



US00D799103S

(12) **United States Design Patent** (10) **Patent No.:** **US D799,103 S**
Gloor et al. (45) **Date of Patent:** **** Oct. 3, 2017**

(54) **OPTICAL EMITTER MODULE**
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(**) Term: **15 Years**
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(51) **LOC (10) Cl.** **26-05**
(52) **U.S. Cl.**
USPC **D26/120**
(58) **Field of Classification Search**
USPC D26/20, 27, 30, 31, 32, 25, 35, 36, 42,
D26/55, 69, 70, 71, 76, 72, 85, 113, 78,
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D377,353 S * 1/1997 Tajima D10/75
D387,767 S * 12/1997 Tajima D14/222
(Continued)

OTHER PUBLICATIONS

“Fixed Laser Mounting Stand” Dec. 3, 2015, robotics4geeks.com,
site visited May 22, 2017 <<http://www.robotics4geeks.com/en/46-lasers>>.*

Primary Examiner — Kevin Rudzinski
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(57) **CLAIM**

The ornamental design for an optical emitter module, as
shown and described.

DESCRIPTION

FIG. 1 is a perspective view of the optical emitter module
according to a first implementation of our new design.

FIG. 2 is a left side view of the optical emitter module
according to the first implementation.
FIG. 3 is a right side view of the optical emitter module
according to the first implementation.
FIG. 4 is a front view of the optical emitter module accord-
ing to the first implementation.
FIG. 5 is a rear view of the optical emitter module according
to the first implementation.
FIG. 6 is a bottom view of the optical emitter module
according to the first implementation.
FIG. 7 is a top view of the optical emitter module according
to the first implementation.
FIG. 8 is a perspective view of the optical emitter module
according to a second implementation of our new design.
FIG. 9 is a left side view of the optical emitter module
according to the second implementation.
FIG. 10 is a right side view of the optical emitter module
according to the second implementation.
FIG. 11 is a front view of the optical emitter module
according to the second implementation.
FIG. 12 is a rear view of the optical emitter module
according to the second implementation.
FIG. 13 is a bottom view of the optical emitter module
according to the second implementation.
FIG. 14 is a top view of the optical emitter module according
to the second implementation.
FIG. 15 is a perspective view of the optical emitter module
according to a third implementation of our new design.
FIG. 16 is a left side view of the optical emitter module
according to the third implementation.
FIG. 17 is a right side view of the optical emitter module
according to the third implementation.
FIG. 18 is a front view of the optical emitter module
according to the third implementation.
FIG. 19 is a rear view of the optical emitter module
according to the third implementation.
FIG. 20 is a bottom view of the optical emitter module
according to the third implementation.
FIG. 21 is a top view of the optical emitter module according
to the third implementation.
FIG. 22 is a perspective view of the optical emitter module
according to a fourth implementation of our new design.
FIG. 23 is a left side view of the optical emitter module
according to the fourth implementation.

(Continued)

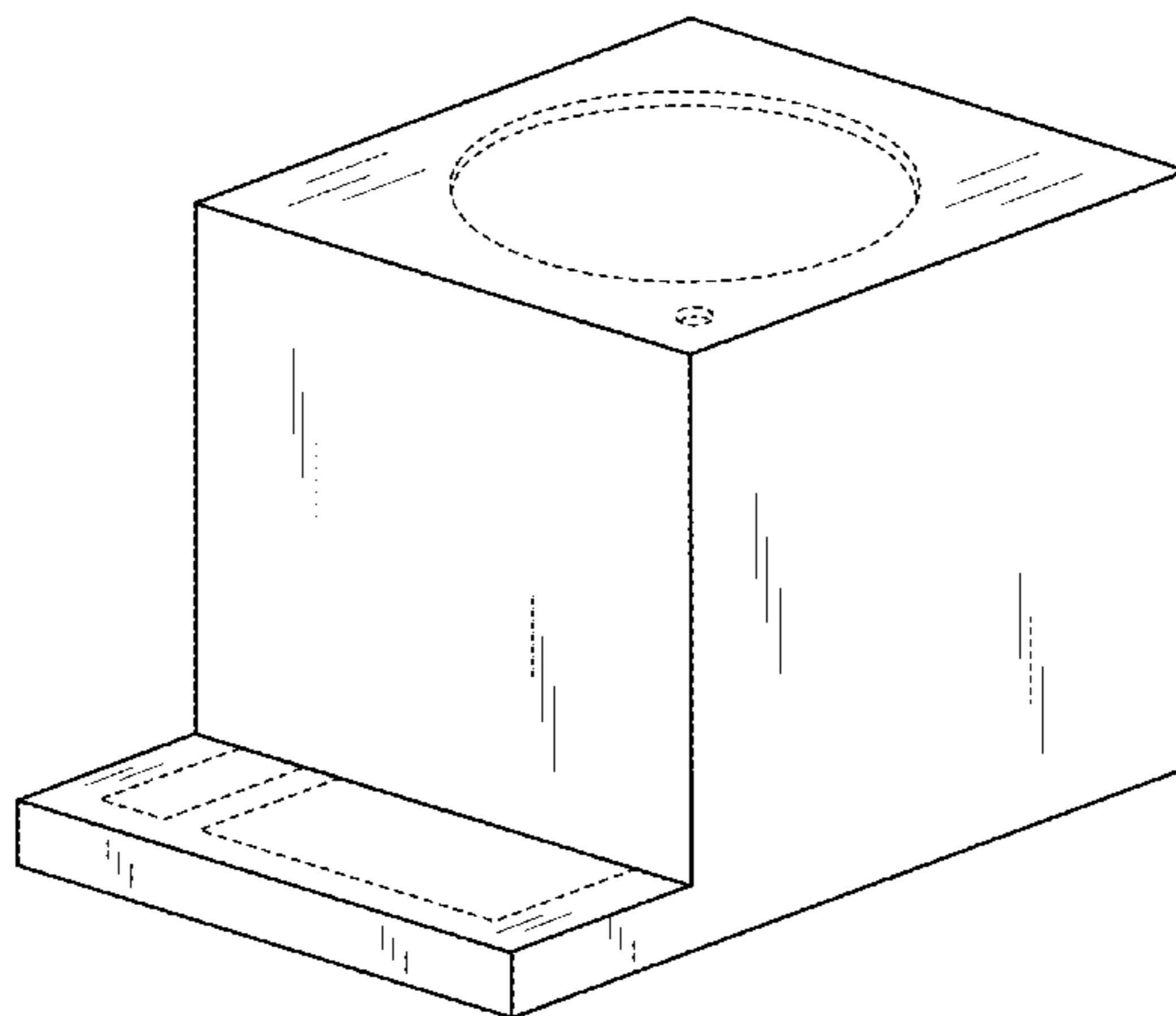


FIG. 24 is a right side view of the optical emitter module according to the fourth implementation.

FIG. 25 is a front view of the optical emitter module according to the fourth implementation.

FIG. 26 is a rear view of the optical emitter module according to the fourth implementation.

FIG. 27 is a bottom view of the optical emitter module according to the fourth implementation; and,

FIG. 28 is a top view of the optical emitter module according to the fourth implementation.

The broken line showing of portions of the optical emitter module is for the purpose of illustrating portions of the article and form no part of the claimed design.

1 Claim, 16 Drawing Sheets

(58) **Field of Classification Search**

USPC D26/80, 101, 110, 109, 118–120, 123, D26/124, 127, 133, 134, 138, 139; D13/180; D14/222; D10/75; D8/374
 CPC H01L 33/486; H01L 33/58; H01L 33/62; H01L 31/0203; H01L 25/0753; H01H 27/002; H04N 5/2256; F21V 15/01; F21S 8/02; G01J 3/0251; G02B 6/4201; G02B 6/0008; G02F 2001/133607; G03B 15/05; G03B 2215/0567; G03B 21/2086; B67C 9/00; B05B 17/08

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,702,009 A * 12/1997 Ouellet B67C 9/00 211/74
 5,744,767 A * 4/1998 Wecke H01H 27/002 200/17 R
 D455,335 S * 4/2002 Cort D8/374

6,652,124 B2 * 11/2003 Schubert F21S 8/02 362/148
 D555,114 S * 11/2007 Yen D13/180
 D582,361 S * 12/2008 Yen D13/180
 D623,344 S * 9/2010 Tsai D26/138
 8,913,244 B1 * 12/2014 Broughton G01J 3/0251 356/121
 2003/0007354 A1 * 1/2003 Schubert F21S 8/02 362/285
 2005/0013562 A1 * 1/2005 Tatehata G02B 6/4201 385/93
 2006/0157828 A1 * 7/2006 Sorg H01L 31/0203 257/666
 2007/0147051 A1 * 6/2007 Miyasu G03B 21/2086 362/362
 2007/0181899 A1 * 8/2007 Lee H01L 33/486 257/99
 2008/0013326 A1 * 1/2008 Den Boer F21V 15/01 362/364
 2008/0180961 A1 * 7/2008 Gibson F21S 8/02 362/364
 2009/0251902 A1 * 10/2009 Woo H01L 33/486 362/296.01
 2011/0188254 A1 * 8/2011 Burt F21V 15/01 362/365
 2012/0051081 A1 * 3/2012 Liu G02B 6/0008 362/551
 2012/0218458 A1 * 8/2012 Pavithran H04N 5/2256 348/345
 2014/0126182 A1 * 5/2014 Doud B05B 17/08 362/96
 2014/0133141 A1 * 5/2014 Sievers H01L 25/0753 362/231
 2015/0117016 A1 * 4/2015 Kim F21K 9/64 362/293
 2016/0005931 A1 * 1/2016 Lee H01L 33/486 257/98
 2016/0190414 A1 * 6/2016 Miyamoto H01L 33/62 257/99
 2016/0190415 A1 * 6/2016 Park H01L 33/486 257/98

