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(12) **United States Design Patent**  
**Luo et al.**

(10) **Patent No.:** **US D956,705 S**  
(45) **Date of Patent:** **\*\* Jul. 5, 2022**

(54) **COOLING PLATE FOR A SEMICONDUCTOR PROCESSING APPARATUS**

**DESCRIPTION**

(71) Applicant: **Lam Research Corporation**, Fremont, CA (US)

(72) Inventors: **Bin Luo**, Tigard, OR (US); **Damien Slevin**, Salem, OR (US); **Allan Matthew Jones**, Hillsboro, OR (US)

(73) Assignee: **Lam Research Corporation**, Fremont, CA (US)

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

(21) Appl. No.: **29/733,653**

(22) Filed: **May 5, 2020**

(30) **Foreign Application Priority Data**

Nov. 7, 2019 (KR) ..... 30-2019-0053204

(51) **LOC (13) Cl.** ..... **13-03**

(52) **U.S. Cl.**  
USPC ..... **D13/179; D13/182**

(58) **Field of Classification Search**  
USPC ..... D13/179, 182, 184; D23/231, 371, 387, D23/370; D14/230

(Continued)

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*Primary Examiner* — April Rivas

(74) *Attorney, Agent, or Firm* — Weaver Austin Villeneuve & Sampson LLP

(57) **CLAIM**

We claim the ornamental design for a cooling plate for a semiconductor processing apparatus, as shown and described.

FIG. 1 depicts a perspective view of a first cooling plate for a semiconductor processing apparatus.

FIG. 2 depicts another perspective view of the first cooling plate for a semiconductor processing apparatus of FIG. 1.

FIG. 3 depicts yet another perspective view of the first cooling plate for a semiconductor processing apparatus of FIG. 1.

FIG. 4 depicts another perspective view of the first cooling plate for a semiconductor processing apparatus of FIG. 1.

FIG. 5 depicts yet another perspective view of the first cooling plate for a semiconductor processing apparatus of FIG. 1.

FIG. 6 depicts a top view of the first cooling plate for a semiconductor processing apparatus of FIG. 1.

FIG. 7 depicts a bottom view of the first cooling plate for a semiconductor processing apparatus of FIG. 1.

FIG. 8 depicts a front view of the first cooling plate for a semiconductor processing apparatus of FIG. 1.

FIG. 9 depicts a back view of the first cooling plate for a semiconductor processing apparatus of FIG. 1.

FIG. 10 depicts a right side view of the first cooling plate for a semiconductor processing apparatus of FIG. 1.

FIG. 11 depicts a left side view of the first cooling plate for a semiconductor processing apparatus of FIG. 1.

FIG. 12 depicts a perspective view of a second cooling plate for a semiconductor processing apparatus.

FIG. 13 depicts another perspective view of the second cooling plate for a semiconductor processing apparatus of FIG. 12.

FIG. 14 depicts yet another perspective view of the second cooling plate for a semiconductor processing apparatus of FIG. 12.

FIG. 15 depicts another perspective view of the second cooling plate for a semiconductor processing apparatus of FIG. 12.

FIG. 16 depicts yet another perspective view of the second cooling plate for a semiconductor processing apparatus of FIG. 12.

FIG. 17 depicts a top view of the second cooling plate for a semiconductor processing apparatus of FIG. 12.

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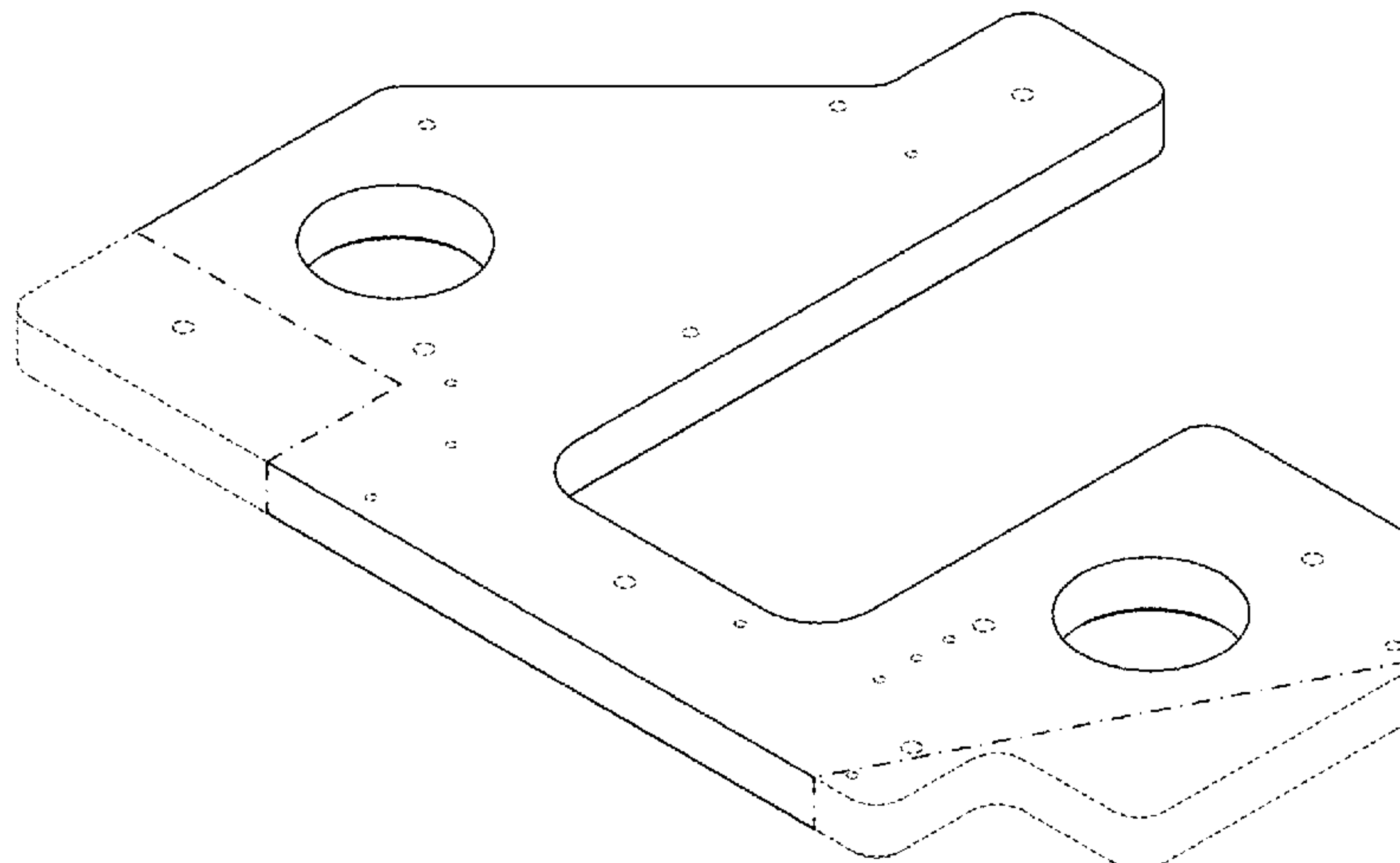


FIG. 18 depicts a bottom view of the second cooling plate for a semiconductor processing apparatus of FIG. 12.  
 FIG. 19 depicts a front view of the second cooling plate for a semiconductor processing apparatus of FIG. 12.  
 FIG. 20 depicts a back view of the second cooling plate for a semiconductor processing apparatus of FIG. 12.  
 FIG. 21 depicts a right side view of the second cooling plate for a semiconductor processing apparatus of FIG. 12.  
 FIG. 22 depicts a left side view of the second cooling plate for a semiconductor processing apparatus of FIG. 12.  
 FIG. 23 depicts a perspective view of a third cooling plate for a semiconductor processing apparatus.  
 FIG. 24 depicts another perspective view of the third cooling plate for a semiconductor processing apparatus of FIG. 23.  
 FIG. 25 depicts yet another perspective view of the third cooling plate for a semiconductor processing apparatus of FIG. 23.  
 FIG. 26 depicts another perspective view of the third cooling plate for a semiconductor processing apparatus of FIG. 23.  
 FIG. 27 depicts yet another perspective view of the third cooling plate for a semiconductor processing apparatus of FIG. 23.  
 FIG. 28 depicts a top view of the third cooling plate for a semiconductor processing apparatus of FIG. 23.  
 FIG. 29 depicts a bottom view of the third cooling plate for a semiconductor processing apparatus of FIG. 23.  
 FIG. 30 depicts a front view of the third cooling plate for a semiconductor processing apparatus of FIG. 23.  
 FIG. 31 depicts a back view of the third cooling plate for a semiconductor processing apparatus of FIG. 23.  
 FIG. 32 depicts a right side view of the third cooling plate for a semiconductor processing apparatus of FIG. 23; and,  
 FIG. 33 depicts a left side view of the third cooling plate for a semiconductor processing apparatus of FIG. 23.  
 Broken, dashed lines are used to represent portions of the article that do not form a part of the design. The broken,

dash-dot-dash boundary line is used to represent a boundary between claimed and unclaimed subject matter.

**1 Claim, 12 Drawing Sheets**

(58) **Field of Classification Search**

CPC . H01Q 1/428; H01Q 1/02; H01Q 1/38; H01L 23/367; H01L 23/3672; H05K 7/20254; F28F 3/022; F28F 3/04; F28F 21/065; G02B 1/111; F28D 15/0275; F04D 29/281

See application file for complete search history.

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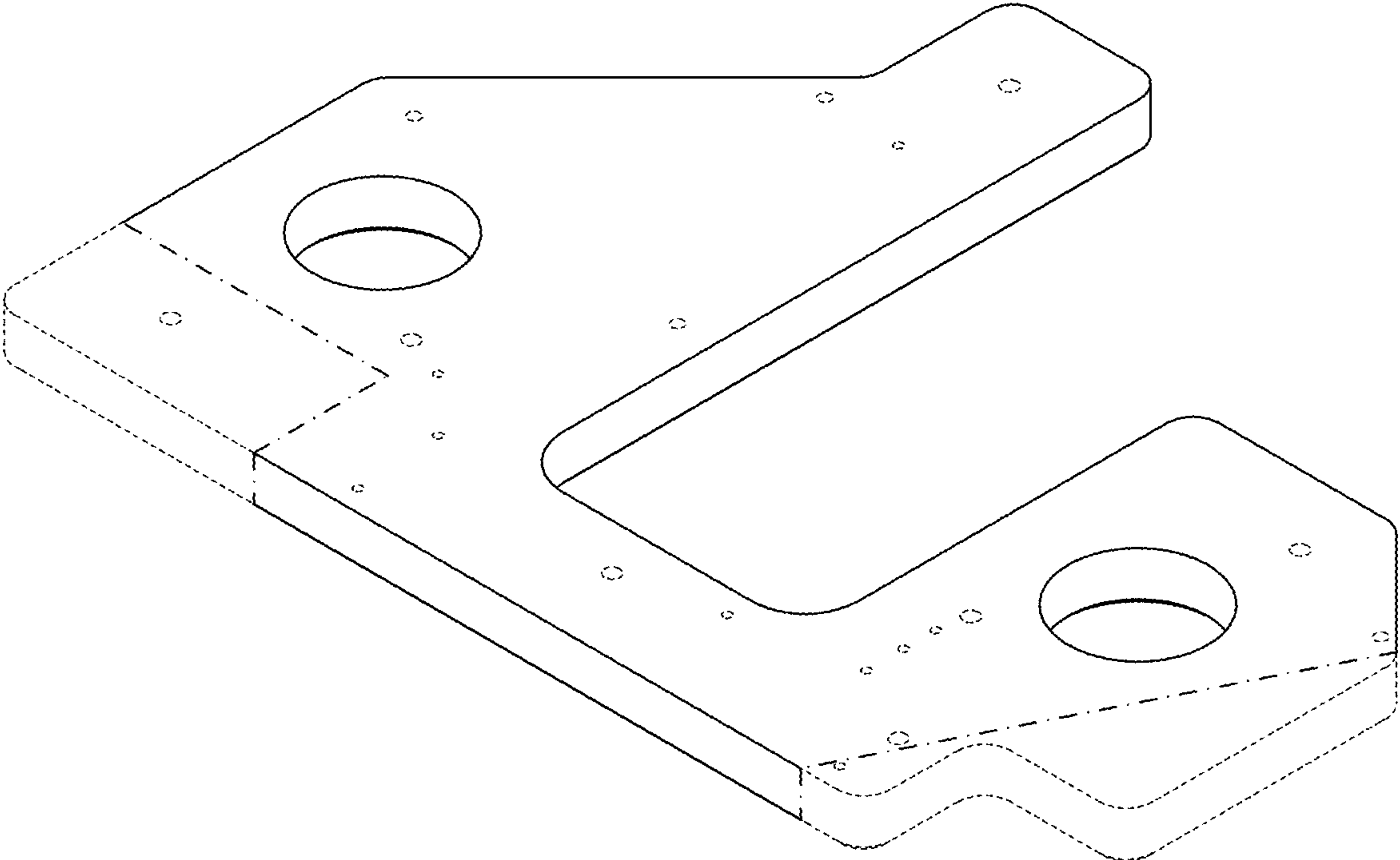


