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(12) **United States Design Patent** (10) **Patent No.:** **US D821,472 S**
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(54) **ELECTRIC ROTARY ACTUATOR**

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(**) Term: **15 Years**

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(30) **Foreign Application Priority Data**

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(51) **LOC (11) Cl.** **15-09**

(52) **U.S. Cl.**
USPC **D15/149**

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D23/233

CPC F15B 11/076; F15B 11/0413; F15B 15/24;
F15B 15/065; F15B 15/149; F15B
15/1433; F16H 19/04

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,094,143 A * 3/1992 Andersen, Jr. F15B 15/1433
137/884
5,477,774 A * 12/1995 Ikumi F15B 15/1428
92/161
D375,508 S * 11/1996 Shiino D15/143
5,787,786 A * 8/1998 Zeuner A01D 34/38
56/296

6,014,924 A * 1/2000 Stoll B23Q 1/58
92/13
6,029,561 A * 2/2000 Naslund F15B 15/1433
91/394
6,152,015 A * 11/2000 Migliori F15B 15/1419
92/177
6,170,384 B1 * 1/2001 Stoll F03C 1/02
92/136
6,276,257 B1 * 8/2001 Hellemann F15B 11/08
91/442
D480,405 S * 10/2003 Kleffmann D15/143
D554,164 S * 10/2007 Naruse D15/143
D572,282 S * 7/2008 Yaegashi D15/143
D597,111 S * 7/2009 Takeuchi D15/143
D597,112 S * 7/2009 Takeuchi D15/143
D628,219 S * 11/2010 Fukano D15/143
D660,333 S * 5/2012 Takeuchi D15/143
D660,334 S * 5/2012 Takeuchi D15/143

(Continued)

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(57) **CLAIM**

The ornamental design for an electric rotary actuator, as
shown and described.

DESCRIPTION

FIG. 1 is a front, top, and left side perspective view of an
electric rotary actuator;

FIG. 2 is a rear, bottom, and right side perspective view
thereof;

FIG. 3 is a front elevational view thereof;

FIG. 4 is a rear elevational view thereof;

FIG. 5 is a top plan view thereof;