* cited by examiner

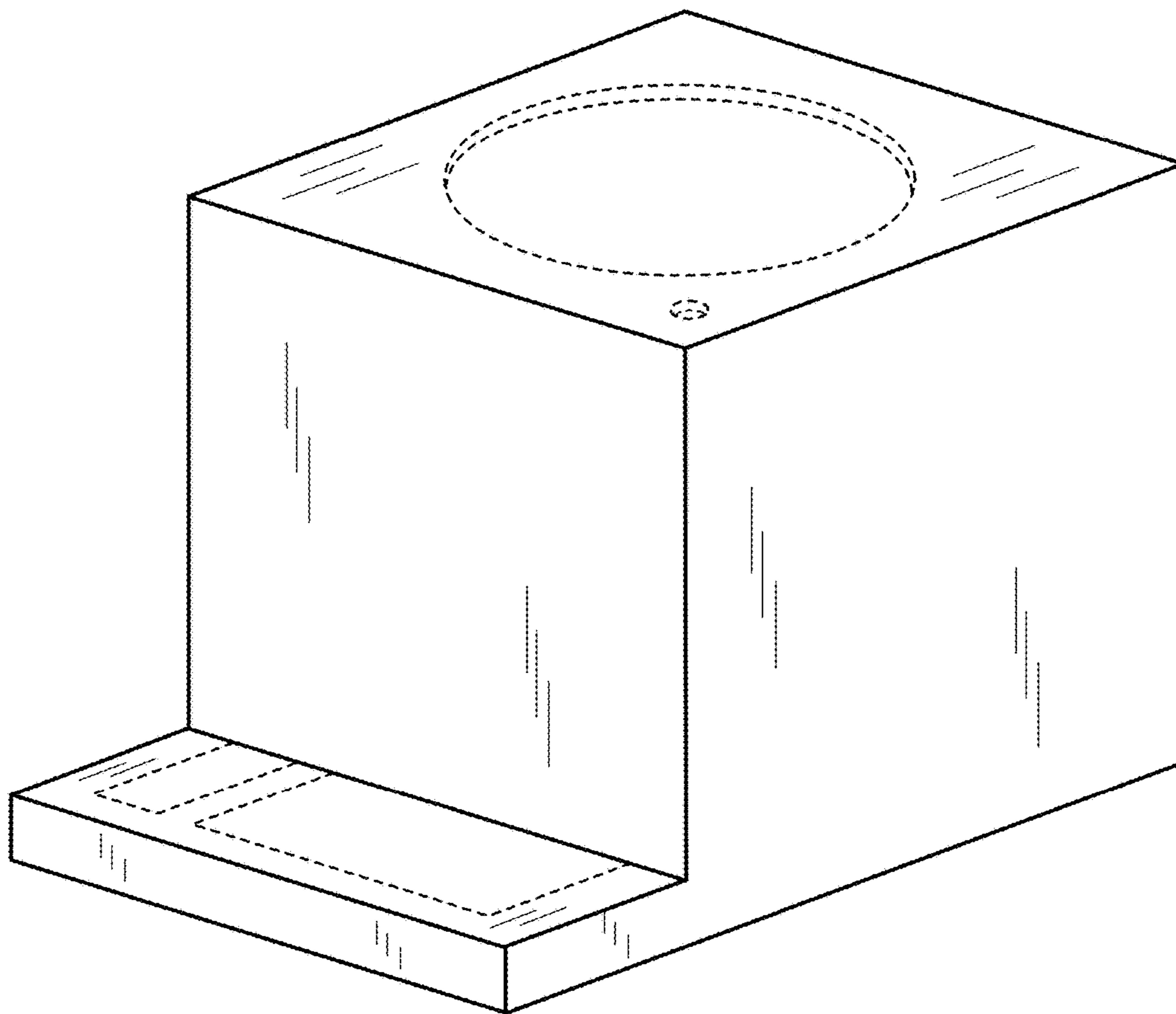


FIG. 1

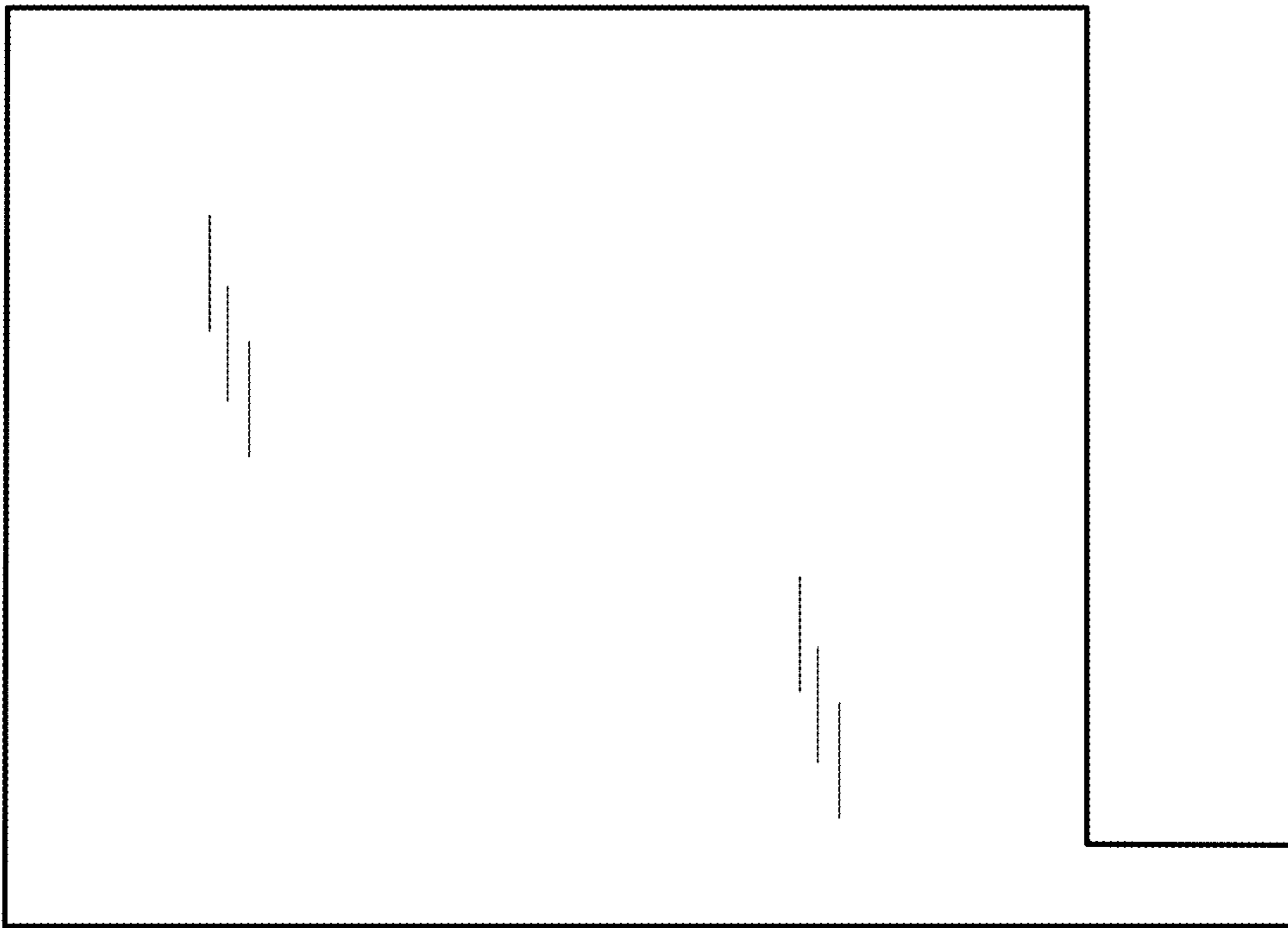


FIG. 2

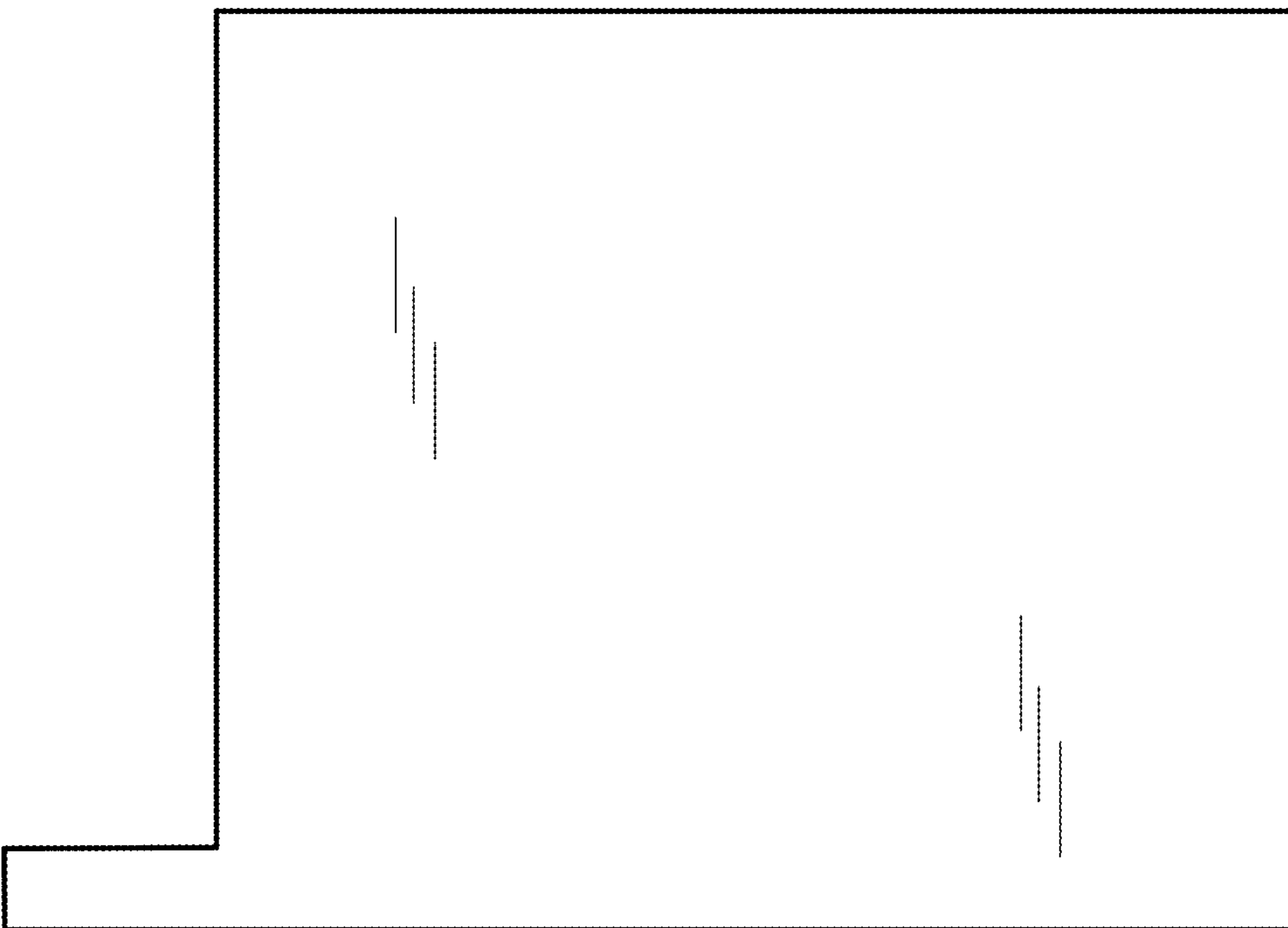


FIG. 3

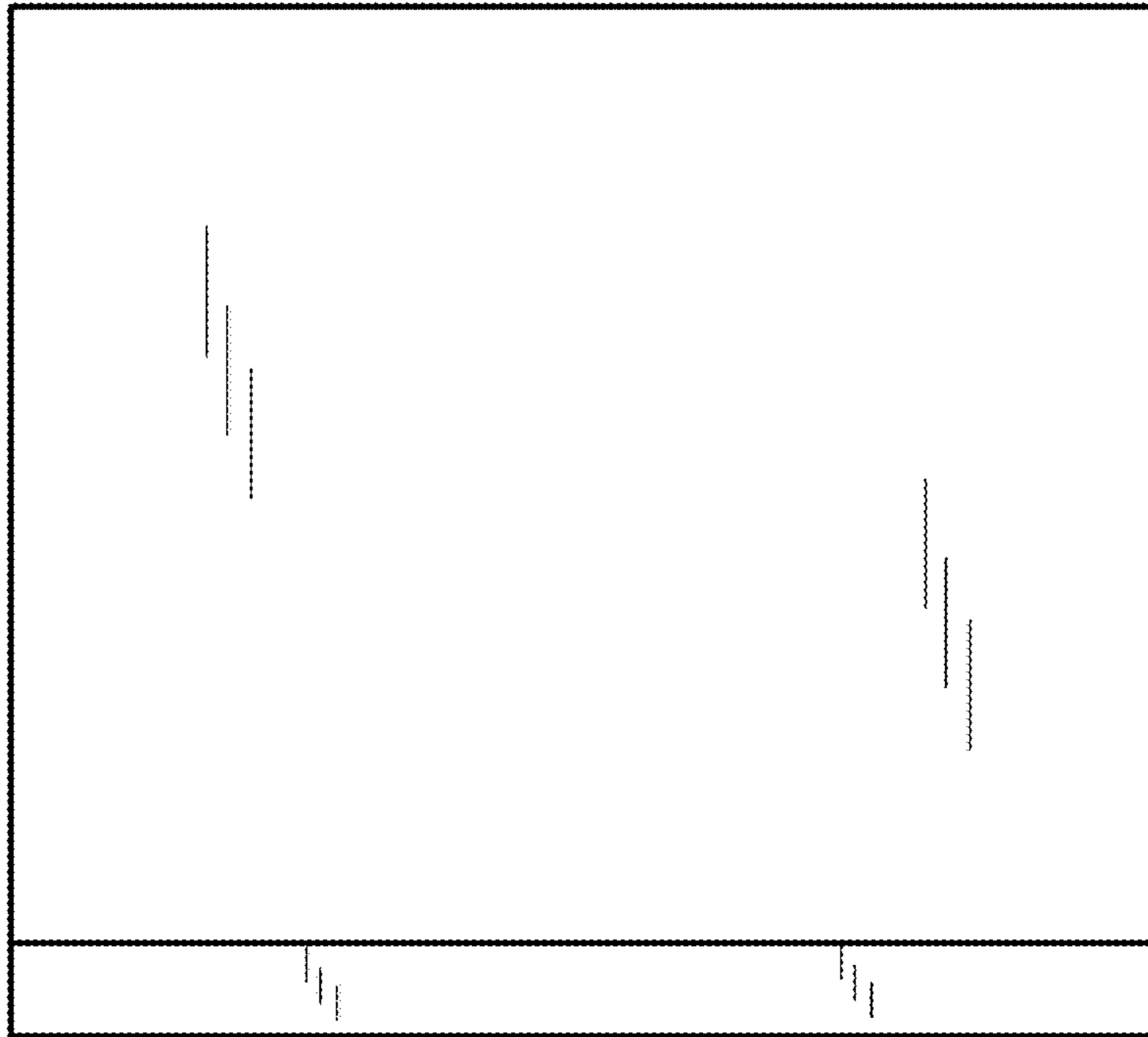


