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United States Patent [19]

Hiramatsu et al.

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[45] Date of Patent: ** Feb. 1, 2000

[54] END PLATE FOR A MANIFOLD FOR SOLENOID-OPERATED DIRECTIONAL CONTROL VALVE

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[73] Assignee: **SMC Corporation**, Tokyo, Japan

[**] Term: **14 Years**

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[22] Filed: **Oct. 9, 1998**

[30] Foreign Application Priority Data

Apr. 13, 1998 [JP] Japan 10-10526

[51] LOC (7) Cl. **23-01**

[52] U.S. Cl. **D23/233**

[58] Field of Search D23/233-237, D23/245-248; 137/596.13, 596.16, 625.64, 884

[56] References Cited

U.S. PATENT DOCUMENTS

D. 200,454	2/1965	Everitt	D23/233
5,437,306	8/1995	Asou et al.	137/625.64
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OTHER PUBLICATIONS

The design of the present application was displayed at IFPEX '97 Exhibition—Oct. 21–24, 1997. IFPEX '97 Catalogue, issued on Oct. 13, 1997.

Primary Examiner—Robin V. Taylor
Attorney, Agent, or Firm—Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

[57] CLAIM

The ornamental design for end plate for a manifold for solenoid-operated directional control valve, as shown and described.

DESCRIPTION

FIG. 1 is a top, front and left side perspective view of end plate for manifold for solenoid-operated directional control valve embodying our new design;
 FIG. 2 is a bottom, rear 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;
 FIG. 8 is a right side elevational view thereof;
 FIG. 9 is a top, front and left side perspective view thereof when used with a connector for electric current;
 FIG. 10 is a top, front and left side perspective view thereof when used with a socket for electric current;
 FIG. 11 is a top, front and left side perspective view thereof when used with an induction hole member for an electric current wire;
 FIG. 12 is a top, front and left side perspective view thereof when used with a manifold and manifold block;
 FIG. 13 is a top, front and left side perspective view thereof when used with a socket for electric current, a manifold and a manifold block; and,
 FIG. 14 is a top, front and left side perspective view thereof when used with an induction hole member, a manifold and a manifold block.

The connector shown in FIGS. 9 and 12, the socket for electric current shown in FIGS. 10 and 13, the induction hole member for an electric current wire shown in FIGS. 11 and 14, and the manifold and manifold block shown in FIGS. 12–14 are shown in broken lines for illustrative purposes only and form no part of the claimed design.

