



US00D637631S

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

(10) **Patent No.:** **US D637,631 S**
(45) **Date of Patent:** **** May 10, 2011**

(54) **MACHINING CENTER**

(75) Inventors: **Koji Hiroshima**, Nanto (JP); **Shiro Murai**, Nanto (JP); **Akira Takase**, Nanto (JP); **Nobuhito Takeshima**, Nanto (JP); **Muneyoshi Horii**, Nanto (JP)

(73) Assignee: **Komatsu NTC Ltd.**, Tokyo (JP)

(**) Term: **14 Years**

(21) Appl. No.: **29/379,527**

(22) Filed: **Nov. 19, 2010**

Related U.S. Application Data

(62) Division of application No. 29/376,333, filed on Oct. 5, 2010.

(30) **Foreign Application Priority Data**

Jun. 22, 2010 (JP) 2010-015245
Jun. 22, 2010 (JP) 2010-015246
Jun. 22, 2010 (JP) 2010-015247

(51) **LOC (9) Cl.** **15-09**

(52) **U.S. Cl.** **D15/122**

(58) **Field of Classification Search** D15/122,
D15/124, 127, 128, 130, 131; 29/26 A, 26 R,
29/30, 33 A-33 T, 34 R, 39, 50, 563-566,
29/564.1-564.8; 483/17-57

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D266,520 S 10/1982 Engel
4,443,929 A 4/1984 Bayer et al.
D277,679 S * 2/1985 Kitamura D15/122
4,704,773 A 11/1987 Quinart et al.
D302,163 S 7/1989 Itoh et al.
5,175,408 A 12/1992 Takashima
D379,998 S 6/1997 Marinkovic
D388,103 S 12/1997 Gotou et al.

5,782,151 A 7/1998 Shiramasa
5,871,426 A * 2/1999 Araki et al. 483/44
D428,025 S 7/2000 Miyake et al.
D438,548 S * 3/2001 Inada et al. D15/127
D489,077 S 4/2004 Bloch
D495,723 S 9/2004 Kawamura et al.
7,013,544 B2 3/2006 Yasuda et al.
7,226,403 B2 6/2007 Konvicka et al.
D548,754 S 8/2007 Itabashi et al.
D548,755 S 8/2007 Takeshima et al.
D551,268 S 9/2007 Iwamoto et al.
D559,871 S * 1/2008 Kittaka et al. D15/122
D567,263 S 4/2008 Sugihara et al.
D578,144 S 10/2008 Arisue et al.

* cited by examiner

Primary Examiner — Patricia Palasik

(74) *Attorney, Agent, or Firm* — Merchant & Gould P.C.

(57) **CLAIM**

We claim, the ornamental design for a machining center, as shown and described.

DESCRIPTION

FIG. 1 is a front-left perspective view of a front lower portion of a machining center,

FIG. 2 is a front-right perspective view thereof,

FIG. 3 is a rear-left perspective view thereof,

FIG. 4 is a rear-right perspective view thereof,

FIG. 5 is a front elevation view thereof,

FIG. 6 is a rear elevation view thereof,

FIG. 7 is a top plan view of thereof,

FIG. 8 is a bottom plan view thereof,

FIG. 9 is a left elevation view thereof; and,

FIG. 10 is a right elevation view thereof.

The broken line showing of the machining center is included for the purpose of illustrating environmental structure and forms no part of the claimed design.

The machining center described above is intended to perform various computer controlled machining processes such as grinding, cutting and drilling.