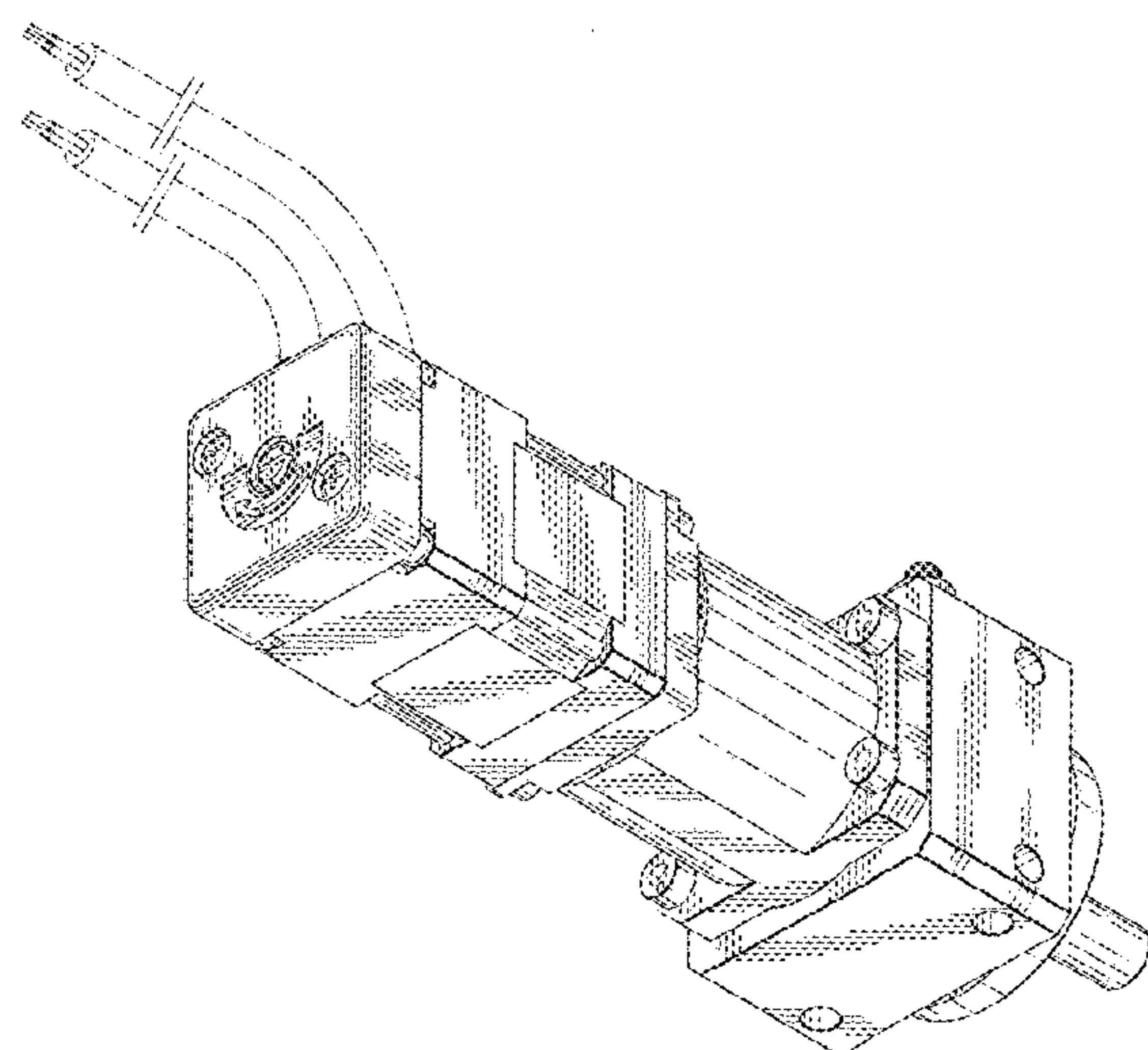
