

US00D866613S

(12) **United States Design Patent** (10) **Patent No.:** **US D866,613 S**
Herrick et al. (45) **Date of Patent:** **** Nov. 12, 2019**

(54) **HAND PORTABLE DIRECTIONAL DRILL**

FOREIGN PATENT DOCUMENTS

(71) Applicants: **Rod Herrick**, Whitefish, MT (US);
Jared W Shappell, Kalispell, MT (US)

EP 0904461 B1 8/2006
WO 2013/0055389 A1 8/2013

(72) Inventors: **Rod Herrick**, Whitefish, MT (US);
Jared W Shappell, Kalispell, MT (US)

OTHER PUBLICATIONS

(73) Assignee: **RODDIE, INC.**, Columbia Falls, MT (US)

GRUNDOPIT 40/60 Mini-Directional Drill—marketing brochure by TT Technologies, Inc., 2020 E New York Street, Aurora, IL 60502, dated 2005.

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

Primary Examiner — Mark A Goodwin

(21) Appl. No.: **29/560,887**

(74) *Attorney, Agent, or Firm* — Robin Kelson Consulting, Inc.

(22) Filed: **Apr. 11, 2016**

(51) **LOC (12) Cl.** **15-03**

(57) **CLAIM**

(52) **U.S. Cl.**
USPC **D15/21**

We claim the ornamental design for the hand portable directional drill, as shown and described.

(58) **Field of Classification Search**
USPC D15/21
CPC E21B 3/04; E21B 7/022; E21B 7/04-10;
E21B 7/046; E21B 10/60; E21B 10/61;
E21B 2010/607; E21B 11/005
See application file for complete search history.

