



US00D783695S

(12) **United States Design Patent** (10) **Patent No.:** **US D783,695 S**  
**Ke et al.** (45) **Date of Patent:** **\*\* Apr. 11, 2017**

(54) **END EFFECTOR FOR A ROBOT ARM**

(56) **References Cited**

(71) Applicant: **HIWIN TECHNOLOGIES CORP.**,  
Taichung (TW)

U.S. PATENT DOCUMENTS

(72) Inventors: **Cheng-Tang Ke**, Taichung (TW);  
**Kun-Jia Hsu**, Taichung (TW);  
**Dong-Gu Lai**, Taichung (TW);  
**Ren-Jeng Wang**, Taichung (TW);  
**Wan-Yi Chang**, Taichung (TW);  
**Chi-Hong Lin**, Taichung (TW)

4,789,292 A \* 12/1988 Holcomb ..... B23P 19/006  
29/709  
5,046,992 A \* 9/1991 Tamai ..... B25J 9/106  
474/84  
D333,666 S \* 3/1993 Kawashima ..... D15/142  
(Continued)

(73) Assignee: **Hiwin Technologies Corp.**, Taichung  
(TW)

OTHER PUBLICATIONS

The 73th China Int'l Medical Equipment Fair (CMEF Spring 2014),  
National Exhibition and Convention Center (Shanghai), May 15-18,  
2015, 3 Pages.

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

(Continued)

(21) Appl. No.: **29/553,788**

*Primary Examiner* — Patricia Palasik

(22) Filed: **Feb. 4, 2016**

(74) *Attorney, Agent, or Firm* — Muncy, Geissler, Olds &  
Lowe, P.C.

(30) **Foreign Application Priority Data**

(57) **CLAIM**

The ornamental design for an end effector for a robot arm,  
as shown and described.

Sep. 24, 2015 (TW) ..... 104305318

**DESCRIPTION**

(51) **LOC (10) Cl.** ..... **15-09**

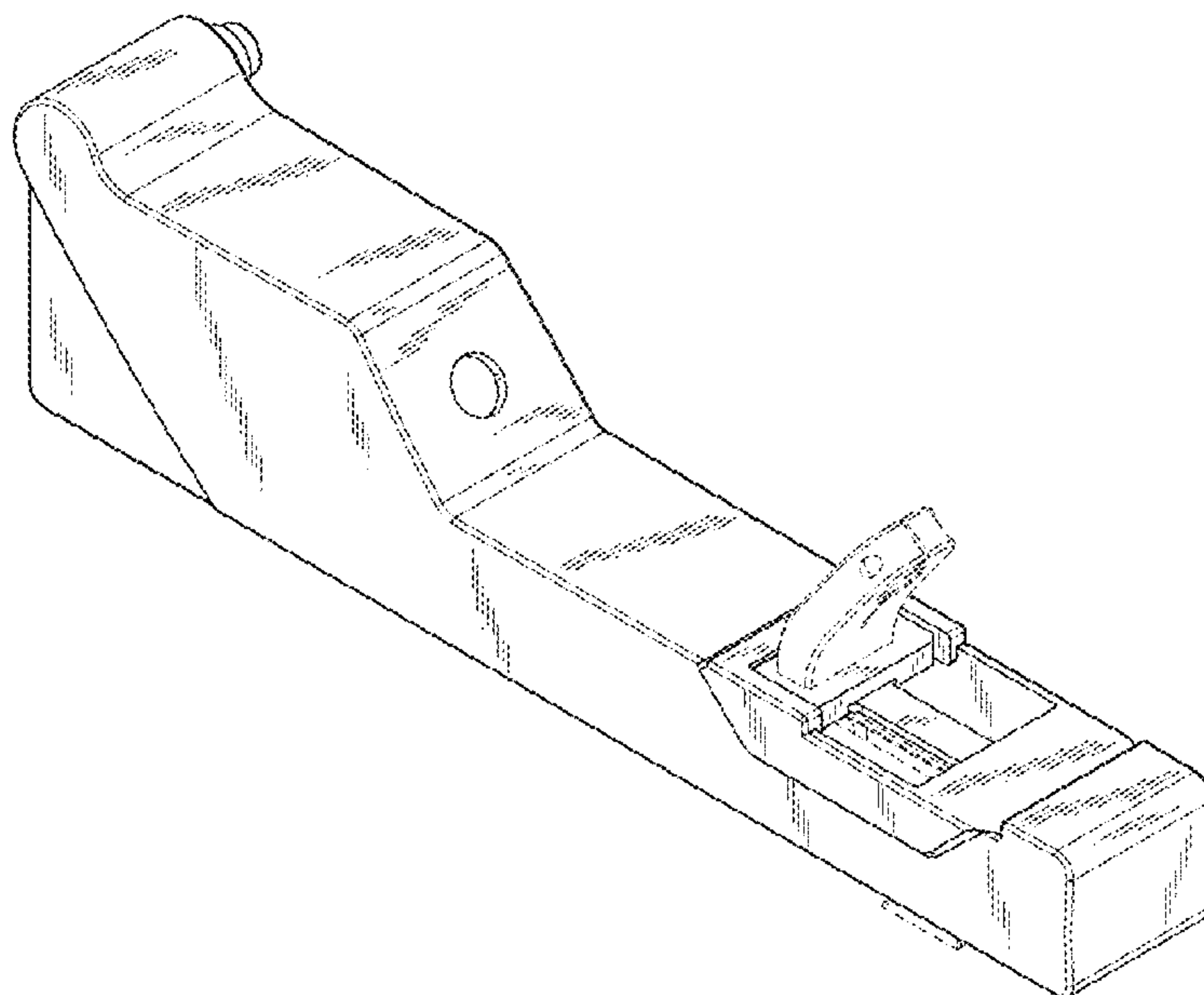
(52) **U.S. Cl.**  
USPC ..... **D15/143; D15/199**