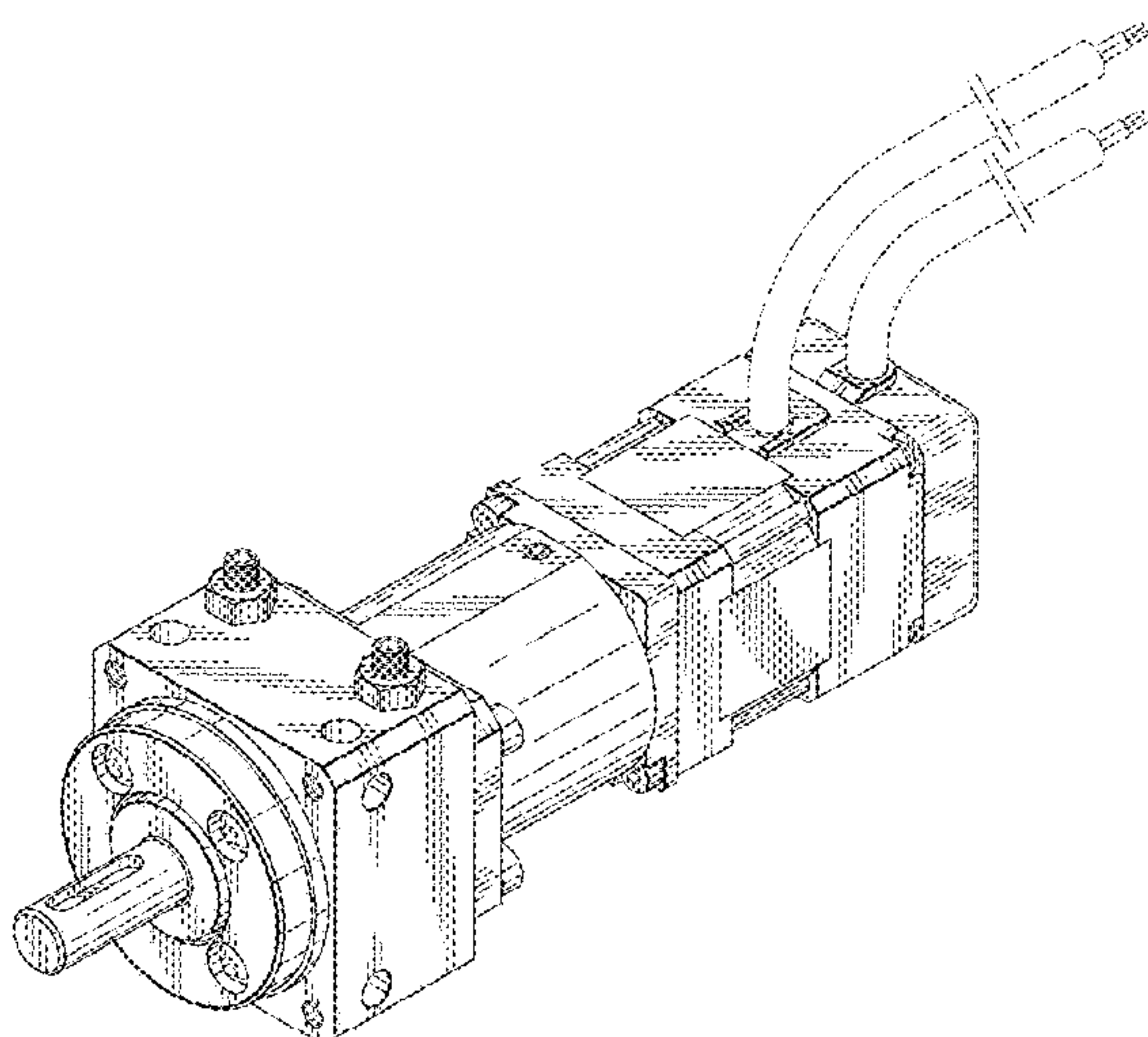
FIG. 6 is a bottom plan view thereof

