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(12) **United States Design Patent**
Huffman

(10) **Patent No.:** **US D594,987 S**
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(54) **ARCH DENTAL ARTICULATOR OPPOSING BASE**

(76) Inventor: **Ronald E. Huffman**, P.O. Box 68440,
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(**) Term: **14 Years**

(21) Appl. No.: **29/321,646**

(22) Filed: **Jul. 21, 2008**

Related U.S. Application Data

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Mar. 28, 2006, now Pat. No. Des. 573,712.

(51) **LOC (9) Cl.** **24-02**

(52) **U.S. Cl.** **D24/182**

(58) **Field of Classification Search** D24/107,
D24/133, 155-157, 181, 182; D29/108;
128/848, 859; 602/902; 623/1.13-1.17,
623/17.16, 44, 16.11, 17.11; 604/1.02; 433/141.2,
433/121; 81/119

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

| | | |
|-------------|---------|------------------|
| 603,803 A | 5/1898 | White |
| 921,791 A | 5/1909 | Benson |
| 967,086 A | 8/1910 | Tuttle |
| 1,013,028 A | 12/1911 | Lee |
| 1,314,223 A | 8/1919 | Sorensen |
| 1,745,570 A | 2/1930 | Dimelow |
| 1,772,027 A | 8/1930 | Baumgarten |
| 1,780,117 A | 10/1930 | Craigo |
| 2,031,996 A | 2/1936 | Zelesnick |
| 2,037,344 A | 4/1936 | Schwartz |
| 2,234,411 A | 3/1941 | McDonald |
| 2,376,384 A | 5/1945 | Ringle et al. |
| 2,398,671 A | 4/1946 | Saffir |
| 2,577,420 A | 12/1951 | Jablonski et al. |
| 2,585,857 A | 2/1952 | Schwartz |

| | | |
|-------------|---------|---------------|
| 2,613,440 A | 10/1952 | Murray et al. |
| 2,621,407 A | 12/1952 | Schlesinger |
| 2,669,780 A | 2/1954 | Mann |
| 2,758,374 A | 8/1956 | Fisher et al. |
| 2,765,533 A | 10/1956 | McMorris |
| 2,827,899 A | 3/1958 | Altieri |
| 2,842,845 A | 7/1958 | Carlson |
| 2,963,786 A | 12/1960 | Browning |

(Continued)

FOREIGN PATENT DOCUMENTS

DE 3 436 094 A1 3/1985

(Continued)

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(57) **CLAIM**

The ornamental design for an arch dental articulator opposing base, as shown and described.

DESCRIPTION

FIG. 1 is a top and front top perspective view of an arch dental articulator opposing base showing my new design;

FIG. 2 is a top and rear perspective view thereof;

FIG. 3 is a bottom and front perspective view thereof;

FIG. 4 is a bottom and rear perspective view thereof;

FIG. 5 is a front elevation view thereof;

FIG. 6 is a rear elevation view thereof;

FIG. 7 is a left side elevation view thereof;

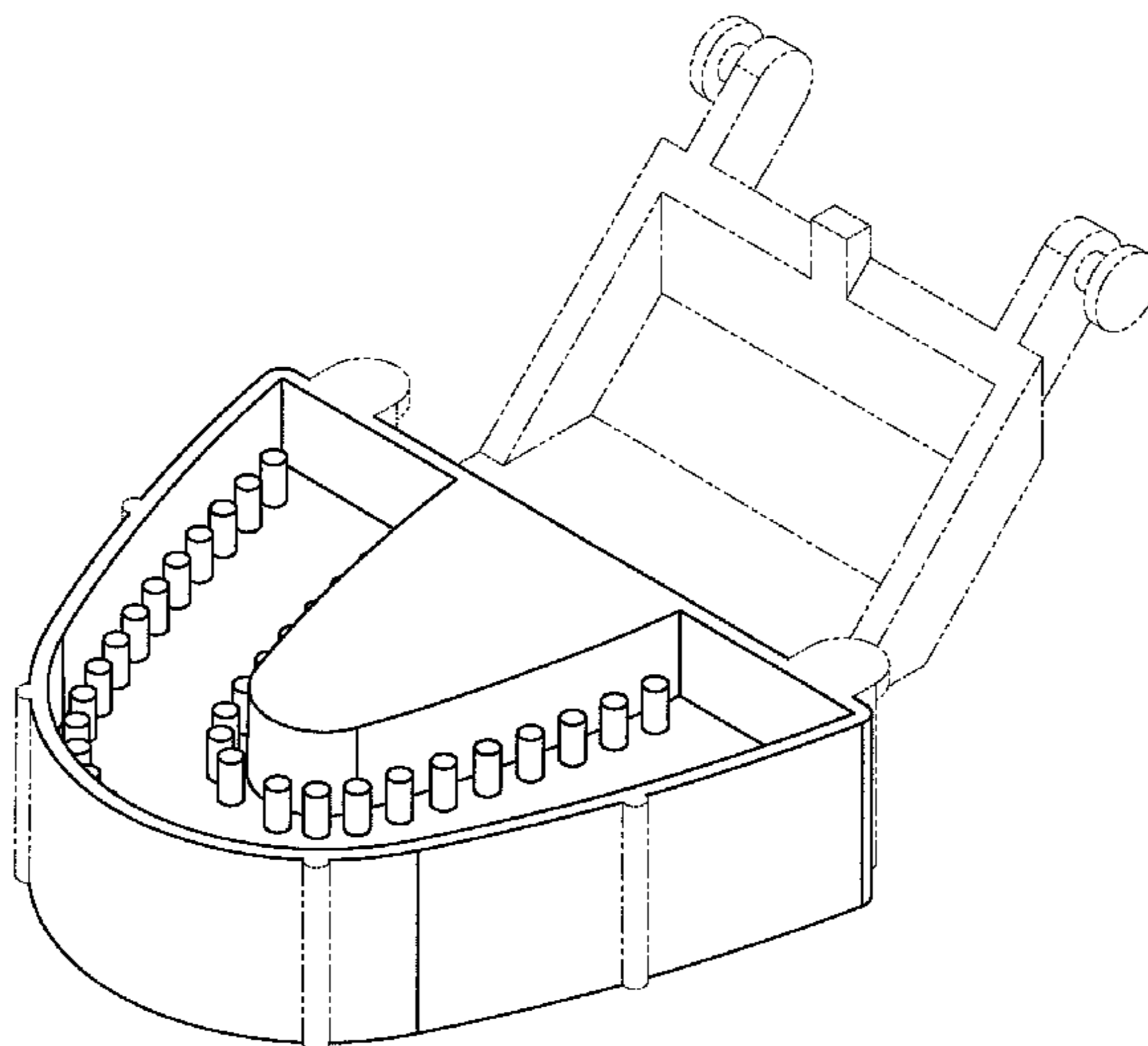
FIG. 8 is a right side elevation view thereof;

FIG. 9 is a top plan view thereof; and,

FIG. 10 is a bottom plan view thereof.

