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(12) **United States Design Patent** (10) **Patent No.:** **US D828,250 S**
Gustafson et al. (45) **Date of Patent:** **** Sep. 11, 2018**

(54) **COMPRESSION RELIEF BRAKE SYSTEM**

OTHER PUBLICATIONS

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Compression Release Engine Brakes, image post date May 15, 2014, site visited Jun. 30, 2017, (online), <<https://web.archive.org/web/20140515180842/http://pacbrake.com/supplemental-brakes/compression-release-engine-brakes/>>.*

(Continued)

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(57) **CLAIM**

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

The ornamental design for a compression relief brake system, as shown and described.

(21) Appl. No.: **29/537,997**

(22) Filed: **Aug. 31, 2015**

DESCRIPTION

(51) **LOC (11) Cl.** **12-16**

(52) **U.S. Cl.**
USPC **D12/180**

(58) **Field of Classification Search**
USPC D12/107, 110, 114, 115, 117, 126, 160, D12/174, 177, 180, 189, 223, 400, 401, D12/404, 408, 415, 420, 423; D25/48.1, D25/48.3

CPC . B60R 1/025; B60R 1/08; B62H 5/001; B62J 9/006; B65D 43/16; B65D 43/22; B65D 55/02; F16D 55/22; F16D 55/226; F16D 55/2262; F16D 65/14; F16D 65/16; F16D 65/18; F16D 65/22; F16D 65/38;

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FIG. 1 is a left side perspective view looking toward the rear of the compression relief brake system of the present invention.

FIG. 2 is another left side perspective view looking toward the front of the compression relief brake system of the present invention.

FIG. 3 is a bottom elevation view of the compression relief brake system of FIG. 1.

FIG. 4 is a top elevation view of the compression relief brake system of FIG. 1.

FIG. 5 is a right side elevation view of the compression relief brake system of FIG. 1.

FIG. 6 is a front elevation view of the compression relief brake system of FIG. 1; and,

FIG. 7 is a rear elevation view of the compression relief brake system of FIG. 1.

FIGS. 1-7 show certain portions of the compression relief brake system and/or its environment in broken lines. FIGS. 3-5 do not contain broken lines of an environment of the compression relief brake system. The broken lines show elements that form no part of the claimed design.

