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(54) **SURGICAL STAPLE CARTRIDGE**

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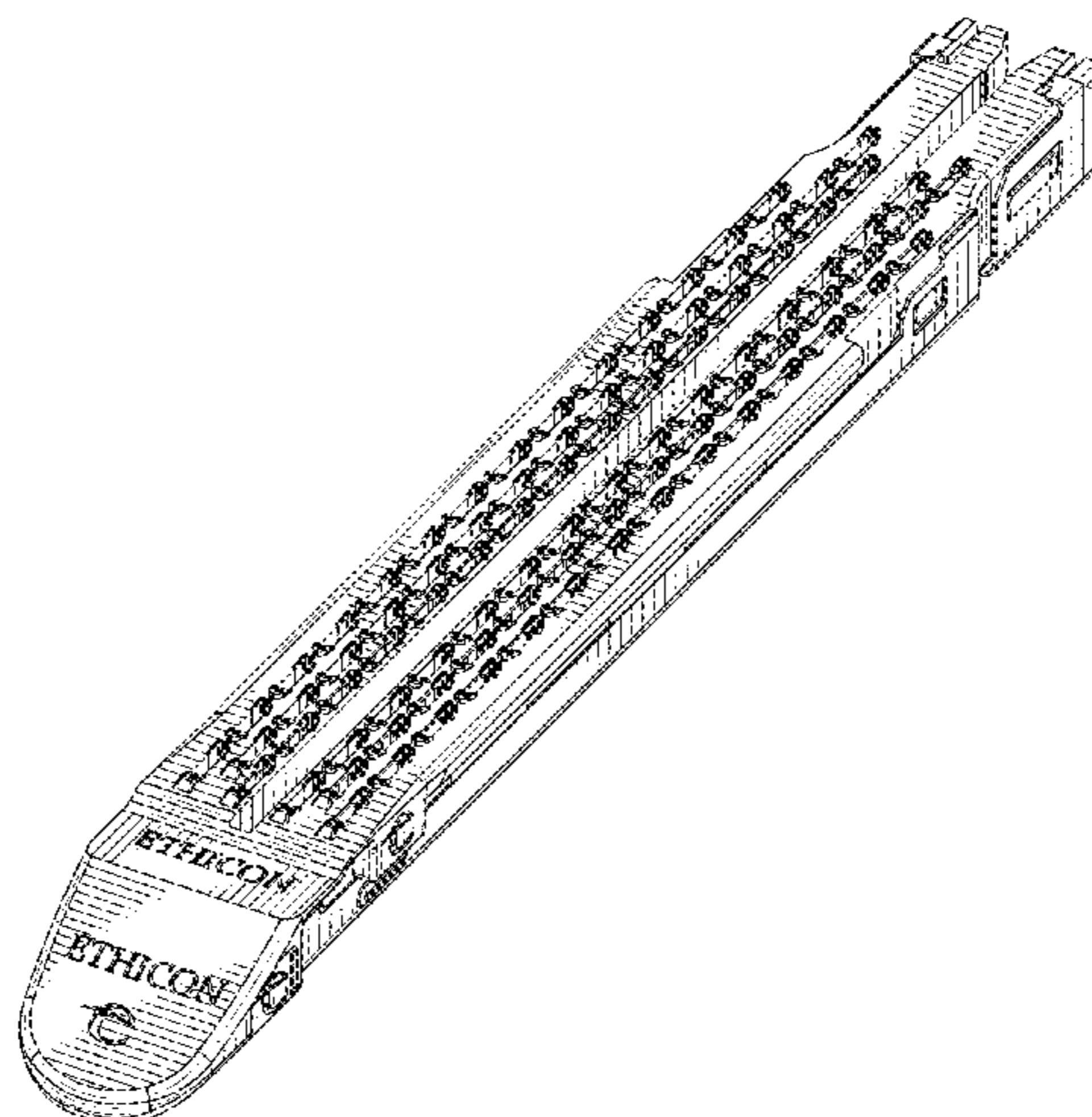
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4,052,649 A	10/1977	Greenwell et al.
4,087,730 A	5/1978	Goles
4,157,859 A	6/1979	Terry
4,171,700 A	10/1979	Farin
4,202,722 A	5/1980	Paquin
4,412,539 A	11/1983	Jarvik
4,448,193 A	5/1984	Ivanov
4,523,695 A	6/1985	Braun et al.
4,608,160 A	8/1986	Zoch
4,614,366 A	9/1986	North et al.
4,633,874 A	1/1987	Chow et al.
4,701,193 A	10/1987	Robertson et al.
4,735,603 A	4/1988	Goodson et al.
4,788,977 A	12/1988	Farin et al.
4,849,752 A	7/1989	Bryant
D303,787 S	10/1989	Messenger et al.
4,892,244 A	1/1990	Fox et al.
4,976,173 A	12/1990	Yang
5,010,341 A	4/1991	Huntley et al.
5,026,387 A	6/1991	Thomas
5,035,692 A	7/1991	Lyon et al.
5,042,460 A	8/1991	Sakurai et al.
5,047,043 A	9/1991	Kubota et al.
5,084,057 A	1/1992	Green et al.
5,100,402 A	3/1992	Fan
D327,061 S	6/1992	Soren et al.
5,129,570 A	7/1992	Schulze et al.
5,151,102 A	9/1992	Kamiyama et al.
5,156,315 A	10/1992	Green et al.
5,158,585 A	10/1992	Saho et al.
5,171,247 A	12/1992	Hughett et al.
5,189,277 A	2/1993	Boisvert et al.
5,197,962 A	3/1993	Sansom et al.
5,204,669 A	4/1993	Dorfe et al.
5,242,474 A	9/1993	Herbst et al.
5,253,793 A	10/1993	Green et al.
5,271,543 A	12/1993	Grant et al.
RE34,519 E	1/1994	Fox et al.
5,275,323 A	1/1994	Schulze et al.
5,318,516 A	6/1994	Cosmescu
5,318,563 A	6/1994	Malis et al.
5,322,055 A	6/1994	Davison et al.
5,342,349 A	8/1994	Kaufman
5,364,003 A	11/1994	Williamson, IV
5,383,880 A	1/1995	Hooven
5,396,900 A	3/1995	Slater et al.
5,397,046 A	3/1995	Savage et al.
5,403,312 A	4/1995	Yates et al.
5,403,327 A	4/1995	Thornton et al.
5,413,267 A	5/1995	Solyntjes et al.
5,415,335 A	5/1995	Knodell, Jr.
5,417,699 A	5/1995	Klein et al.
5,439,468 A	8/1995	Schulze et al.