DESCRIPTION

(56) **References Cited**

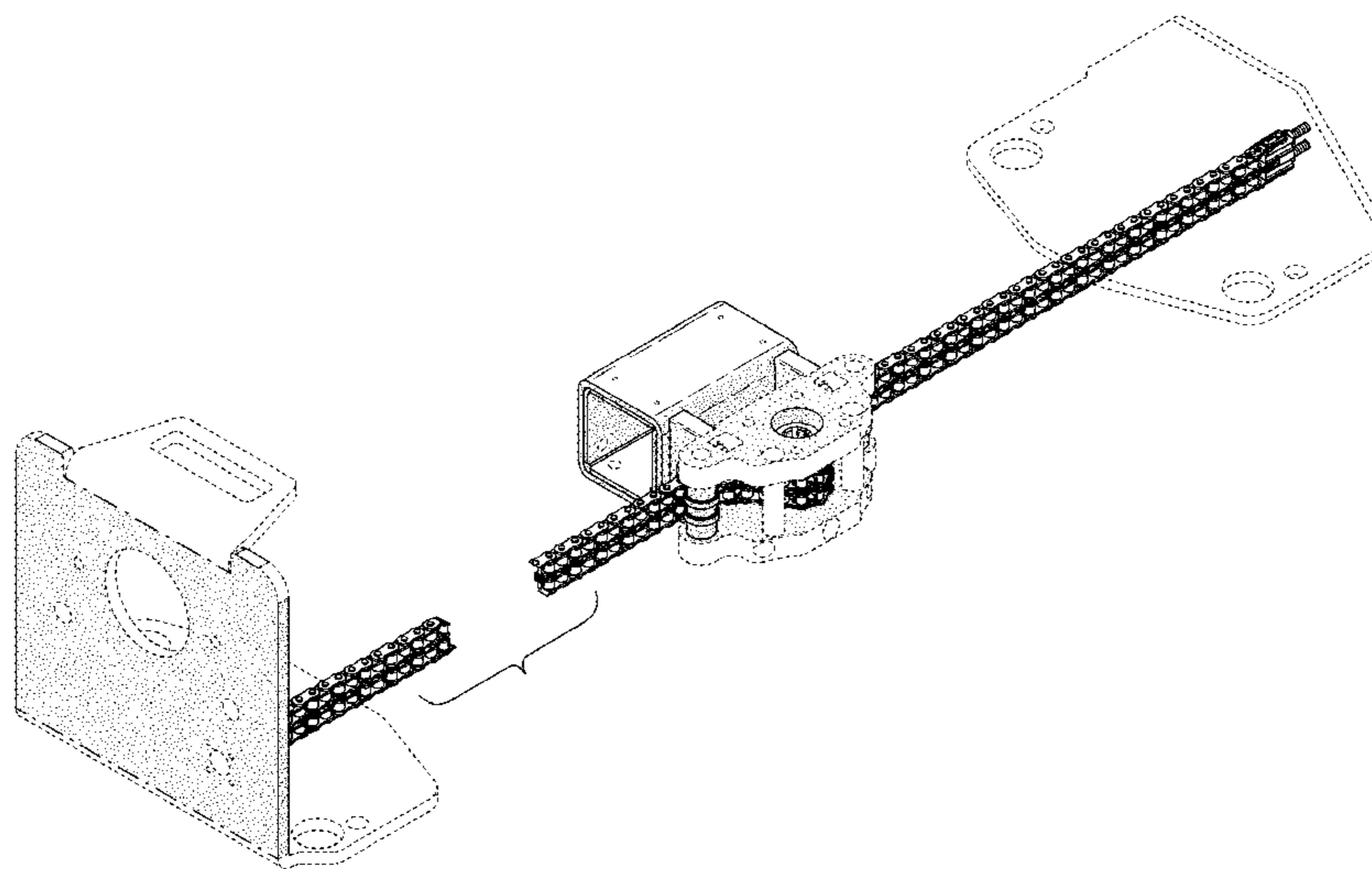
U.S. PATENT DOCUMENTS

3,554,298	A *	1/1971	Klein	.....	E21B 19/167
					173/164
D253,535	S *	11/1979	Schmidt	.....	D15/21
D264,590	S *	5/1982	Thomas	.....	D15/21
4,371,041	A *	2/1983	Becker	.....	E21B 3/02
					173/147
4,703,812	A *	11/1987	Johnson	.....	E21B 7/02
					173/152
5,205,671	A *	4/1993	Handford	.....	E21B 7/30
					175/62
5,273,124	A *	12/1993	Lloyd	.....	E21B 3/02
					173/185
5,564,522	A *	10/1996	Markin	.....	B66F 11/044
					182/2.7

FIG. 1 is a side view (right) of a hand portable directional drill in accordance with the present design, the chain length (indicated by bracket) being variable; FIG. 2 is a side view (left) thereof; FIG. 3 is a top view thereof; FIG. 4 is a bottom view thereof; FIG. 5 is a front view thereof; FIG. 6 is a rear view thereof; FIG. 7 is an isometric view thereof in a first position; FIG. 8 is an isometric view thereof in a second position; FIG. 9 is an isometric view of FIG. 7 showing environmental subject matter; and, FIG. 10 is an isometric view of the hand portable directional drill shown in FIGS. 7 and 9 in accordance with another embodiment of the present design. The broken lines show portions of the hand portable directional drill which form no part of the claimed design.

(Continued)

1 Claim, 7 Drawing Sheets



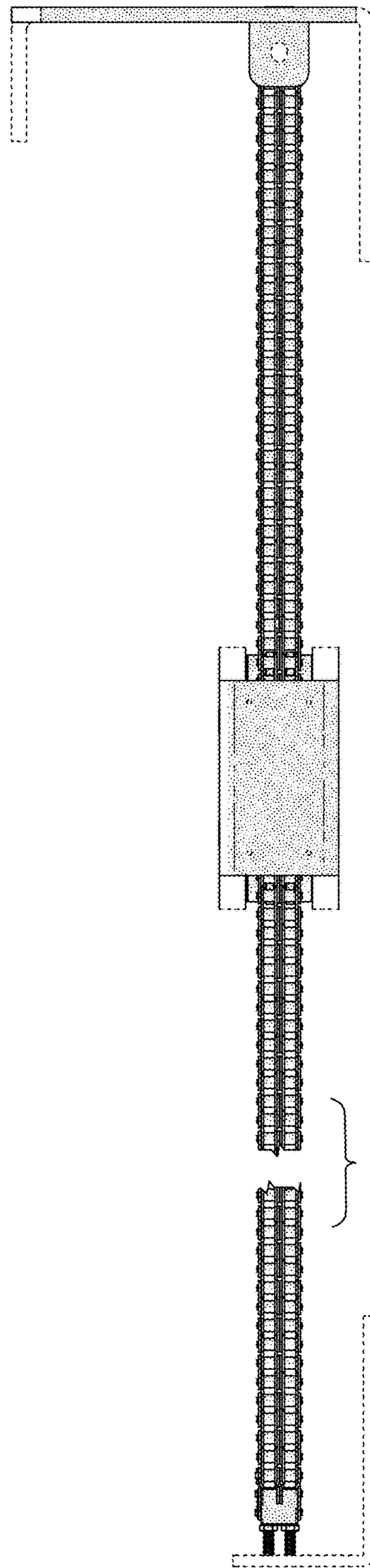
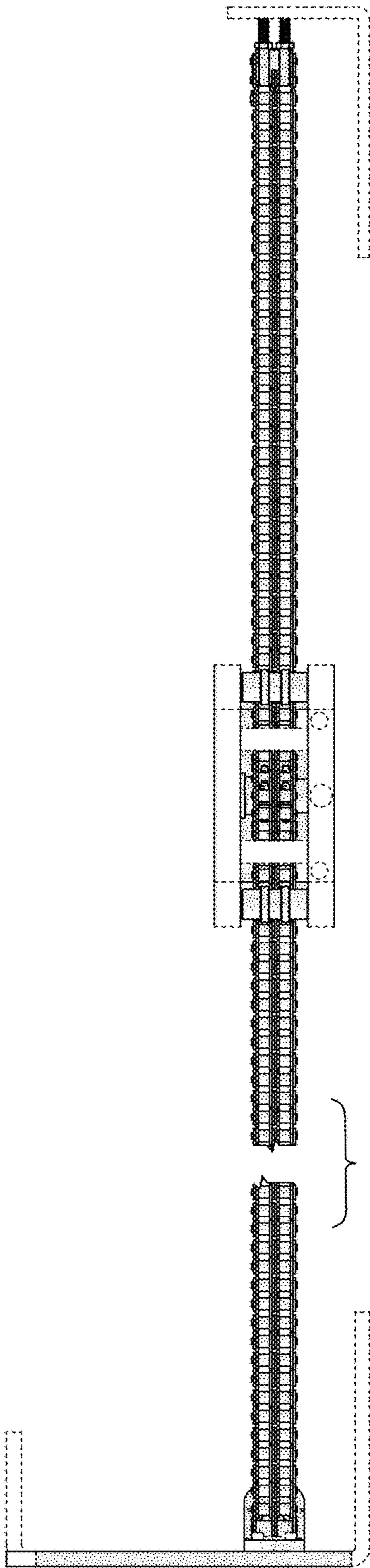
(56)