1 Claim, 5 Drawing Sheets

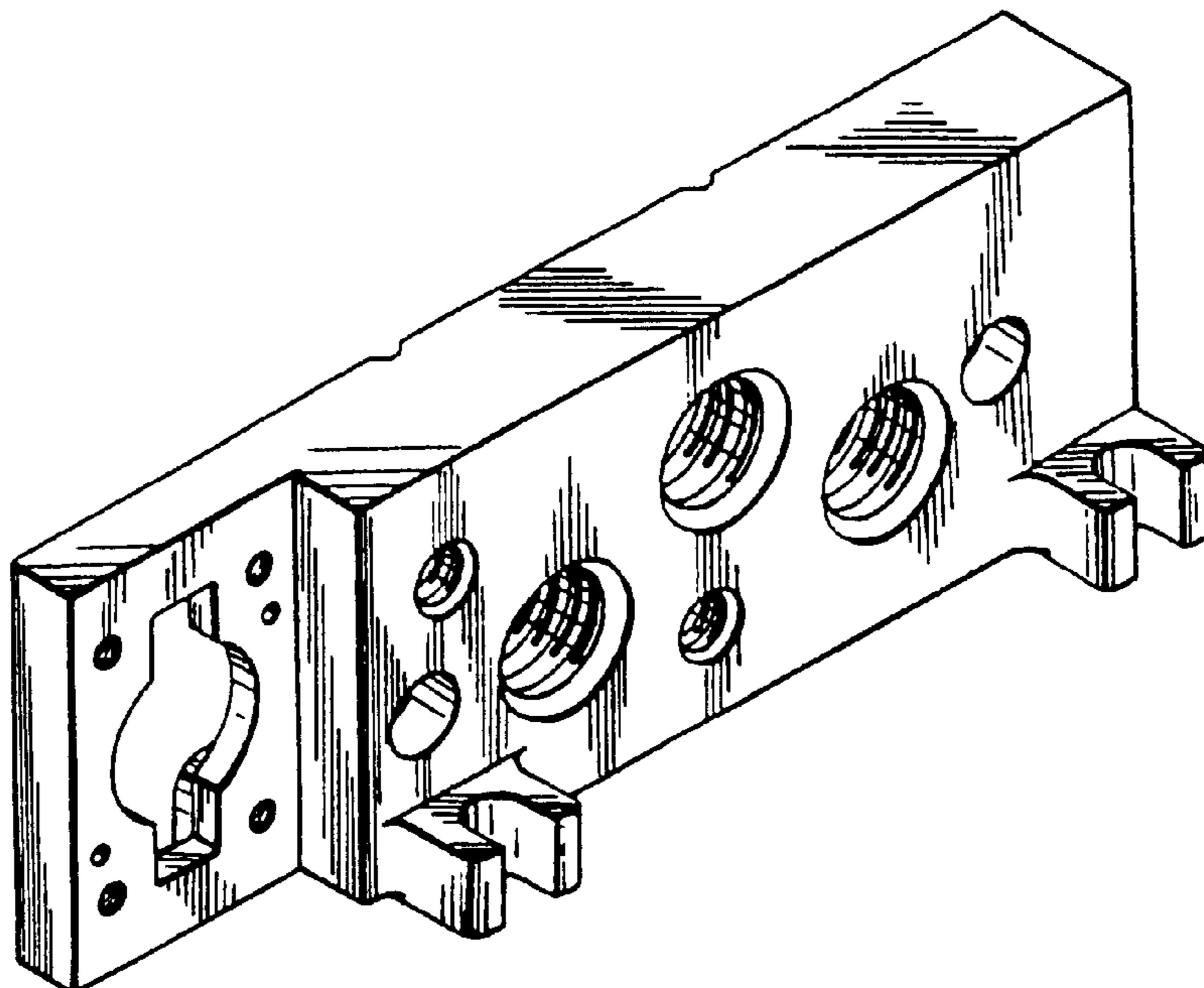


FIG. 7