1 Claim, 10 Drawing Sheets

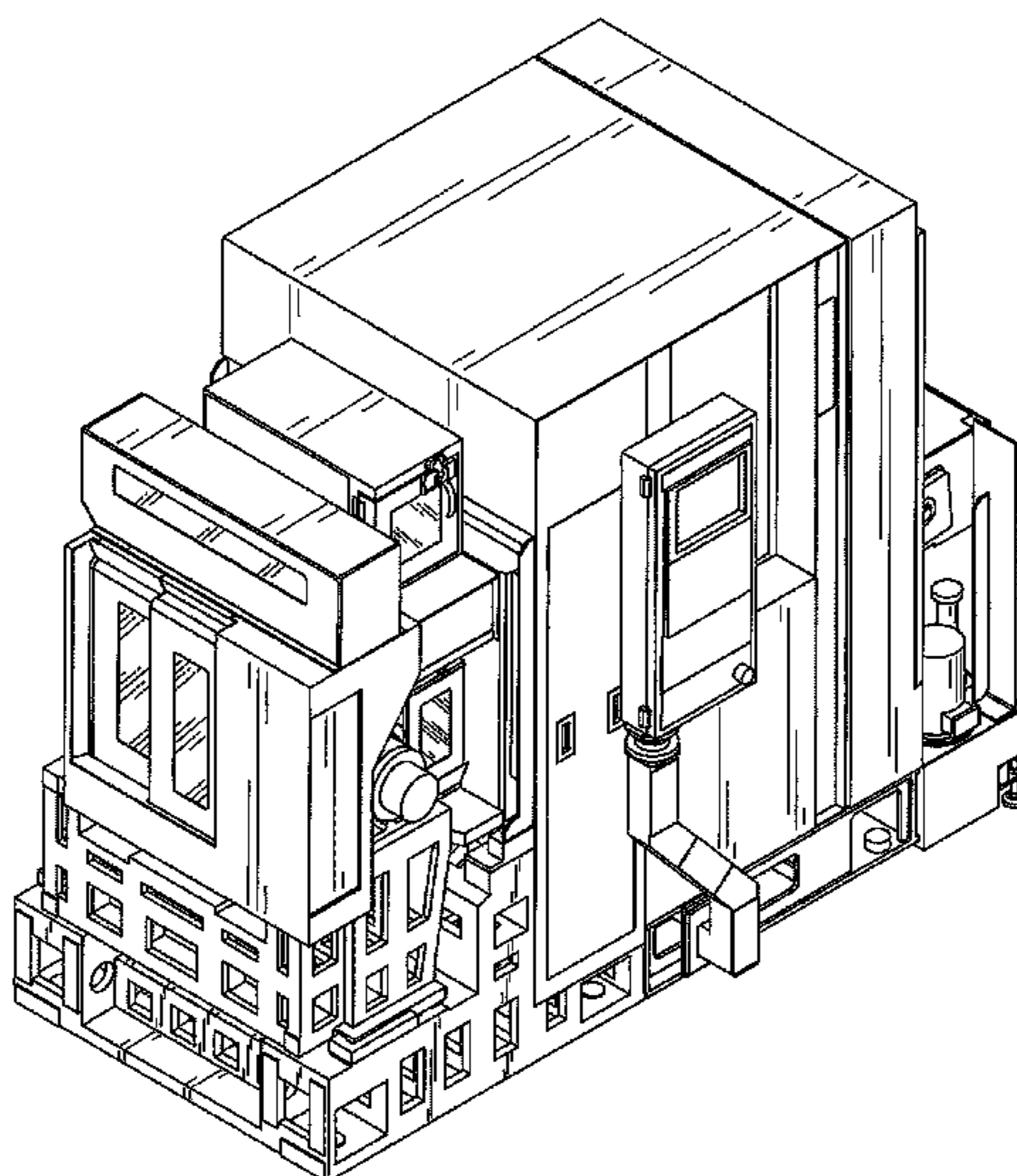


FIG. 1