FIG. 4

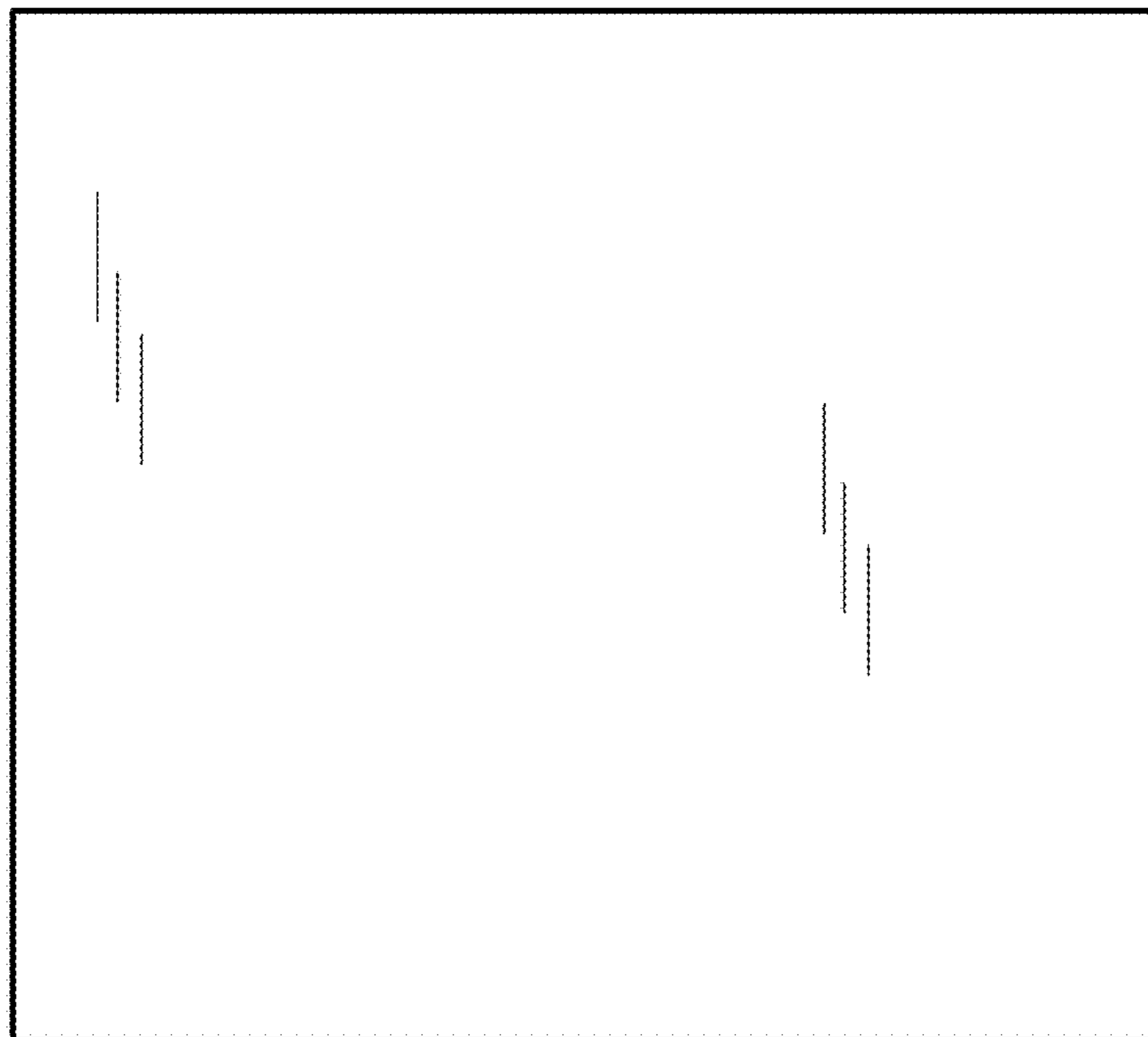


FIG. 5

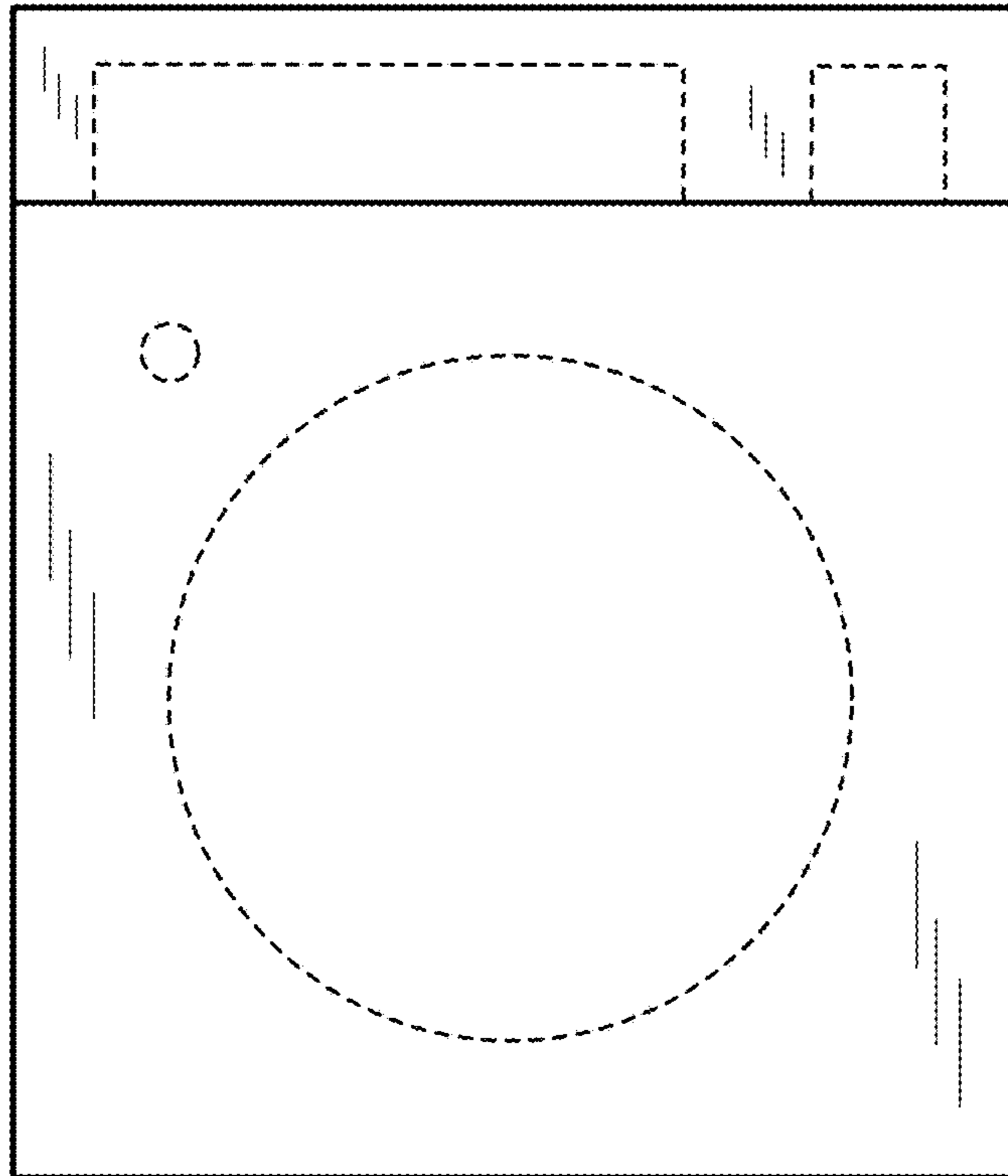


FIG. 6

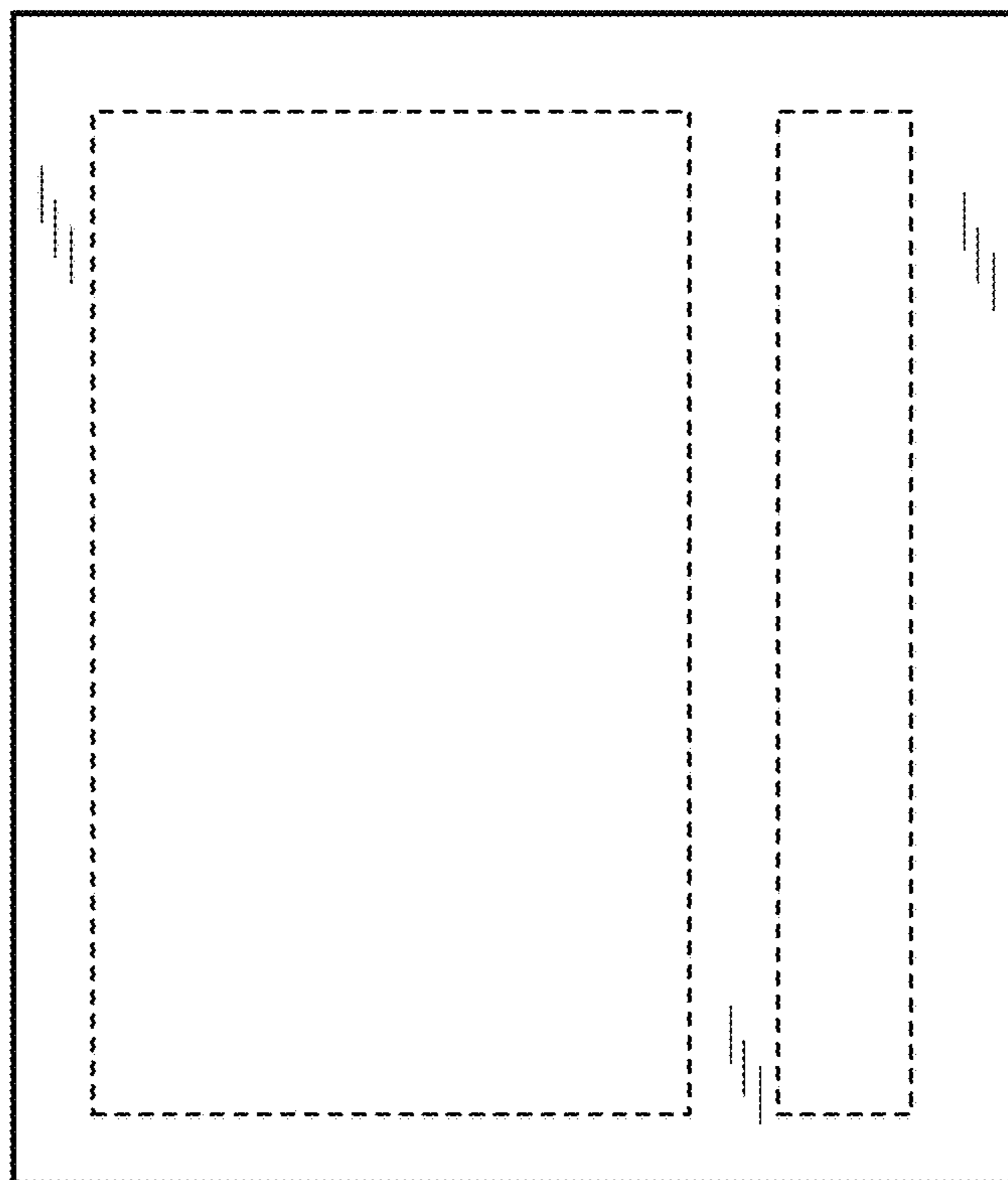


FIG. 7

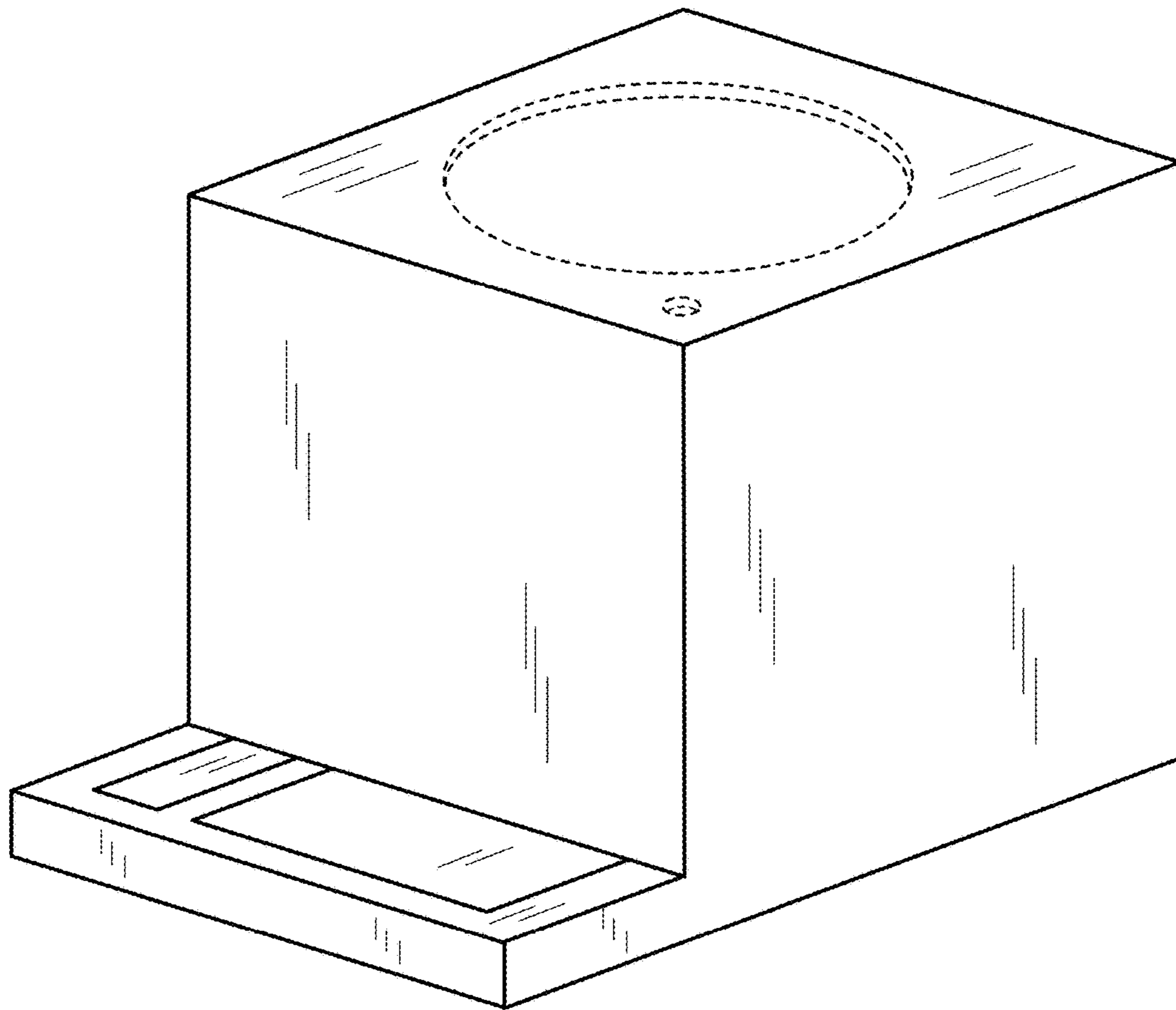


FIG. 8