References Cited

U.S. PATENT DOCUMENTS

5,810,101 A * 9/1998 Caraway, Jr. E21B 7/005
173/185
6,109,831 A * 8/2000 Handford E21B 7/046
175/122
6,202,758 B1 * 3/2001 Jenne E21B 19/081
173/141
D453,023 S * 1/2002 Kaneko D15/21
D477,332 S * 7/2003 Bennett D15/21
7,351,011 B2 * 4/2008 Wang F16L 55/30
138/97
7,478,685 B2 * 1/2009 Ferrand E21B 7/022
173/185
8,540,458 B2 * 9/2013 Herrick F16L 55/1658
405/184.1
8,727,666 B2 * 5/2014 Farley F16L 1/032
405/169
9,725,957 B2 * 8/2017 Herrick E21B 7/022
9,816,320 B1 * 11/2017 Herrick E21B 7/04

* cited by examiner



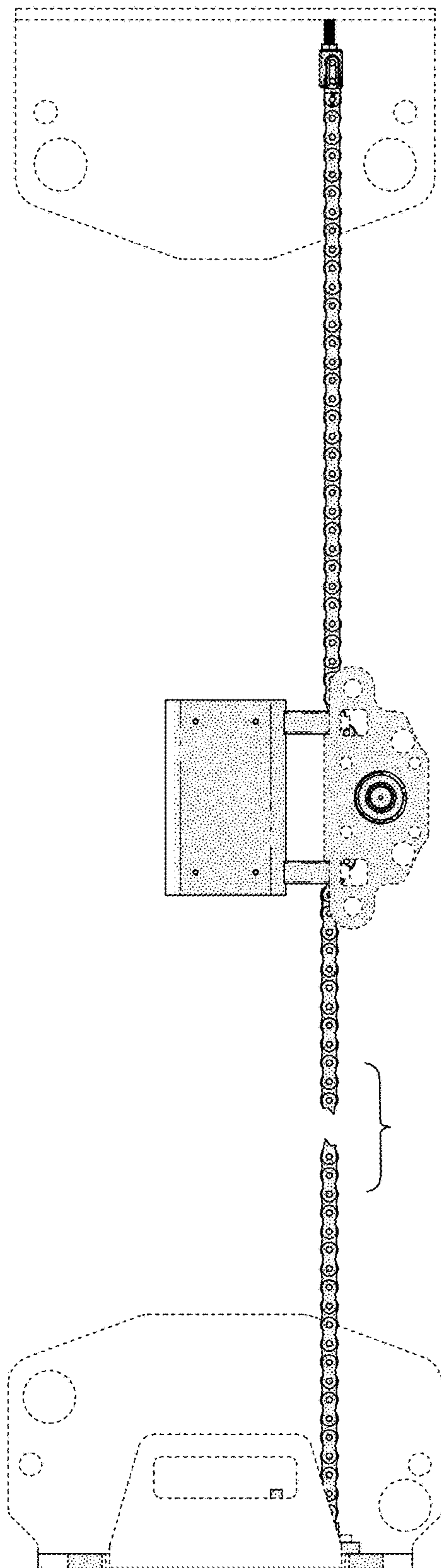


FIG. 3

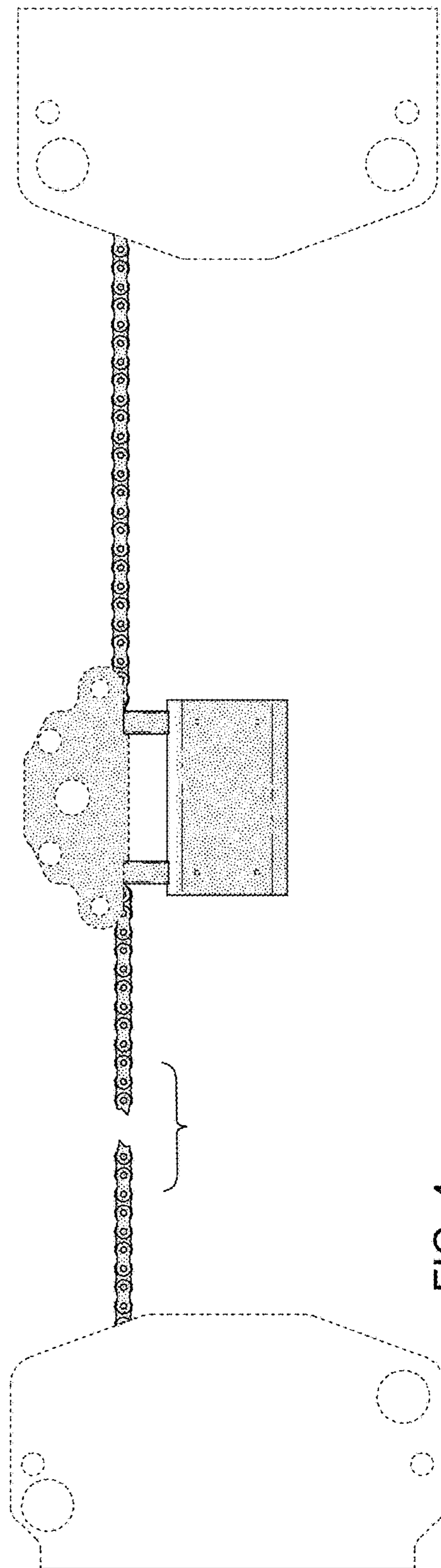


FIG. 4

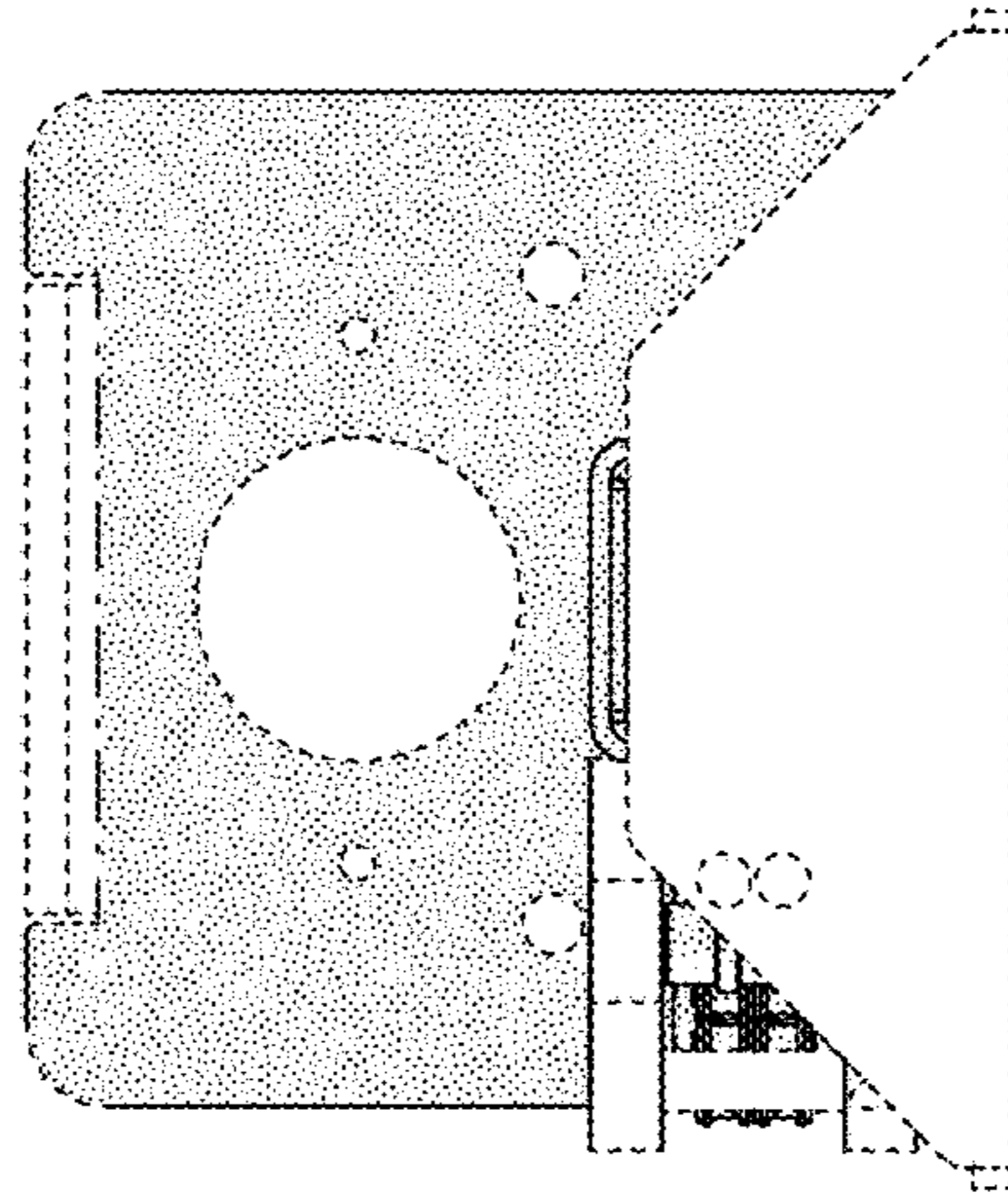


FIG. 5

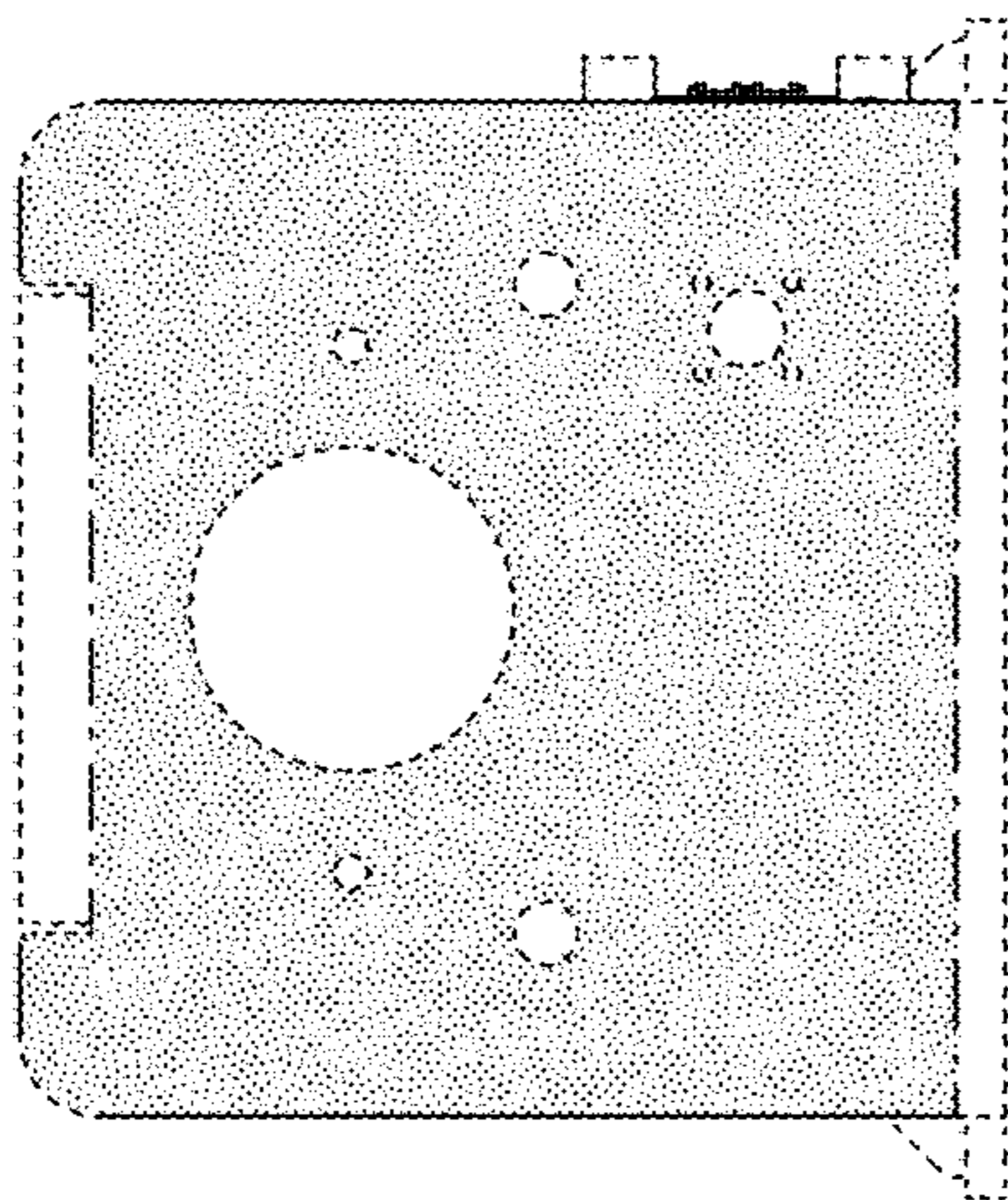


FIG. 6