(58) **Field of Classification Search**  
USPC ..... D13/118, 158, 162, 184; D15/1-5, 7, 9,  
D15/143, 148, 149, 199  
CPC ..... F16H 25/20; F16H 25/2021; F16H  
2025/2065; F16H 2025/2081; F16H  
2025/2087; Y10T 74/18752; Y10T  
74/18056; Y10T 74/18576; Y10T  
74/18688; Y10T 74/18696

FIG. 1 is a perspective view of the present design;  
FIG. 2 is a front view of the present design;  
FIG. 3 is a rear view of the present design;  
FIG. 4 is a left side view of the present design;  
FIG. 5 is a right side view of the present design;  
FIG. 6 is a top view of the present design;  
FIG. 7 is a bottom view of the present design; and,  
FIG. 8 is a schematic drawing showing that the end effector  
of the robot arm of the present design is in use.  
The broken lines showing structural features in the drawings  
depict unclaimed environmental subject matter.

See application file for complete search history.

**1 Claim, 6 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

5,375,480 A \* 12/1994 Nihei ..... B25J 19/0029  
74/490.02  
5,515,599 A \* 5/1996 Best ..... B23Q 1/5481  
29/38 C  
D407,409 S \* 3/1999 Masuda ..... D15/199  
D589,543 S \* 3/2009 Lin ..... D15/143  
D596,653 S \* 7/2009 Fukano ..... D15/143  
D611,514 S \* 3/2010 Fukano ..... D15/143  
D621,860 S \* 8/2010 Fukano ..... D13/107  
D624,099 S \* 9/2010 Fukano ..... D13/158  
D624,100 S \* 9/2010 Fukano ..... D13/158  
D624,570 S \* 9/2010 Fukano ..... D15/143  
D624,572 S \* 9/2010 Fukano ..... D13/158  
D636,798 S \* 4/2011 Fukano ..... D15/143  
D636,799 S \* 4/2011 Fukano ..... D15/143  
D656,169 S \* 3/2012 Fukano ..... D15/143  
D677,624 S \* 3/2013 Goodman ..... D13/112  
D685,014 S \* 6/2013 Mangold ..... D15/143  
D686,257 S \* 7/2013 Wu ..... D15/143  
D695,799 S \* 12/2013 Landerholm ..... D15/143  
D744,559 S \* 12/2015 Nakayama ..... D15/143  
9,334,066 B2 \* 5/2016 Tapia ..... B64F 5/0045