FIG. 1

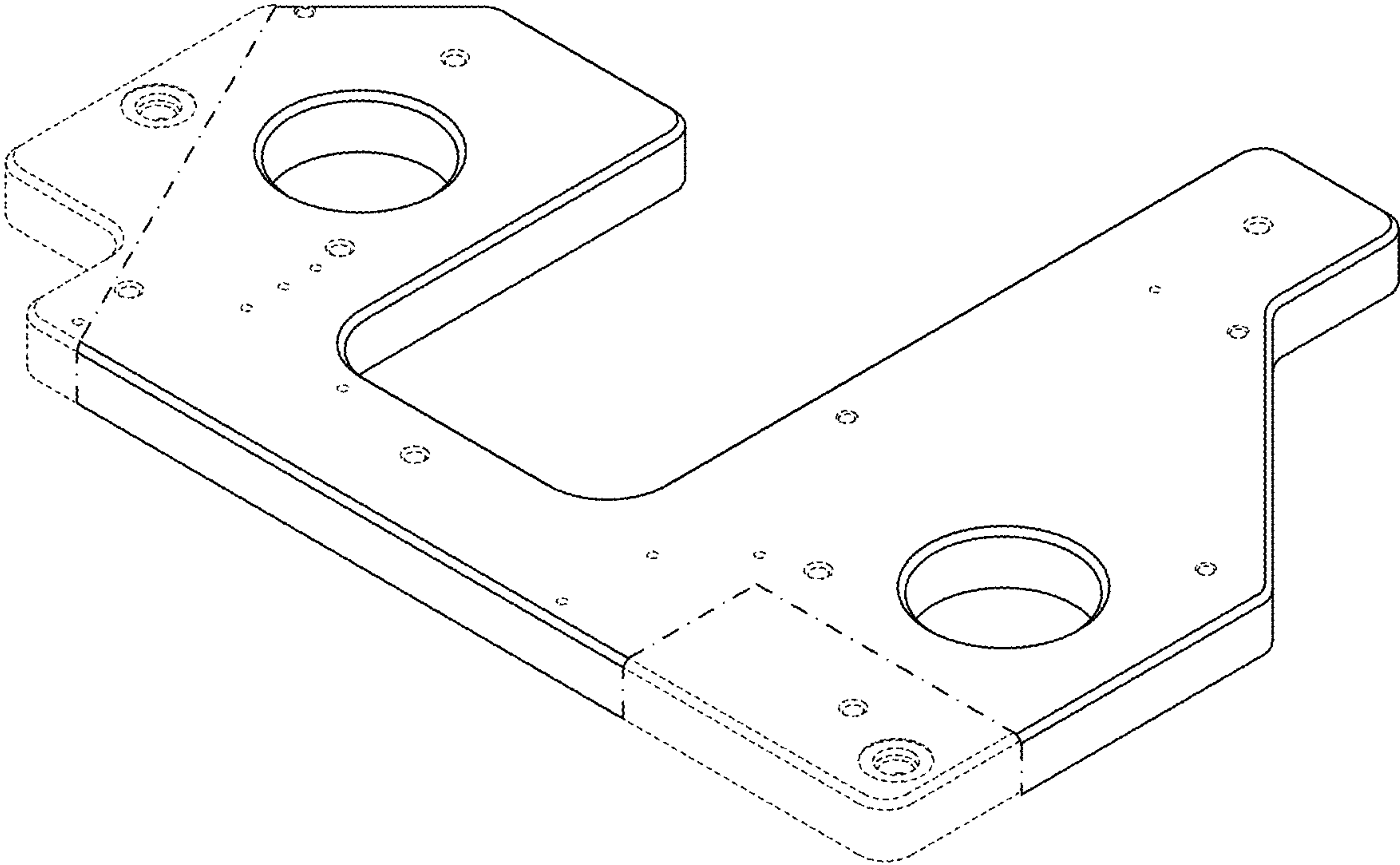


FIG. 2



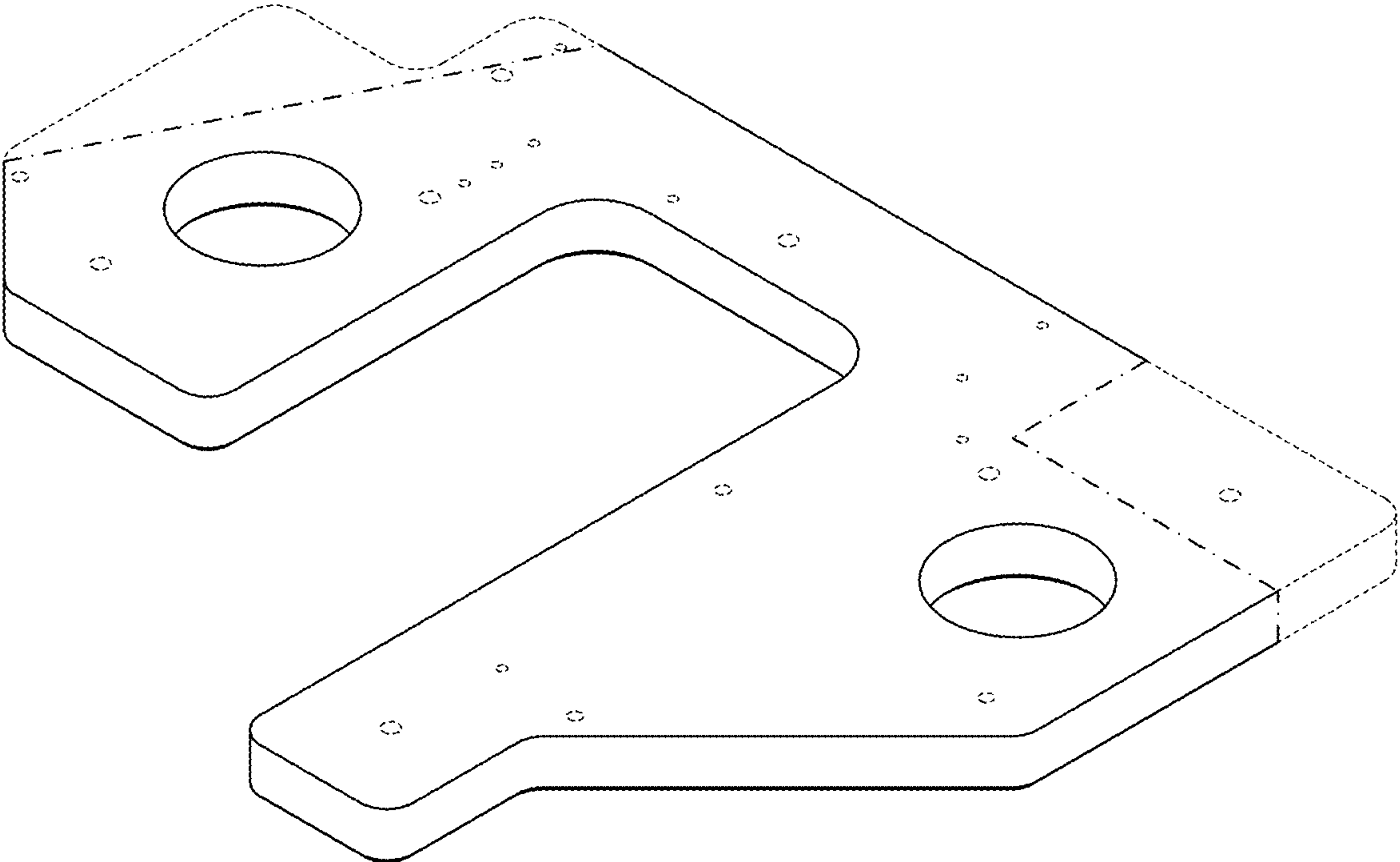


FIG. 3

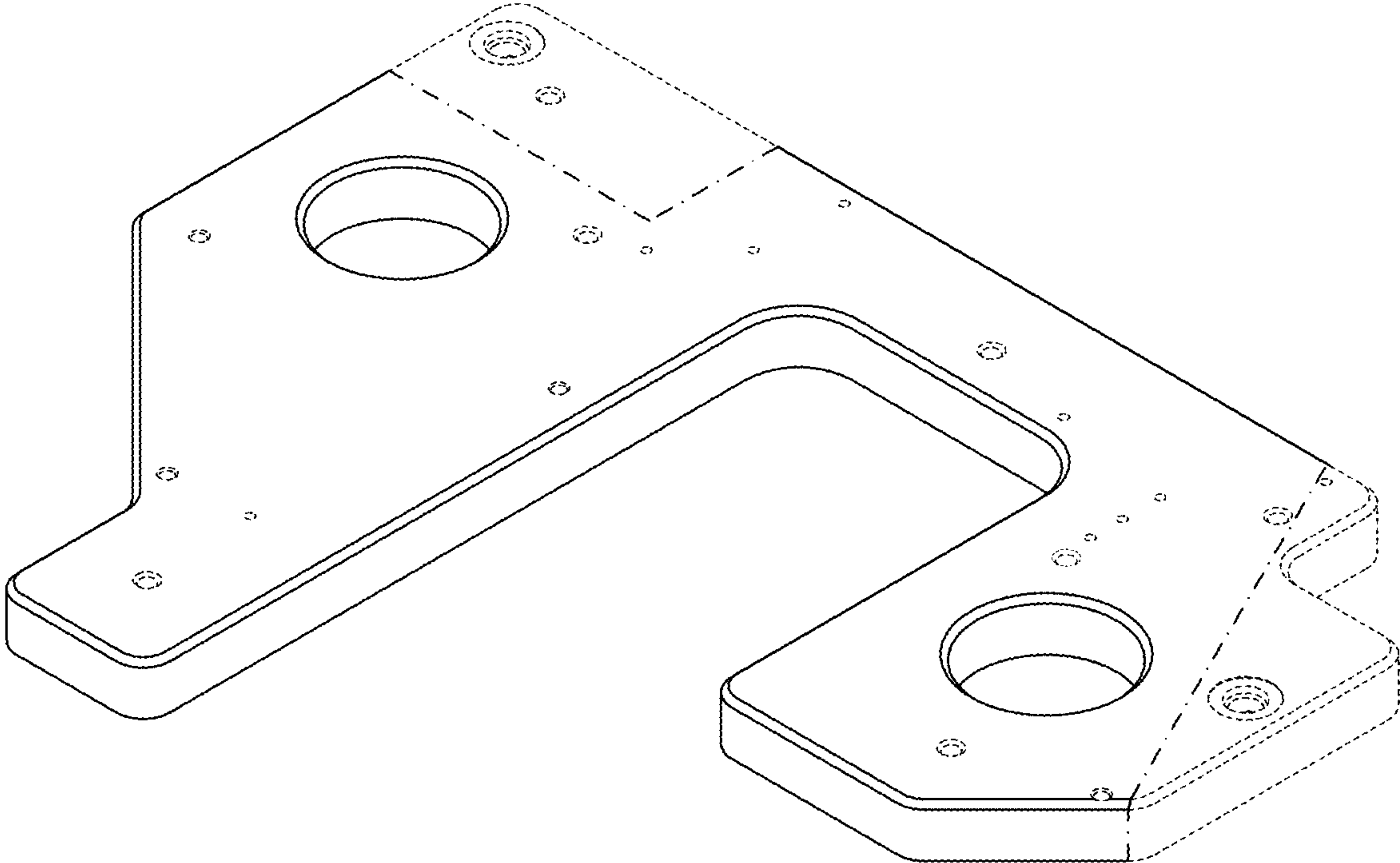


FIG. 4

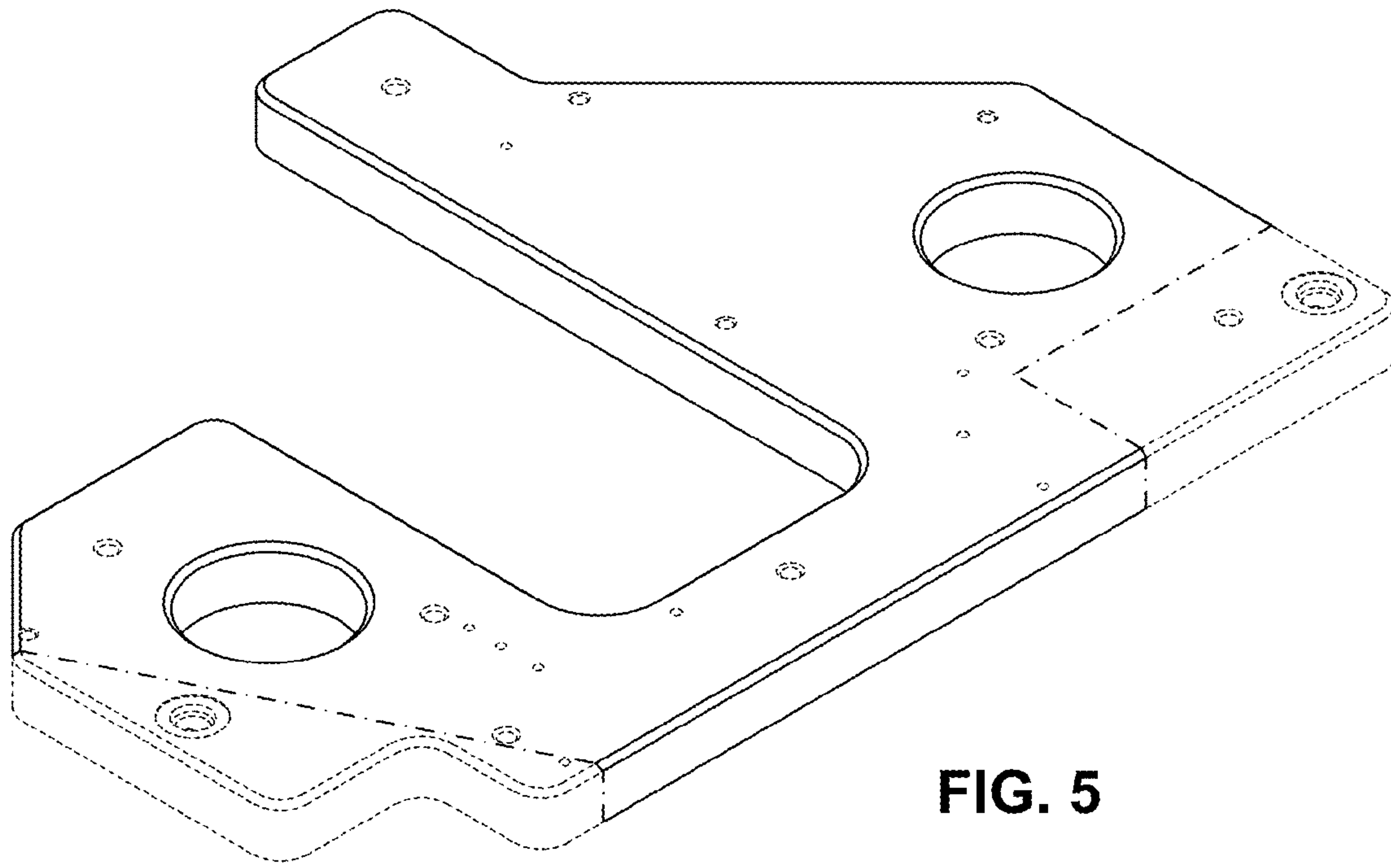