(56) **References Cited**  
U.S. PATENT DOCUMENTS

1,853,416 A	4/1932	Hall
2,222,125 A	11/1940	Stehlik
3,082,426 A	3/1963	Miles
3,503,396 A	3/1970	Pierie et al.
3,584,628 A	6/1971	Green
3,626,457 A	12/1971	Duerr et al.
3,633,584 A	1/1972	Farrell
3,759,017 A	9/1973	Young
3,863,118 A	1/1975	Lander et al.
3,898,545 A	8/1975	Coppa et al.
3,912,121 A	10/1975	Steffen
3,915,271 A	10/1975	Harper
3,932,812 A	1/1976	Milligan
4,041,362 A	8/1977	Ichiyangi



# US D950,728 S

Page 2

5,445,304 A	8/1995	Plyley et al.	6,113,598 A	9/2000	Baker
5,462,545 A	10/1995	Wang et al.	6,126,592 A	10/2000	Proch et al.
5,465,895 A	11/1995	Knodel et al.	6,126,658 A	10/2000	Baker
5,467,911 A	11/1995	Tsuruta et al.	6,131,789 A	10/2000	Schulze et al.
5,474,566 A	12/1995	Alesi et al.	6,155,473 A	12/2000	Tompkins et al.
5,485,947 A	1/1996	Olson et al.	6,214,000 B1	4/2001	Fleenor et al.
5,496,315 A	3/1996	Weaver et al.	6,258,105 B1	7/2001	Hart et al.
5,496,317 A	3/1996	Goble et al.	6,269,411 B1	7/2001	Reasoner
5,503,320 A	4/1996	Webster et al.	6,273,887 B1	8/2001	Yamauchi et al.
5,529,235 A	6/1996	Boiarski et al.	6,301,495 B1	10/2001	Gueziec et al.
5,531,743 A	7/1996	Nettekoven et al.	6,302,881 B1	10/2001	Farin
5,545,148 A	8/1996	Wurster	6,308,089 B1	10/2001	von der Ruhr et al.
5,552,685 A	9/1996	Young et al.	6,325,808 B1	12/2001	Bernard et al.
5,560,372 A	10/1996	Cory	6,325,811 B1	12/2001	Messerly
5,584,425 A	12/1996	Savage et al.	6,331,181 B1	12/2001	Tierney et al.
5,610,379 A	3/1997	Muz et al.	6,341,164 B1	1/2002	Dilkie et al.
5,610,811 A	3/1997	Honda	6,391,102 B1	5/2002	Bodden et al.
5,613,966 A	3/1997	Makower et al.	6,434,416 B1	8/2002	Mizoguchi et al.
5,624,452 A	4/1997	Yates	6,443,973 B1	9/2002	Whitman
D379,346 S	5/1997	Mieki	6,451,015 B1	9/2002	Rittman, III et al.
5,626,587 A	5/1997	Bishop et al.	6,454,781 B1	9/2002	Witt et al.
5,643,291 A	7/1997	Pier et al.	6,457,625 B1	10/2002	Tormala et al.
5,654,750 A	8/1997	Weil et al.	6,461,352 B2	10/2002	Morgan et al.
5,673,841 A	10/1997	Schulze et al.	6,466,817 B1	10/2002	Kaula et al.
5,673,842 A	10/1997	Bittner et al.	6,480,796 B2	11/2002	Wiener
5,675,227 A	10/1997	Roos et al.	6,524,307 B1	2/2003	Palmerton et al.
5,693,042 A	12/1997	Boiarski et al.	6,530,933 B1	3/2003	Yeung et al.
5,693,052 A	12/1997	Weaver	6,551,243 B2	4/2003	Bocionek et al.
5,695,502 A	12/1997	Pier et al.	6,569,109 B2	5/2003	Sakurai et al.
5,697,926 A	12/1997	Weaver	6,582,424 B2	6/2003	Fleenor et al.
5,706,998 A	1/1998	Plyley et al.	6,584,358 B2	6/2003	Carter et al.
5,718,359 A	2/1998	Palmer et al.	6,585,791 B1	7/2003	Garito et al.
5,724,468 A	3/1998	Leone et al.	6,611,793 B1	8/2003	Burnside et al.
5,725,536 A	3/1998	Oberlin et al.	6,618,626 B2	9/2003	West, Jr. et al.
5,725,542 A	3/1998	Yoon	6,633,234 B2	10/2003	Wiener et al.
5,735,445 A	4/1998	Vidal et al.	6,648,223 B2	11/2003	Boukhny et al.