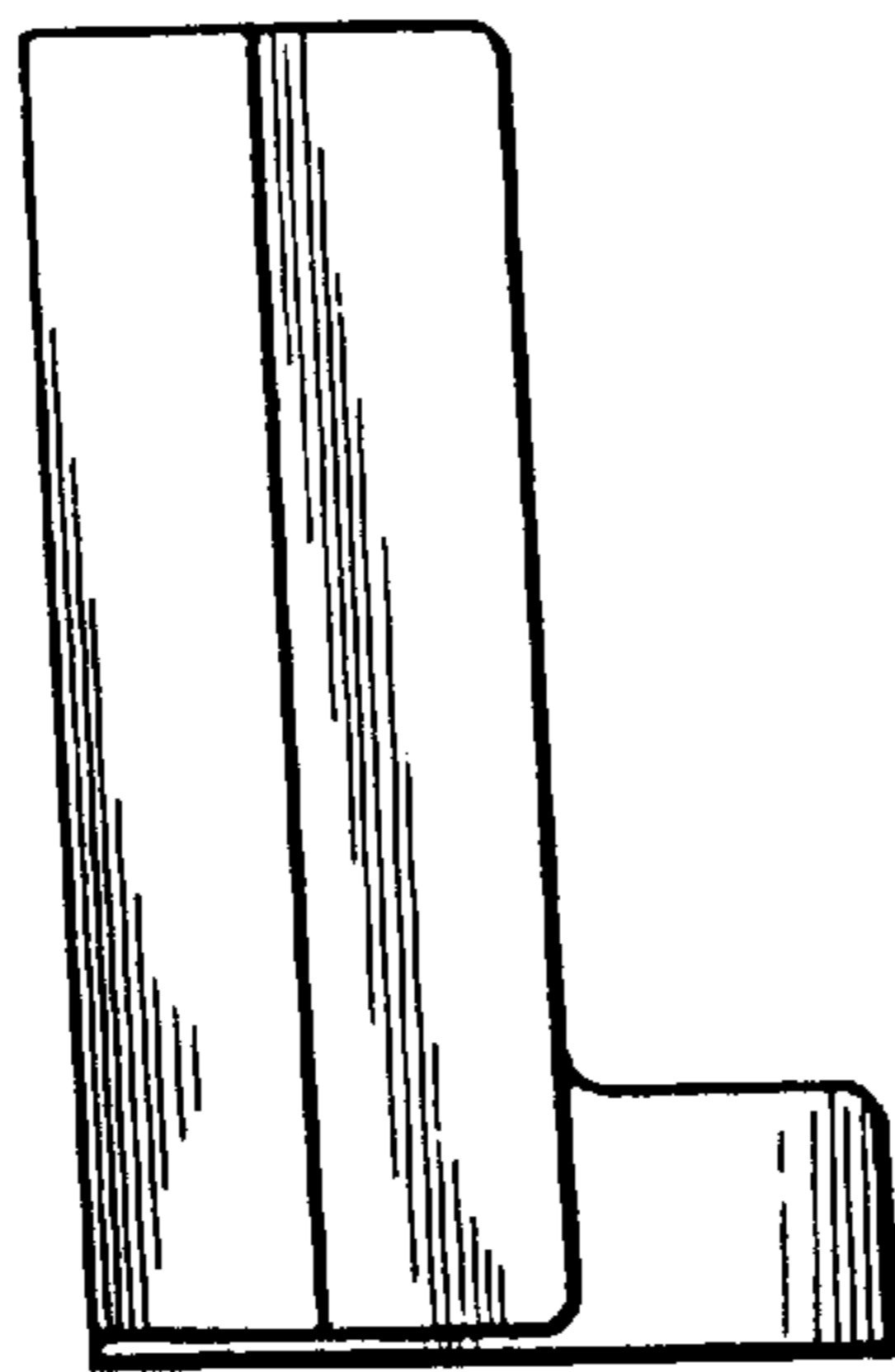


FIG. 8

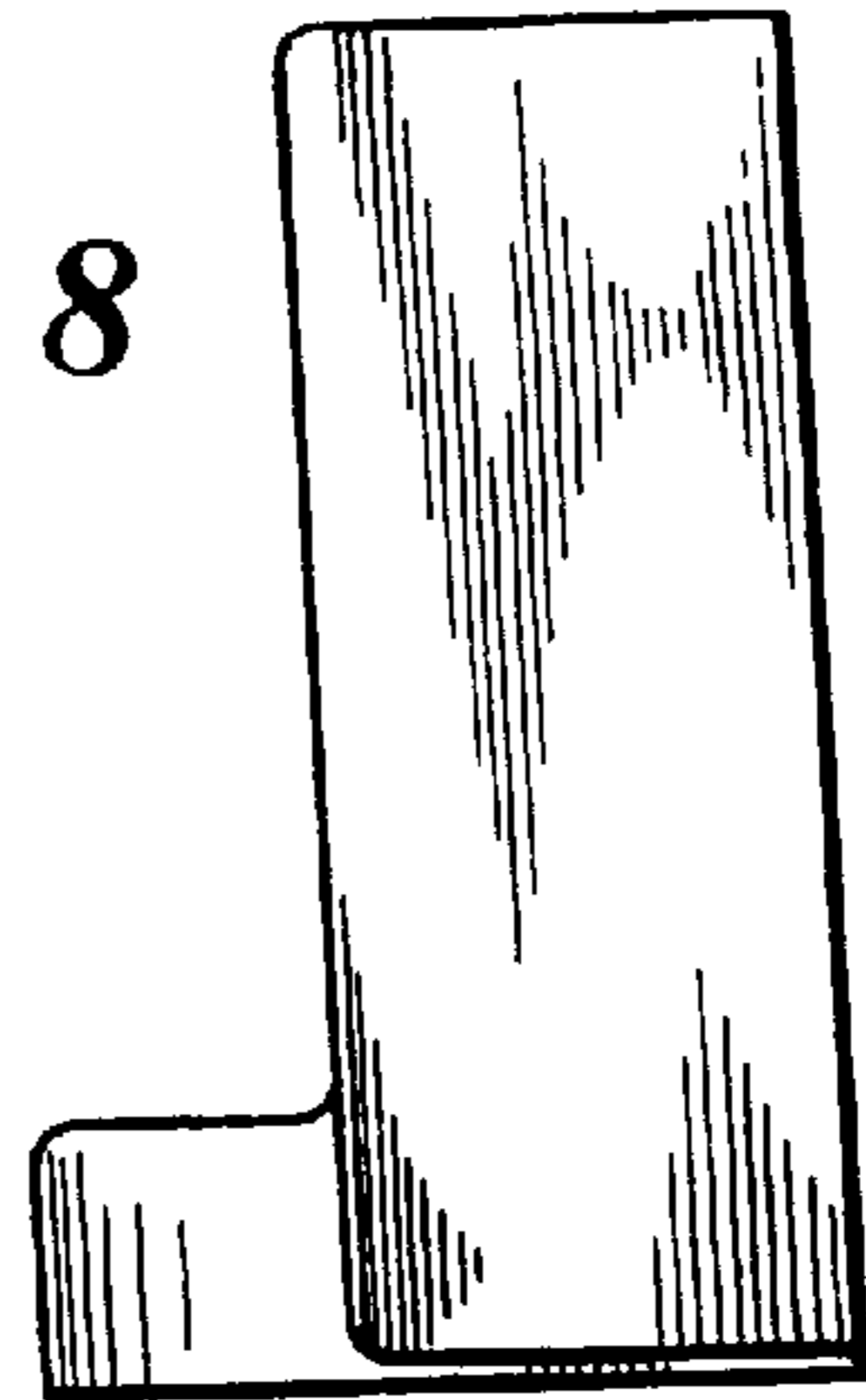