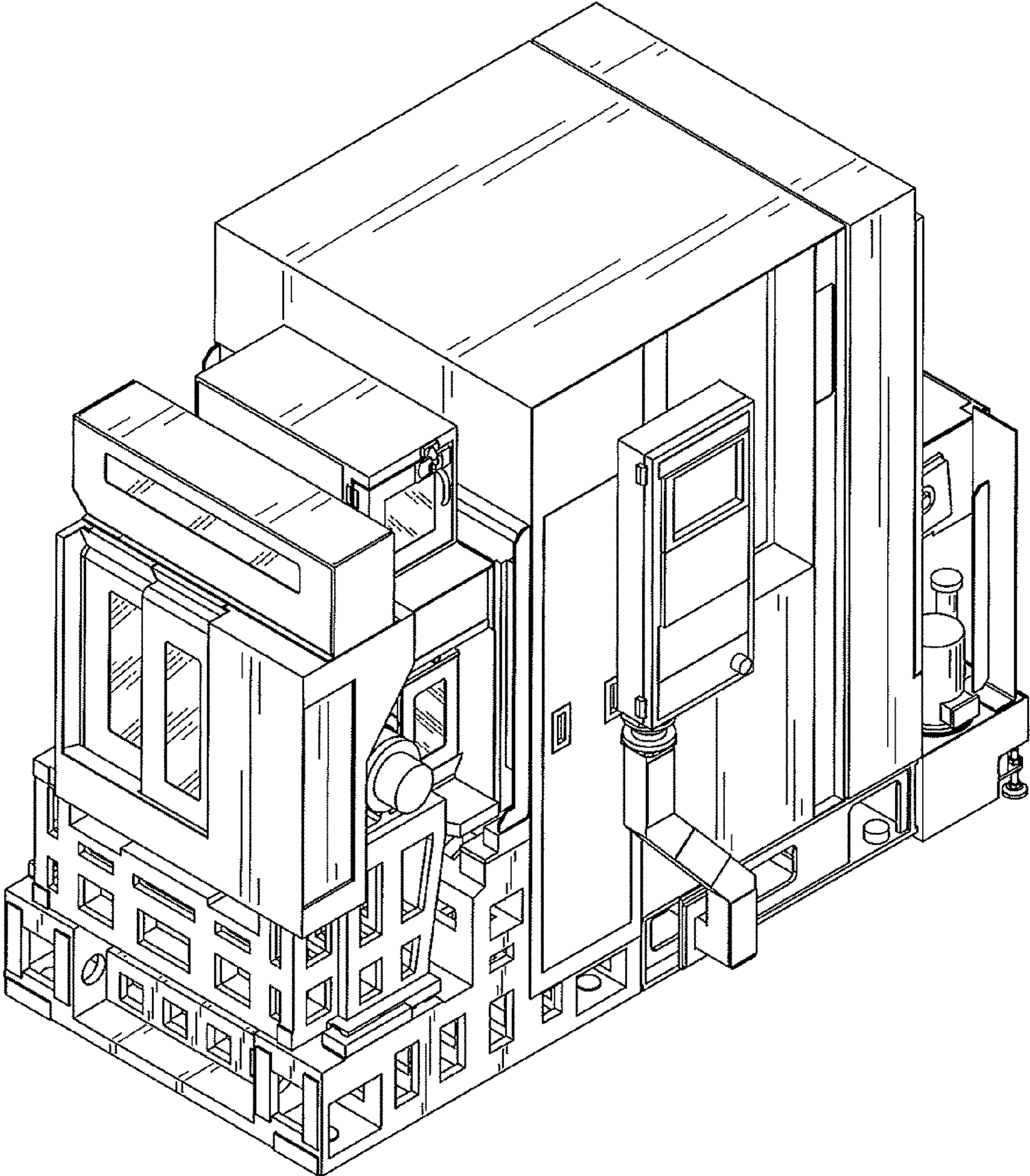


FIG.2

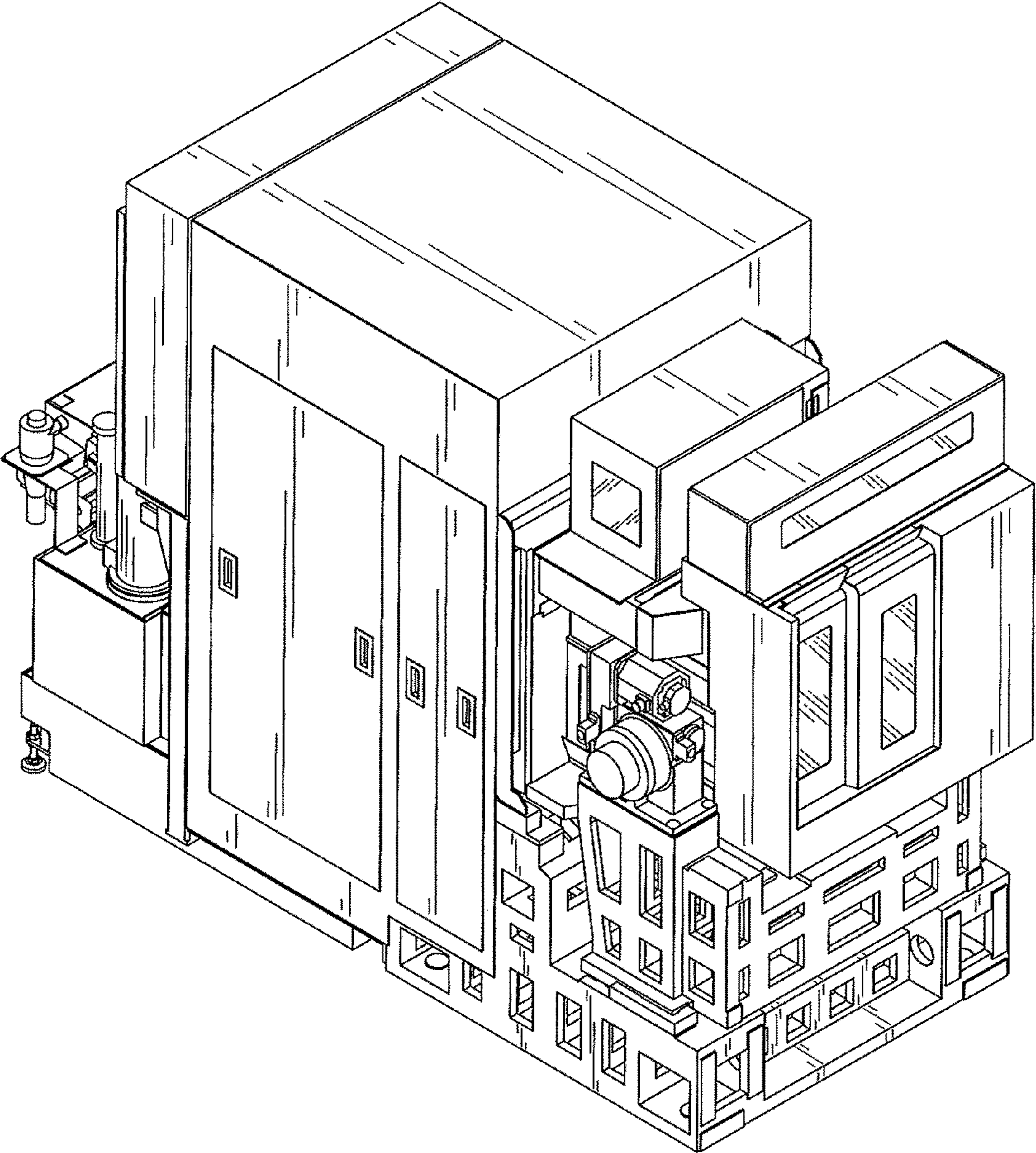