The broken lines showing of portions of the claimed design are included for the purpose of illustrating environmental structures and form no part of the claimed design.

1 Claim, 5 Drawing Sheets



US D594,987 S

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|---|------------------------|-----------|----|------------------------|
| | | | 4,734,033 | A | 3/1988 Huffman |
| | | | D295,314 | S | 4/1988 Kwok |
| 3,150,448 | A | 9/1964 Wozar | 4,767,330 | A | 8/1988 Burger |
| 3,236,235 | A | 2/1966 Jacobs | 4,767,331 | A | 8/1988 Hoe |
| 3,247,844 | A | 4/1966 Berghash | 4,786,253 | A | 11/1988 Morais |
| D210,278 | S | 2/1968 White | 4,834,651 | A | 5/1989 Fenick |
| 3,416,527 | A | 12/1968 Hoef | 4,842,242 | A | 6/1989 Huffman |
| 3,453,736 | A | 7/1969 Waltke | D302,456 | S | 7/1989 Huffman |
| 3,461,562 | A | 8/1969 Cooper | D302,587 | S | 8/1989 Huffman |
| 3,478,428 | A | 11/1969 Stengel | D302,724 | S | 8/1989 Huffman |
| 3,510,947 | A | 5/1970 Tuccillo | D302,725 | S | 8/1989 Huffman |
| 3,518,761 | A | 7/1970 Susman et al. | 4,865,546 | A | 9/1989 Naylor |
| 3,552,018 | A | 1/1971 Zahn | RE33,099 | E | 10/1989 Shoher et al. |
| 3,581,398 | A | 6/1971 Thomas | 4,886,453 | A | 12/1989 Ludwigs |
| 3,650,032 | A | 3/1972 Kestler | D305,361 | S | 1/1990 Huffman |
| 3,753,291 | A | 8/1973 Bocian et al. | D305,362 | S | 1/1990 Huffman |
| 3,815,236 | A | 6/1974 Cooper | D306,206 | S | 2/1990 Huffman |
| 3,832,777 | A | 9/1974 Tinder | 4,898,359 | A | 2/1990 Gopon |
| 3,913,230 | A | 10/1975 Weiss | 4,917,347 | A | 4/1990 Fenick |
| 3,934,348 | A | 1/1976 Janjic | RE33,271 | E | 7/1990 Shoher et al. |
| 3,937,773 | A | 2/1976 Huffman | 4,940,409 | A | 7/1990 Nordin |
| 3,947,964 | A | 4/1976 Lee | 4,980,124 | A | 12/1990 Dimmer |
| 3,969,820 | A | 7/1976 Kulig et al. | D315,209 | S | 3/1991 Mann |
| 4,021,916 | A | 5/1977 Spalten | D315,955 | S | 4/1991 Mann |
| 4,022,419 | A | 5/1977 Haker | 5,015,182 | A | 5/1991 Newberry |
| 4,116,416 | A | 9/1978 Segura | 5,028,235 | A | 7/1991 Smith |
| 4,122,606 | A | 10/1978 Roman | 5,044,949 | A | 9/1991 Xanthopoulos |
| 4,127,939 | A | 12/1978 Samuel et al. | 5,049,075 | A | 9/1991 Barrut |
| 4,174,570 | A | 11/1979 Schwartz | 5,076,789 | A | 12/1991 Tanaka |
| 4,203,219 | A | 5/1980 Wiener | D323,559 | S | 1/1992 Shafer |
| D257,387 | S | 10/1980 Sharky | 5,098,290 | A | 3/1992 Honstein et al. |
| 4,229,167 | A | 10/1980 Kikuchi et al. | 5,100,317 | A | 3/1992 Darnand |
| 4,240,605 | A | 12/1980 Waltke | 5,197,874 | A | 3/1993 Silva et al. |
| 4,242,812 | A | 1/1981 Randoll et al. | 5,207,574 | A | 5/1993 Garland |
| 4,265,619 | A | 5/1981 Lucki et al. | 5,352,117 | A | 10/1994 Silva |
| 4,283,173 | A | 8/1981 Browne et al. | 5,393,227 | A | 2/1995 Noonning |
| 4,301,357 | A | 11/1981 Huffman | 5,403,185 | A | 4/1995 Presswood |
| 4,319,875 | A | 3/1982 Beckwith | 5,466,152 | A | 11/1995 Walter |
| 4,359,464 | A | 11/1982 Weinstock | 5,470,231 | A | 11/1995 Stern |
| 4,371,339 | A | 2/1983 Zeiser | 5,501,600 | A | 3/1996 Johnson |
| 4,378,929 | A | 4/1983 Huffman | 5,586,884 | A | 12/1996 Kraus |
| 4,382,787 | A | 5/1983 Huffman | 5,622,497 | A | 4/1997 Cho |
| 4,398,884 | A | 8/1983 Huffman | 5,645,425 | A | 7/1997 Callne |
| 4,403,961 | A | 9/1983 Gurney | 5,722,828 | A | 3/1998 Halstrom |
| 4,436,511 | A | 3/1984 Mitchell, Sr. | 5,766,007 | A | 6/1998 Huffman |
| 4,439,151 | A | 3/1984 Whelan | 5,769,634 | A | 6/1998 Choi |
| 4,443,192 | A | 4/1984 Blitz | 5,775,899 | A | 7/1998 Huffman |
| 4,449,930 | A | 5/1984 Huffman | 5,788,489 | A | 8/1998 Huffman |
| 4,449,931 | A | 5/1984 Saito | 5,788,490 | A | 8/1998 Huffman |
| 4,459,110 | A | 7/1984 Jackson | 5,800,166 | A | 9/1998 Huffman |
| 4,460,338 | A | 7/1984 Mercer et al. | 5,807,099 | A | 9/1998 Johnson |
| 4,473,353 | A | 9/1984 Greggs | 5,868,138 | A | 2/1999 Halstrom |
| 4,481,162 | A | 11/1984 Huffman | 5,868,569 | A | 2/1999 Huffman |
| 4,494,934 | A | 1/1985 Huffman | D408,919 | S | 4/1999 Cooley |
| 4,504,226 | A | 3/1985 Gordon | 5,934,901 | A | 8/1999 Huffman |
| D278,274 | S | 4/1985 Levine | 5,970,981 | A | 10/1999 Ochel |
| 4,521,188 | A | 6/1985 Metzler | 5,996,963 | A | 12/1999 Michael |
| 4,533,323 | A | 8/1985 Huffman | 6,033,221 | A | 3/2000 Tsubota et al. |
| 4,538,987 | A | 9/1985 Weissman | D429,815 | S | 8/2000 Huffman |
| 4,548,581 | A | 10/1985 Huffman | D430,672 | S | 9/2000 Huffman |
| D283,541 | S | 4/1986 Huffman | D433,136 | S | 10/2000 Huffman |
| D283,542 | S | 4/1986 Huffman | D433,754 | S | 11/2000 Huffman |
| D283,639 | S | 4/1986 Huffman | 6,149,428 | A | 11/2000 Mogensen |
| D283,730 | S | 5/1986 Huffman | 6,186,781 | B1 | 2/2001 Iba |
| 4,608,016 | A | 8/1986 Zeiser | 6,193,511 | B1 | 2/2001 Hudson |
| D286,179 | S | 10/1986 Huffman | 6,234,794 | B1 | 5/2001 Ozaki |
| D286,436 | S | 10/1986 Huffman | D443,363 | S | 6/2001 Huffman |
| 4,645,454 | A | 2/1987 Amdur et al. | D444,559 | S | 7/2001 Huffman |
| D289,924 | S | 5/1987 Huffman | D452,009 | S | 12/2001 Huffman |
| 4,671,770 | A | 6/1987 Bell et al. | D452,010 | S | 12/2001 Huffman |
| 4,708,648 | A | 11/1987 Weissman | D452,319 | S | 12/2001 Huffman |
| 4,708,835 | A | 11/1987 Kiefer | D452,320 | S | 12/2001 Huffman |
| 4,721,464 | A | 1/1988 Roden et al. | D452,321 | S | 12/2001 Huffman |