FIG. 1

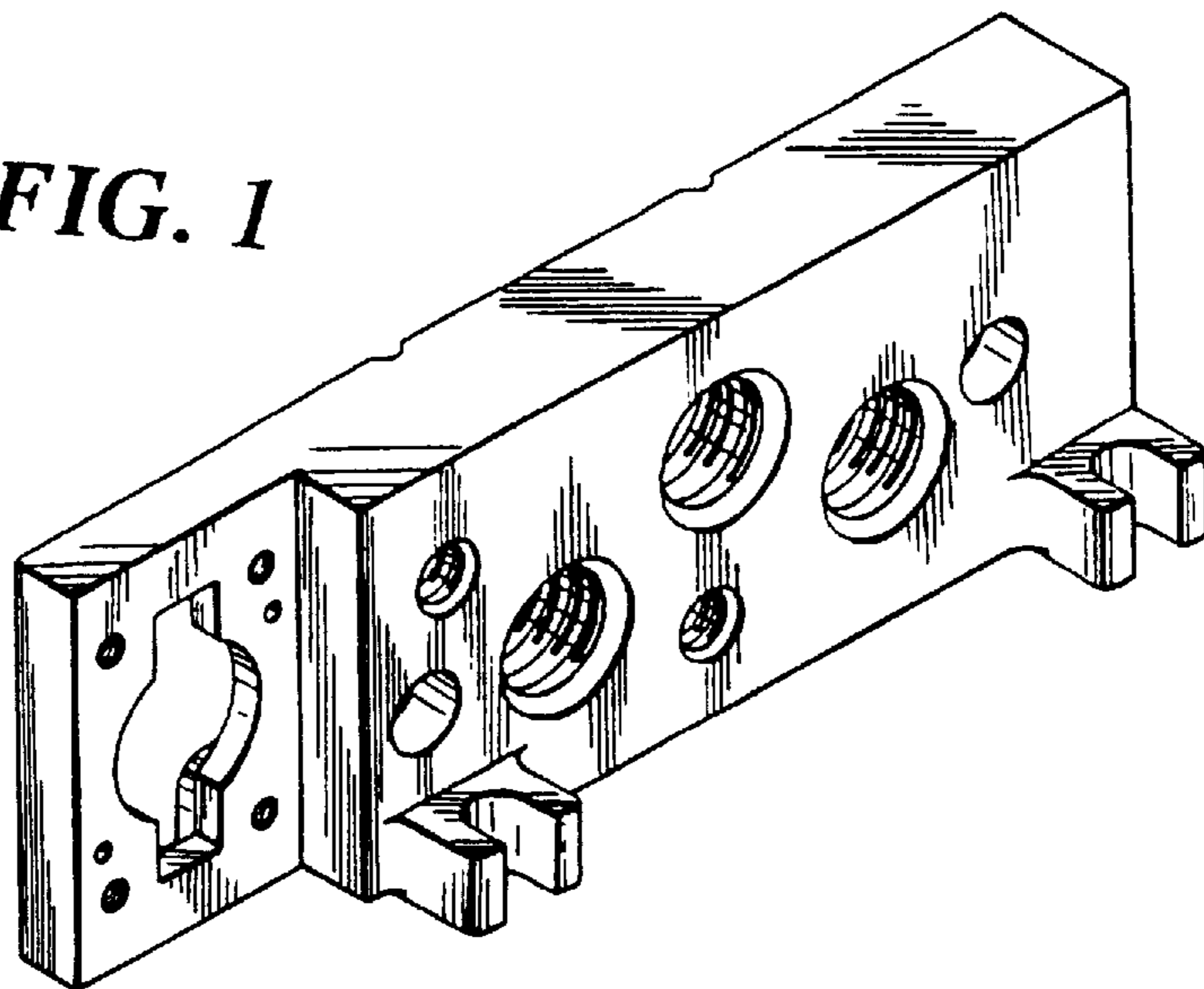
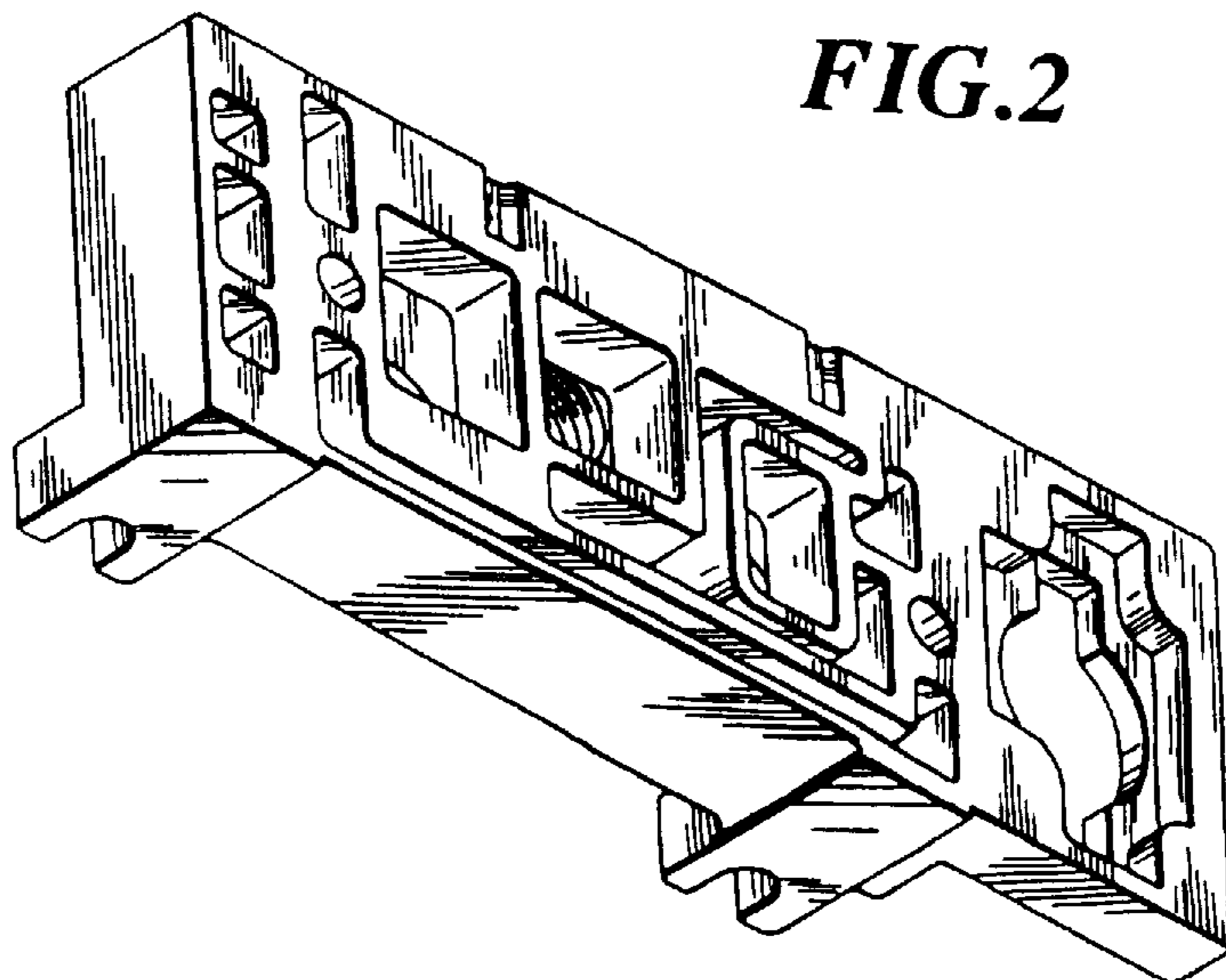


