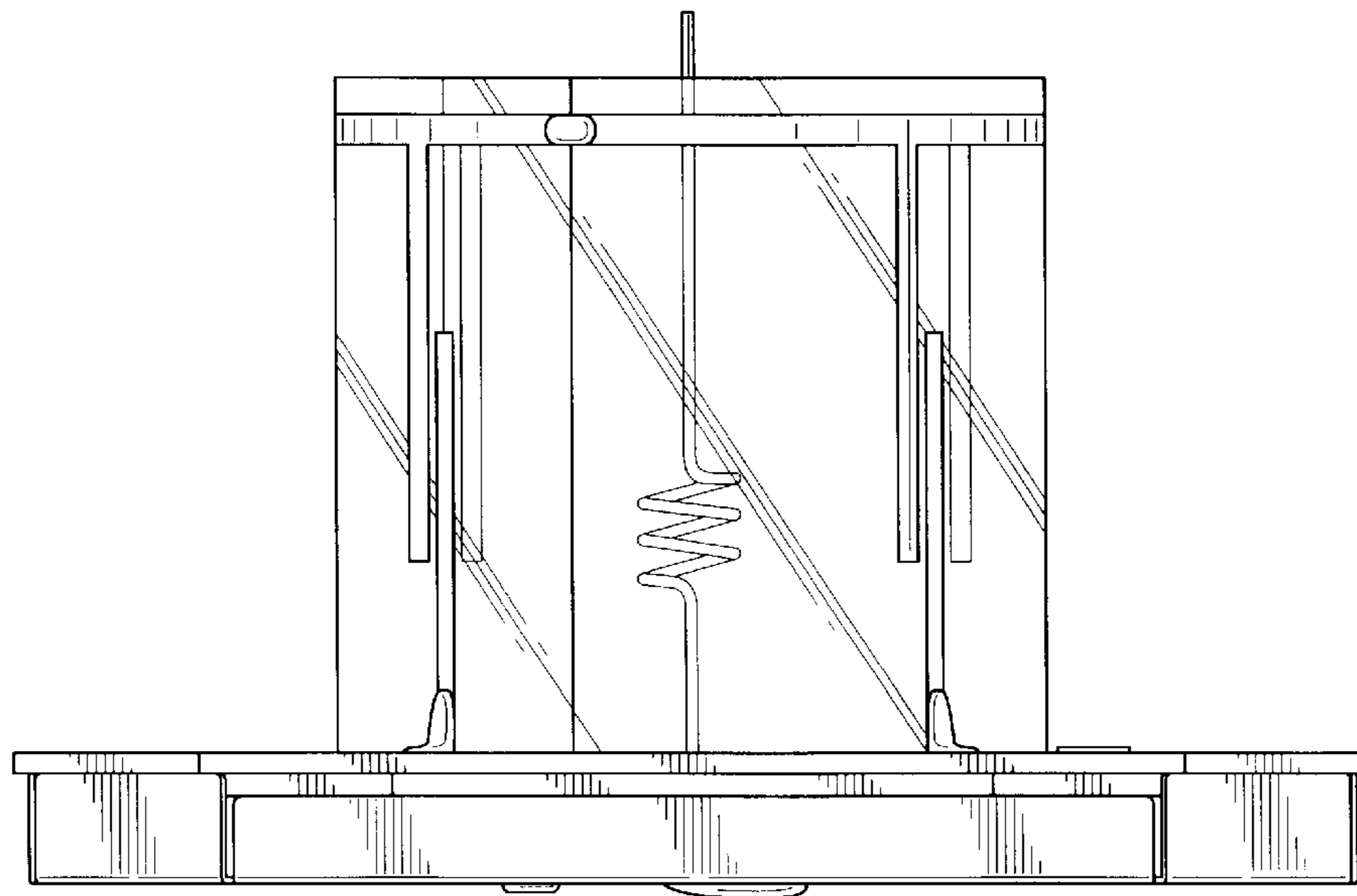




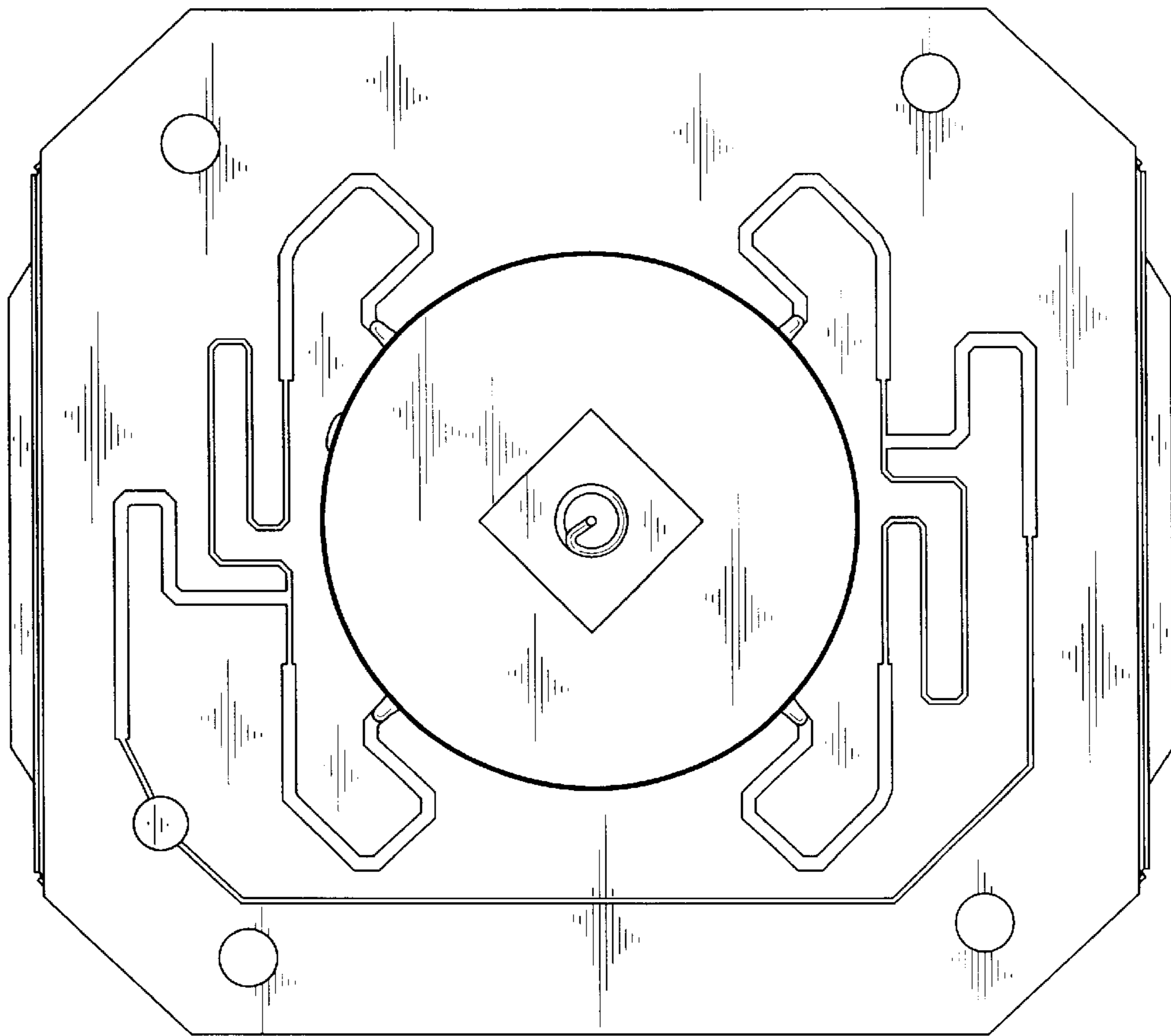
*FIG. 5*



*FIG. 6*



*FIG. 7*



*FIG. 8*