US D594,987 S

| | | | | | | | |
|--------------|---------|-----------------|---------------|-----------------|---------|-----------------|---------------|
| D452,322 S | 12/2001 | Huffman | | D571,919 S | 6/2008 | Kwon et al. | |
| D452,566 S | 12/2001 | Huffman | | D573,712 S | 7/2008 | Huffman | |
| D452,567 S | 12/2001 | Huffman | | D575,404 S | 8/2008 | Huffman | |
| D452,568 S | 12/2001 | Huffman | | D575,873 S * | 8/2008 | Huffman | D24/182 |
| 6,364,661 B1 | 4/2002 | Brattesani | | D576,732 S | 9/2008 | Huffman | |
| D456,902 S | 5/2002 | Huffman | | D576,733 S * | 9/2008 | Huffman | D24/182 |
| D456,903 S | 5/2002 | Huffman | | D576,734 S * | 9/2008 | Huffman | D24/182 |
| D456,904 S | 5/2002 | Huffman | | D582,559 S | 12/2008 | Khawaled et al. | |
| D457,243 S | 5/2002 | Huffman | | 2003/0207230 A1 | 11/2003 | Garland | |
| D457,636 S | 5/2002 | Huffman | | 2004/0013998 A1 | 1/2004 | Jung et al. | |
| D457,637 S | 5/2002 | Huffman | | 2004/0023185 A1 | 2/2004 | Gittleman | |
| D457,963 S | 5/2002 | Huffman | | 2004/0096802 A1 | 5/2004 | Gittleman | |
| D457,964 S | 5/2002 | Huffman | | 2004/0197729 A1 | 10/2004 | Honstein et al. | |
| 6,425,759 B1 | 7/2002 | Cronin | | 2005/0064364 A1 | 3/2005 | Huffman | |
| D464,431 S | 10/2002 | Huffman | | 2005/0064365 A1 | 3/2005 | Huffman | |
| D464,432 S | 10/2002 | Huffman | | 2006/0281043 A1 | 12/2006 | Huffman | |
| D464,732 S | 10/2002 | Huffman | | 2007/0037115 A1 | 2/2007 | Sim | |
| D464,733 S | 10/2002 | Huffman | | 2007/0231770 A1 | 10/2007 | Huffman | |
| D465,027 S | 10/2002 | Huffman | | | | | |
| 6,471,513 B1 | 10/2002 | Huffman | | | | | |
| D468,018 S | 12/2002 | Huffman | | | | | |
| D468,431 S | 1/2003 | Huffman | | | | | |
| D468,432 S | 1/2003 | Huffman | | | | | |
| D469,537 S | 1/2003 | Huffman | | | | | |
| 6,511,318 B2 | 1/2003 | Kim | | | | | |
| D481,797 S | 11/2003 | Huffman | | | | | |
| 6,726,477 B2 | 4/2004 | Gittleman | | | | | |
| D491,269 S | 6/2004 | Tucker et al. | | | | | |
| 6,884,068 B2 | 4/2005 | Huffman | | | | | |
| 6,886,566 B2 | 5/2005 | Eubank | | | | | |
| 6,932,608 B1 | 8/2005 | Gagliano et al. | | | | | |
| D512,148 S | 11/2005 | Kwok | | | | | |
| 7,044,734 B2 | 5/2006 | Huffman | | | | | |
| D529,177 S | 9/2006 | Huffman | | | | | |
| D529,178 S | 9/2006 | Huffman | | | | | |
| 7,108,507 B2 | 9/2006 | Huffman | | | | | |
| D530,014 S | 10/2006 | Huffman | | | | | |
| 7,147,465 B2 | 12/2006 | Jung et al. | | | | | |
| 7,156,660 B2 | 1/2007 | Huffman | | | | | |
| D537,987 S | 3/2007 | Manzo et al. | | | | | |
| D539,429 S | 3/2007 | Wong | | | | | |
| 7,210,931 B1 | 5/2007 | Huffman | | | | | |
| D547,452 S | 7/2007 | Costello | | | | | |
| D551,767 S * | 9/2007 | Costello | D24/182 | | | | |
| D559,986 S | 1/2008 | Huffman | | | | | |
| 7,338,283 B2 | 3/2008 | Honstein et al. | | | | | |
| 7,341,451 B2 | 3/2008 | Huffman | | | | | |
| 7,341,541 B2 | 3/2008 | Houtman | | | | | |
| 7,347,689 B2 | 3/2008 | Huffman | | | | | |
| D566,281 S | 4/2008 | Huffman | | | | | |
| D567,380 S * | 4/2008 | Huffman | D24/182 | | | | |