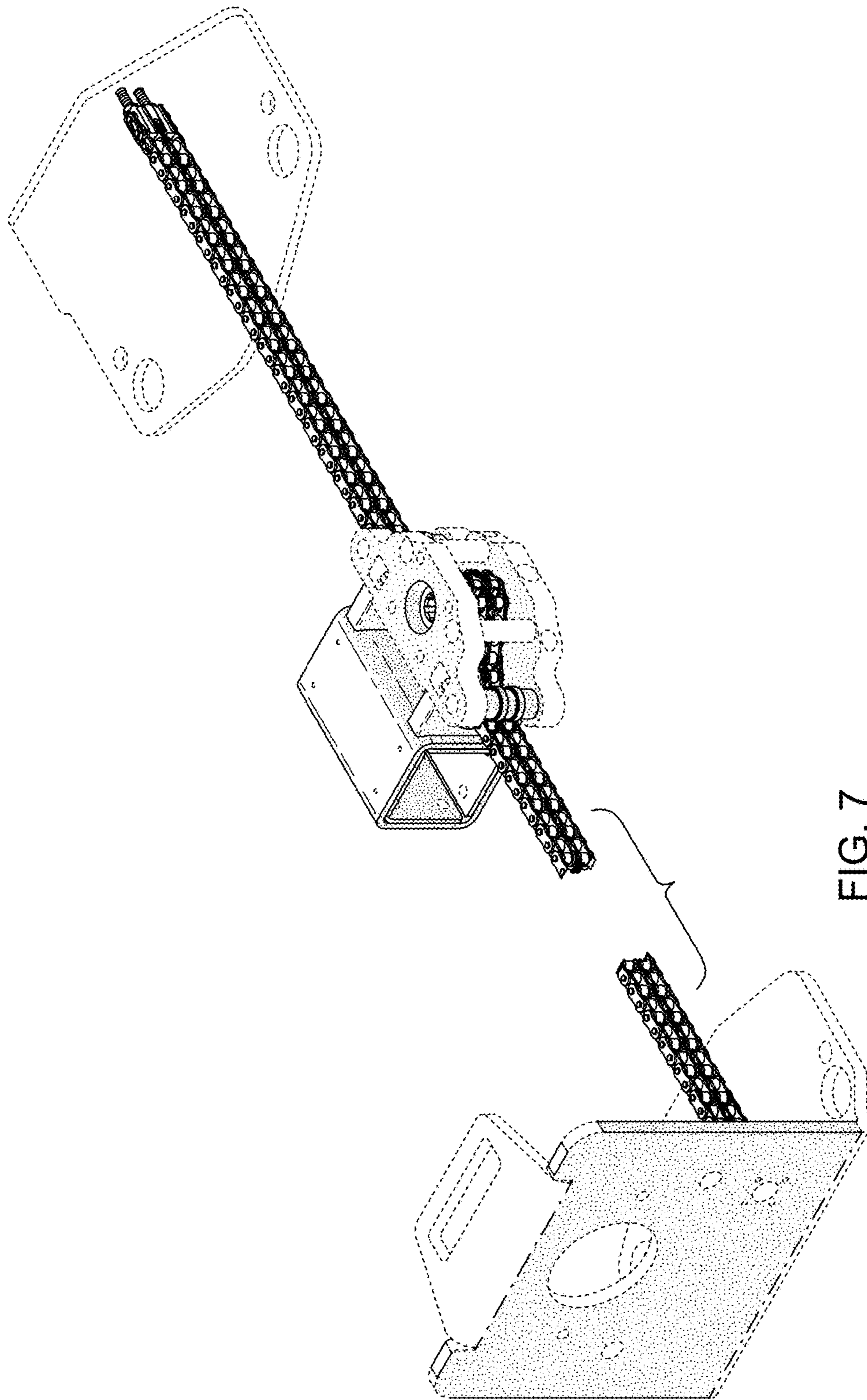


FIG. 7

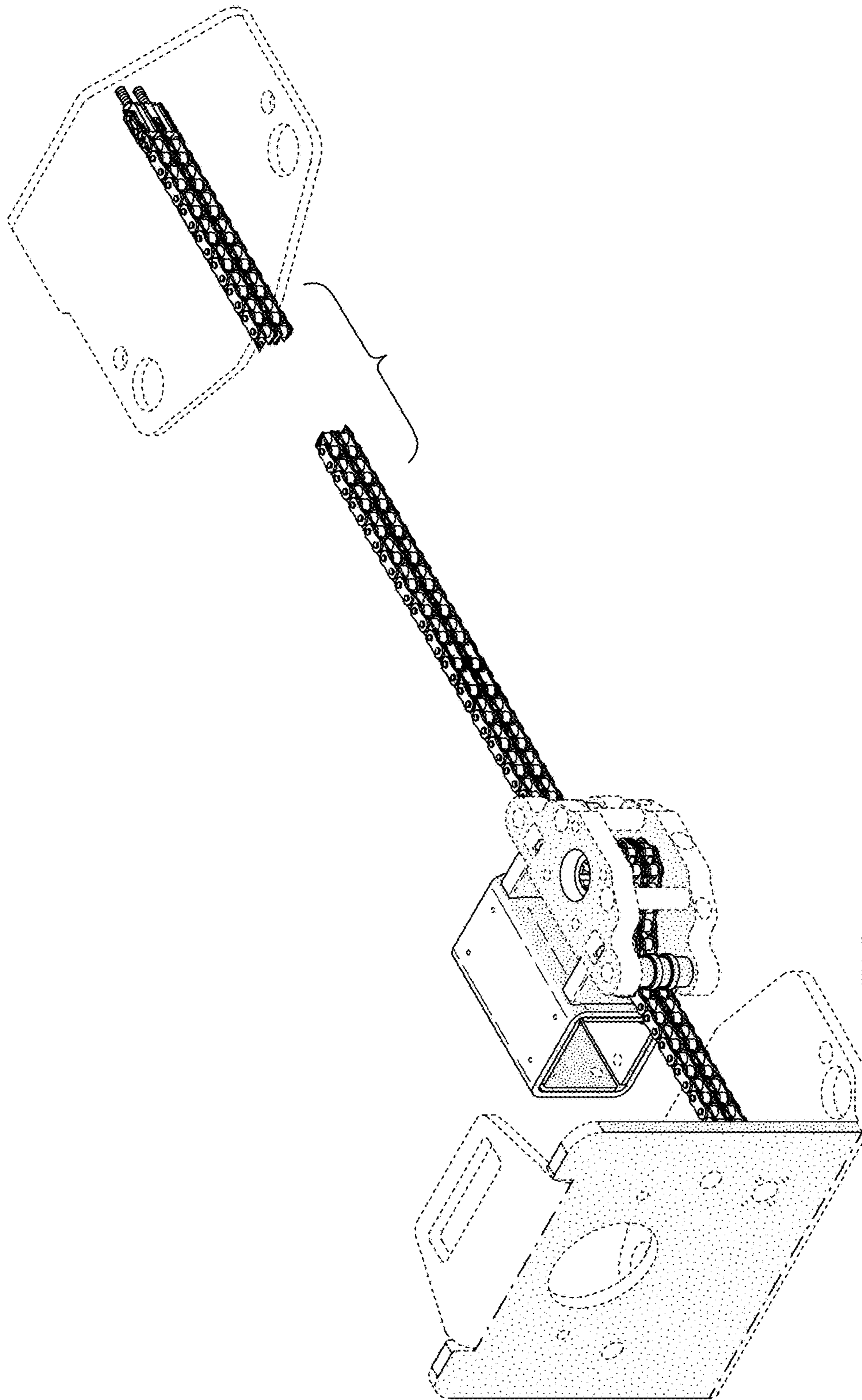


FIG. 8

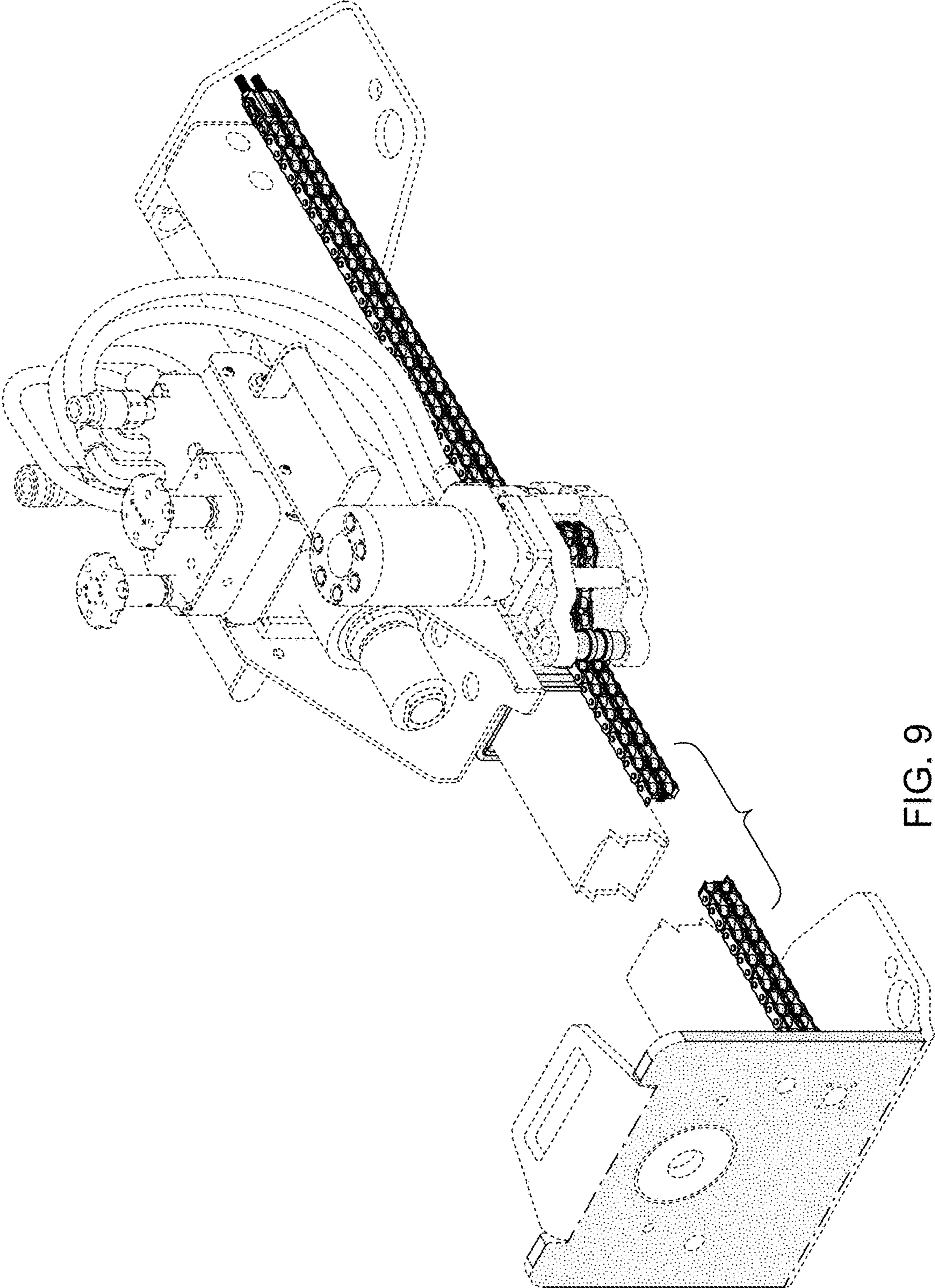


FIG. 9

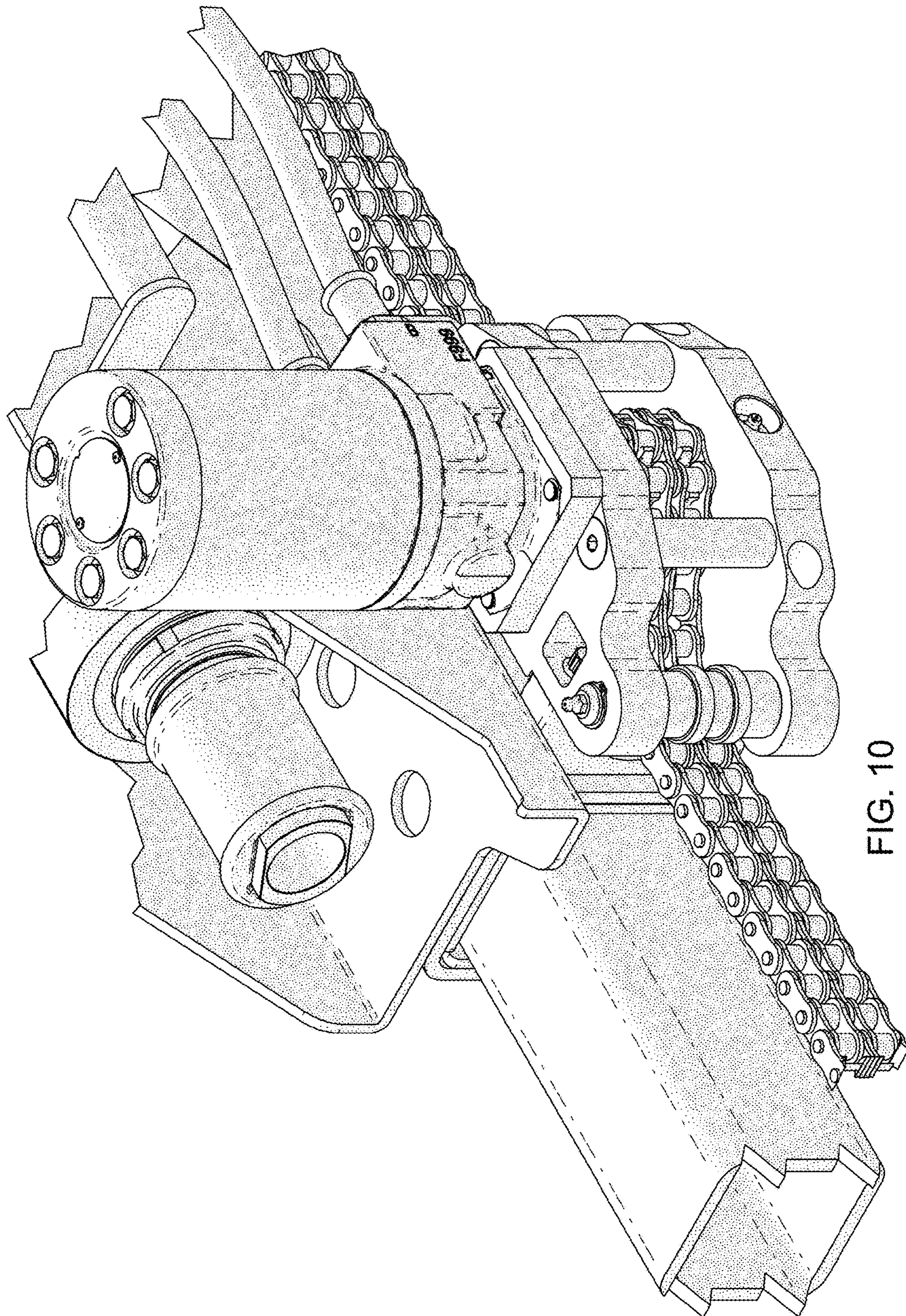


FIG. 10