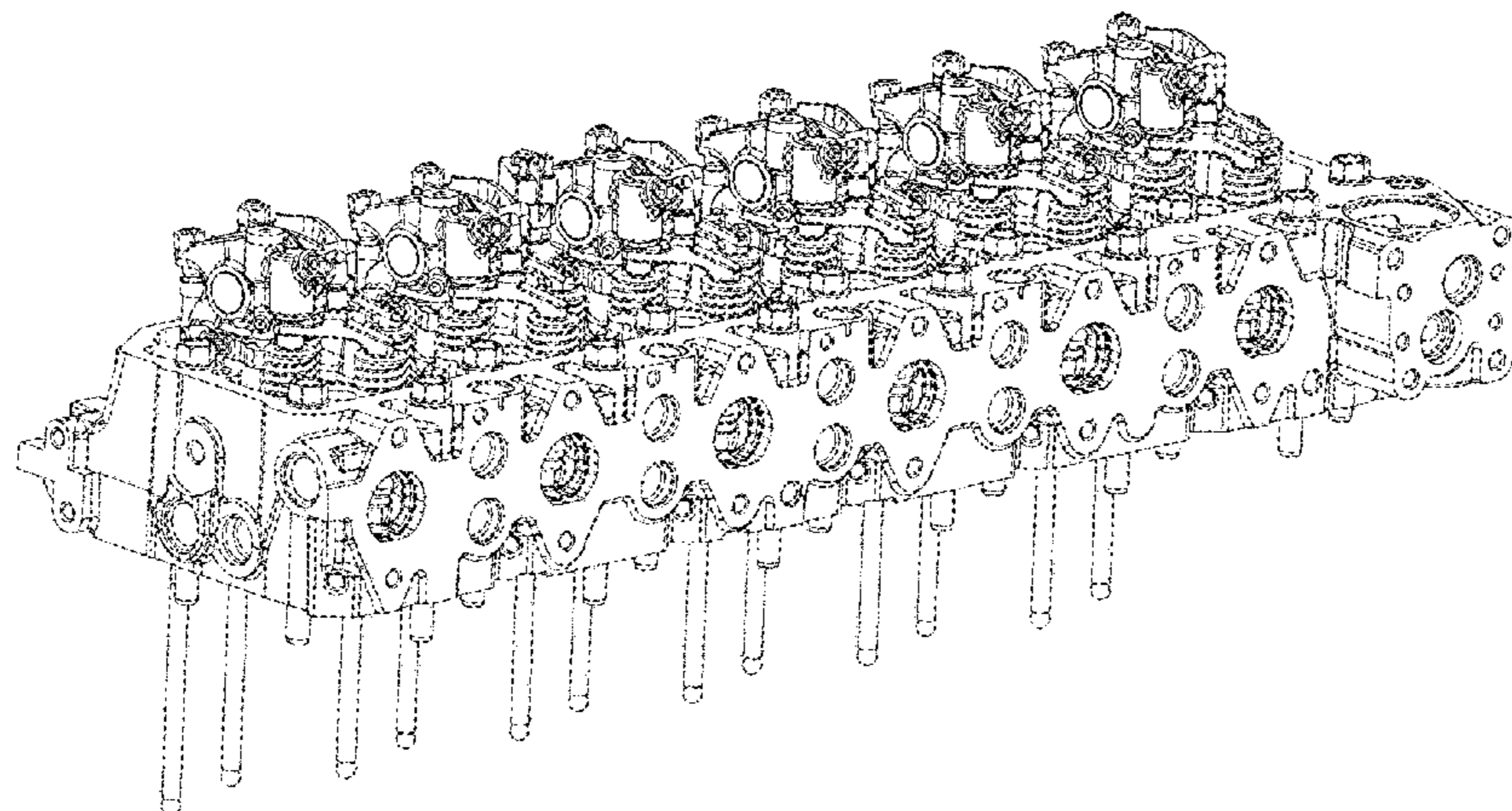
(56) **References Cited**

U.S. PATENT DOCUMENTS

4,371,189 A * 2/1983 Raidel B60G 5/047
267/262
4,697,671 A * 10/1987 Stewart F16D 55/2245
188/250 G

(Continued)

1 Claim, 4 Drawing Sheets



(58) **Field of Classification Search**
 CPC F16D 65/56; F16D 65/567; F16D 66/02;
 F21S 48/00; G01S 13/931
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,327,999 A * 7/1994 Nelander F16D 65/60
 188/196 BA
 6,105,730 A * 8/2000 Ekeroth F16D 65/60
 188/1.11 L
 D494,867 S * 8/2004 Apps D9/456
 D518,720 S * 4/2006 Gratz D9/456
 D535,881 S * 1/2007 Liukko D3/304
 D601,423 S * 10/2009 Canters D12/163
 D616,730 S * 6/2010 Dennes D8/356
 7,823,553 B2 * 11/2010 Meistrick F01L 13/065
 123/90.15
 D656,001 S * 3/2012 Hecht D8/356
 D656,002 S * 3/2012 Hecht D8/356
 8,657,315 B2 * 2/2014 Noble B60G 5/02
 267/292
 8,991,341 B2 * 3/2015 Le Forestier F01L 1/181
 123/90.16
 9,115,654 B2 * 8/2015 Schnell F01L 1/181
 9,303,703 B2 * 4/2016 Banks F16D 65/28
 D756,291 S * 5/2016 Masanek, Jr. D12/426
 D761,077 S * 7/2016 Schweiss D8/323
 D765,143 S * 8/2016 VanderMeulen D15/5
 D767,636 S * 9/2016 Fisher D15/5
 D779,561 S * 2/2017 Fox D15/5
 2003/0132891 A1 * 7/2003 Winter G01S 7/4026
 343/880
 2005/0092273 A1 * 5/2005 Cecur F01L 1/18
 123/90.16
 2008/0018070 A1 * 1/2008 Gottschalk B60G 9/003
 280/86.5
 2008/0062038 A1 * 3/2008 Ouchi G01S 7/032
 342/175
 2009/0230650 A1 * 9/2009 Mayen B60G 3/20
 280/124.1