FOREIGN PATENT DOCUMENTS

| | | | |
|----|----------------|----|---------|
| DE | 3 505 680 | A1 | 7/1985 |
| DE | 3 521 137 | A1 | 12/1986 |
| DE | 3 825 014 | A1 | 1/1990 |
| DE | 295 06 480 | U1 | 8/1995 |
| DE | 296 13 916 | U1 | 1/1998 |
| DE | 4 01 05 710.0 | | 10/2001 |
| EP | 0 210 484 | A2 | 2/1985 |
| EP | 0 151 086 | A2 | 8/1985 |
| EP | 0 277 026 | A2 | 8/1988 |
| EP | 0 291 821 | A1 | 11/1988 |
| EP | 0 528 335 | A1 | 2/1993 |
| FR | 2 750 851 | A1 | 1/1998 |
| FR | 2 757 372 | A1 | 6/1998 |
| FR | 2 770 994 | | 5/1999 |
| FR | 653652TO653664 | | 2/2002 |
| GB | 866118 | | 4/1961 |
| GB | 886118 | | 1/1962 |
| GB | 2102229 | A | 1/1983 |
| GB | 2105427 | | 3/1983 |
| GB | 1014814 | | 2/1984 |
| GB | 1053786 | | 4/1989 |
| GB | 2075293 | | 9/1998 |
| GB | 2101077 | | 4/2001 |
| JP | 58-147508 | | 10/1983 |
| JP | 1175348 | | 4/2003 |
| JP | 1178837 | | 5/2003 |
| WO | WO 88/10101 | | 12/1988 |
| WO | WO 97/16130 | | 5/1997 |
| WO | WO 01/01881 | A2 | 1/2001 |

* cited by examiner

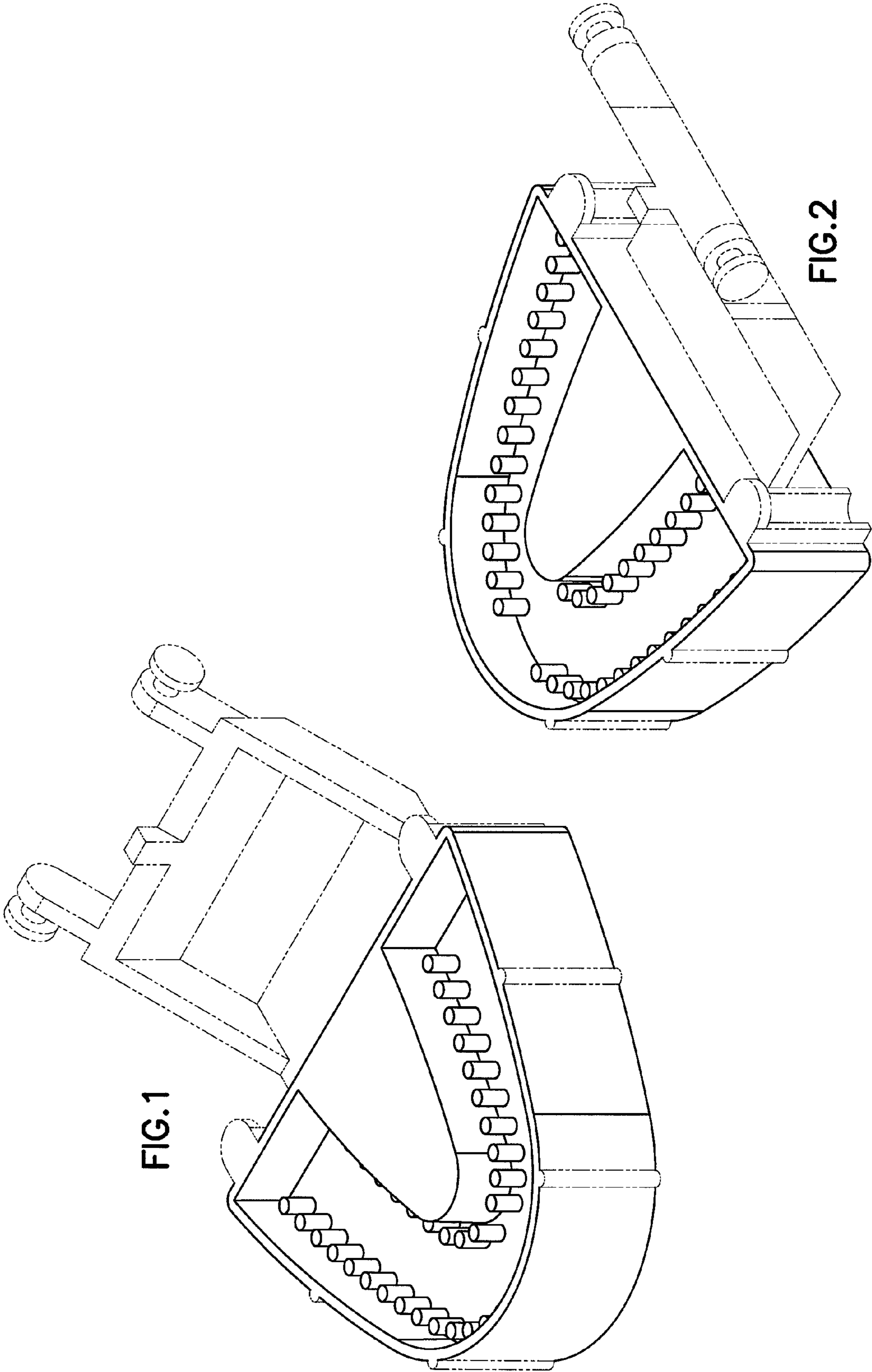
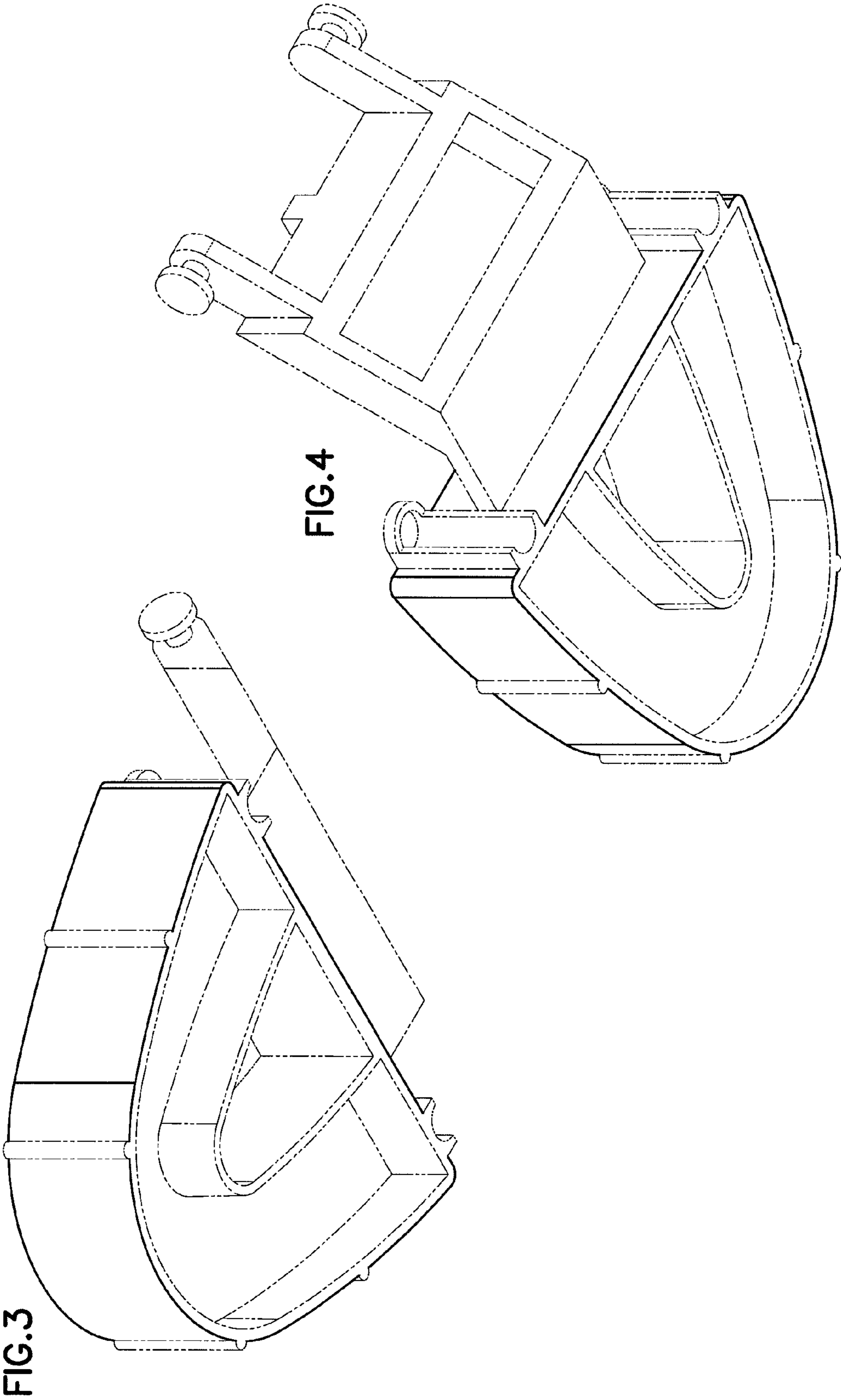