5,735,848 A	4/1998	Yates et al.	6,678,552 B2	1/2004	Pearlman
5,746,209 A	5/1998	Yost et al.	6,679,899 B2	1/2004	Wiener et al.
5,749,362 A	5/1998	Funda et al.	6,685,704 B2	2/2004	Greep
5,749,893 A	5/1998	Vidal et al.	6,699,187 B2	3/2004	Webb et al.
5,752,644 A	5/1998	Bolanos et al.	6,731,514 B2	5/2004	Evans
5,762,255 A	6/1998	Chrisman et al.	6,742,895 B2	6/2004	Robin
5,766,186 A	6/1998	Faraz et al.	6,752,816 B2	6/2004	Culp et al.
5,769,791 A	6/1998	Benaron et al.	6,760,616 B2	7/2004	Hoey et al.
5,775,331 A	7/1998	Raymond et al.	6,770,072 B1	8/2004	Truckai et al.
5,797,537 A	8/1998	Oberlin et al.	6,773,444 B2	8/2004	Messerly
5,800,350 A	9/1998	Coppleson et al.	6,775,575 B2	8/2004	Bommannan et al.
D399,561 S	10/1998	Ellingson	6,778,846 B1	8/2004	Martinez et al.
5,817,093 A	10/1998	Williamson, IV et al.	6,781,683 B2	8/2004	Kacyra et al.
5,820,009 A	10/1998	Melling et al.	6,783,524 B2	8/2004	Anderson et al.
5,833,690 A	11/1998	Yates et al.	6,783,525 B2	8/2004	Greep et al.
5,836,849 A	11/1998	Mathiak et al.	6,793,663 B2	9/2004	Kneifel et al.
5,836,869 A	11/1998	Kudo et al.	6,824,539 B2	11/2004	Novak
5,836,909 A	11/1998	Cosmescu	6,846,308 B2	1/2005	Whitman et al.
5,843,080 A	12/1998	Fleenor et al.	6,849,074 B2	2/2005	Chen et al.
5,846,237 A	12/1998	Nettekoven	6,852,219 B2	2/2005	Hammond
5,849,022 A	12/1998	Sakashita et al.	6,863,650 B1	3/2005	Irion
5,873,873 A	2/1999	Smith et al.	6,869,430 B2	3/2005	Balbierz et al.
5,878,938 A	3/1999	Bittner et al.	6,869,435 B2	3/2005	Blake, III
5,893,849 A	4/1999	Weaver	6,911,033 B2	6/2005	de Guillebon et al.
5,906,625 A	5/1999	Bito et al.	6,913,471 B2	7/2005	Smith
5,942,333 A	8/1999	Arnett et al.	6,937,892 B2	8/2005	Leyde et al.
5,947,996 A	9/1999	Logeman	6,945,981 B2	9/2005	Donofrio et al.
5,968,032 A	10/1999	Sleister	6,951,559 B1	10/2005	Greep
5,980,510 A	11/1999	Tsonton et al.	6,962,587 B2	11/2005	Johnson et al.
5,987,346 A	11/1999	Benaron et al.	6,978,921 B2	12/2005	Shelton, IV et al.
5,997,528 A	12/1999	Bisch et al.	6,988,649 B2	1/2006	Shelton, IV et al.
6,010,054 A	1/2000	Johnson et al.	7,000,818 B2	2/2006	Shelton, IV et al.
6,030,437 A	2/2000	Gourrier et al.	7,009,511 B2	3/2006	Mazar et al.
6,036,637 A	3/2000	Kudo	7,030,146 B2	4/2006	Baynes et al.
6,039,734 A	3/2000	Goble	7,032,798 B2	4/2006	Whitman et al.
6,039,735 A	3/2000	Greep	7,041,941 B2	5/2006	Faries, Jr. et al.
6,059,799 A	5/2000	Aranyi et al.	7,044,352 B2	5/2006	Shelton, IV et al.
6,066,137 A	5/2000	Greep	7,044,911 B2	5/2006	Drinan et al.
6,079,606 A	6/2000	Milliman et al.	7,044,949 B2	5/2006	Orszulak et al.
6,090,107 A	7/2000	Borgmeier et al.	7,048,775 B2	5/2006	Jornitz et al.
6,099,537 A	8/2000	Sugai et al.	7,053,752 B2	5/2006	Wang et al.
6,102,907 A	8/2000	Smethers et al.	7,055,730 B2	6/2006	Ehrenfels et al.
6,109,500 A	8/2000	Alli et al.	7,073,765 B2	7/2006	Newkirk