2010/0083644 A1 * 4/2010 Biedler F01N 13/1822
 60/299
 2011/0232034 A1 * 9/2011 Chu E05D 11/087
 16/297
 2011/0314847 A1 * 12/2011 Ding F04D 27/0269
 62/115
 2011/0315125 A1 * 12/2011 Lohr F02M 35/10229
 123/519
 2012/0098215 A1 * 4/2012 Rositch F04B 43/0054
 280/6.157
 2013/0269652 A1 * 10/2013 Toth F01L 1/181
 123/323
 2014/0015214 A1 * 1/2014 Galazin B60G 9/003
 280/124.128
 2015/0053516 A1 * 2/2015 Drewes F16D 51/20
 188/219.1
 2015/0144096 A1 * 5/2015 Meneely F01L 1/18
 123/321
 2015/0267597 A1 * 9/2015 Fischer F01N 13/1872
 60/323
 2016/0046432 A1 * 2/2016 Kuruvilla B65D 85/32
 206/521.1
 2016/0076634 A1 * 3/2016 Mitsubori F16H 57/0006
 74/325
 2016/0252021 A1 * 9/2016 Cecur F02B 69/06
 2017/0096282 A1 * 4/2017 Hanna B65D 81/28
 2017/0175597 A1 * 6/2017 Cecur F01L 13/06

OTHER PUBLICATIONS

Bridge Brake, image post date Oct. 30, 2011, site visited Jun. 30, 2017, (online), <<http://www.truckpartsandservice.com/jacobs-vehicle-systems-develops-%E2%80%9Cbridge-brake%E2%80%9D-technology/>>.*
 Jacobs Brake, image post date May 6, 2012, site visited Jun. 30, 2017, (online), <<http://www.cumminsforum.com/forum/3rd-gen-powertrain/347056-getting-real-jake-brake-5-9-retro-kit-coming-soon-3.html>>.*
 Injection Pump, image post date Dec. 7, 2013, site visited Jun. 30, 2017, (online), <<https://web.archive.org/web/20131207174435/http://www.waterstractor.com/index.php?ID=25>>.*