FIG. 1

FIG. 2



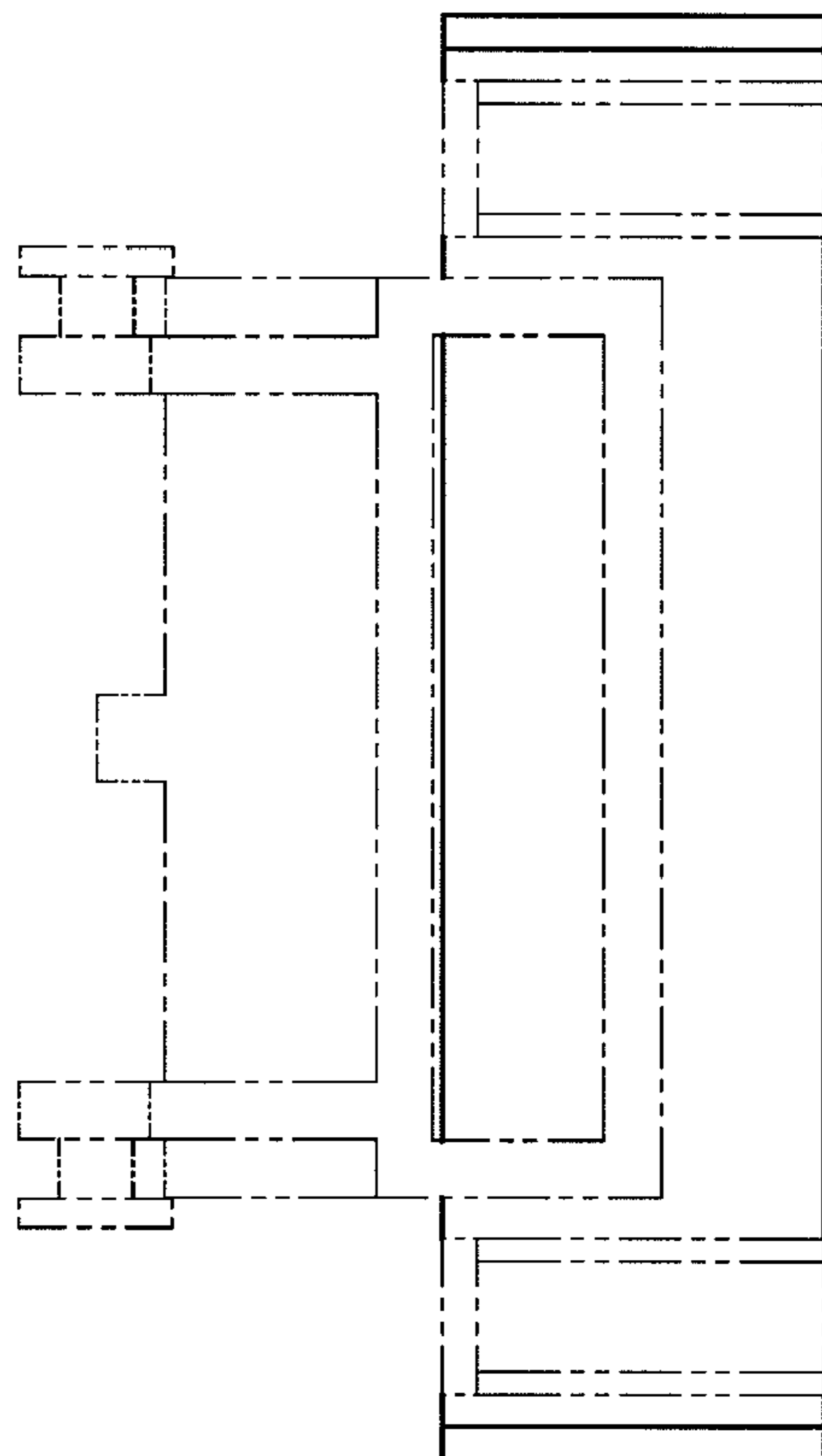


FIG. 5

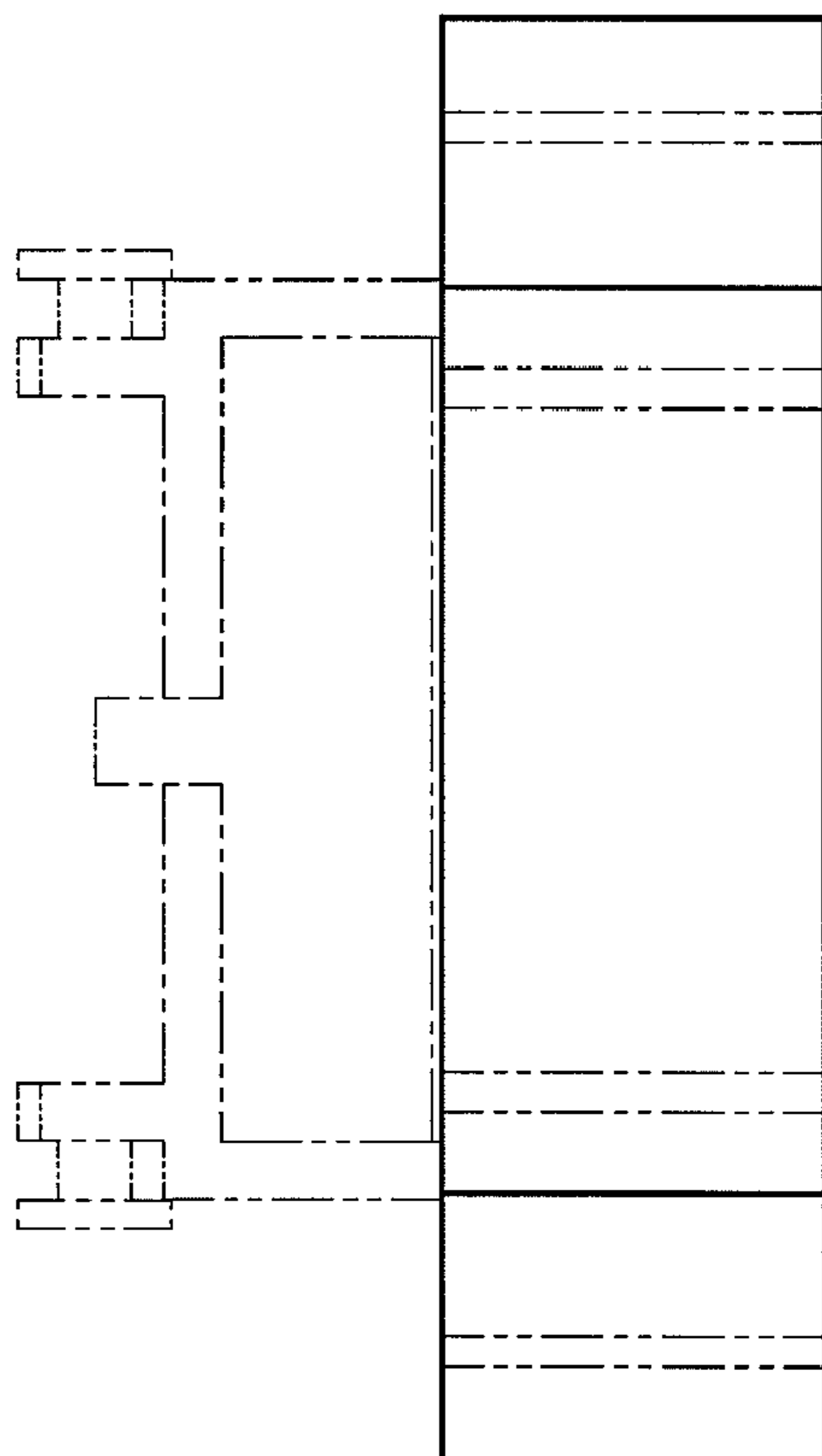