FIG. 7 is a left side elevational view thereof; and,

FIG. 8 is a right side elevational view thereof.

The broken lines in the drawings depict unclaimed environ-
mental subject matter.

1 Claim, 5 Drawing Sheets



(56) **References Cited**

U.S. PATENT DOCUMENTS

D674,423	S *	1/2013	Mangold	D15/143
D792,916	S *	7/2017	Kobayashi	D15/148
9,810,247	B2 *	11/2017	Tabuchi	F15B 15/065
2002/0152826	A1 *	10/2002	Mitsui	F15B 13/081
				74/422
2004/0094032	A1 *	5/2004	Doleschel	F15B 15/082
				92/88
2007/0204707	A1 *	9/2007	Maffeis	F15B 15/065
				74/25
2010/0018387	A1 *	1/2010	Miyazawa	F15B 15/065
				92/136
2010/0064834	A1 *	3/2010	Takeuchi	F15B 15/065
				74/422
2016/0061231	A1 *	3/2016	Tabuchi	F15B 15/065
				92/136

* cited by examiner

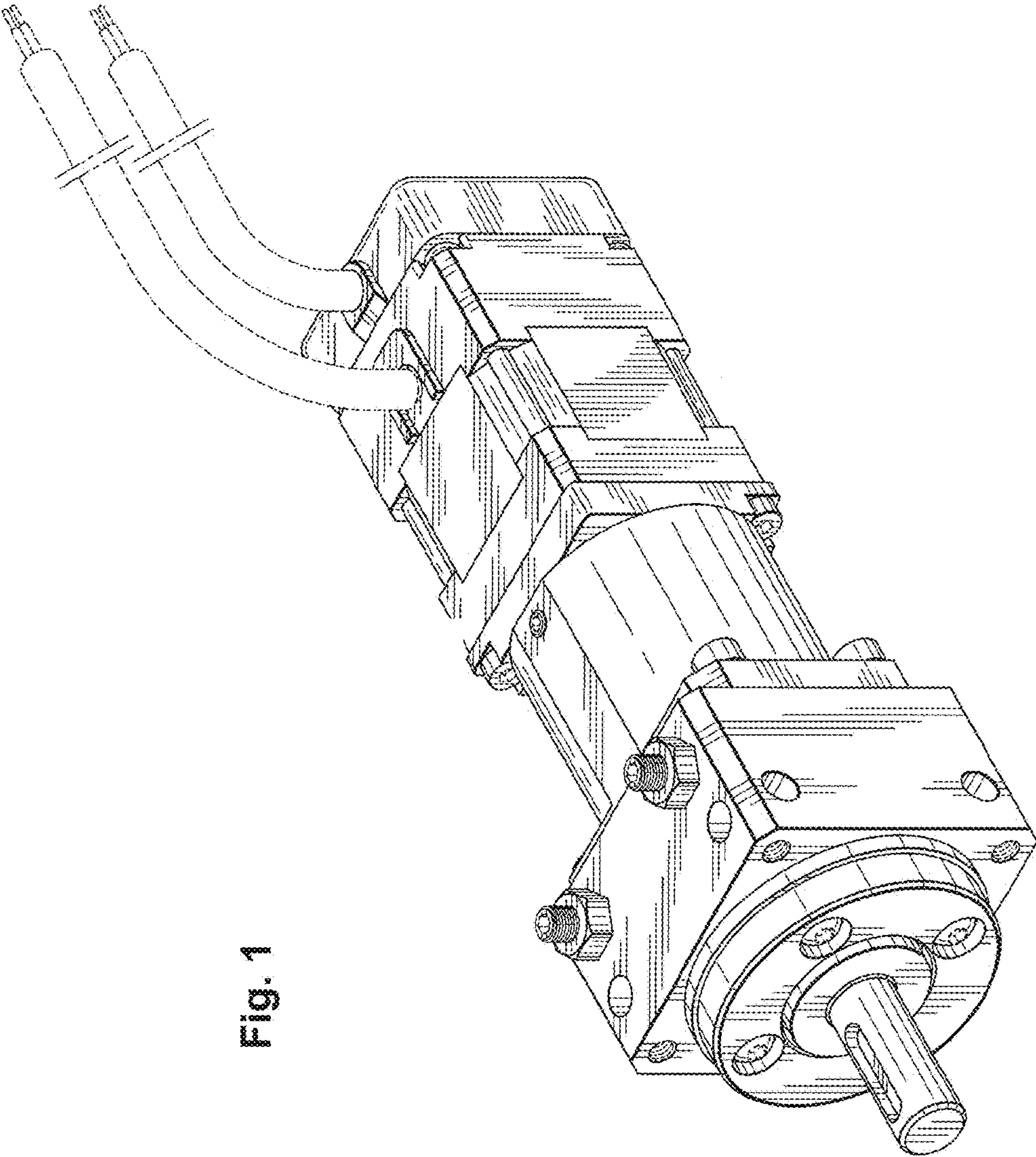


Fig. 1

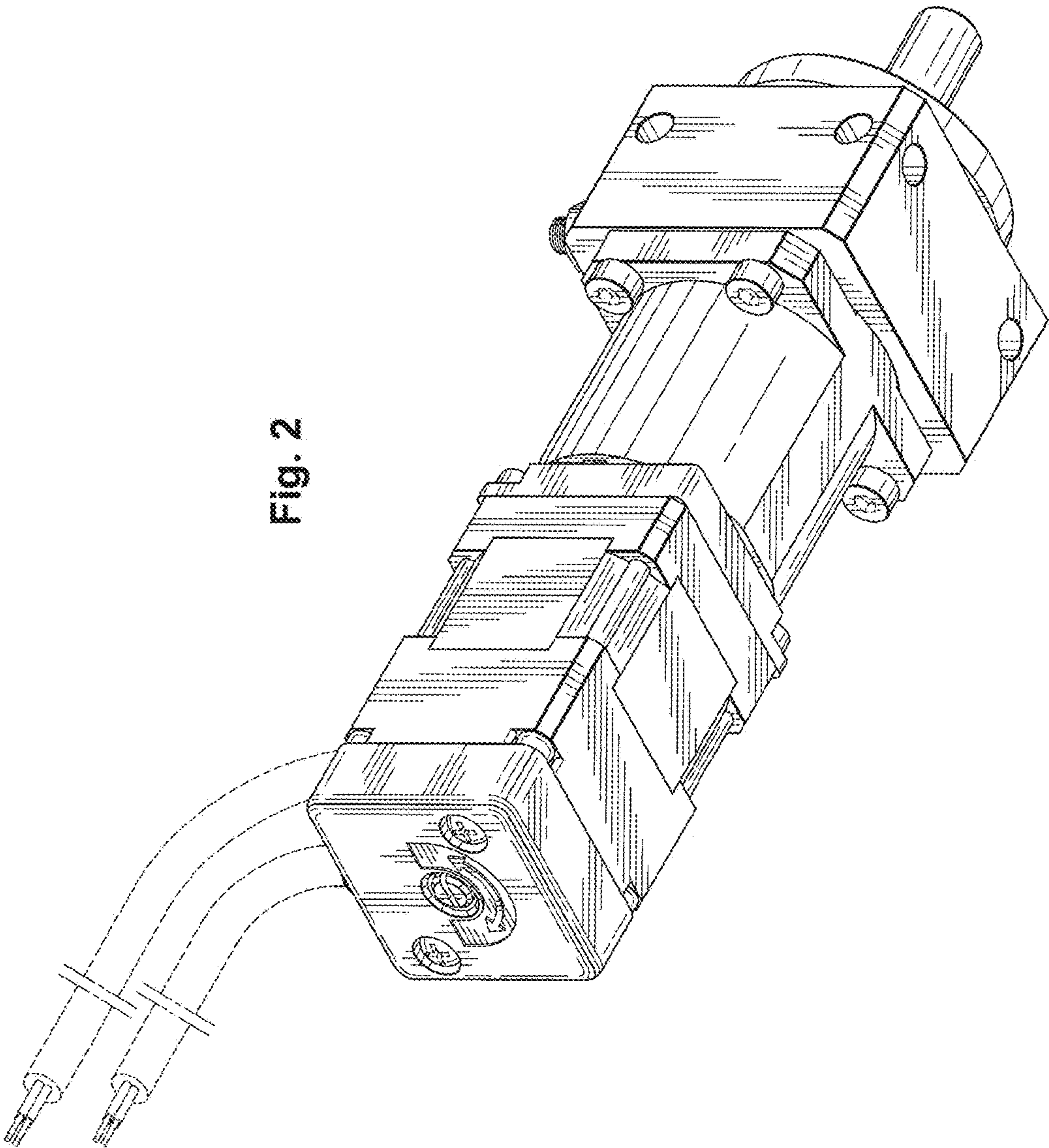


Fig. 2

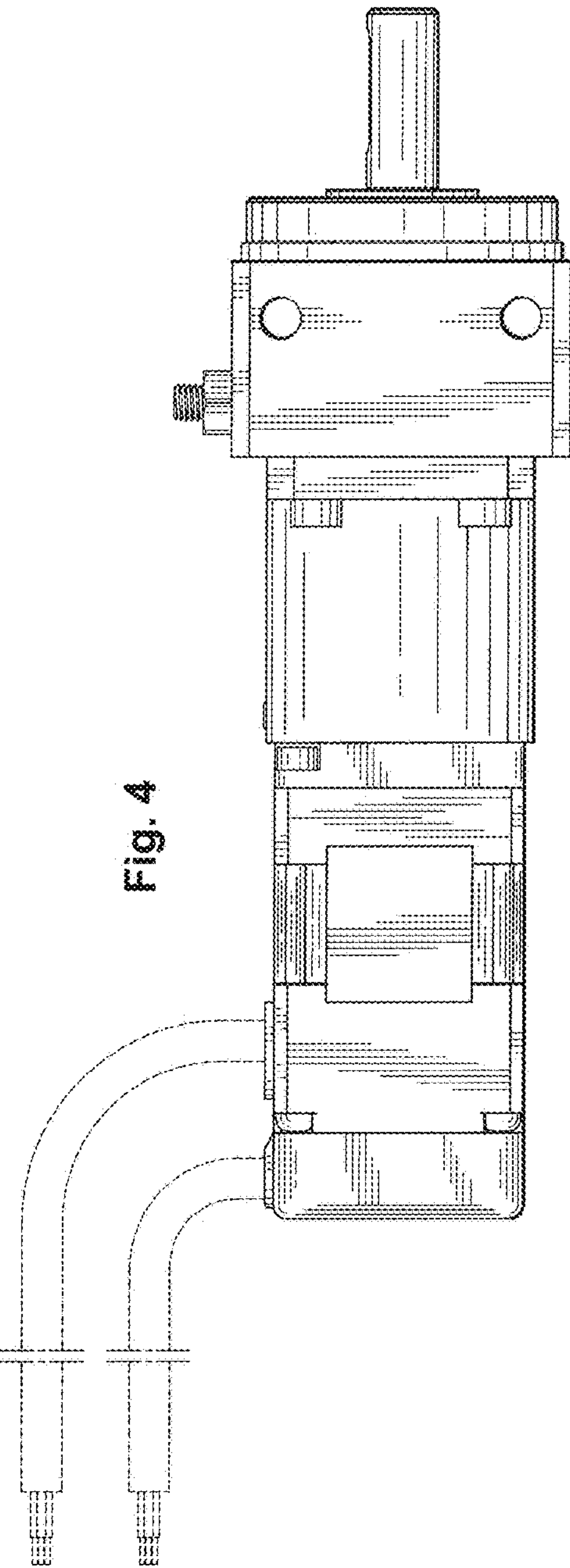
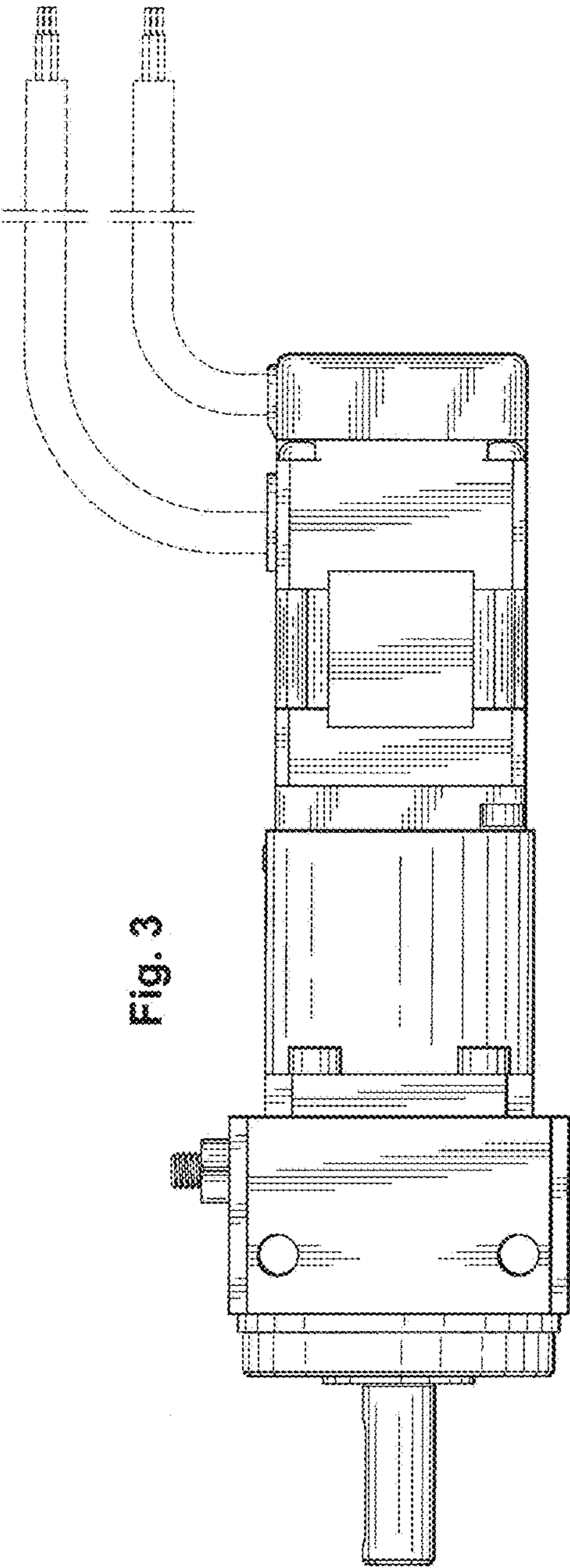