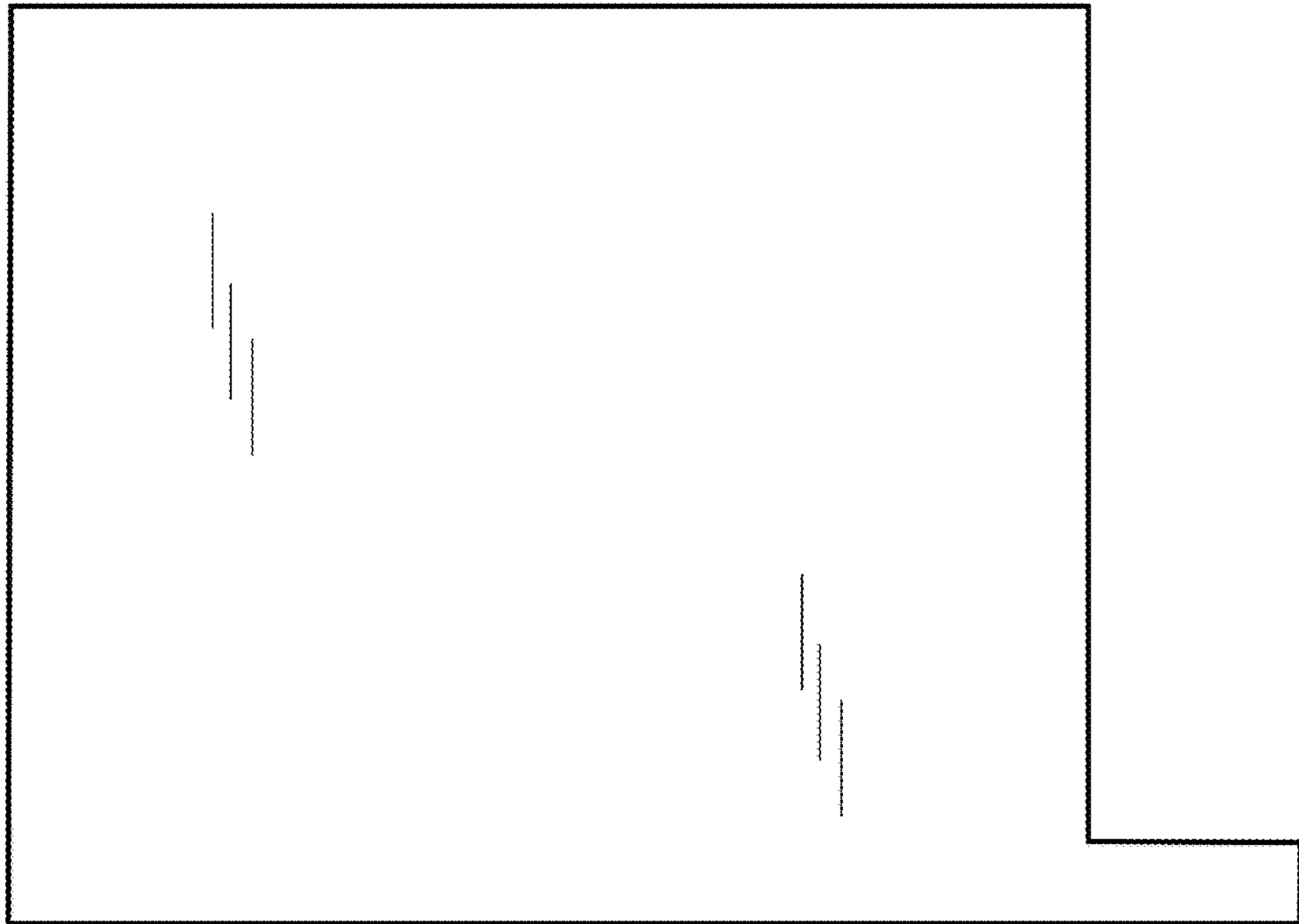


FIG. 9

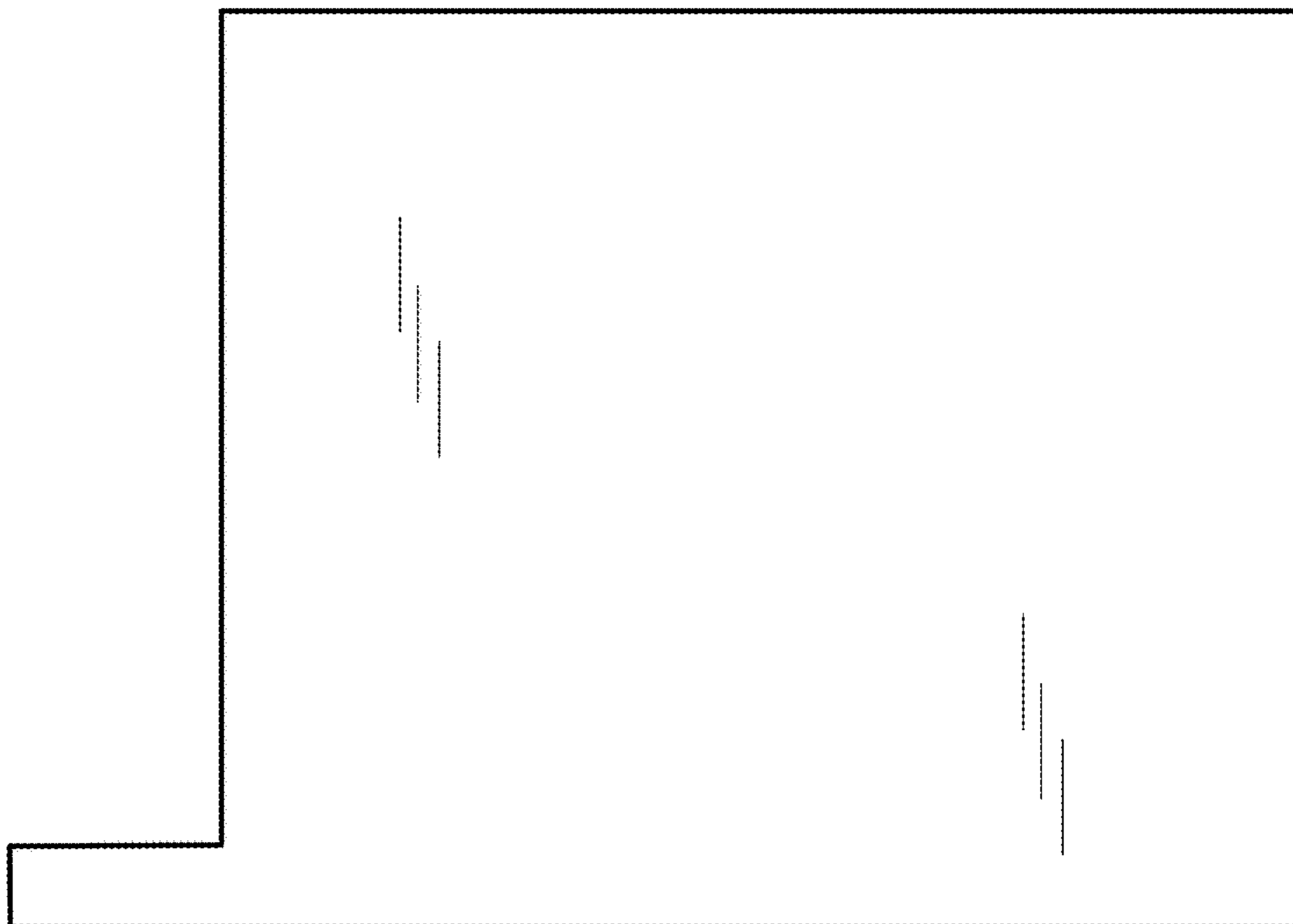


FIG. 10

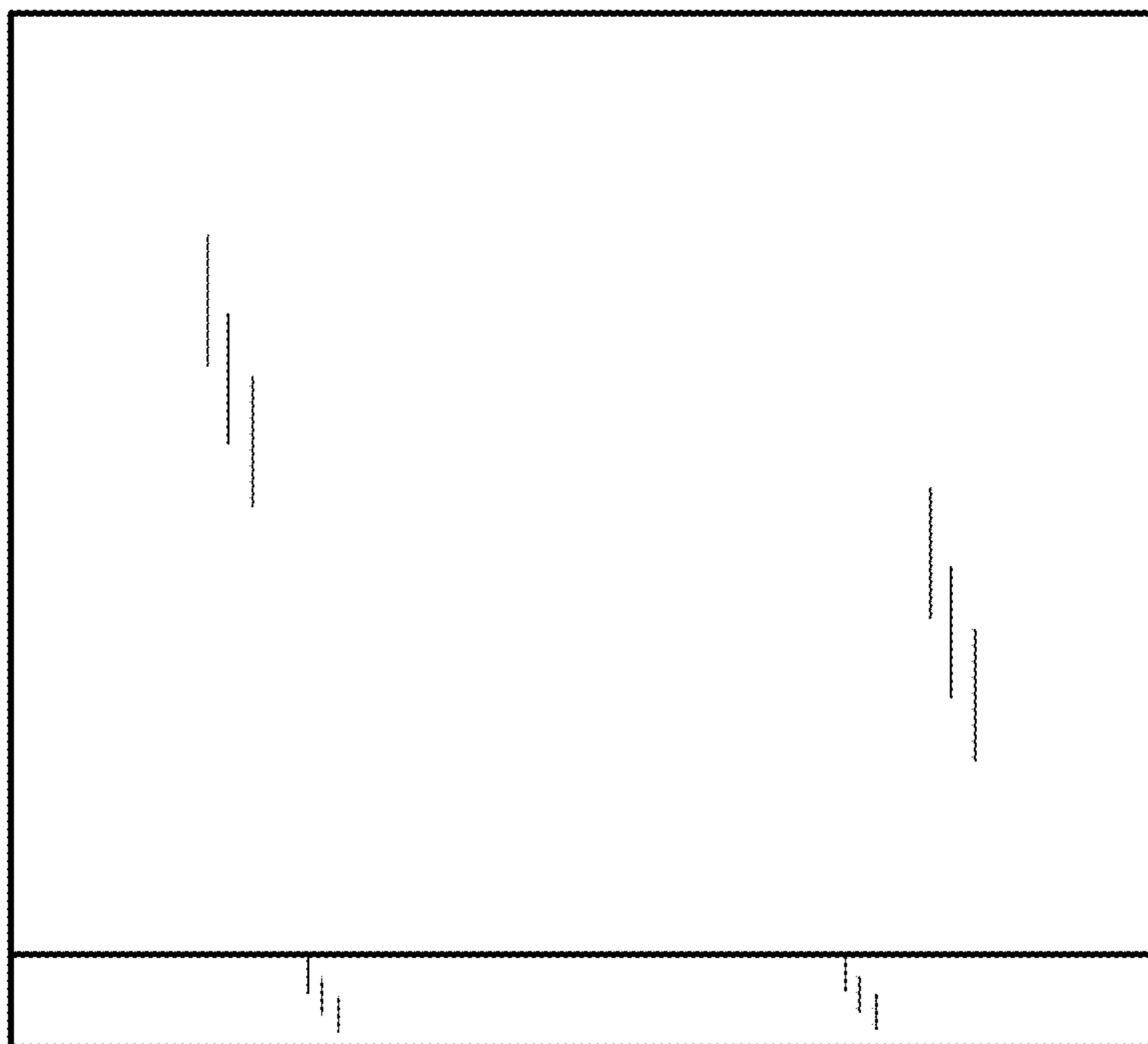


FIG. 11

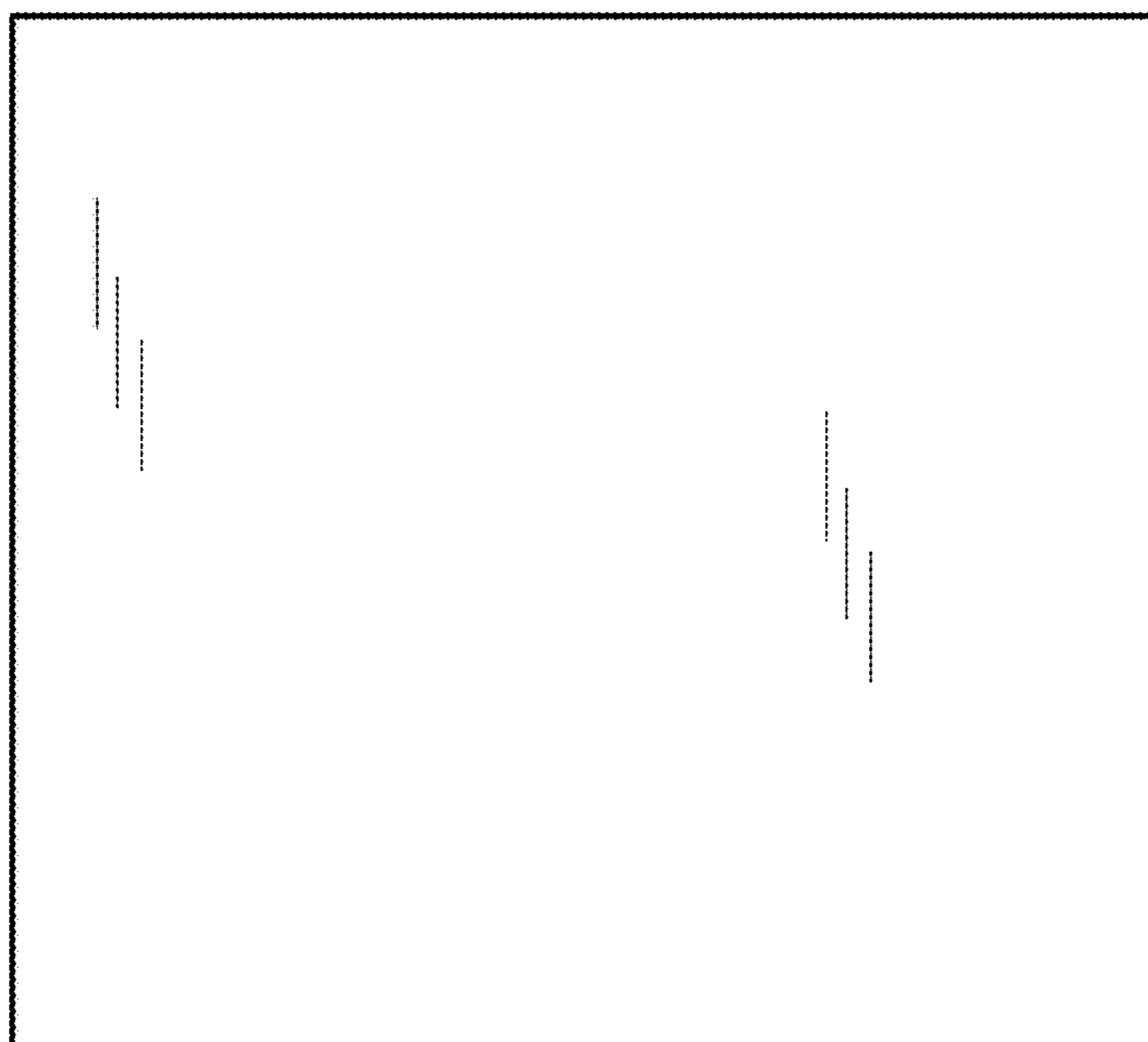


FIG. 12