FIG. 6

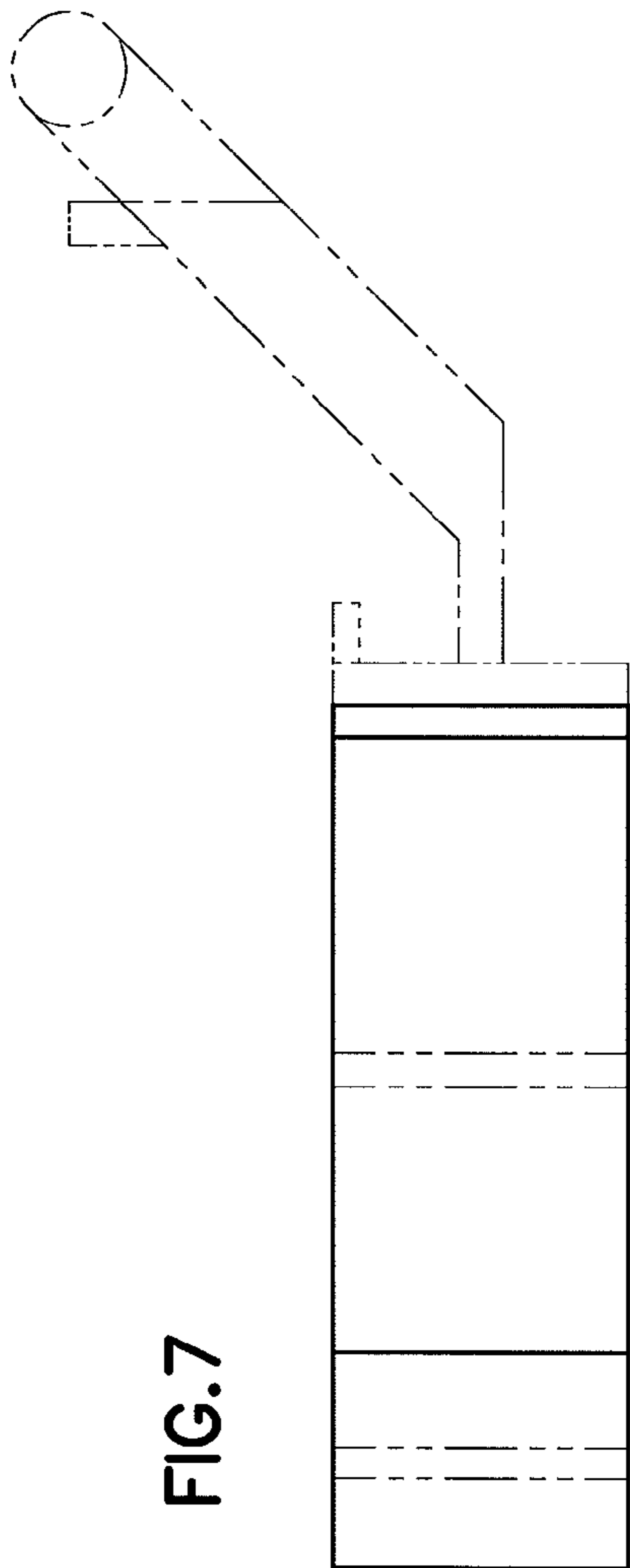


FIG. 7

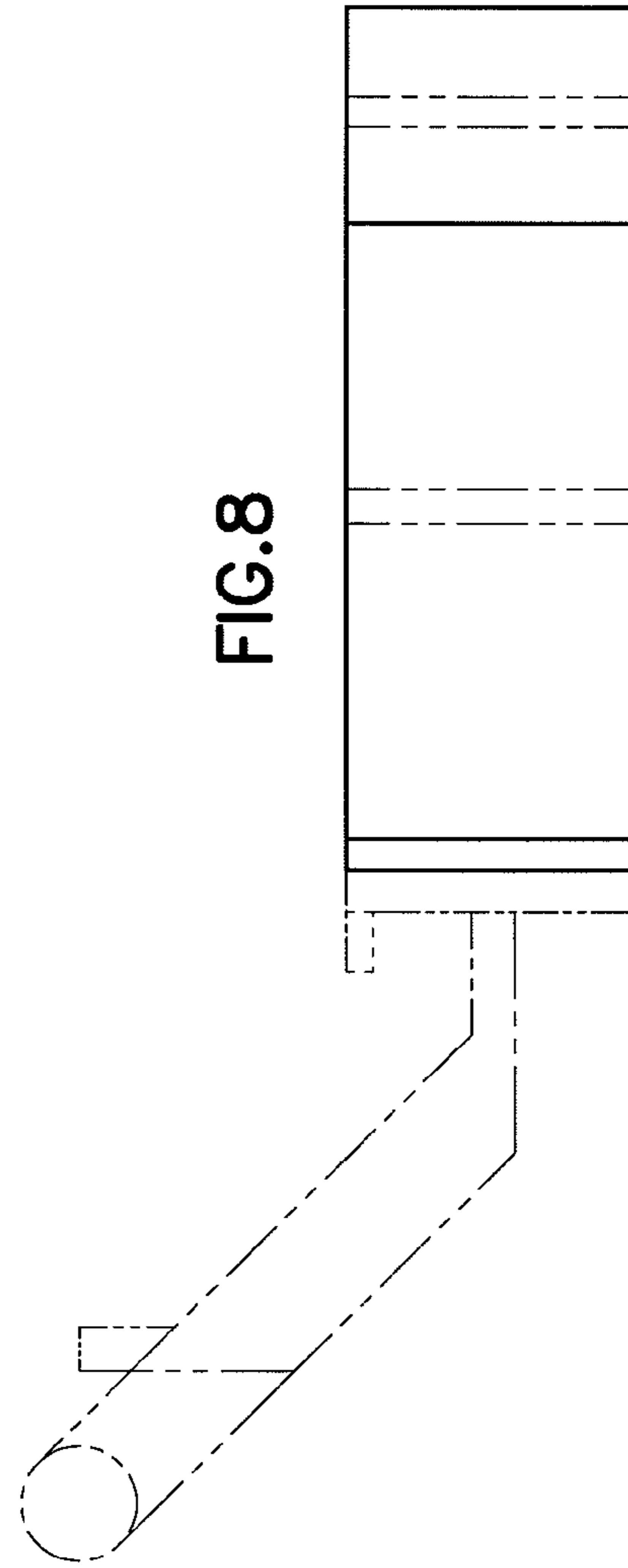