FIG. 5

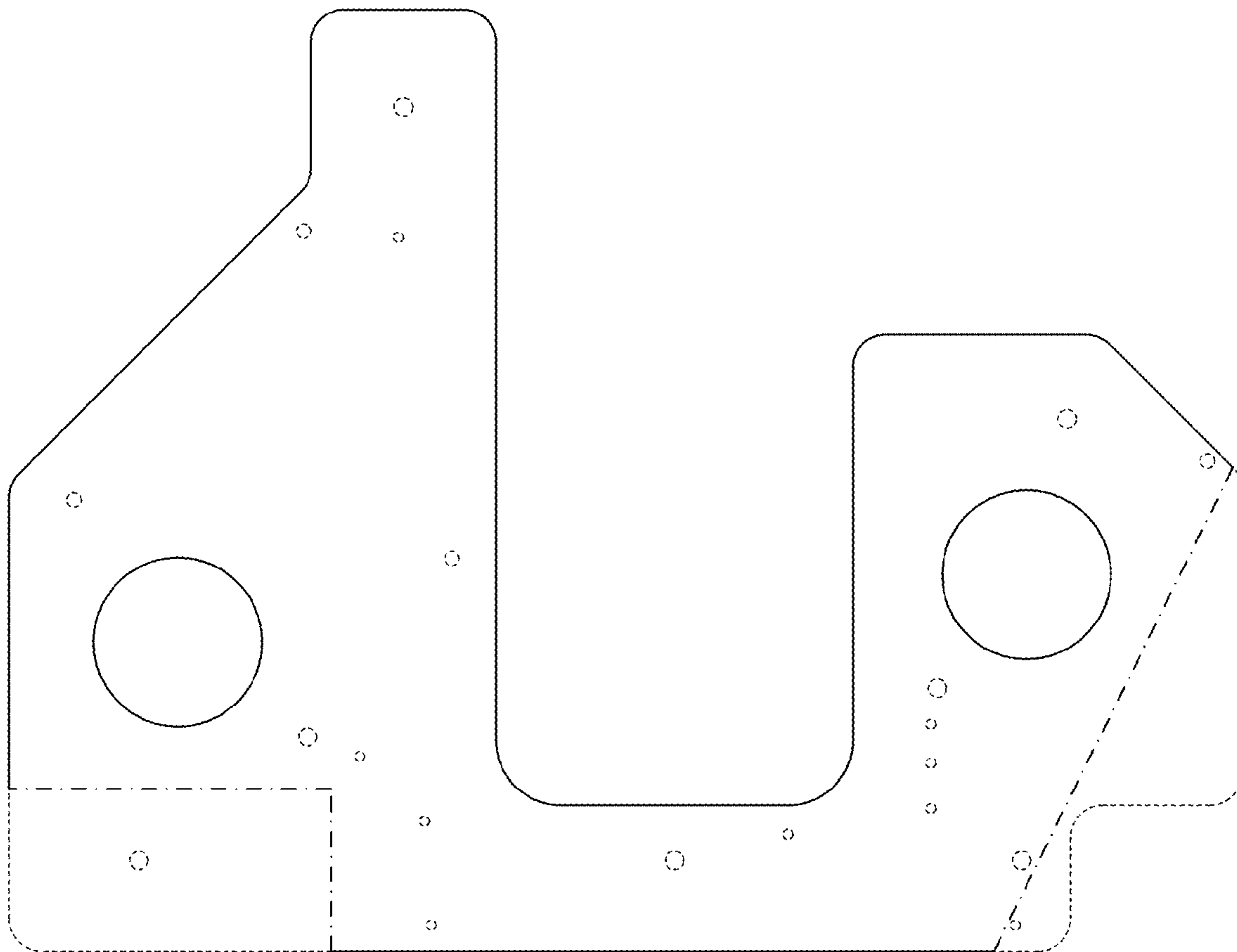


FIG. 6

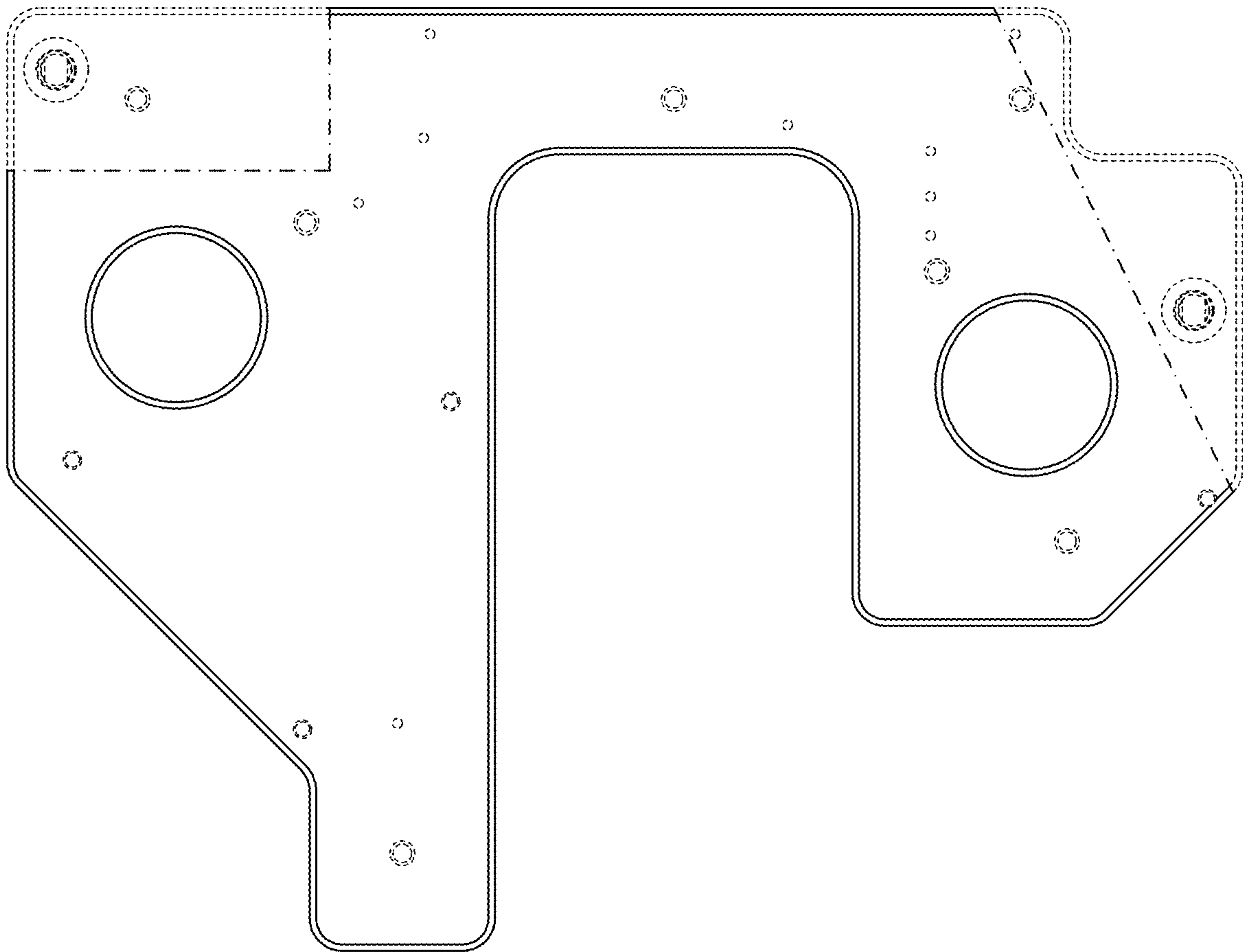


FIG. 7



FIG. 8

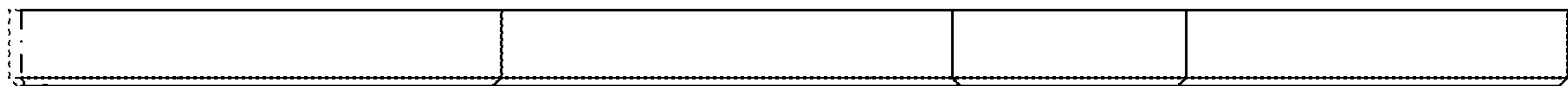


FIG. 9

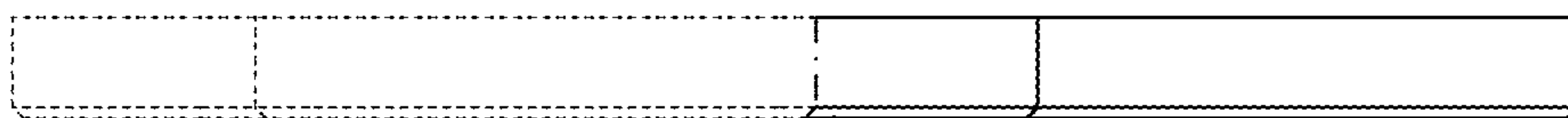