FIG.3

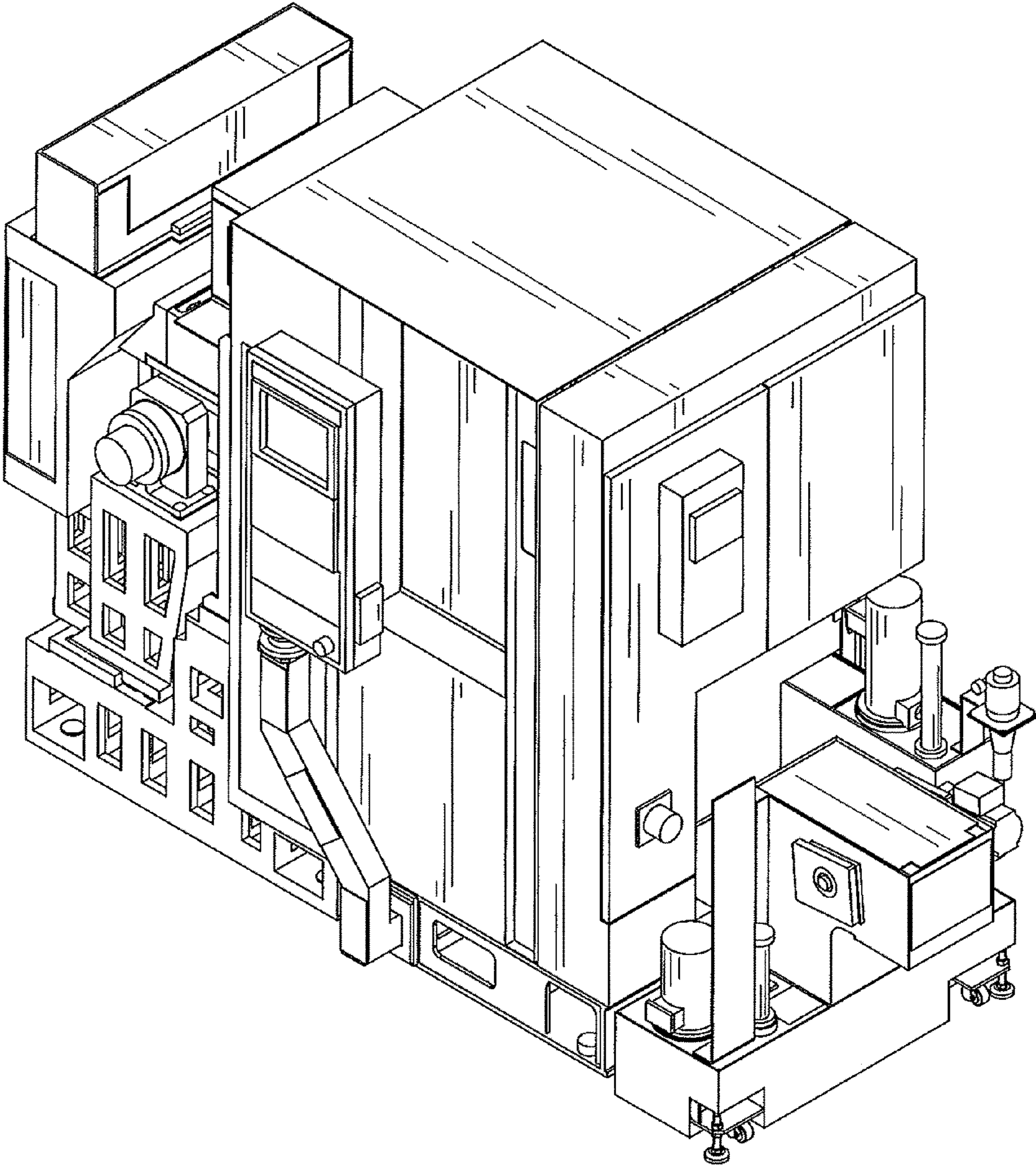


FIG.4