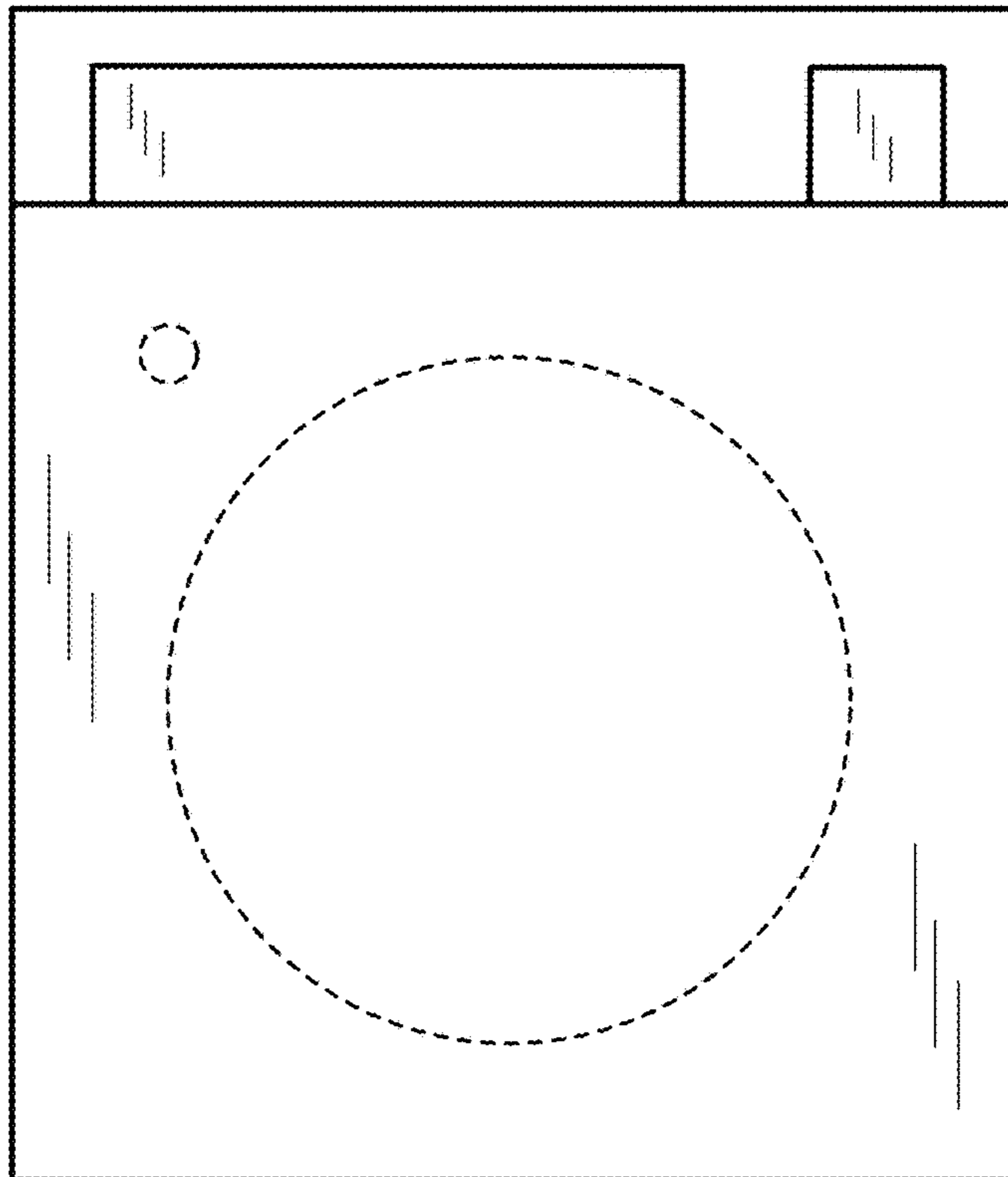


FIG. 13

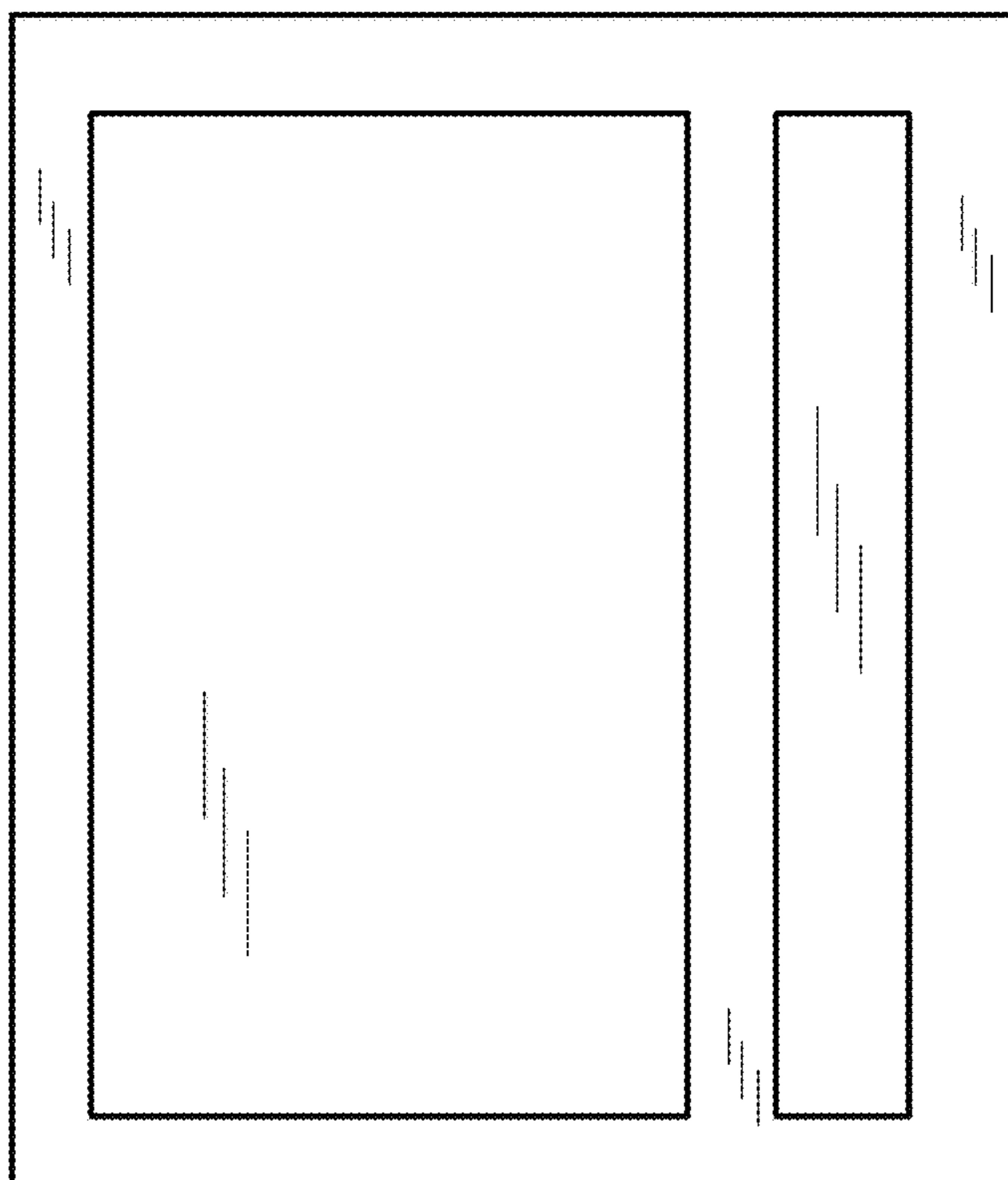


FIG. 14

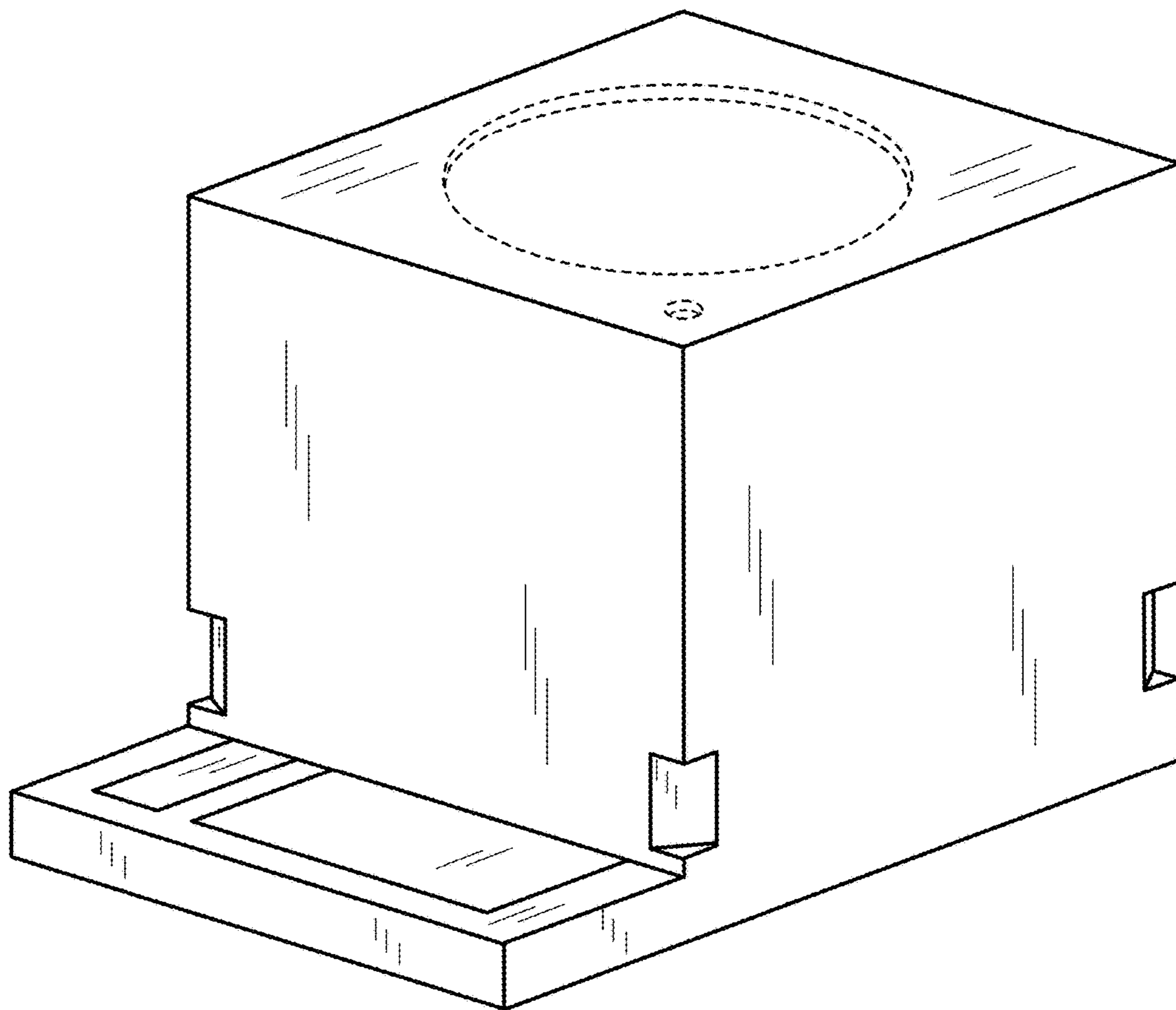


FIG. 15

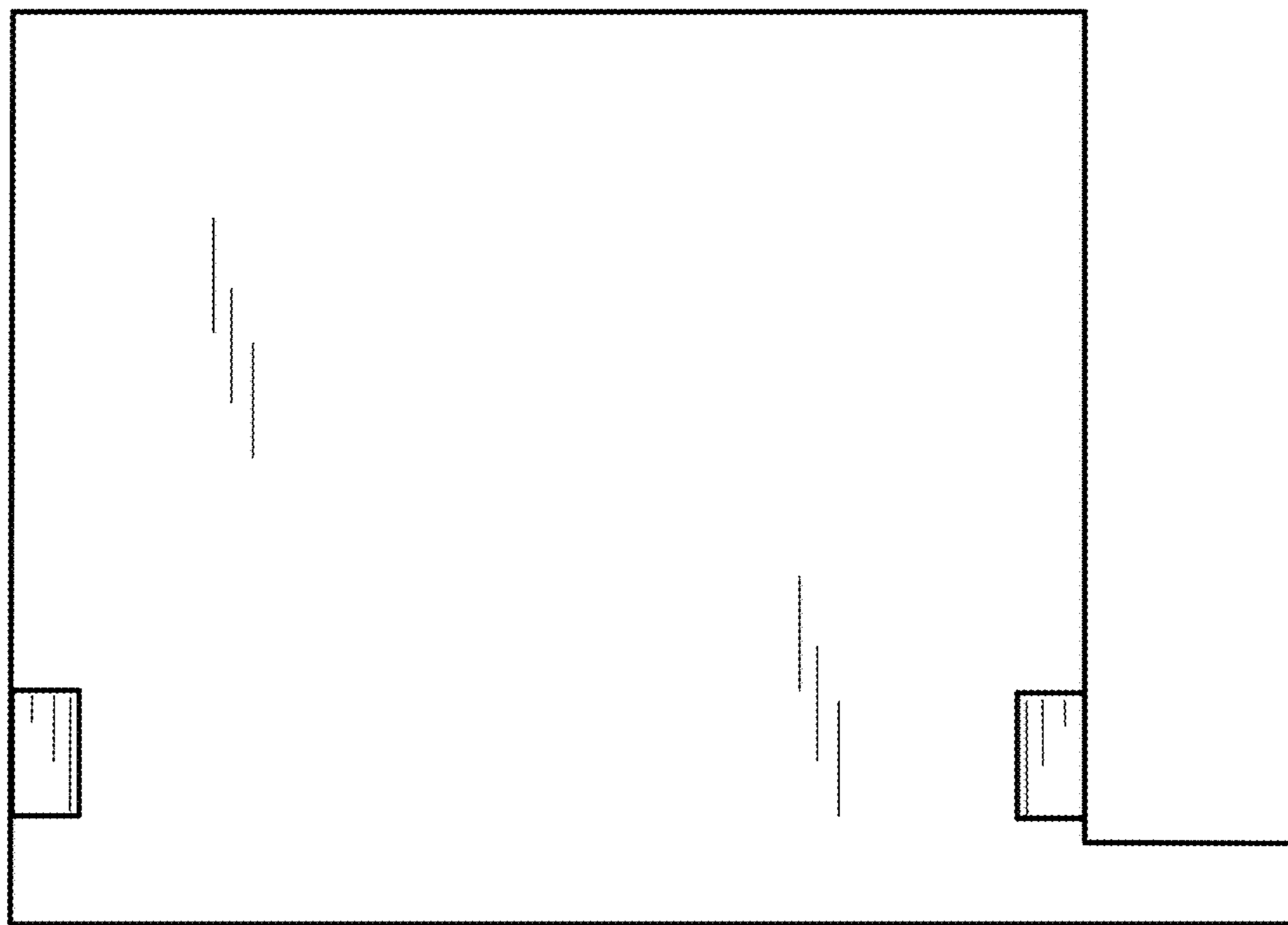


FIG. 16

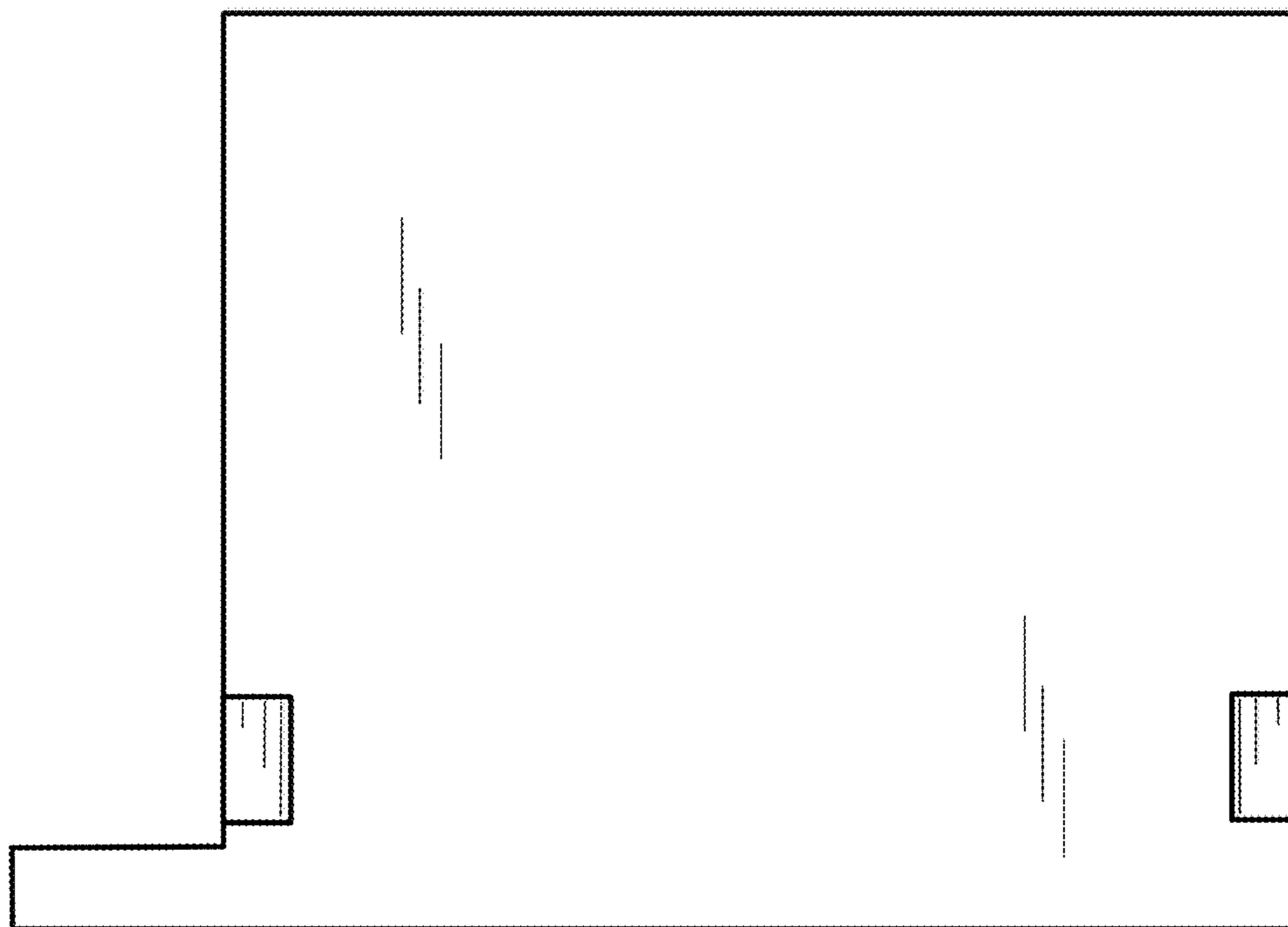