FIG. 10



FIG. 11

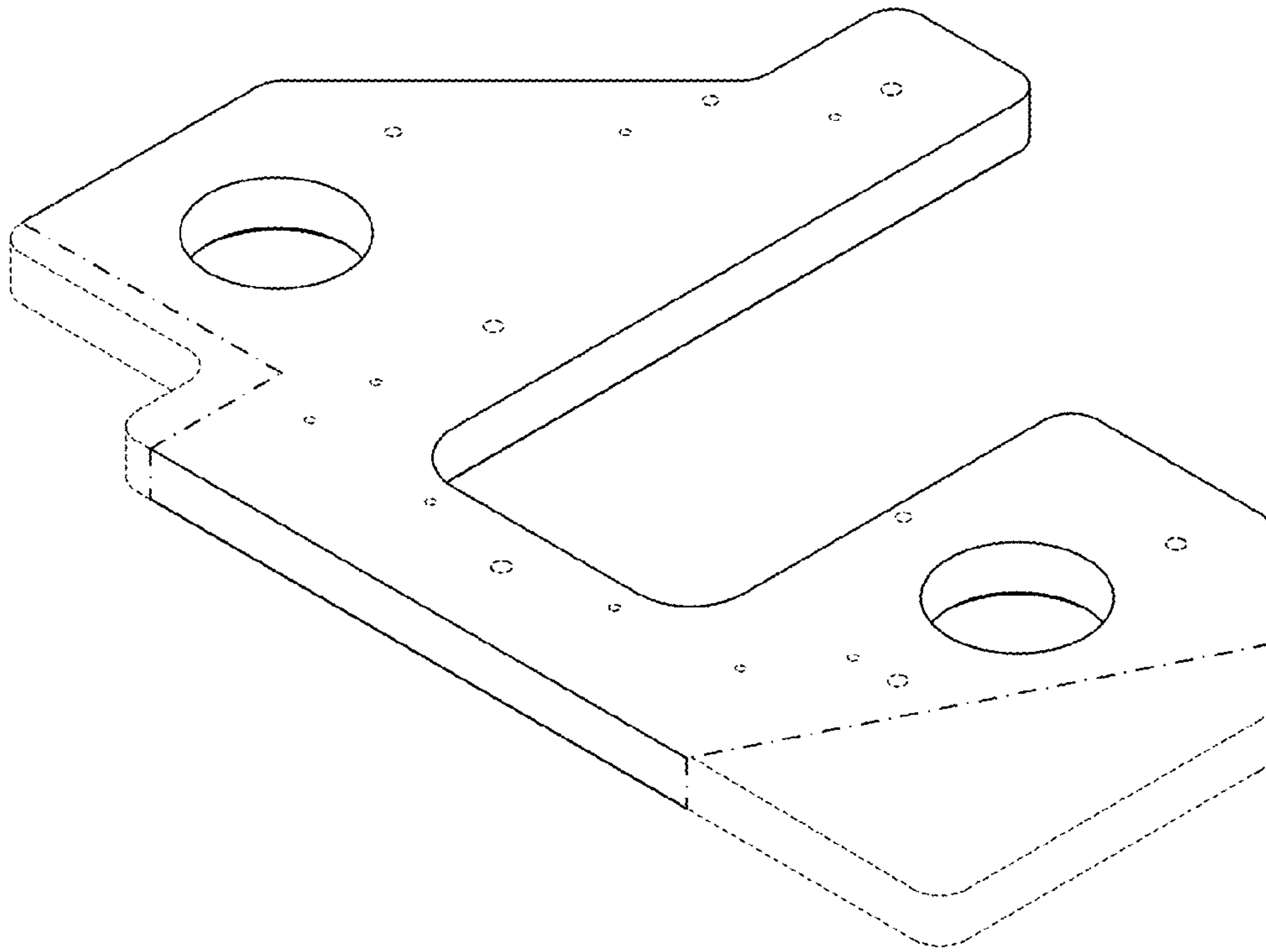


FIG. 12

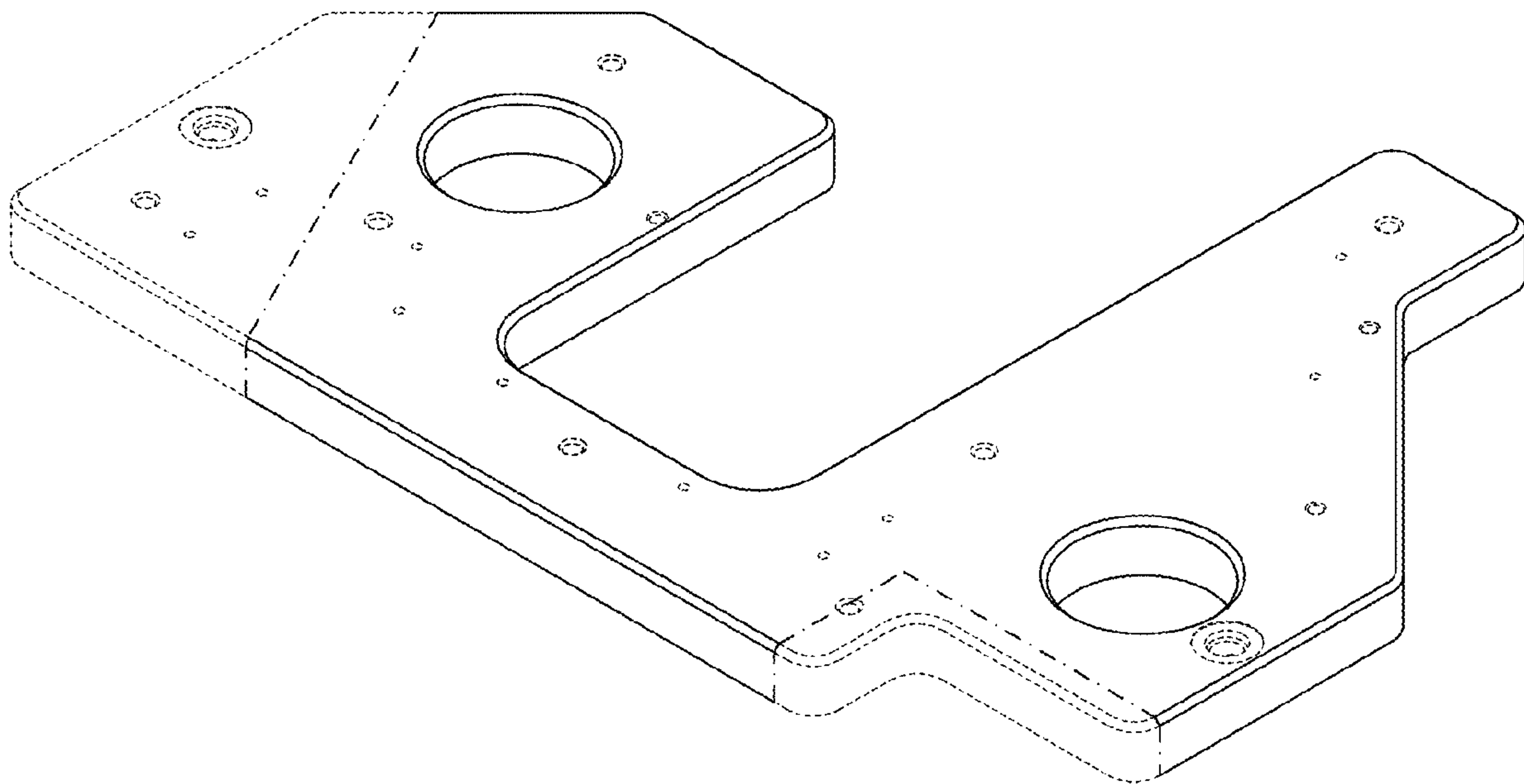


FIG. 13

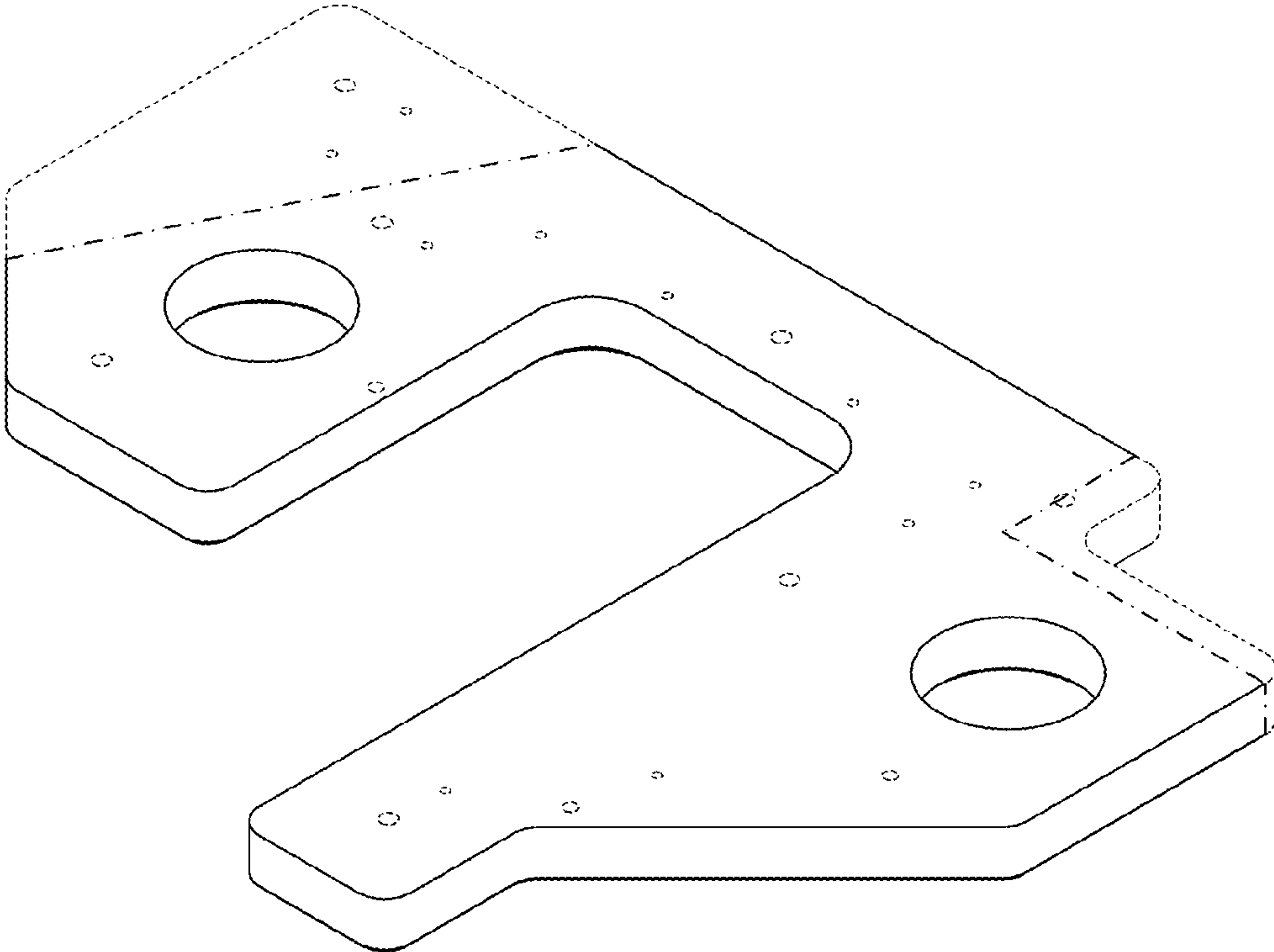


FIG. 14