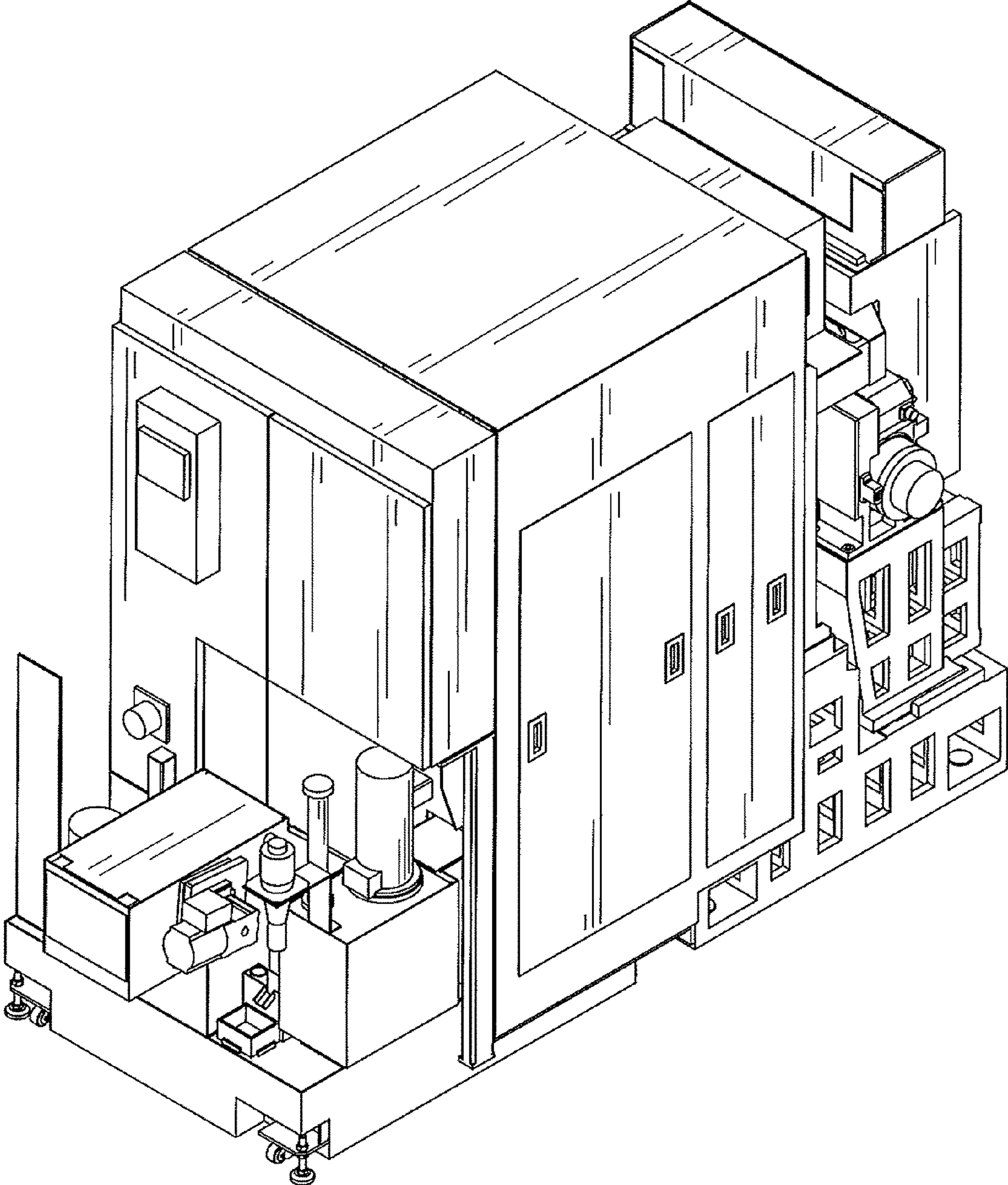


FIG. 5

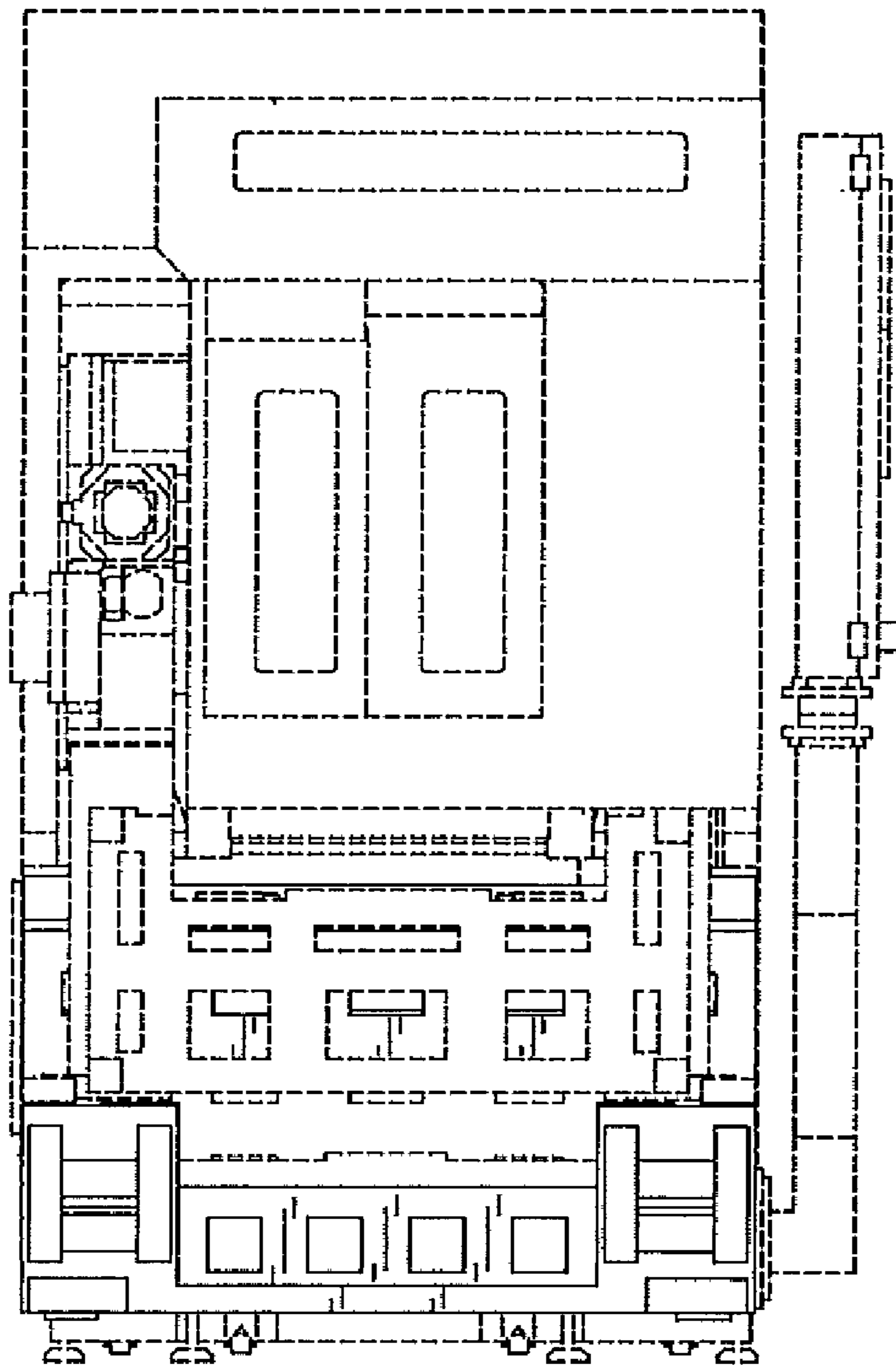