* cited by examiner

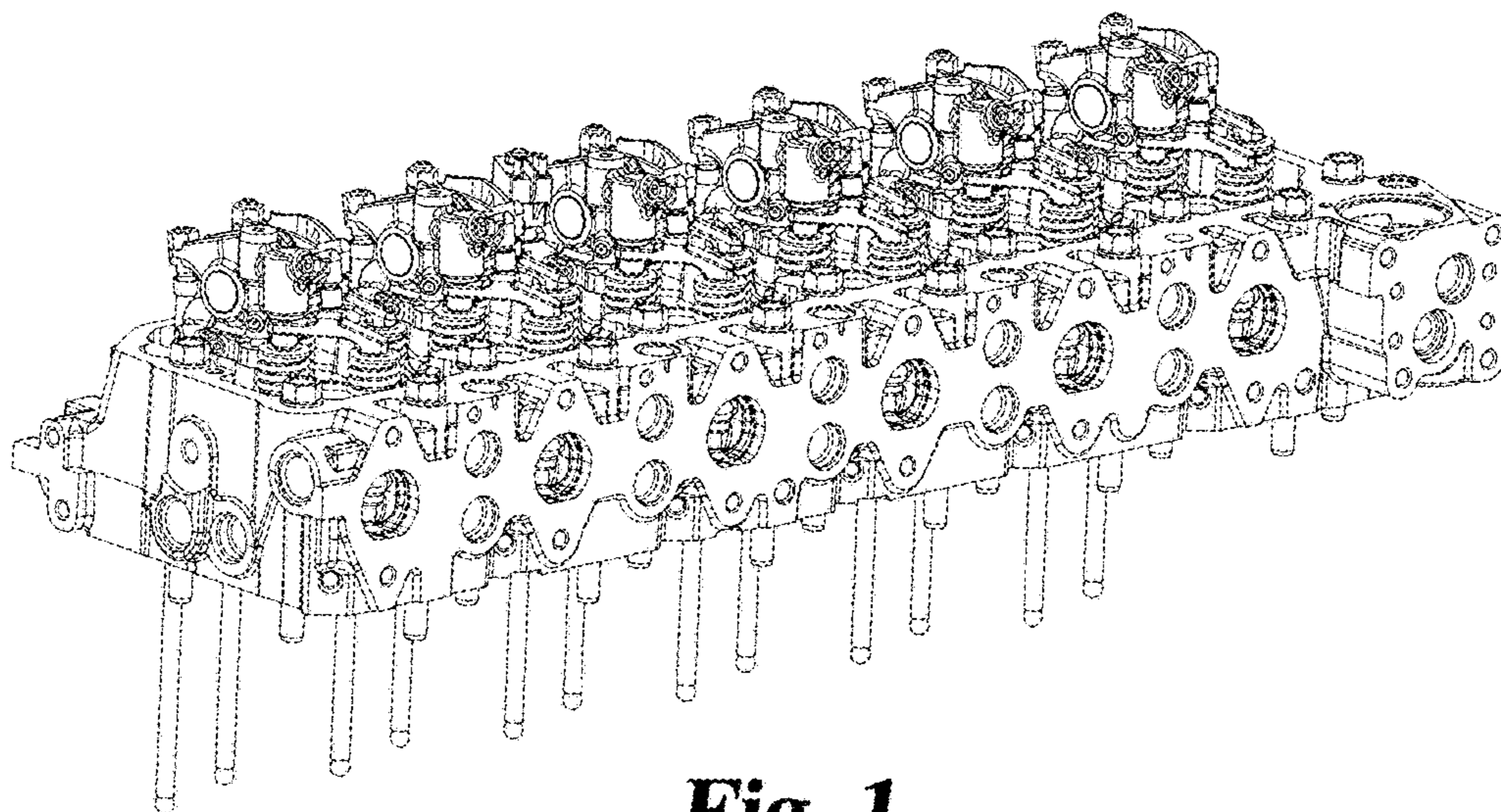


Fig. 1

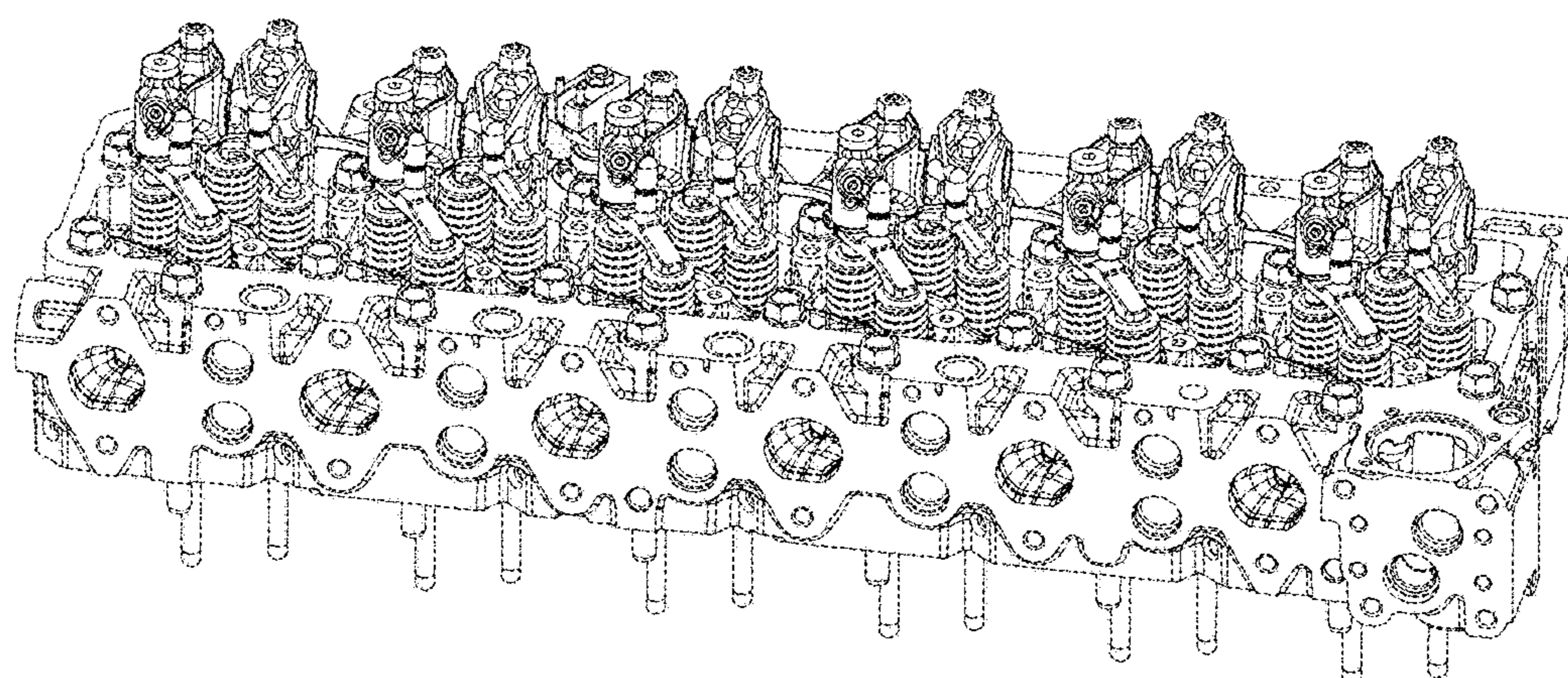