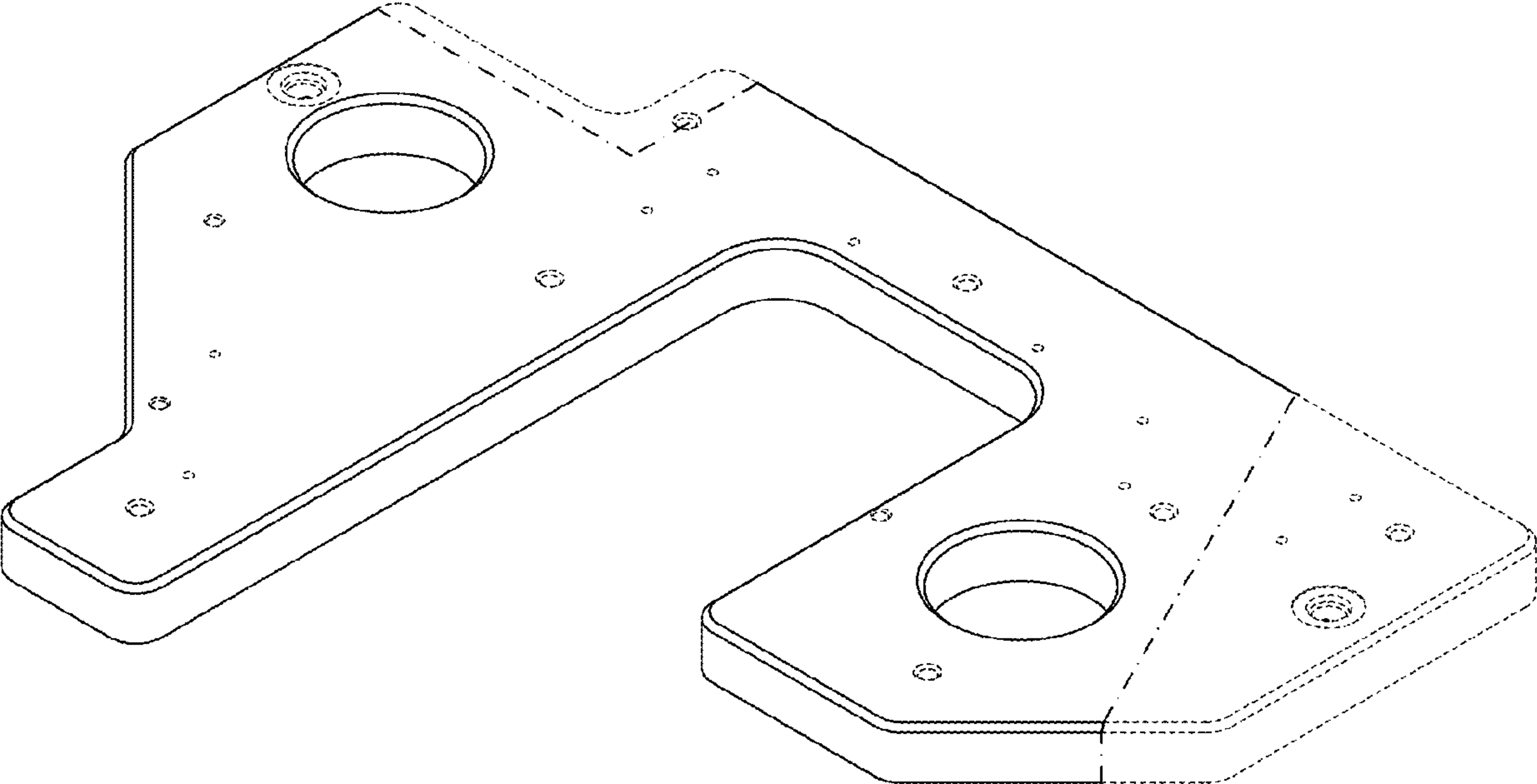


FIG. 15



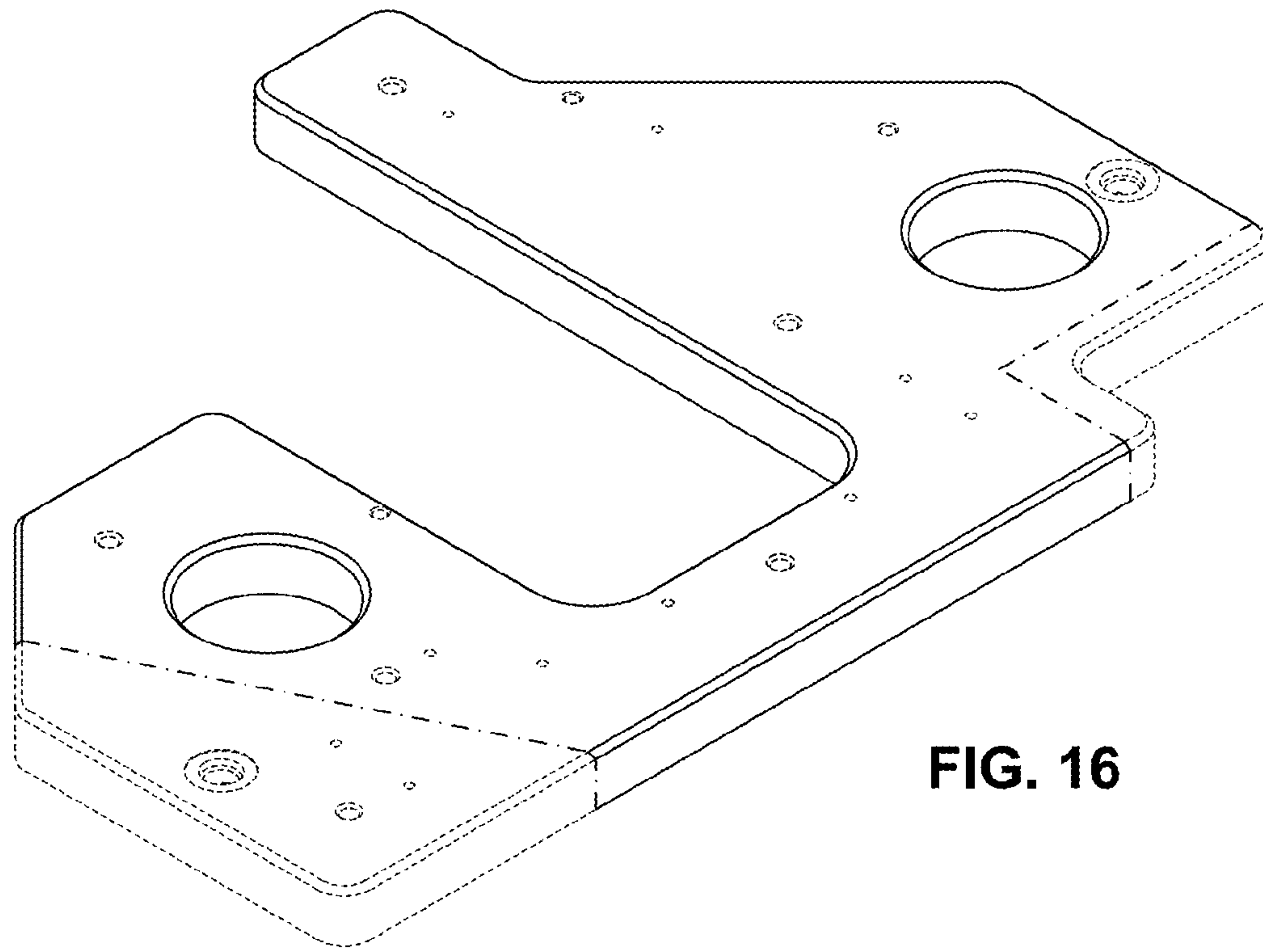


FIG. 16

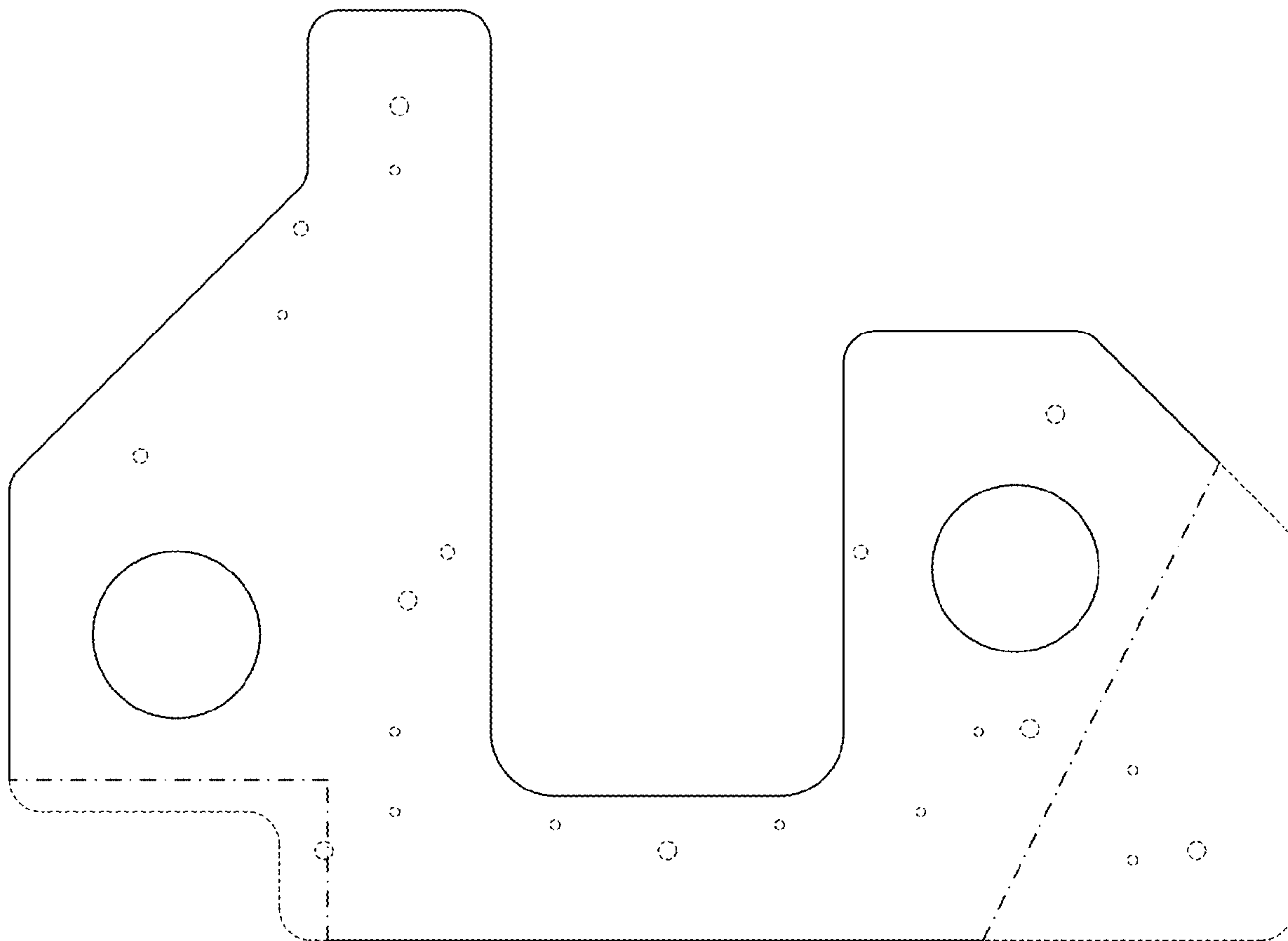


FIG. 17

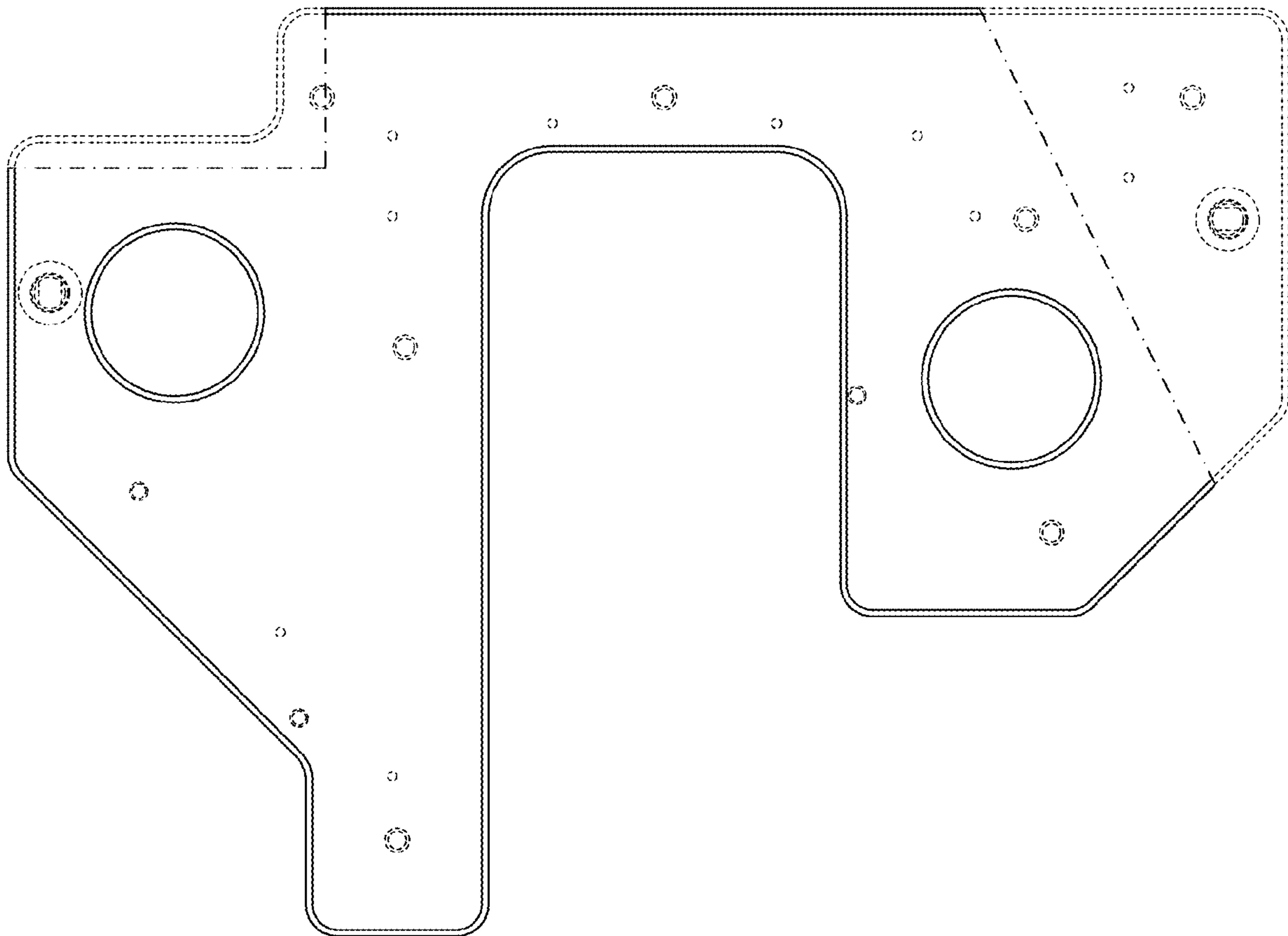


FIG. 18