Fig. 5

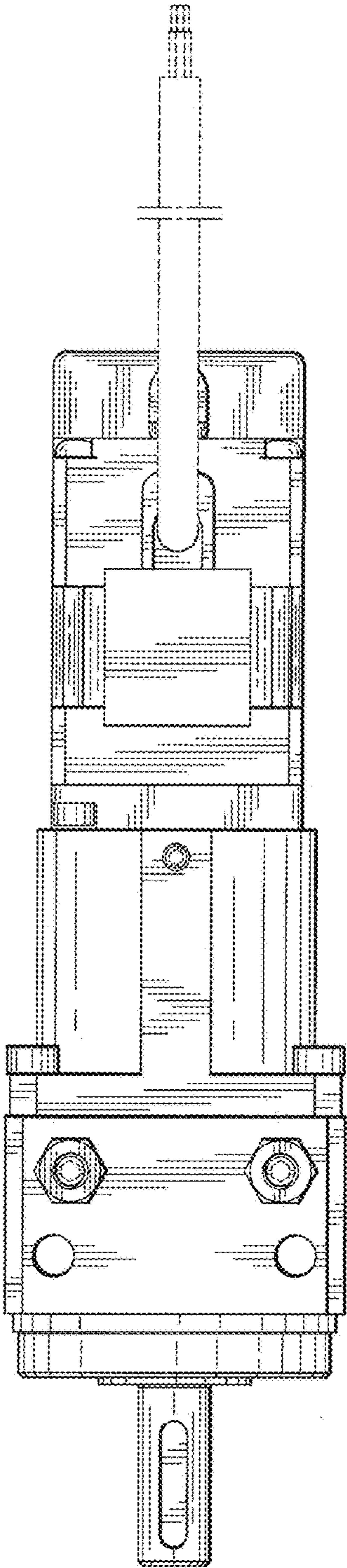


Fig. 6

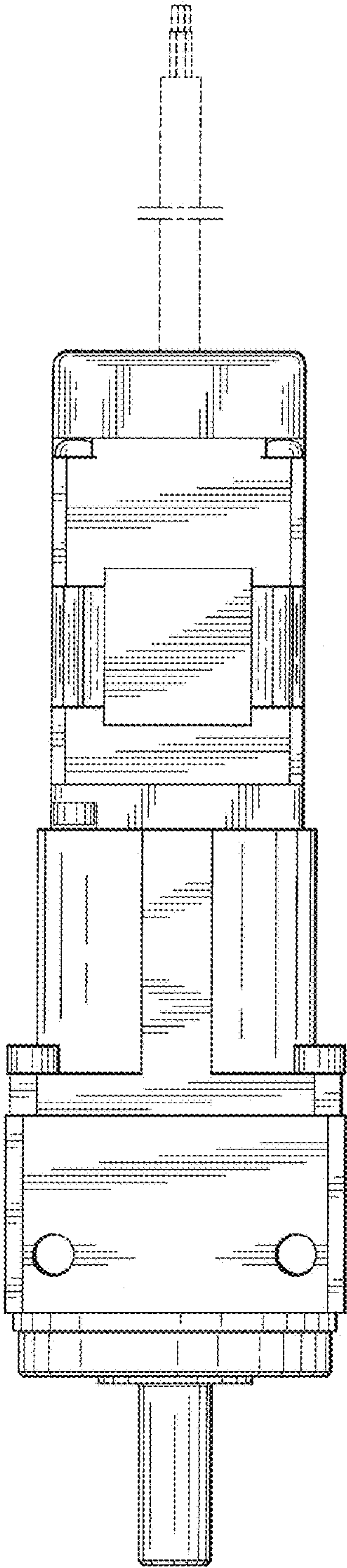