FIG. 17

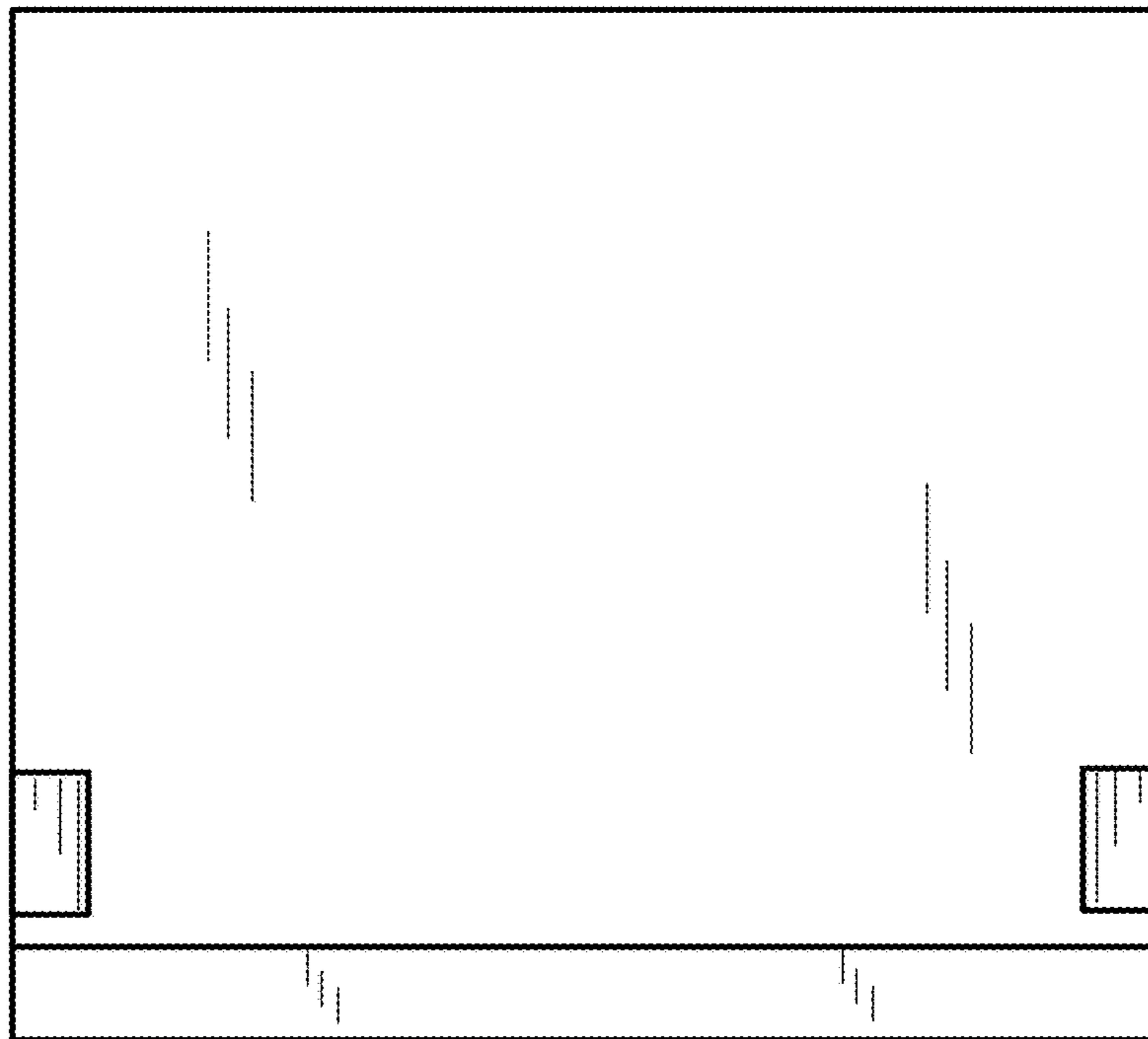


FIG. 18

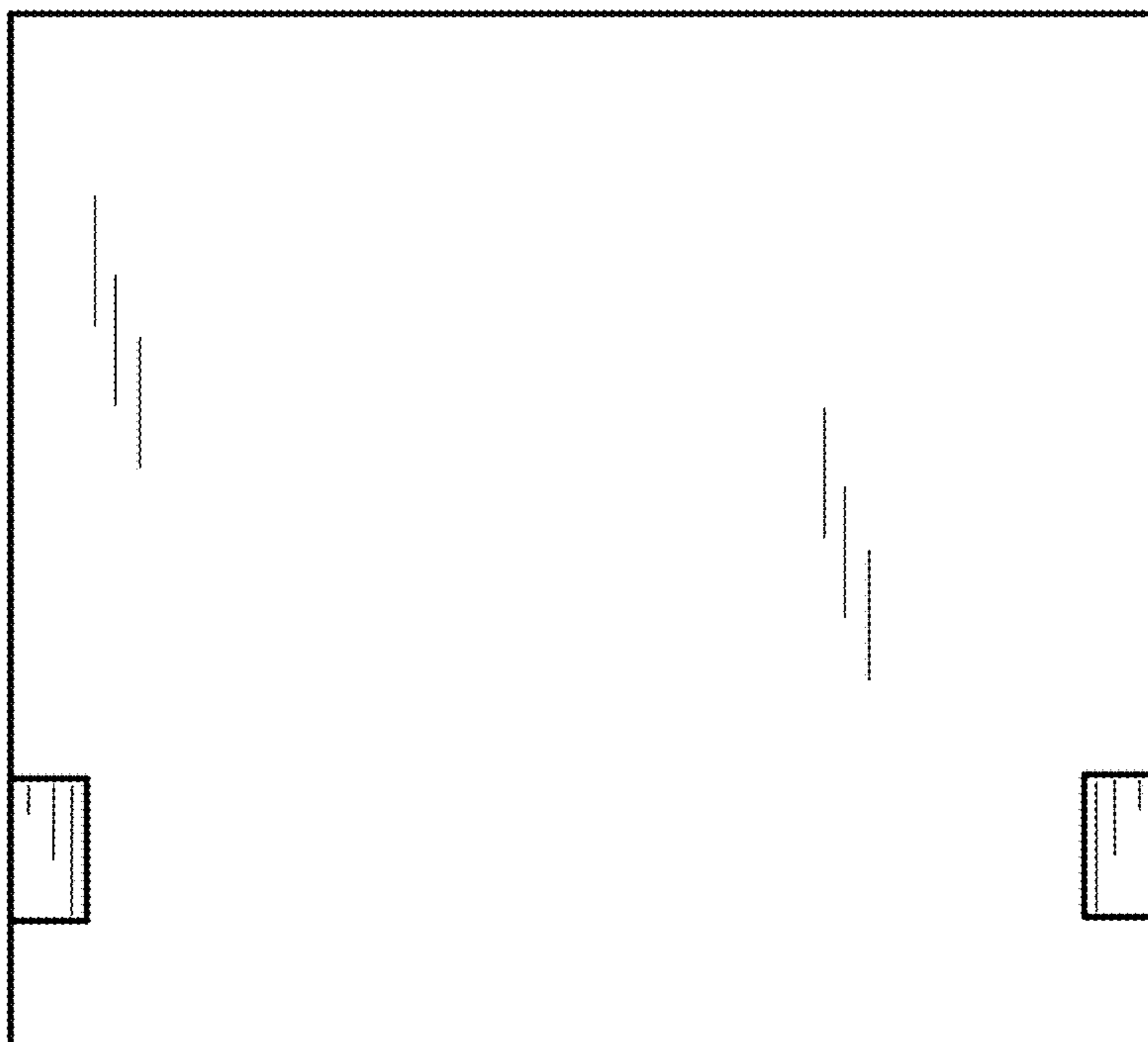


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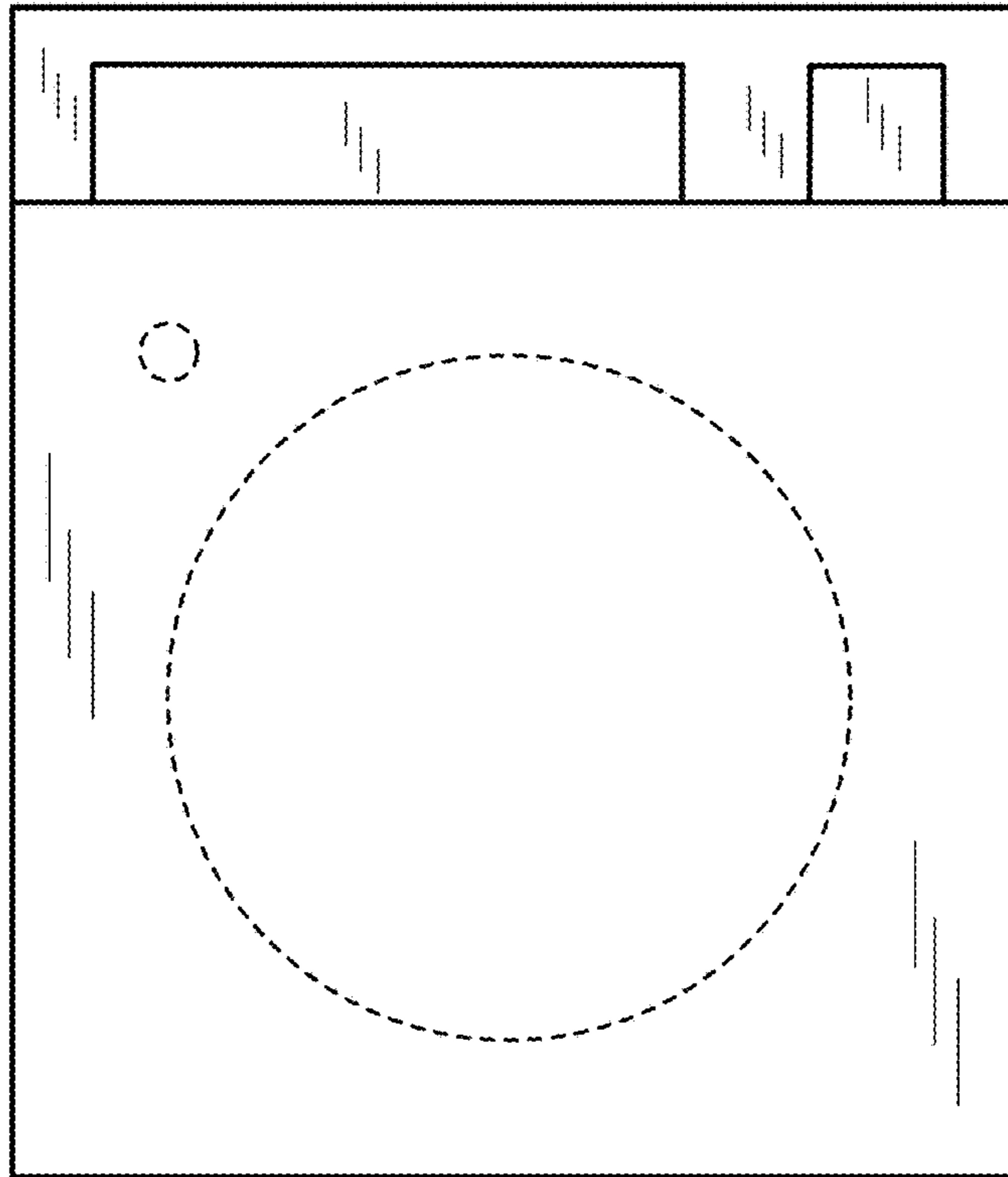