FIG. 19



FIG. 20



FIG. 21

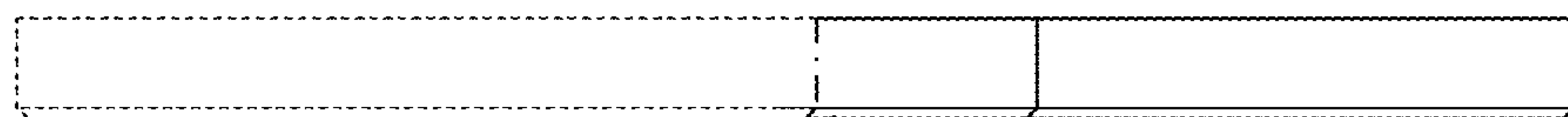


FIG. 22

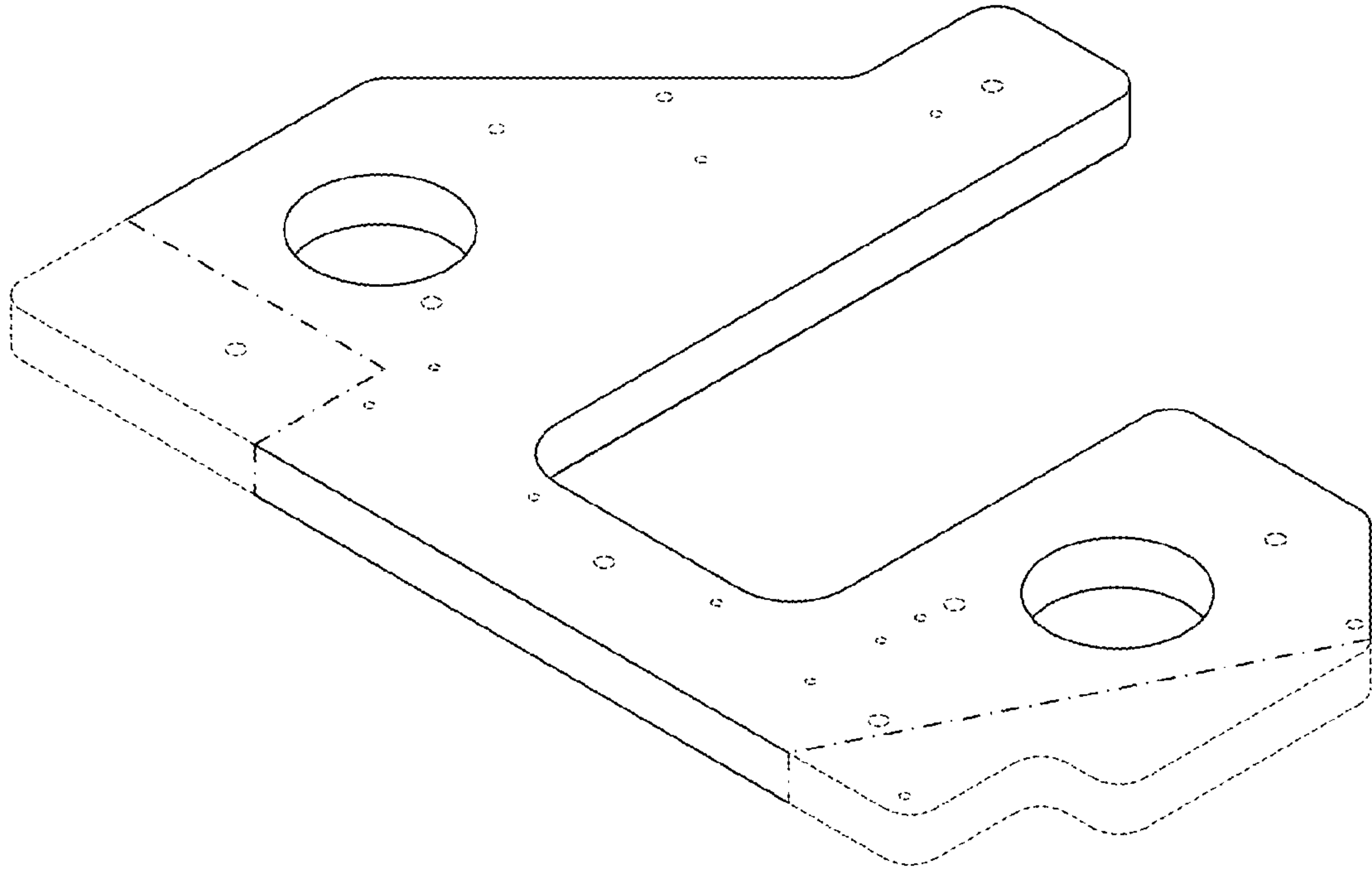


FIG. 23

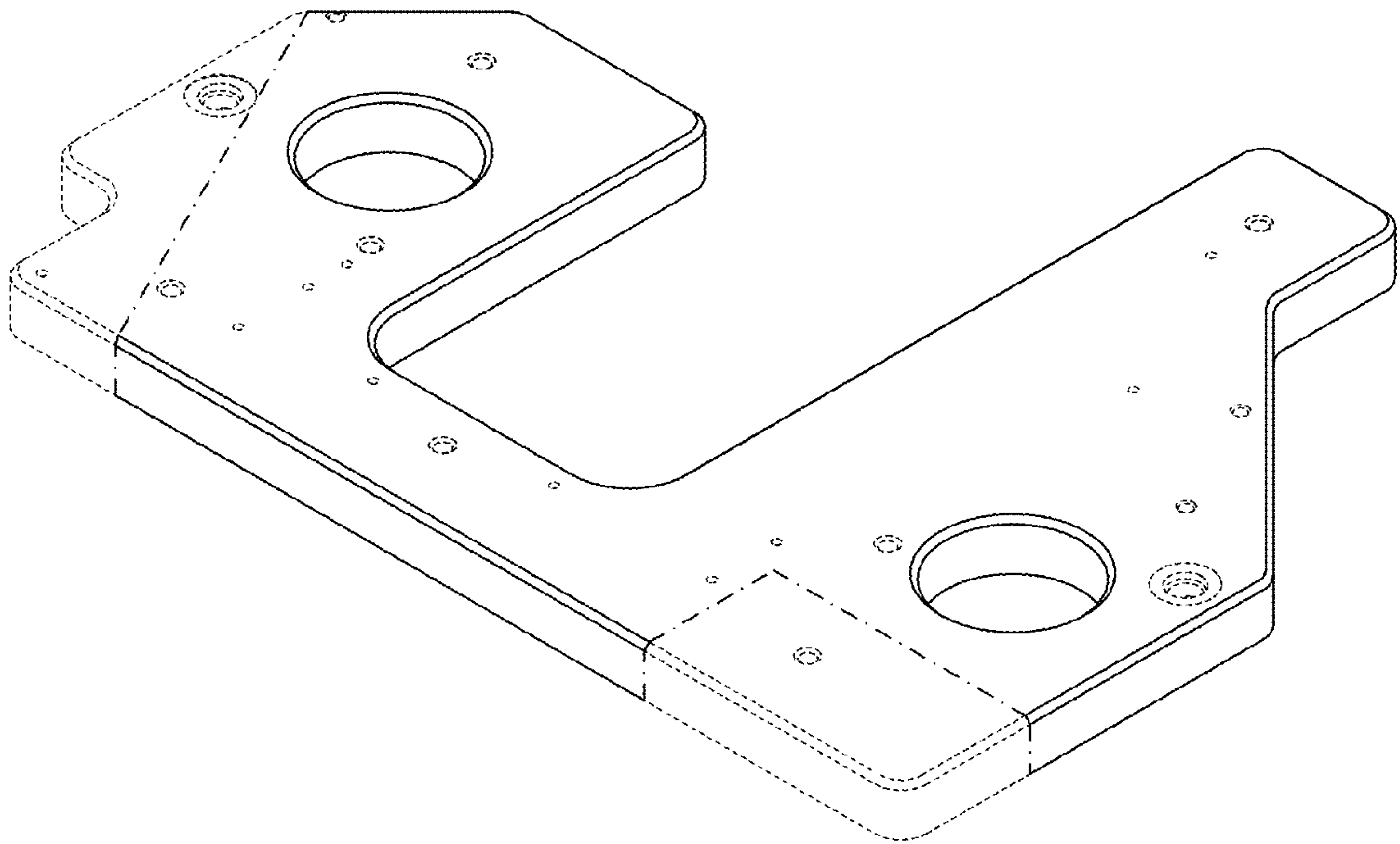


FIG. 24