Fig. 8

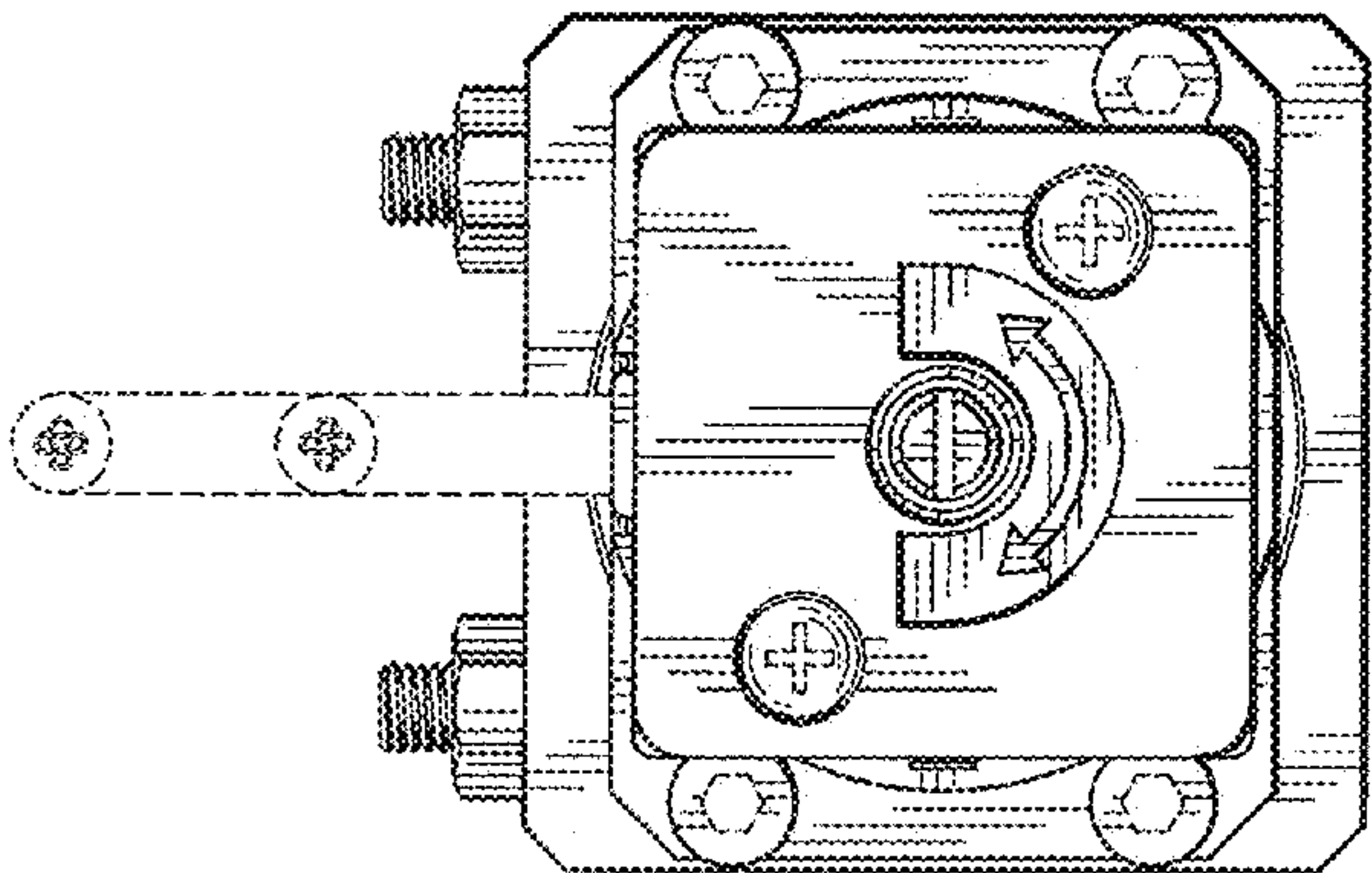


Fig. 7