FIG.6

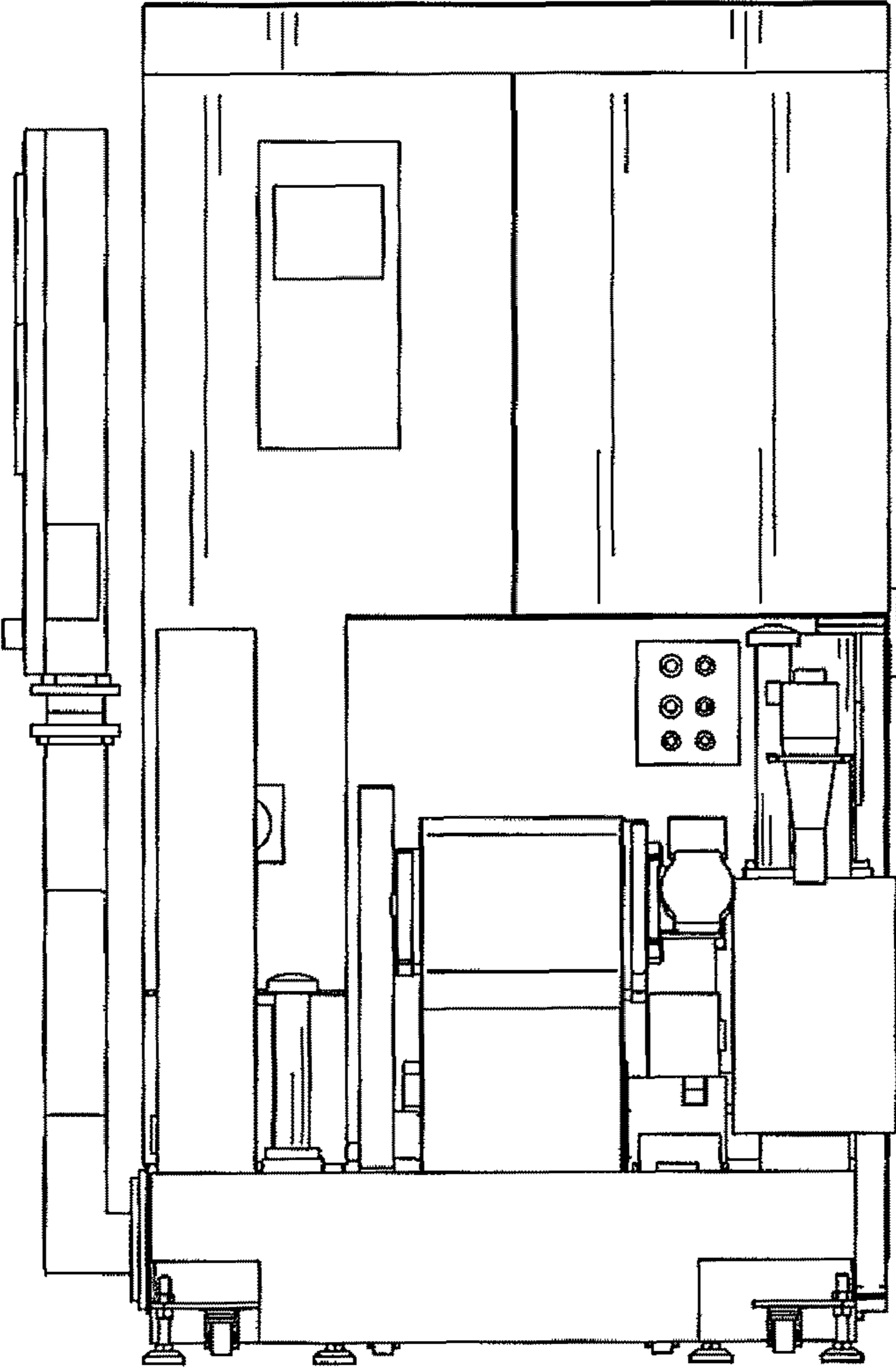


FIG. 7