FIG. 2



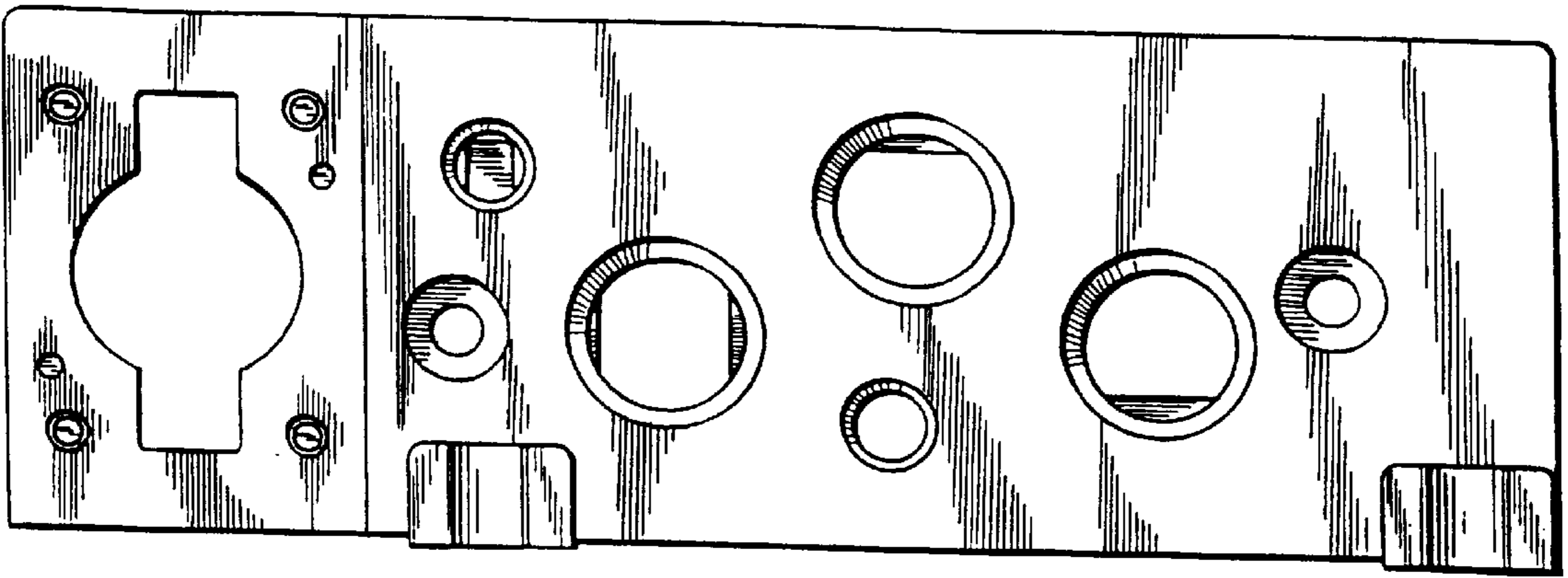


FIG. 3

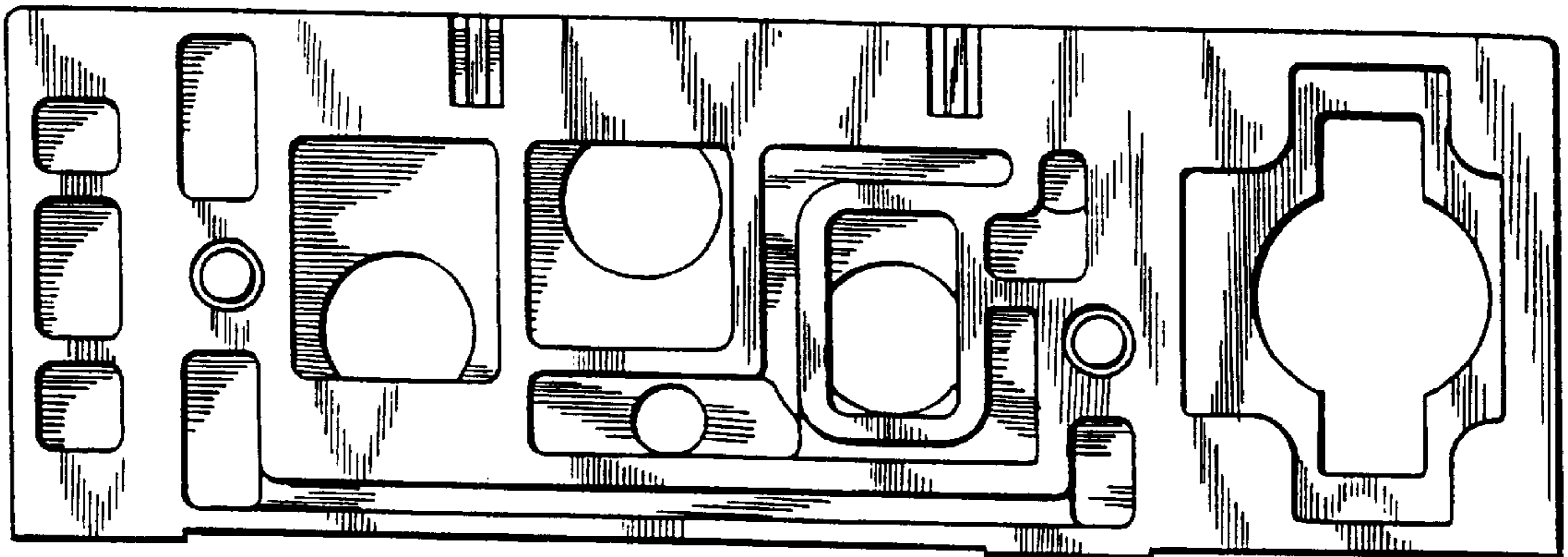


FIG. 4