FIG. 20

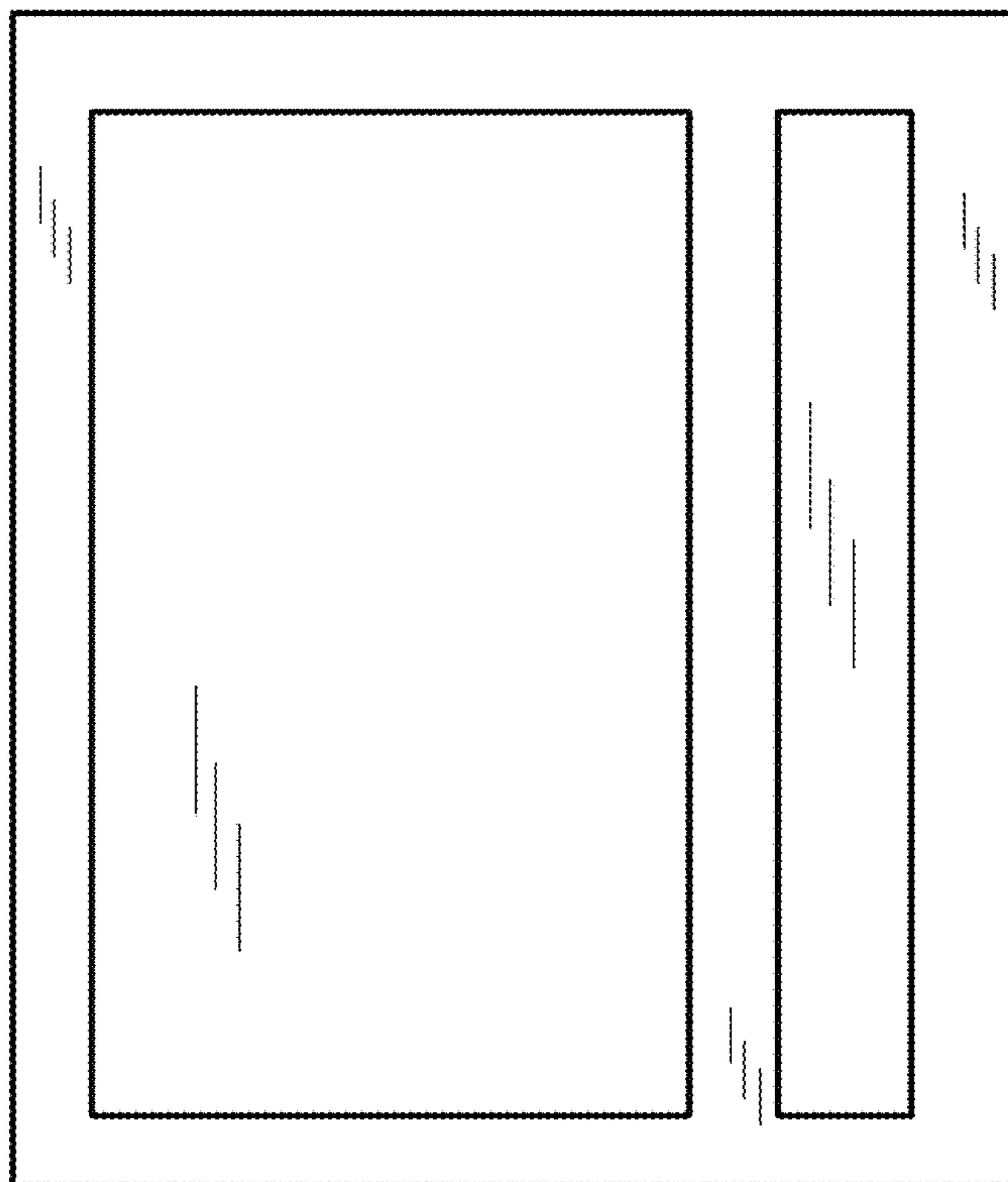


FIG. 21

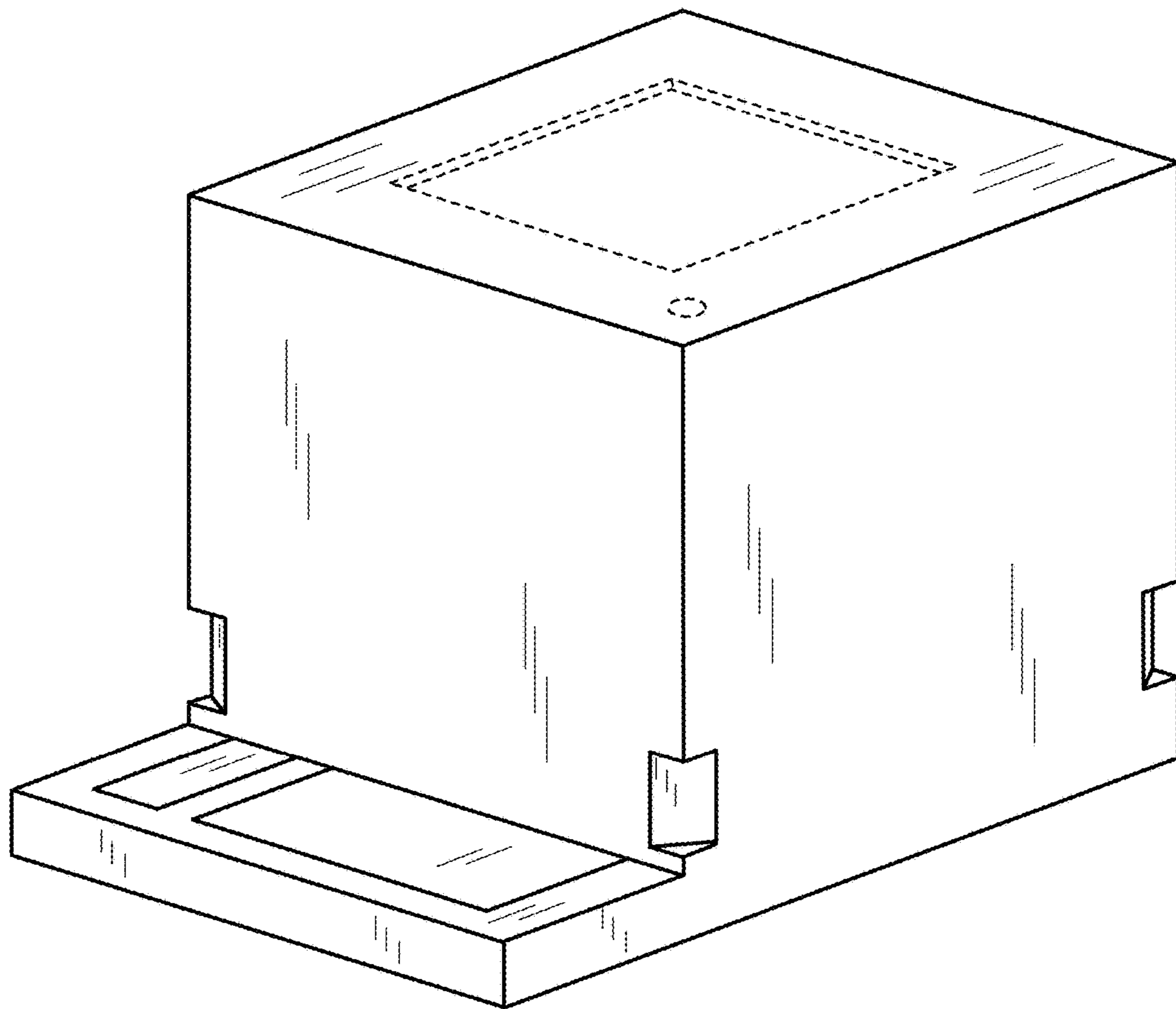


FIG. 22

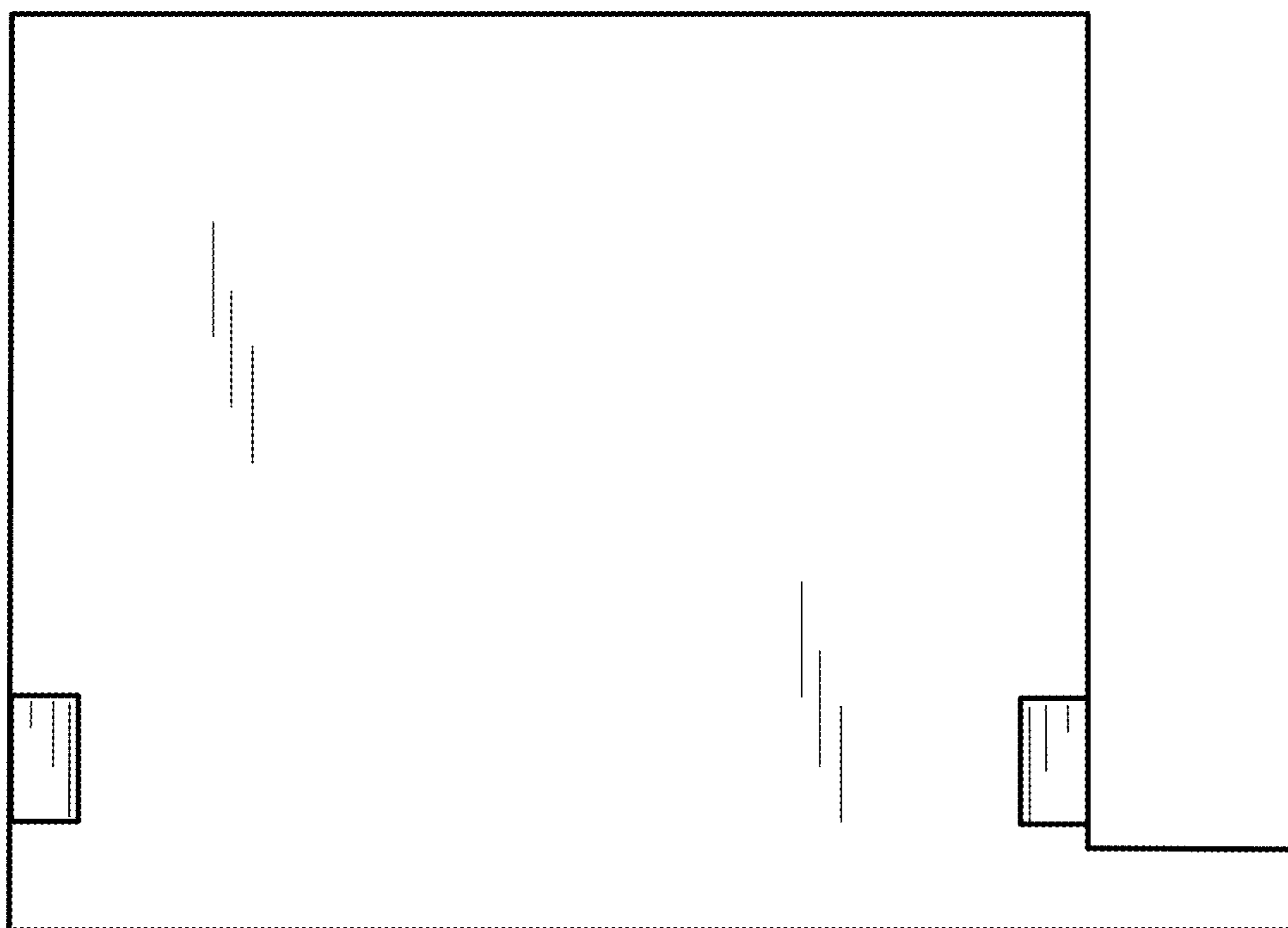


FIG. 23

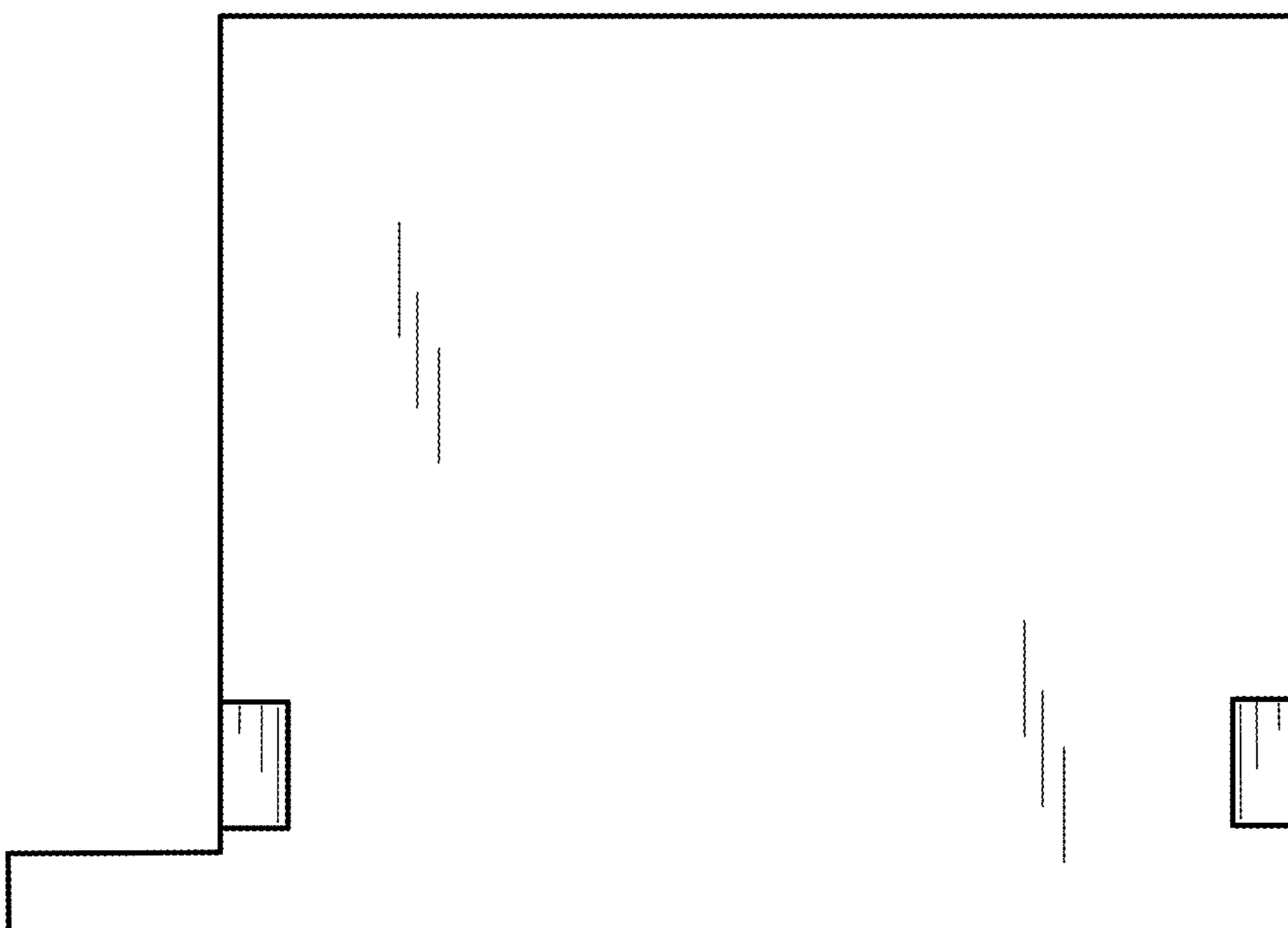