FIG. 8

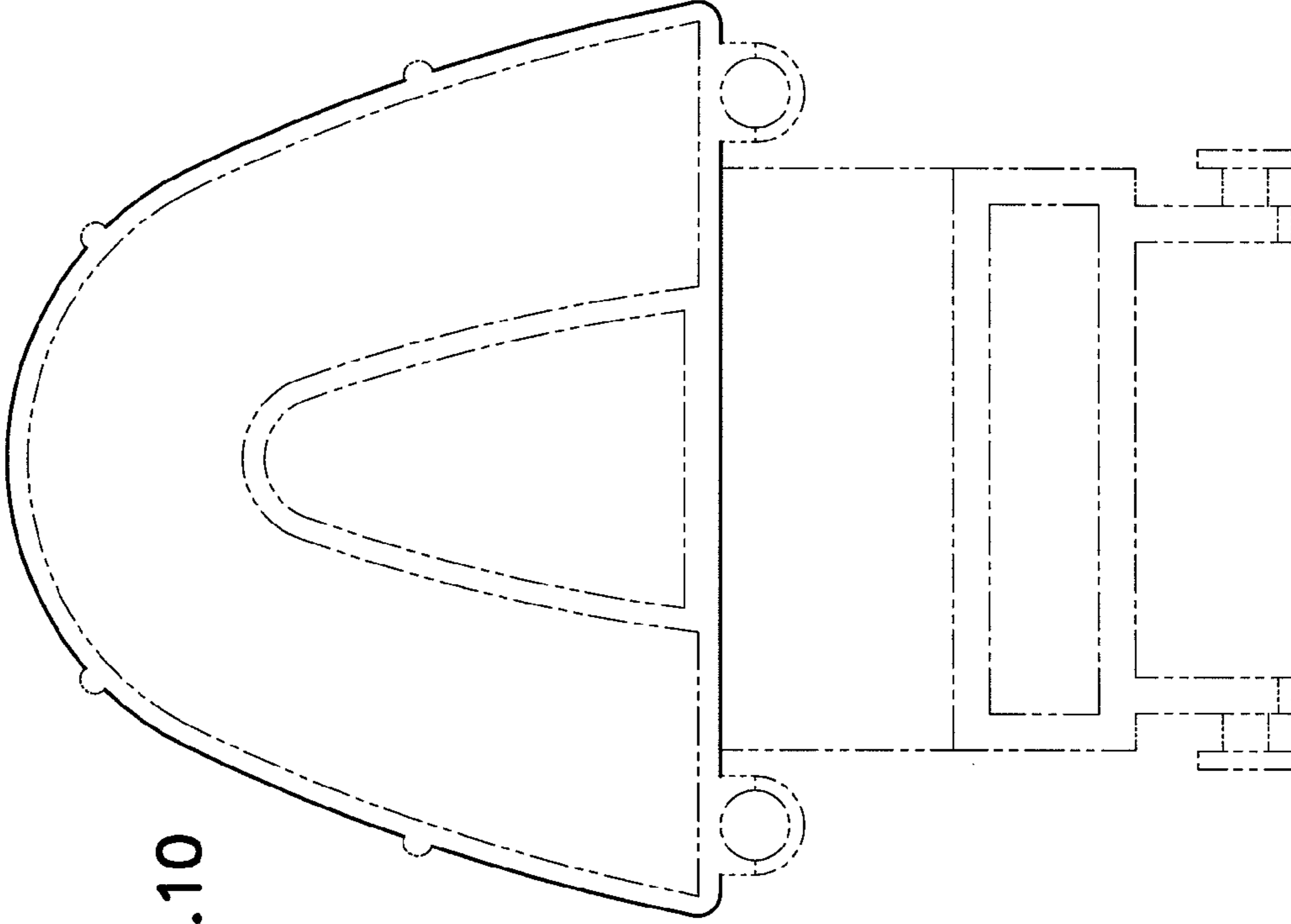


FIG. 10

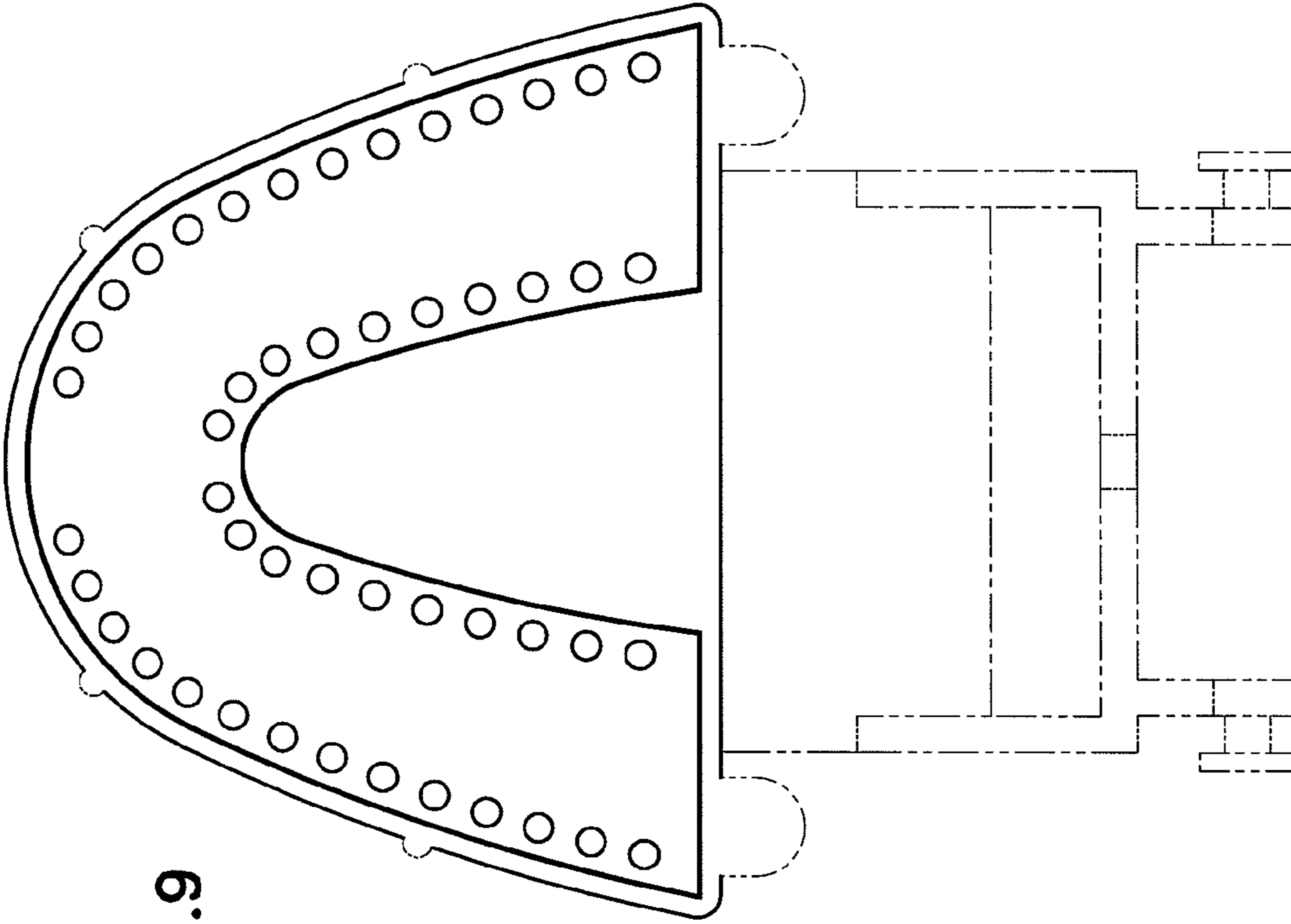


FIG. 9