Fig. 2

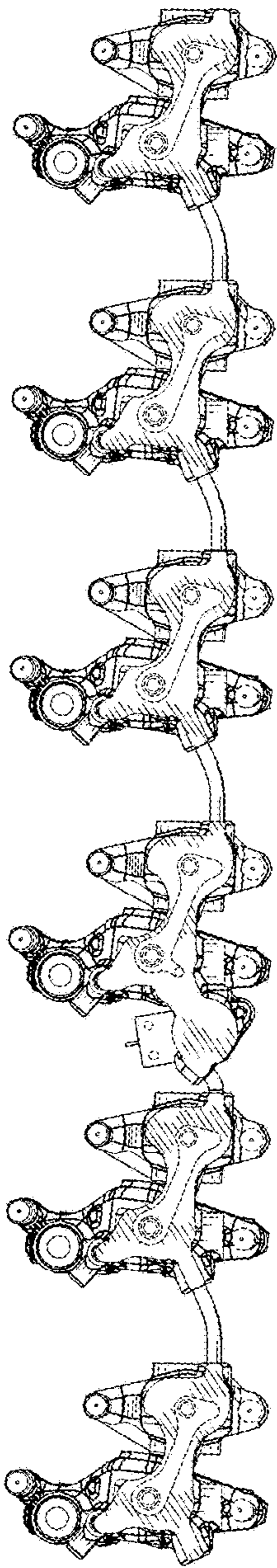


Fig. 3