D767,656 S \* 9/2016 Wu ..... D15/143  
2009/0288511 A1 \* 11/2009 Kuribayashi ..... F16H 25/20  
74/89.38  
2010/0290886 A1 \* 11/2010 Hashimoto ..... B25J 9/042  
414/800  
2013/0068061 A1 \* 3/2013 Yoon ..... B25J 18/025  
74/490.05  
2013/0192391 A1 \* 8/2013 Bruehwiler ..... G01N 1/08  
73/863.01  
2014/0165771 A1 \* 6/2014 Roth ..... B25J 9/0018  
74/490.02  
2015/0240922 A1 \* 8/2015 Parker ..... F16H 25/2015  
74/89.37  
2016/0067868 A1 \* 3/2016 Porter ..... B25J 15/04  
74/490.06  
2016/0288322 A1 \* 10/2016 Lin ..... B25J 9/163  
2016/0339590 A1 \* 11/2016 Lin ..... B25J 15/0061

OTHER PUBLICATIONS

Taiwan Automation Intelligence and Robot Show, Taiwan Automation Intelligence and Robotics Association, Jul. 16-19, 2015, Show Report. 30 Pages.

\* cited by examiner

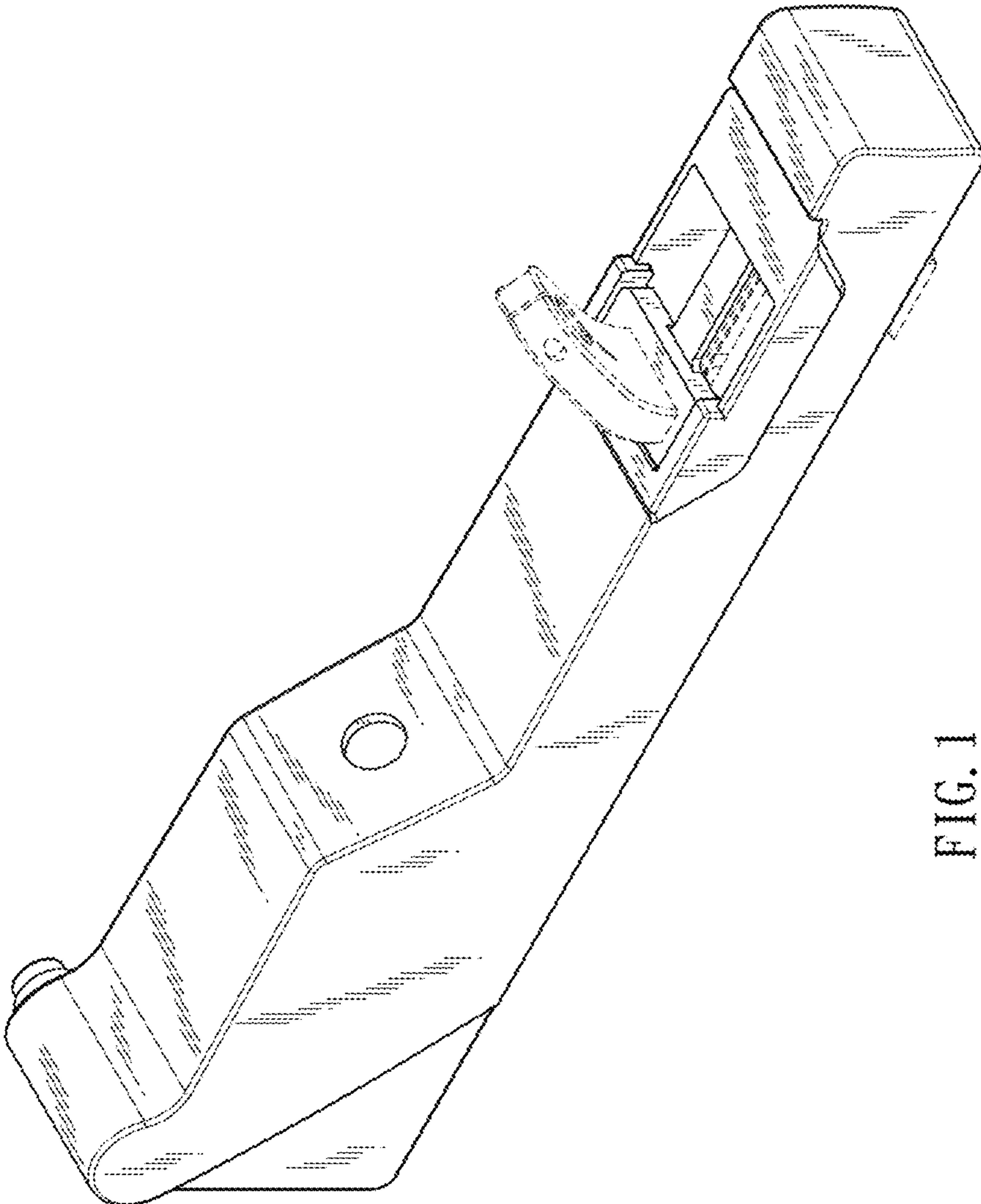


FIG. 1

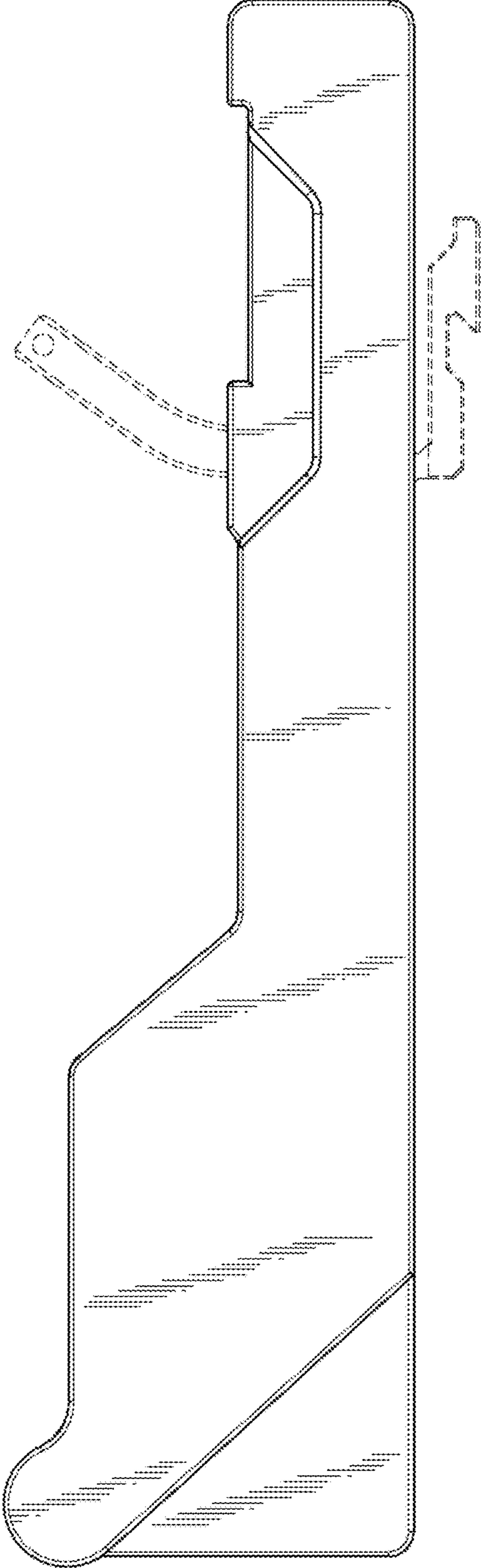


FIG. 2



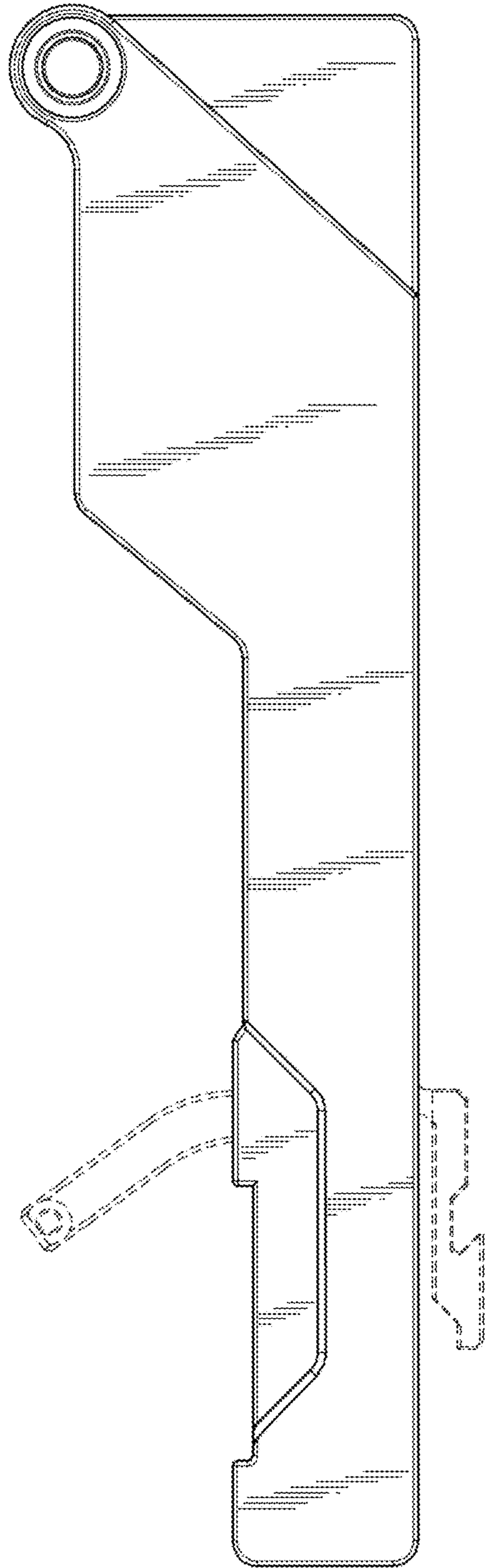


FIG. 3

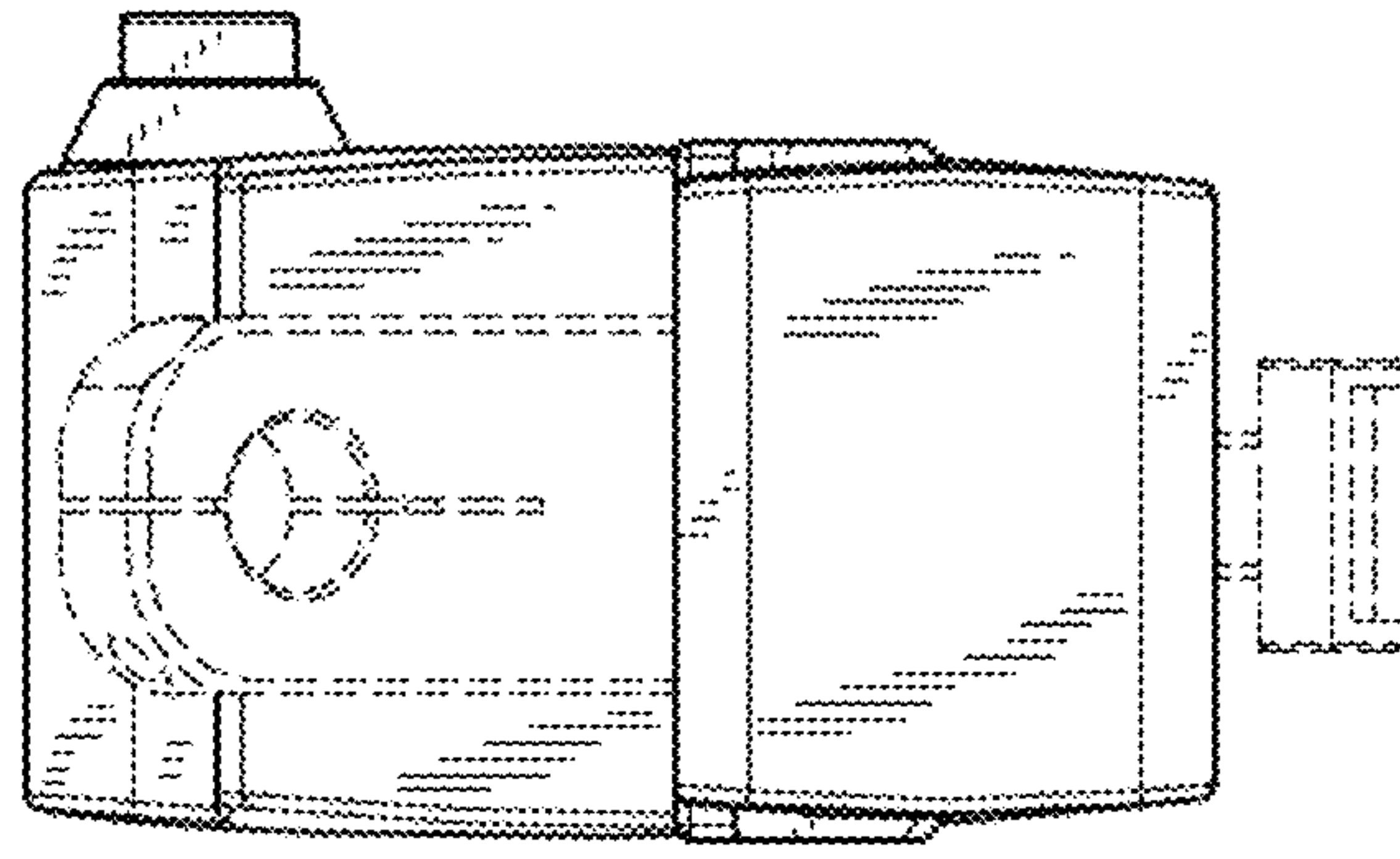


FIG. 5