FIG. 24

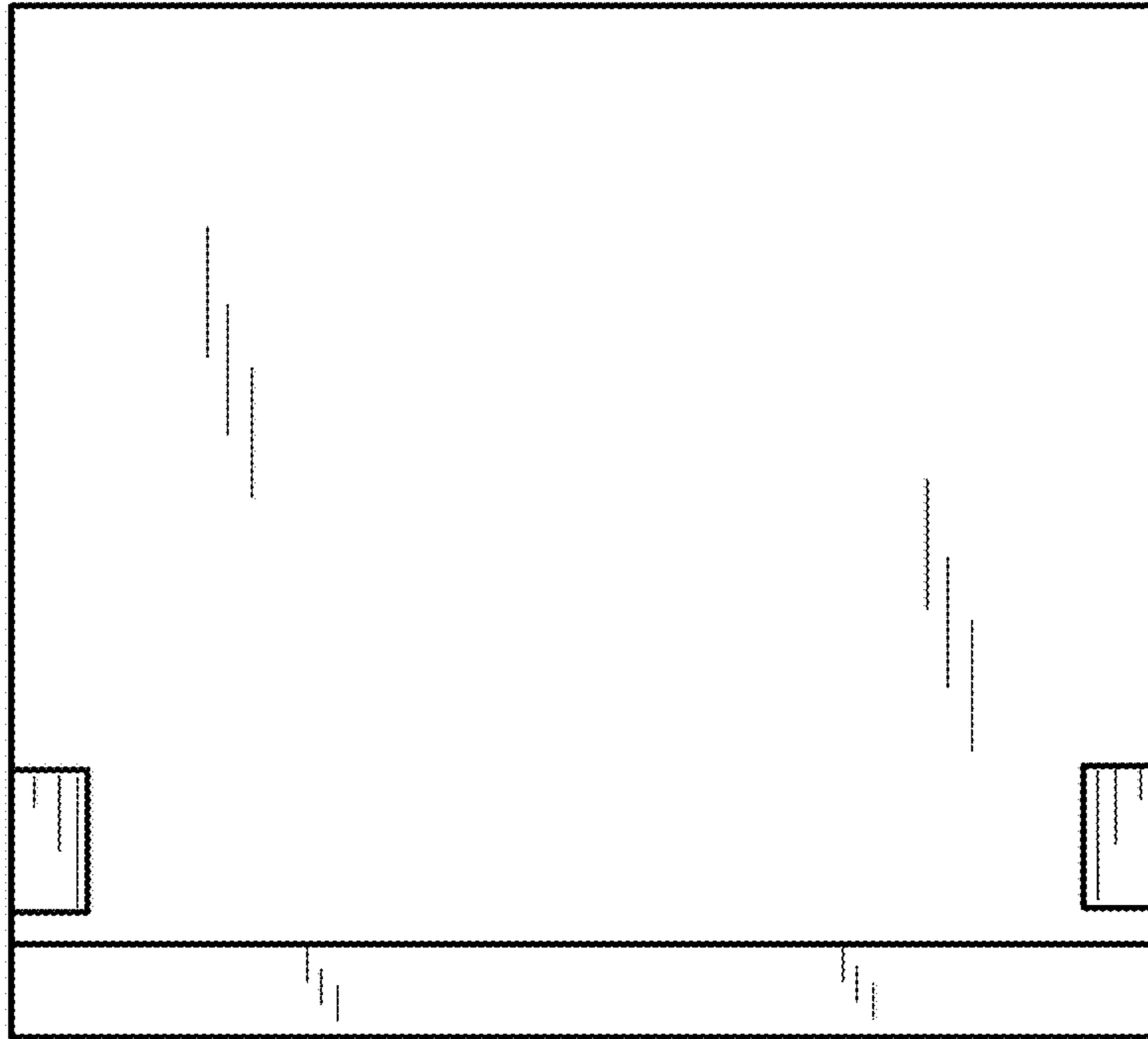


FIG. 25

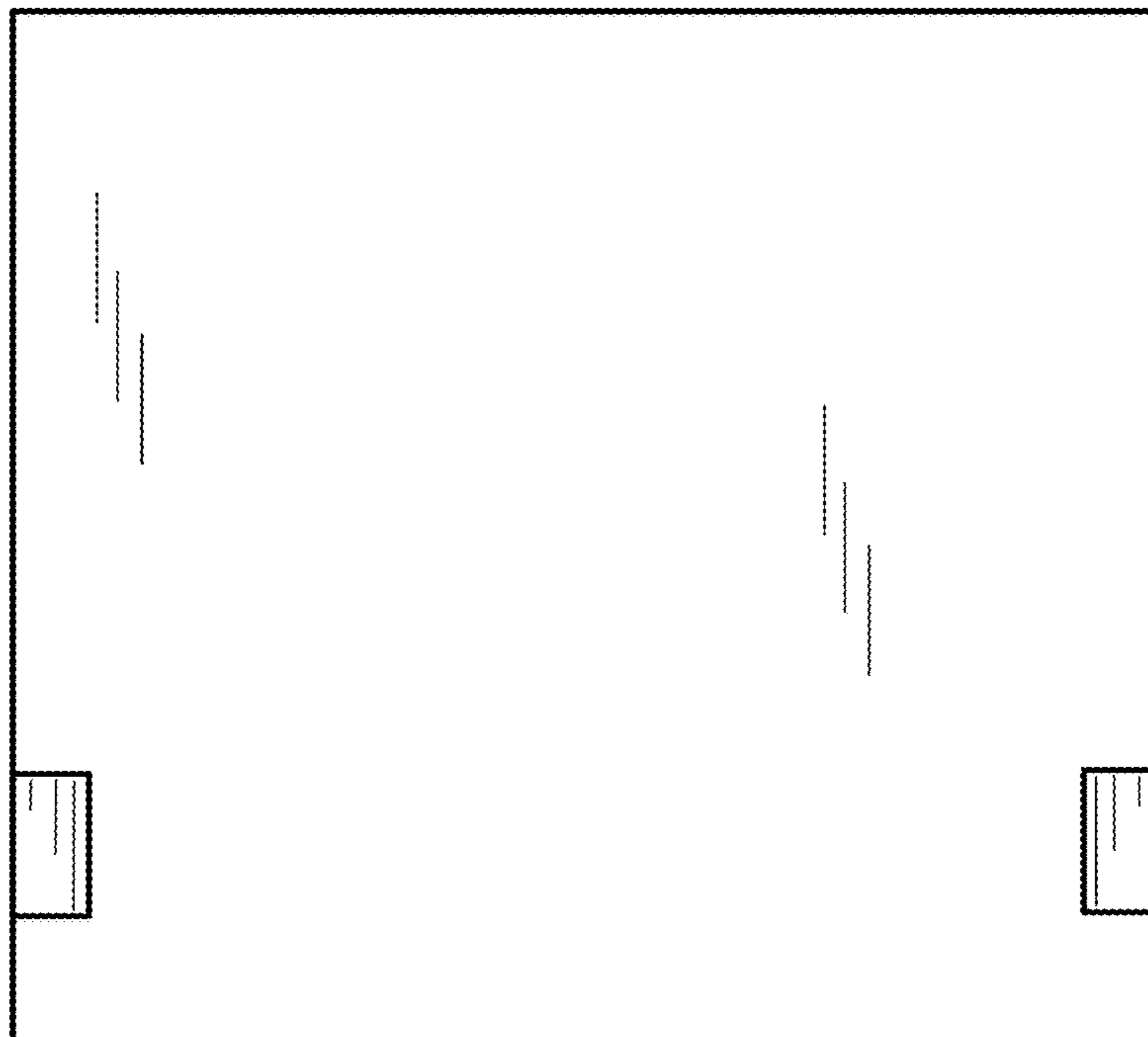


FIG. 26

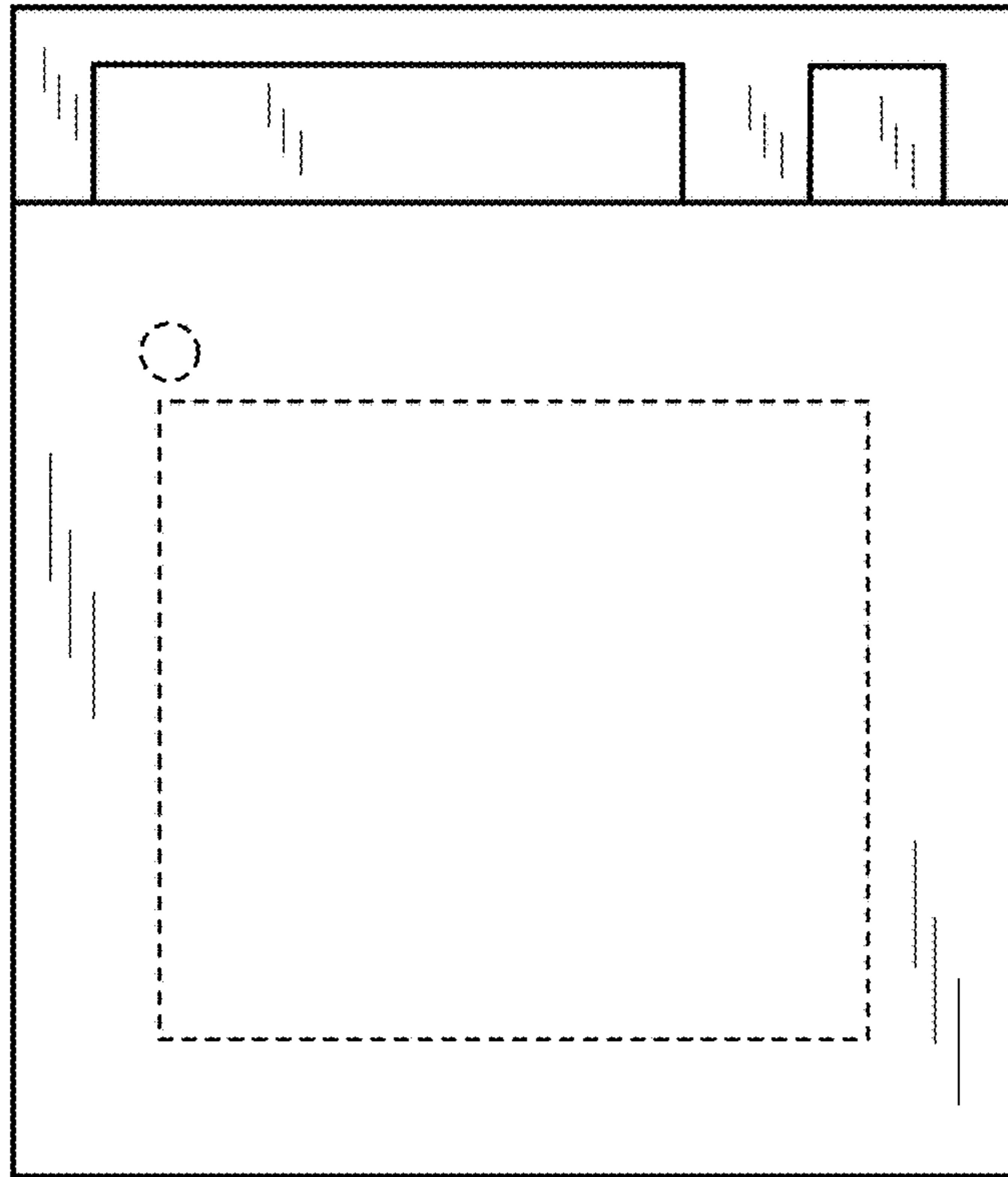


FIG. 27

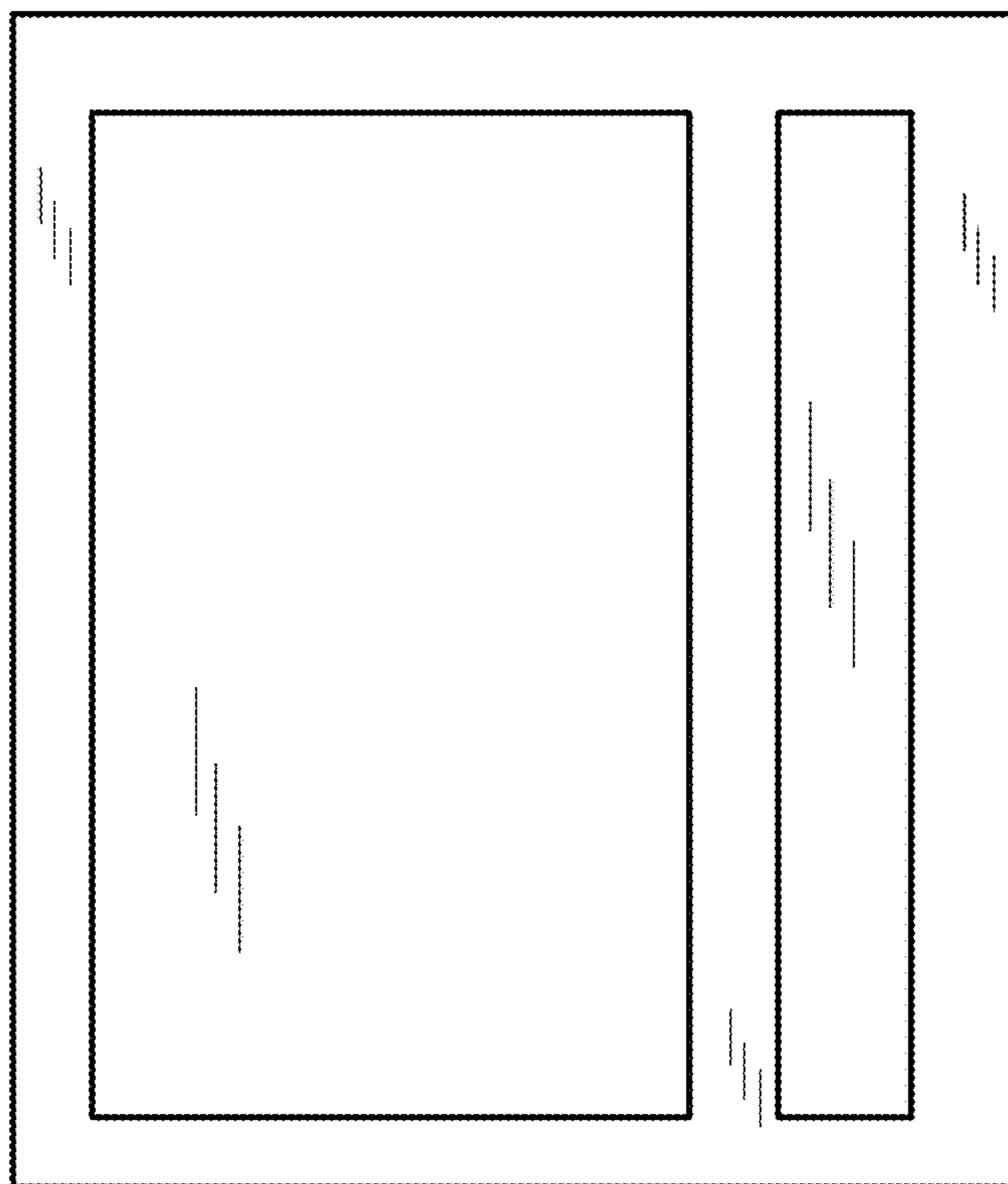


FIG. 28