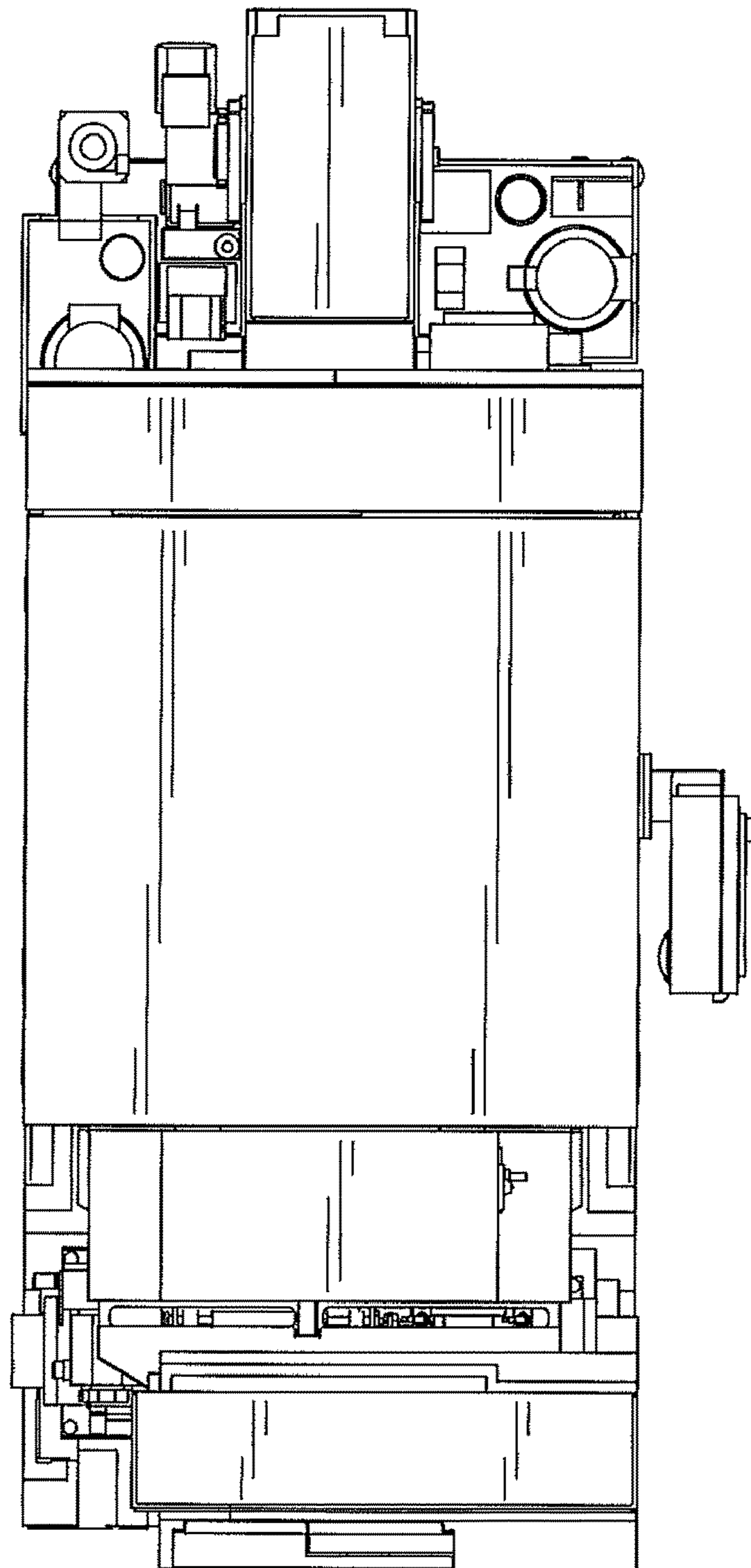


FIG. 8

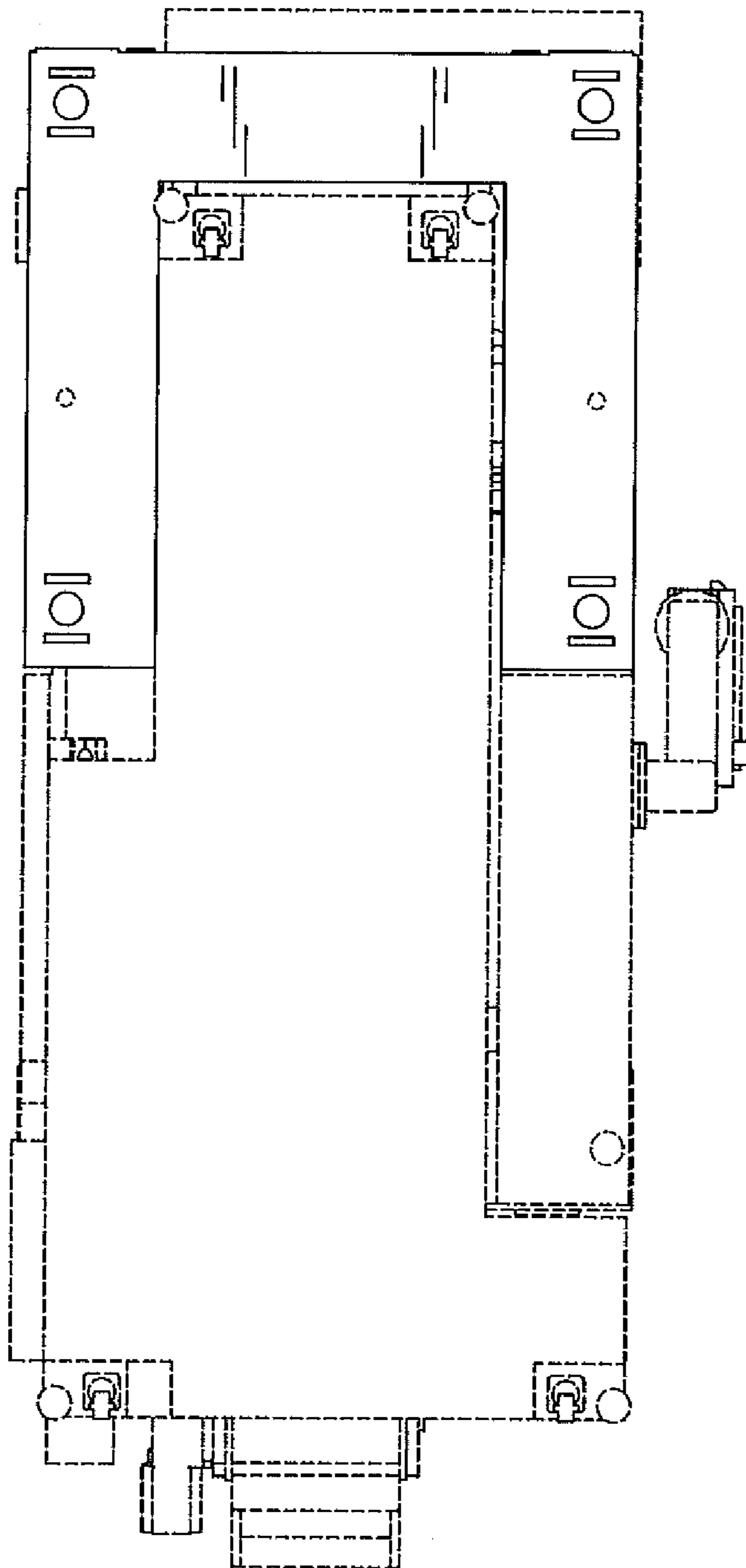