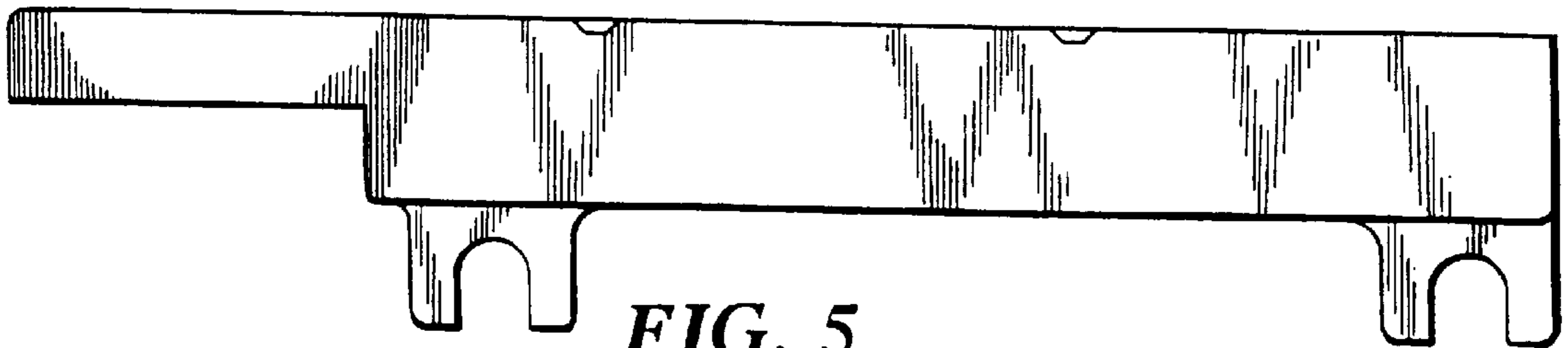


FIG. 5



FIG. 6

FIG. 9

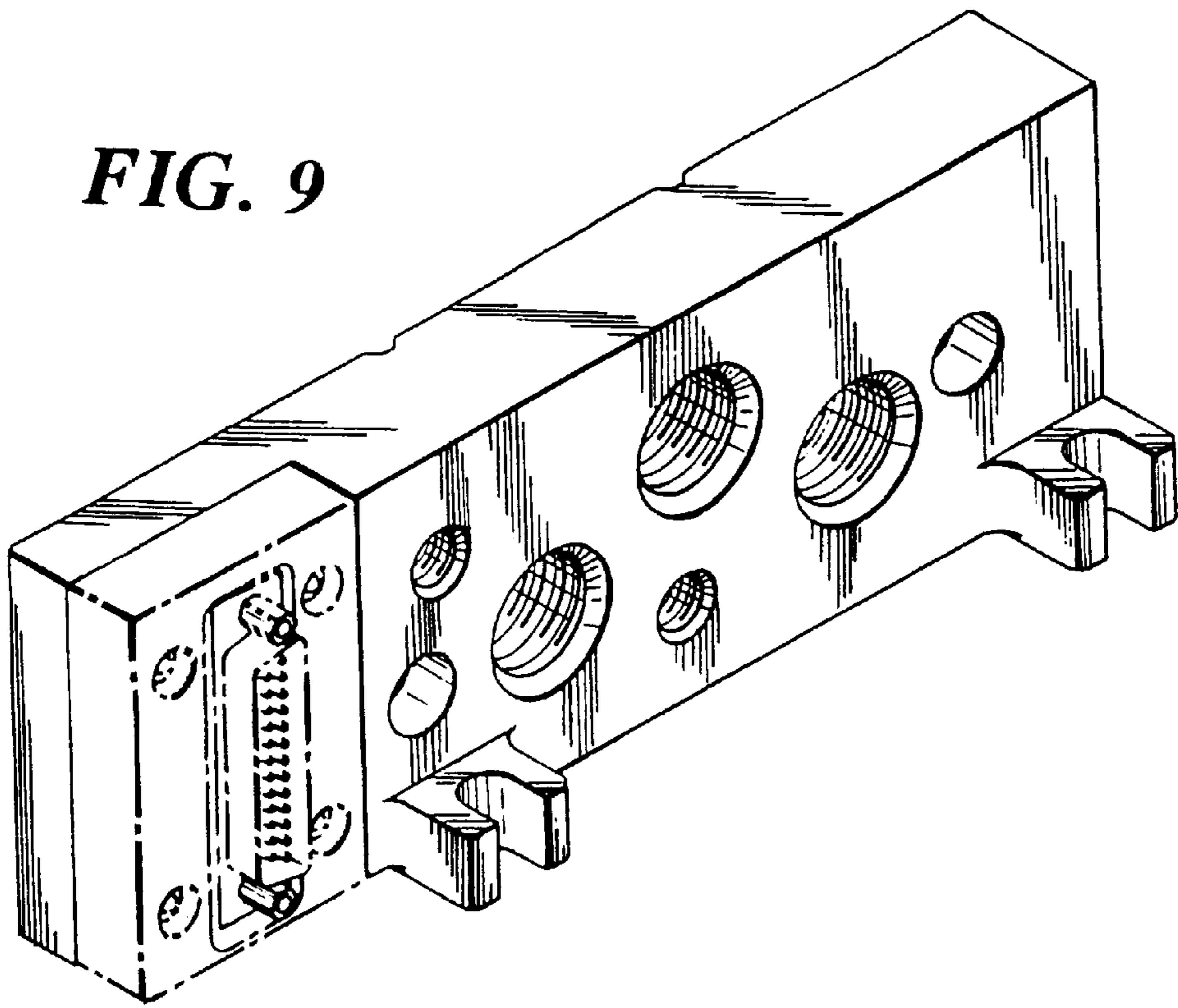