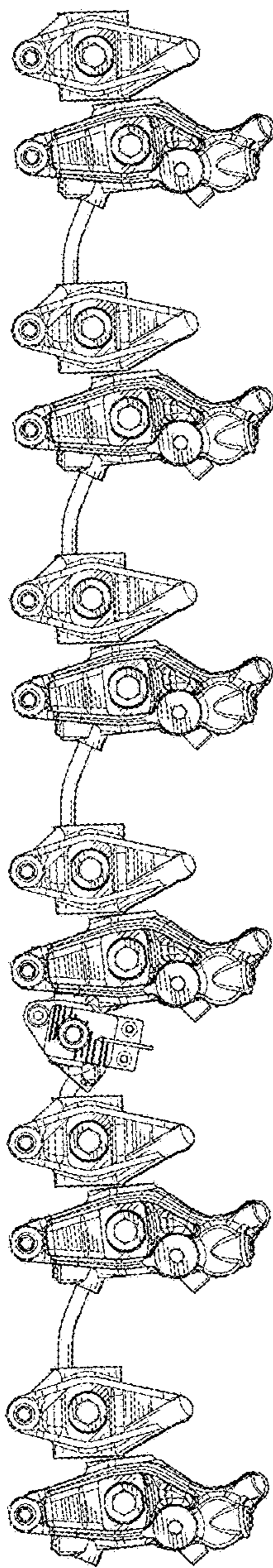


Fig. 4

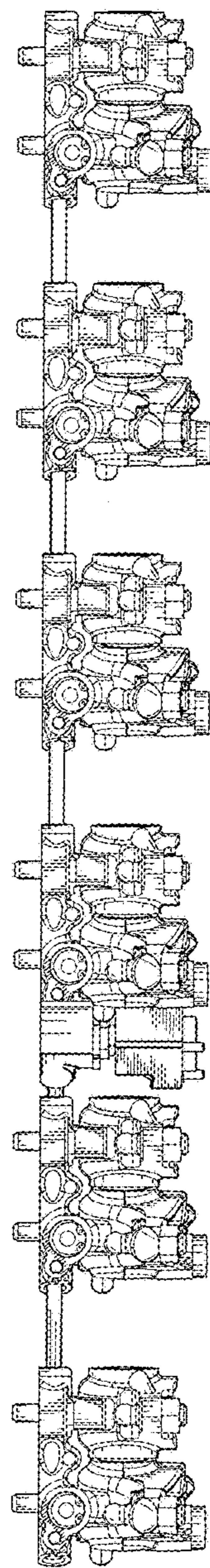


Fig. 5