FIG. 9

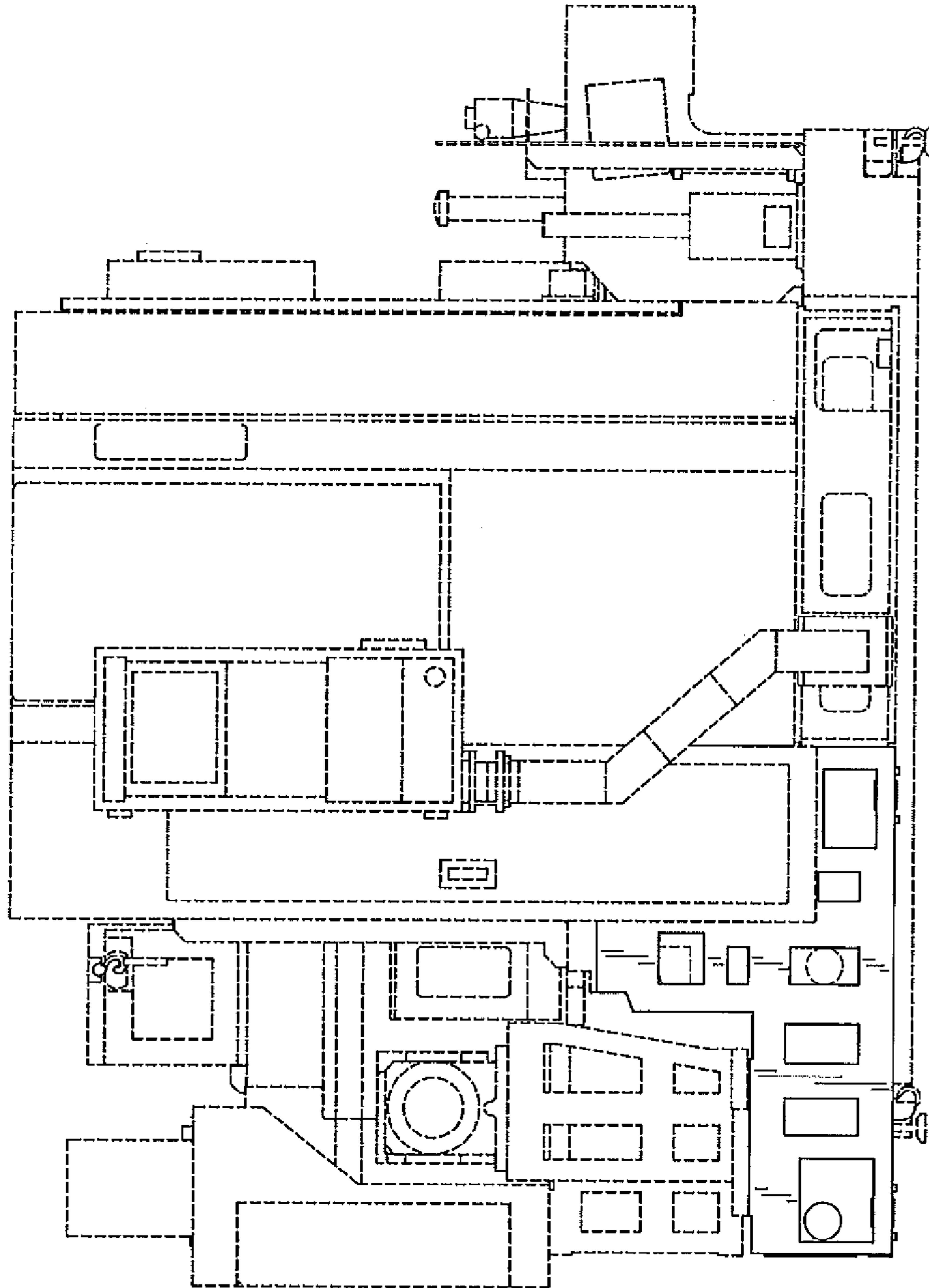


FIG. 10