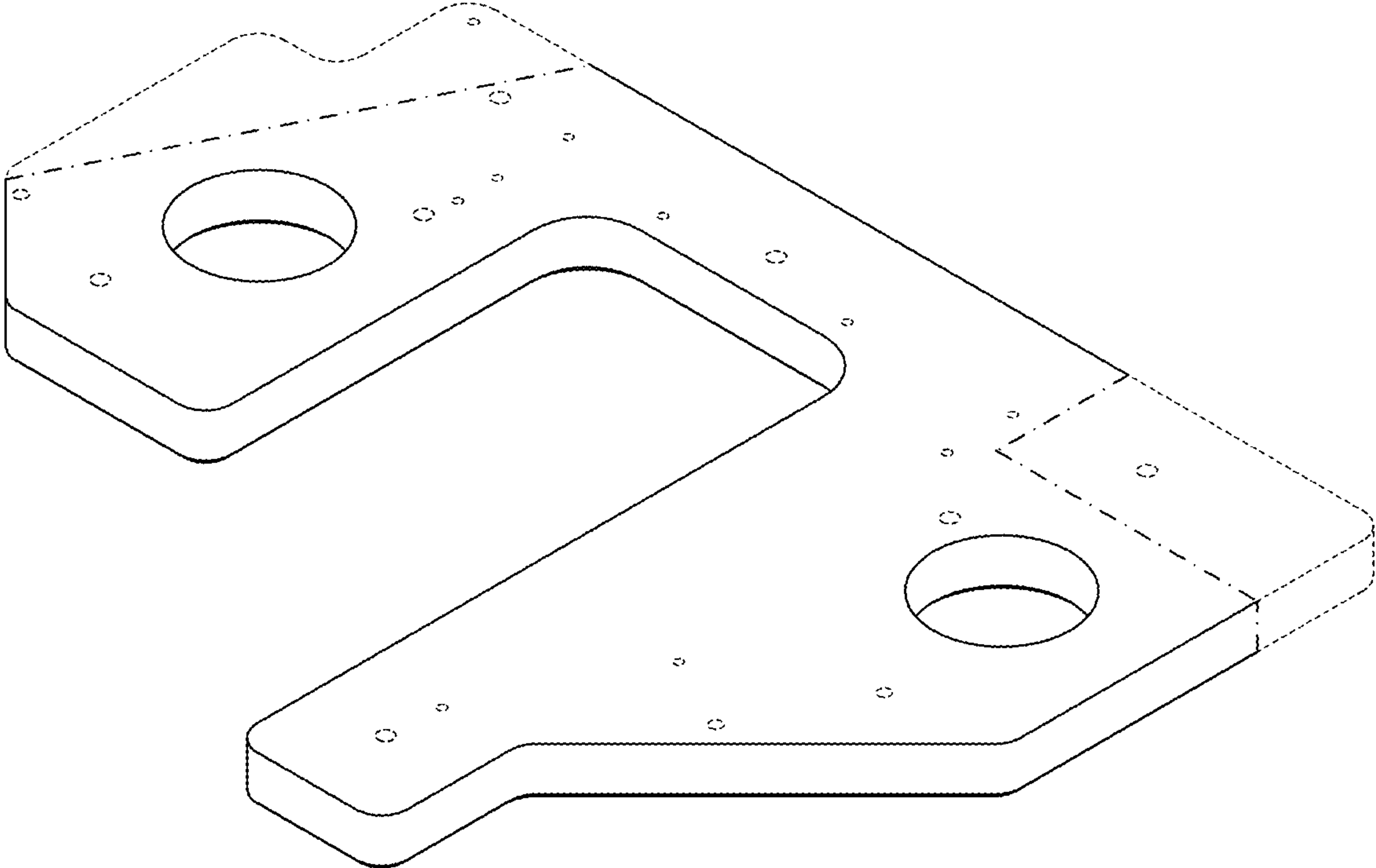


FIG. 25

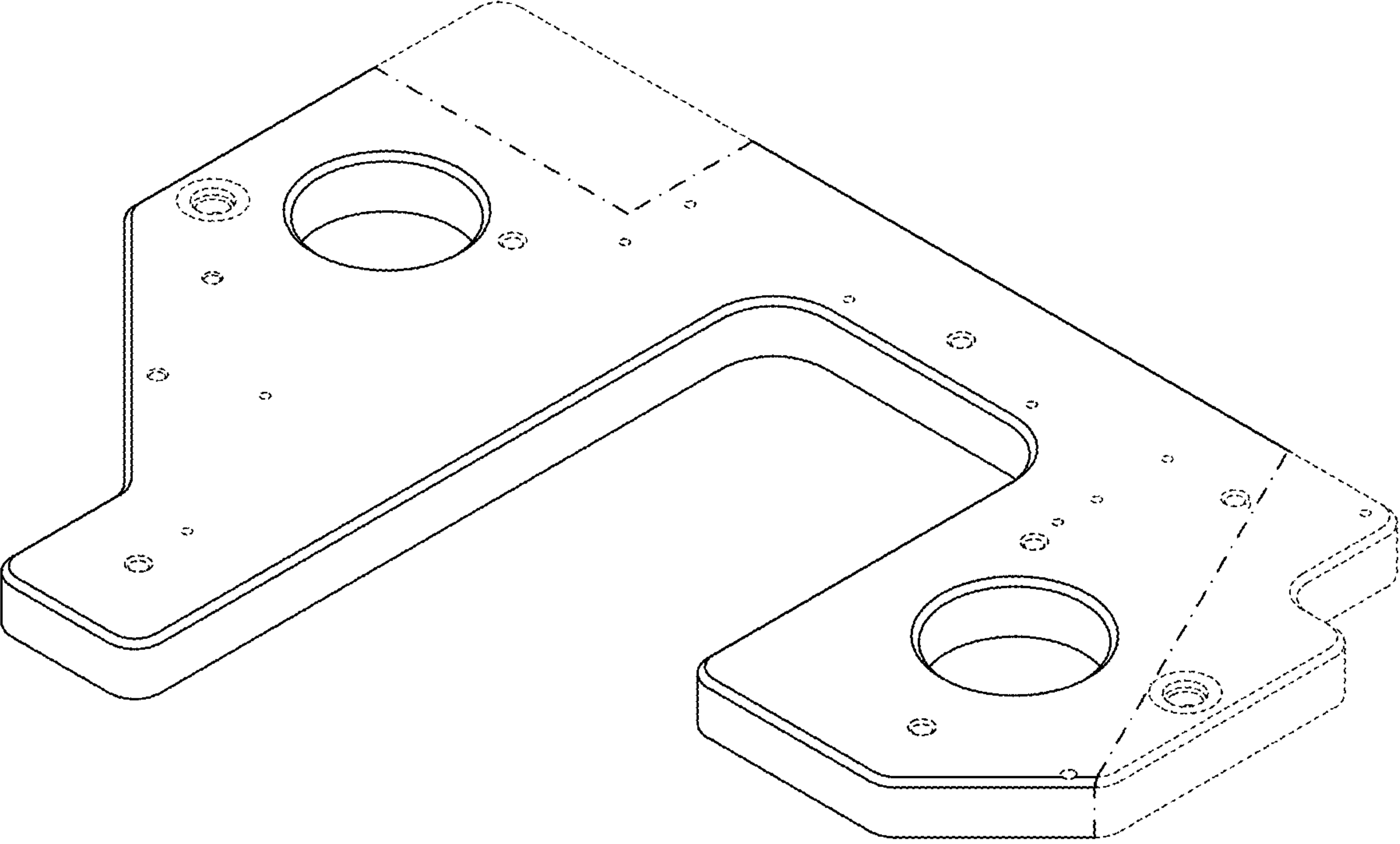


FIG. 26



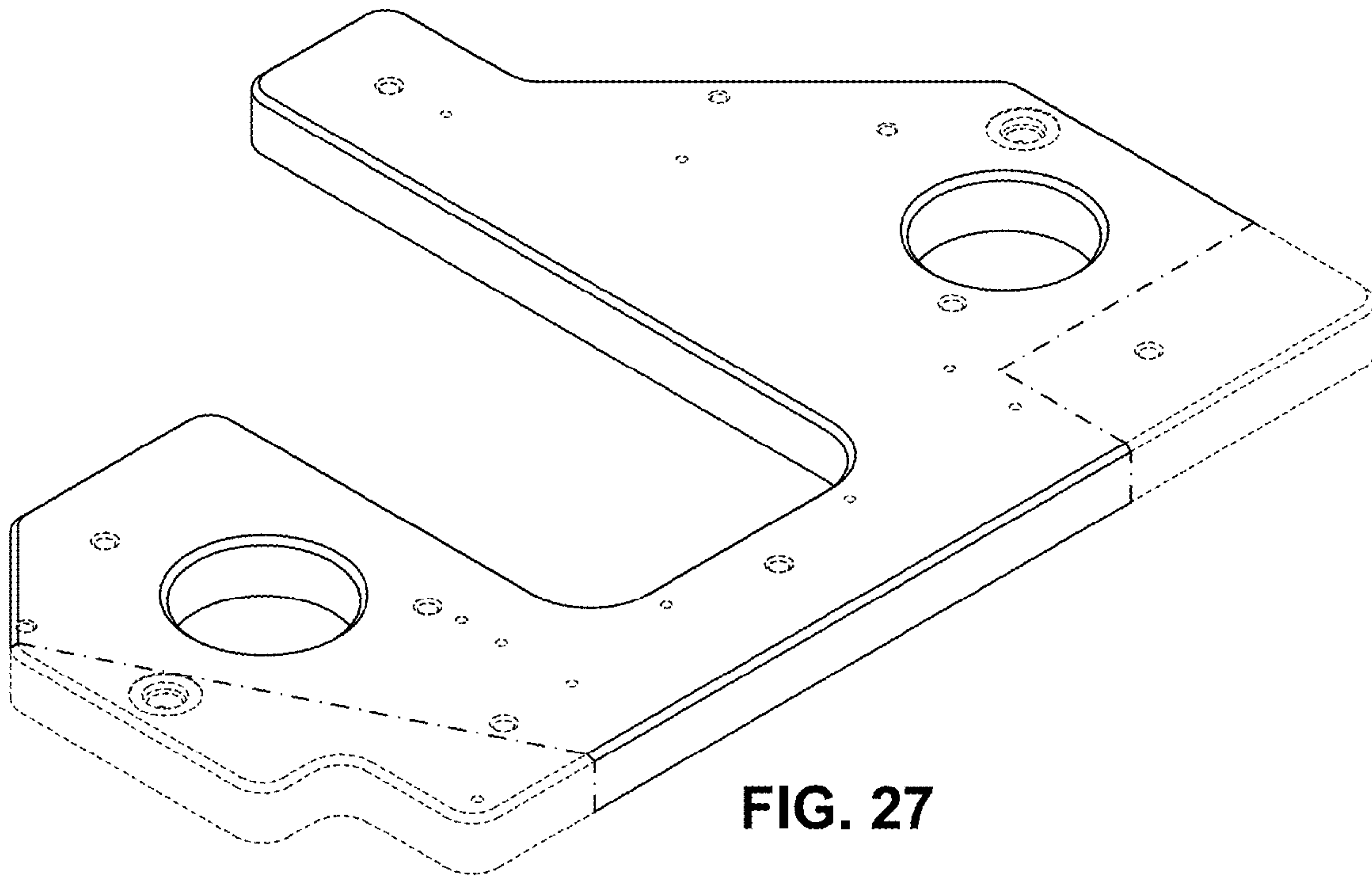


FIG. 27

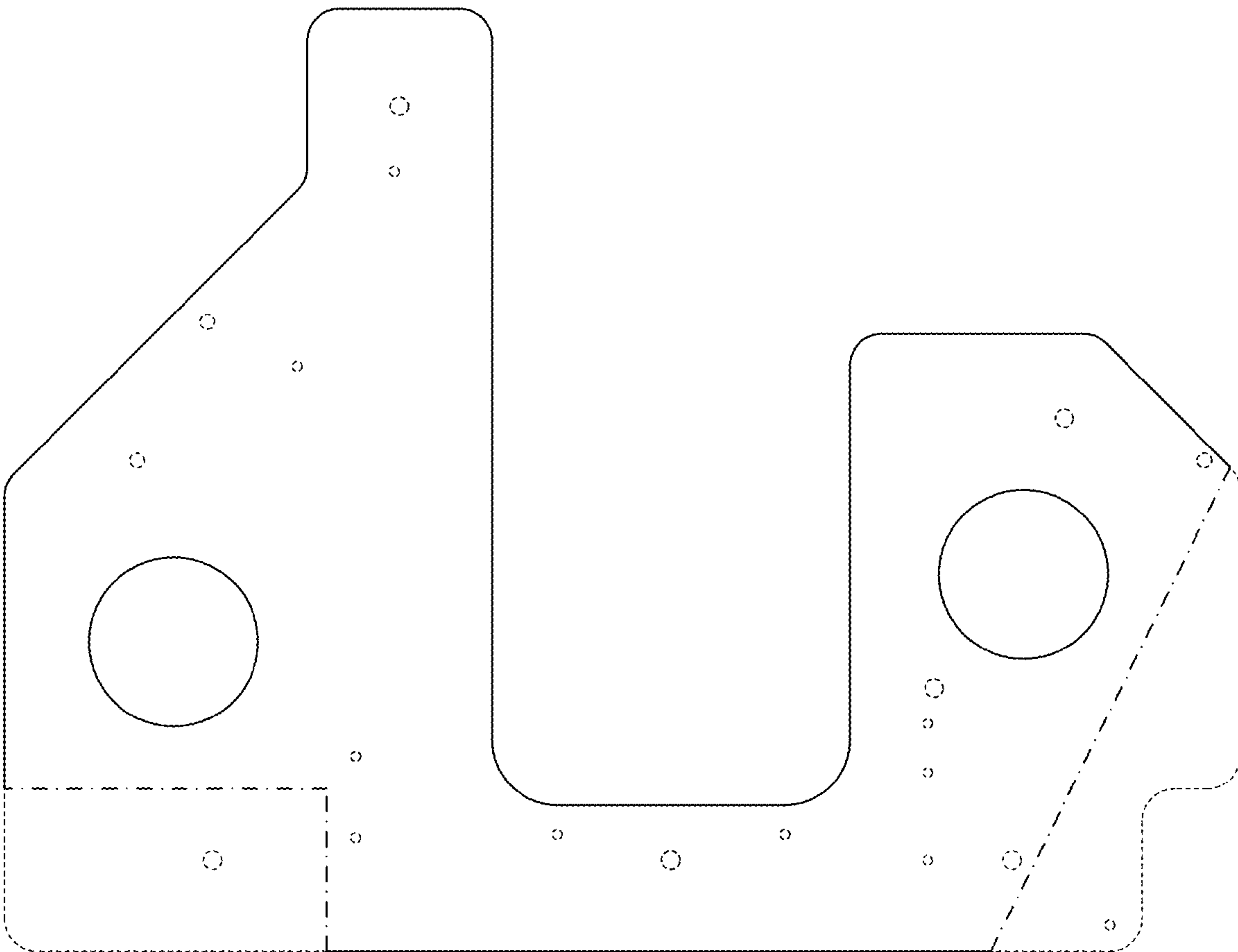


FIG. 28