FIG. 10

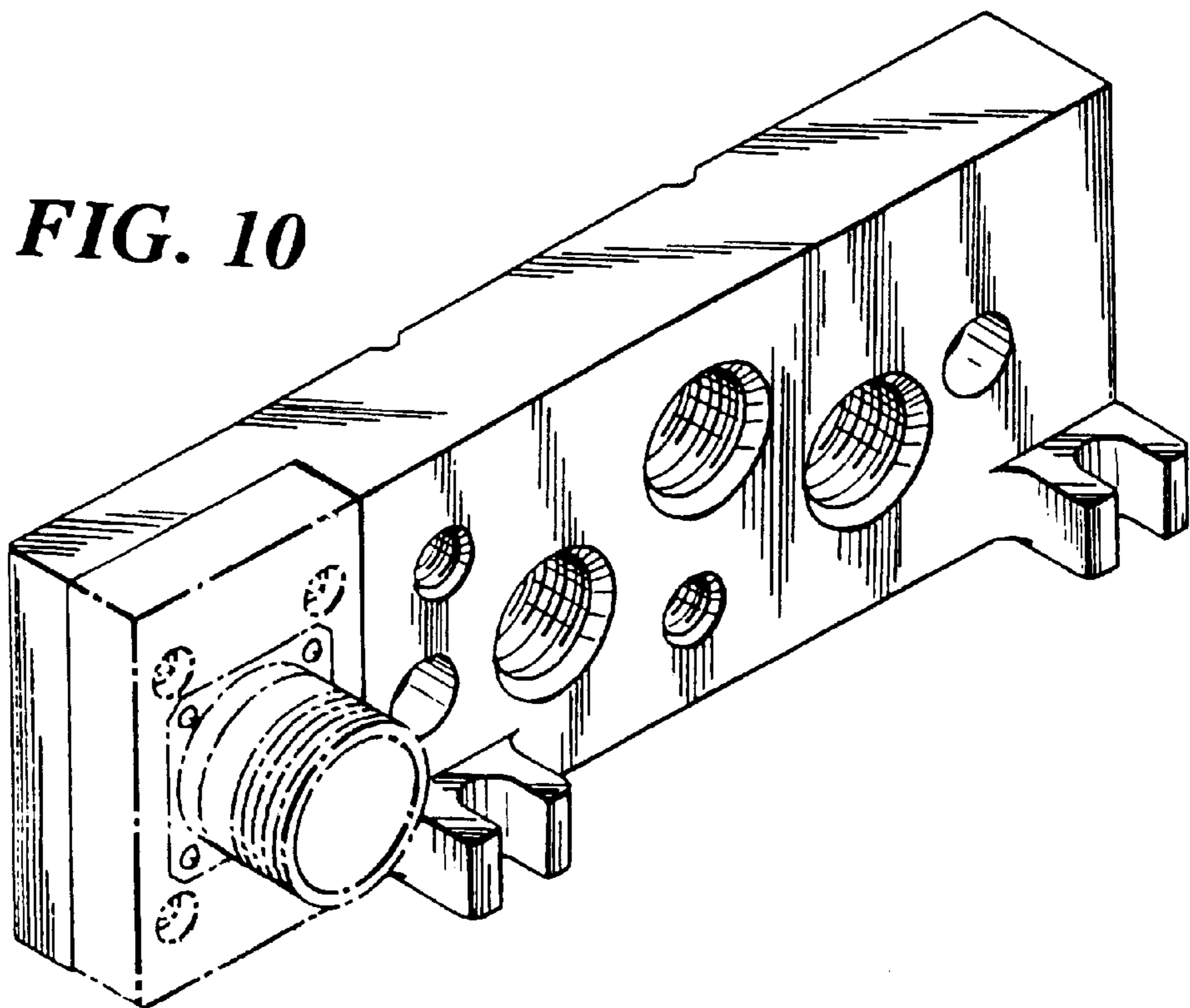


FIG. 11

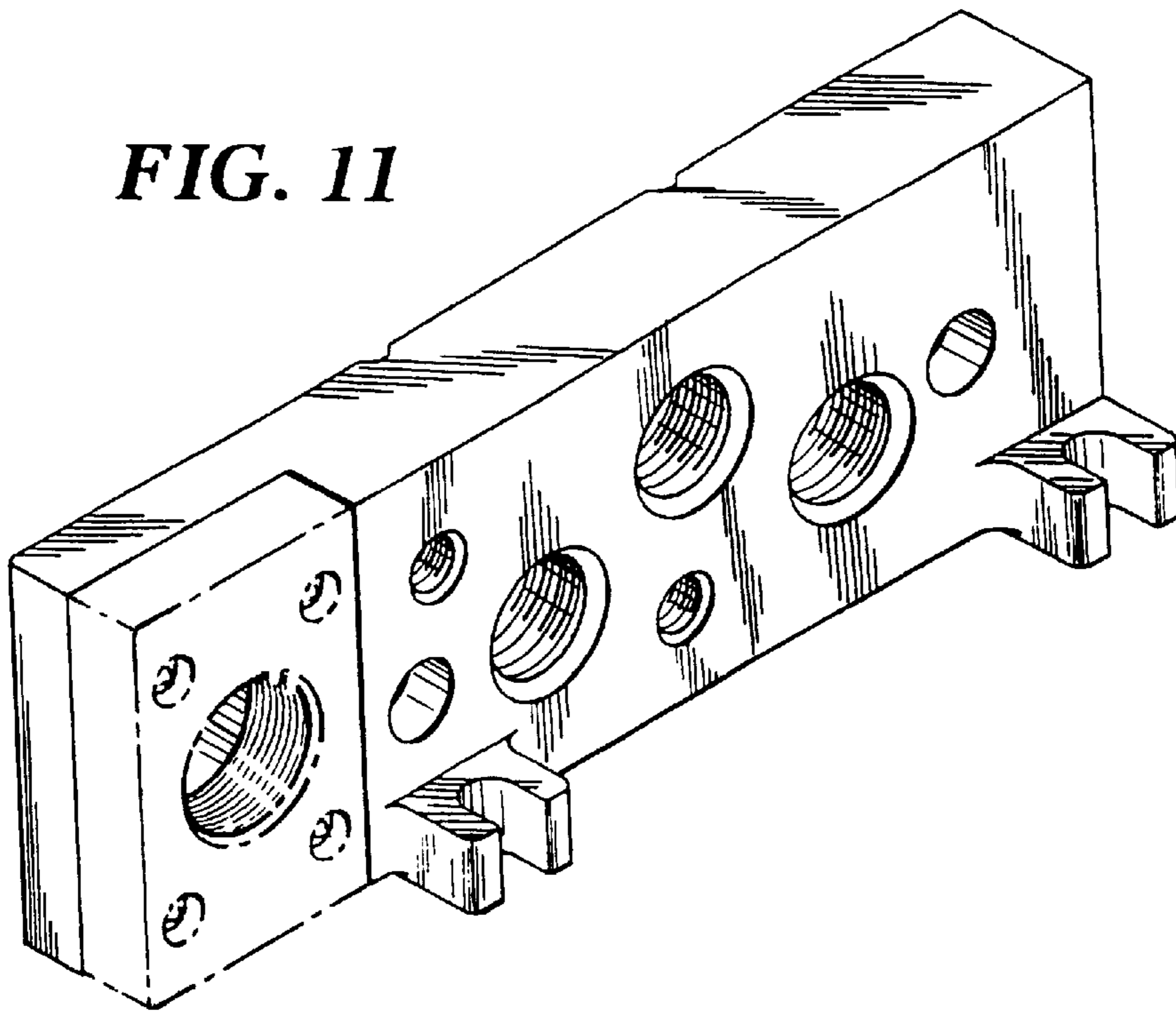