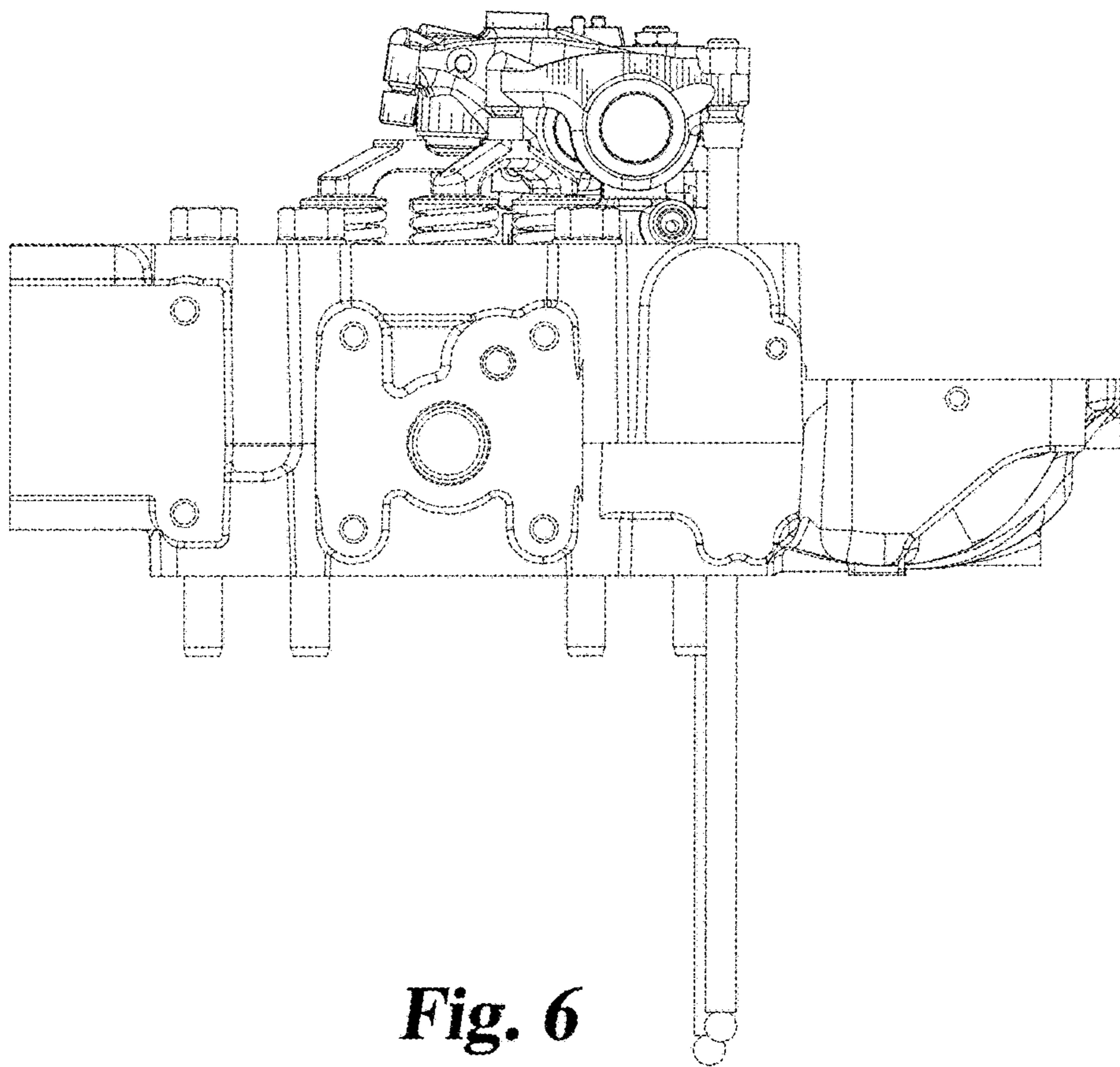


Fig. 6

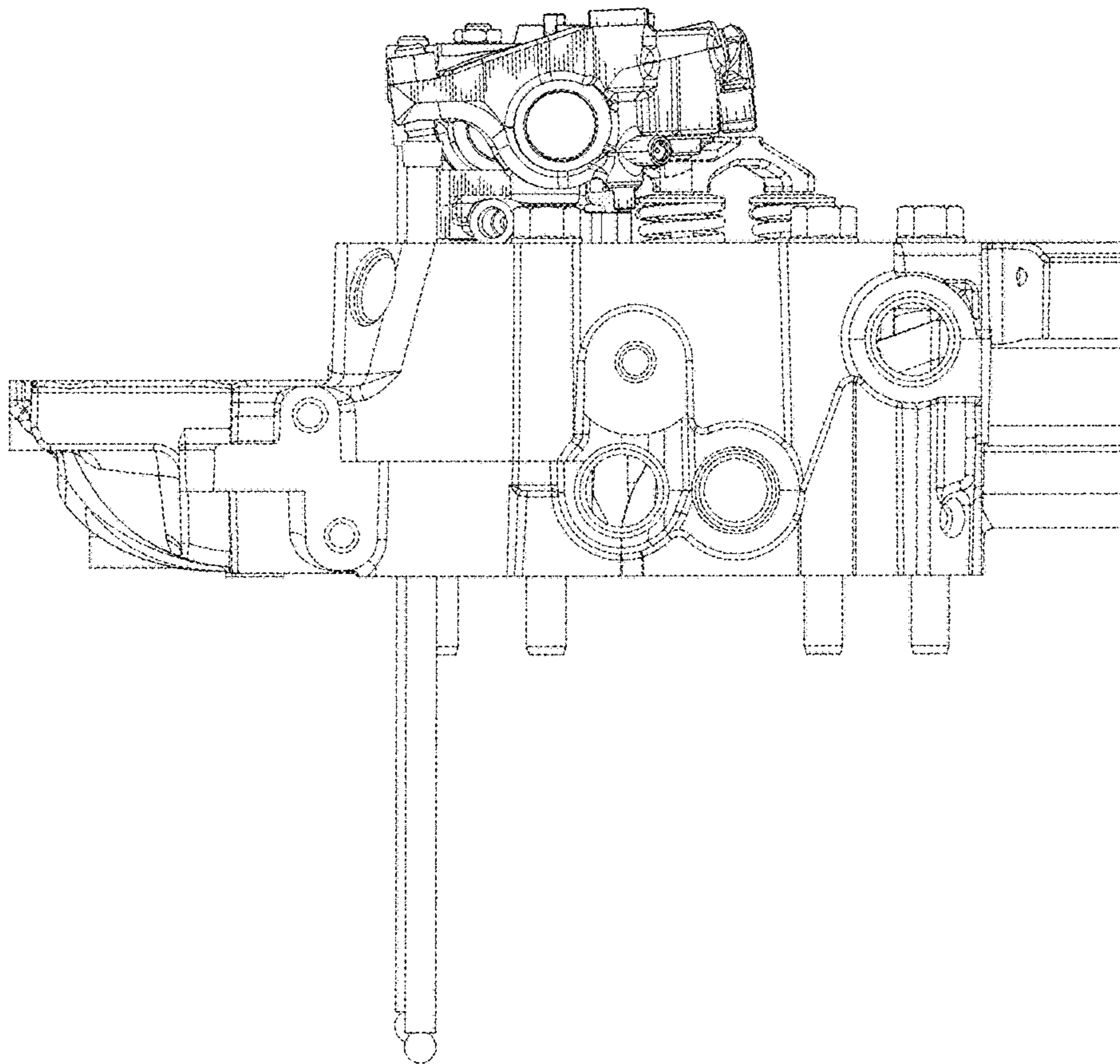


Fig. 7