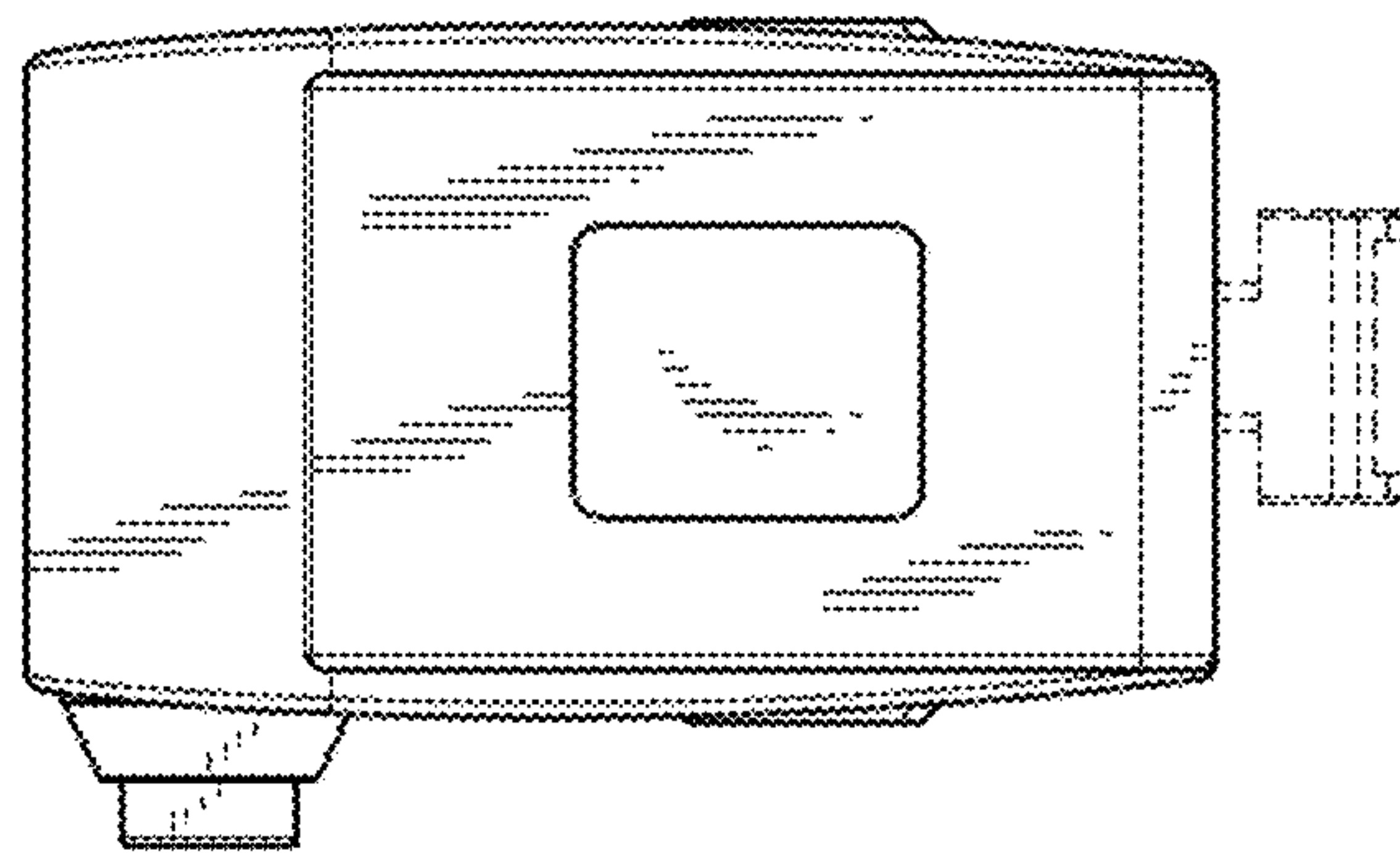


FIG. 4

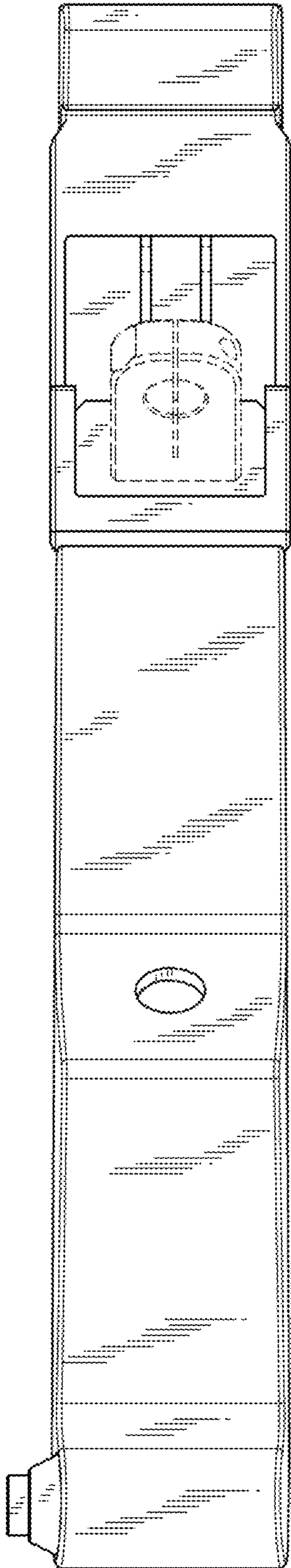


FIG. 6

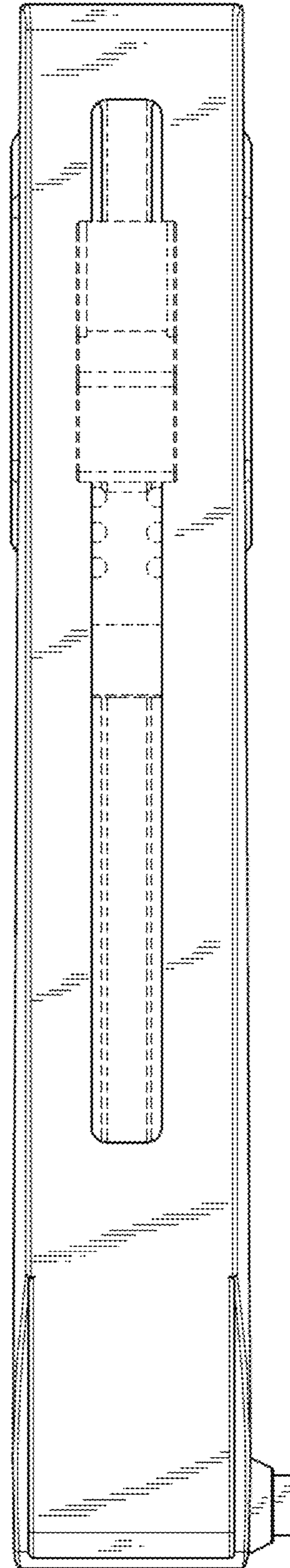


FIG. 7

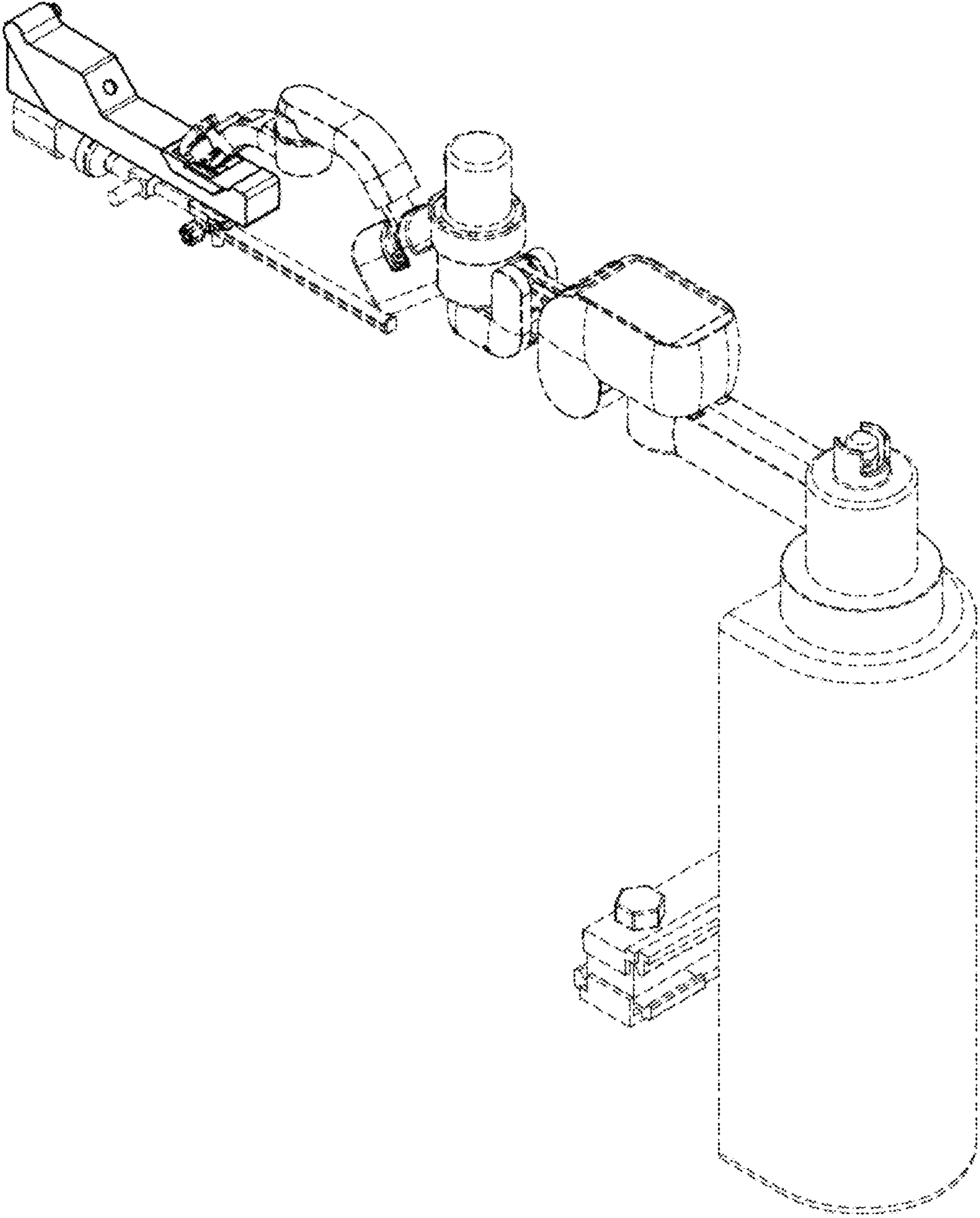


FIG. 8