FIG. 12

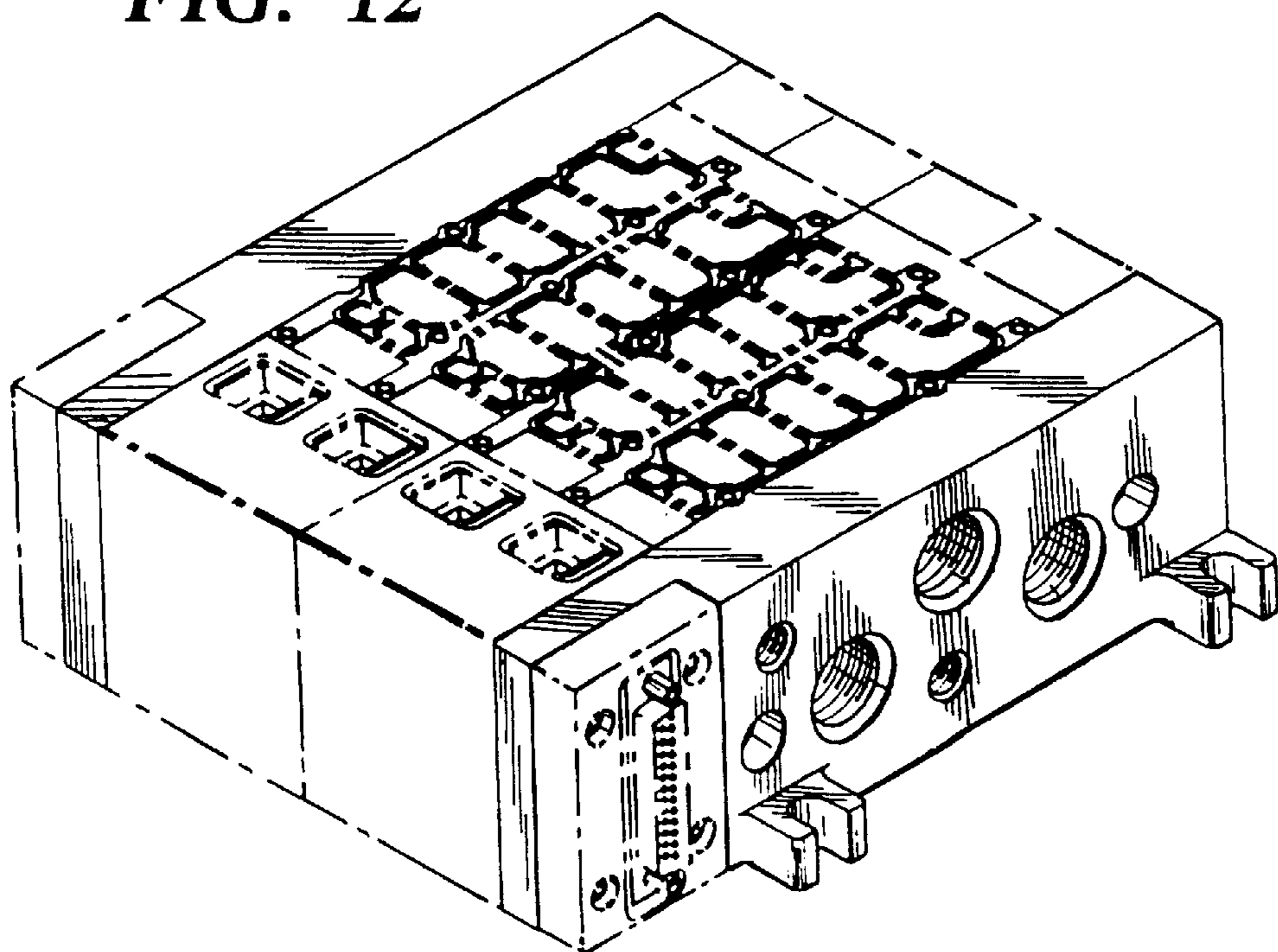


FIG. 13

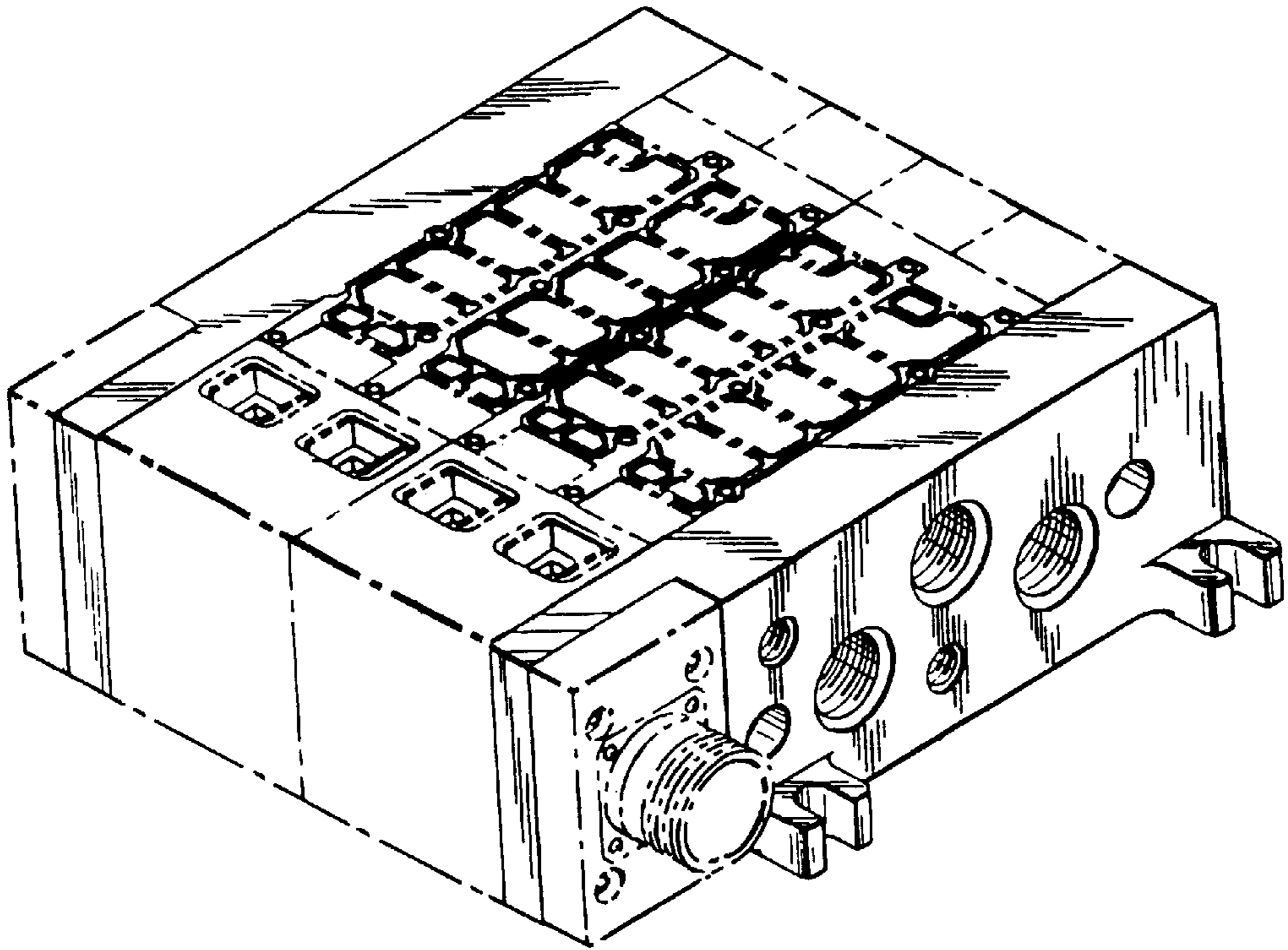


FIG. 14