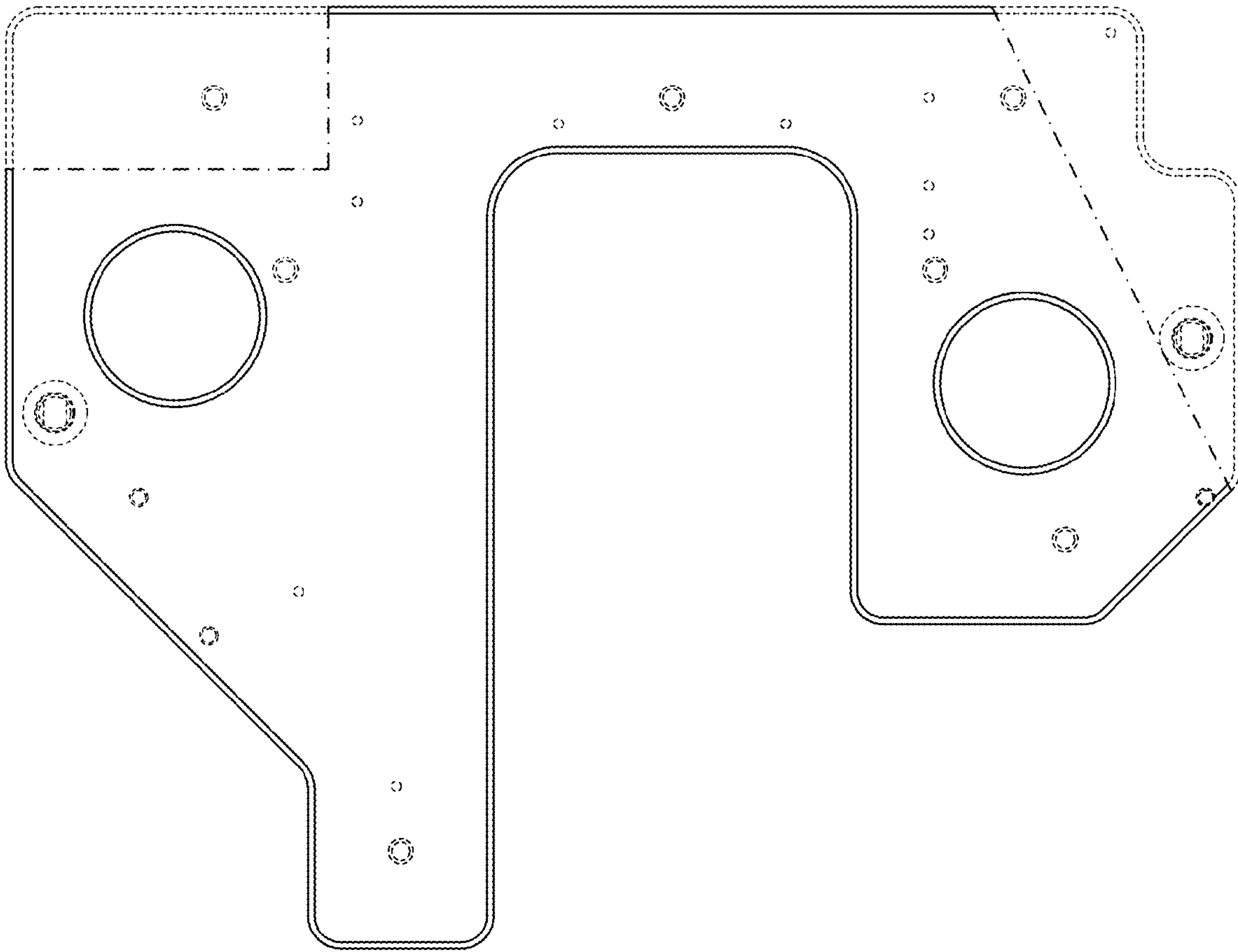


FIG. 29



FIG. 30

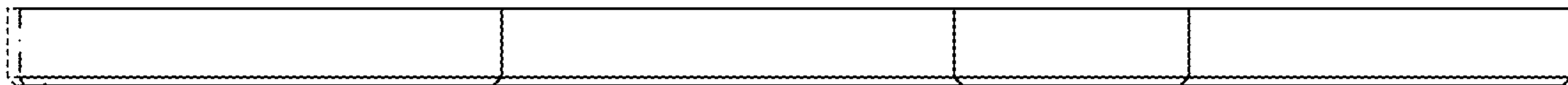


FIG. 31

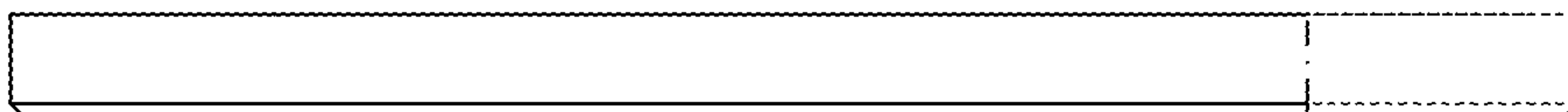


FIG. 32

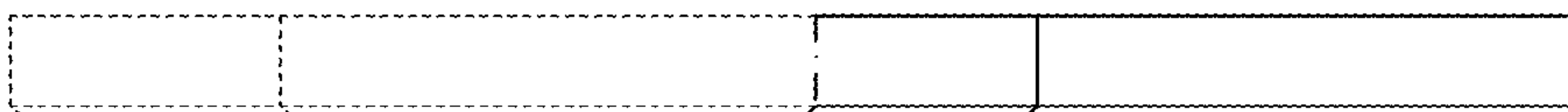


FIG. 33