# US D950,728 S

Page 3

7,077,853 B2	7/2006	Kramer et al.	7,757,028 B2	7/2010	Druke et al.
7,077,856 B2	7/2006	Whitman	7,766,207 B2	8/2010	Mather et al.
7,081,096 B2	7/2006	Brister et al.	7,766,905 B2	8/2010	Paterson et al.
7,097,640 B2	8/2006	Wang et al.	7,770,773 B2	8/2010	Whitman et al.
7,103,688 B2	9/2006	Strong	7,771,429 B2	8/2010	Ballard et al.
7,104,949 B2	9/2006	Anderson et al.	7,776,037 B2	8/2010	Odom
7,118,564 B2	10/2006	Ritchie et al.	7,782,789 B2	8/2010	Stultz et al.
7,121,460 B1	10/2006	Parsons et al.	7,784,663 B2	8/2010	Shelton, IV
7,137,980 B2	11/2006	Buysse et al.	7,803,151 B2	9/2010	Whitman
7,140,528 B2	11/2006	Shelton, IV	7,810,692 B2	10/2010	Hall et al.
7,143,923 B2	12/2006	Shelton, IV et al.	7,818,041 B2	10/2010	Kim et al.
7,143,925 B2	12/2006	Shelton, IV et al.	7,819,298 B2	10/2010	Hall et al.
7,147,139 B2	12/2006	Schwemberger et al.	7,832,612 B2	11/2010	Baxter, III et al.
7,155,316 B2	12/2006	Sutherland et al.	7,833,219 B2	11/2010	Tashiro et al.
7,164,940 B2	1/2007	Hareyama et al.	7,836,085 B2	11/2010	Petakov et al.
7,169,145 B2	1/2007	Isaacson et al.	7,837,079 B2	11/2010	Holsten et al.
7,177,533 B2	2/2007	McFarlin et al.	7,837,680 B2	11/2010	Isaacson et al.
7,182,775 B2	2/2007	de Guillebon et al.	7,841,980 B2	11/2010	Minosawa et al.
7,207,472 B2	4/2007	Wukusick et al.	7,845,537 B2	12/2010	Shelton, IV et al.
7,208,005 B2	4/2007	Frecker et al.	7,857,185 B2	12/2010	Swayze et al.
7,217,269 B2	5/2007	El-Galley et al.	D631,252 S	1/2011	Leslie
7,230,529 B2	6/2007	Ketcherside, Jr. et al.	7,862,560 B2	1/2011	Marion
7,232,447 B2	6/2007	Gellman et al.	7,862,579 B2	1/2011	Ortiz et al.
7,236,817 B2	6/2007	Papas et al.	7,865,236 B2	1/2011	Cory et al.
7,246,734 B2	7/2007	Shelton, IV	7,884,735 B2	2/2011	Newkirk
7,252,664 B2	8/2007	Nasab et al.	7,887,530 B2	2/2011	Zemlok et al.
7,278,563 B1	10/2007	Green	7,892,337 B2	2/2011	Palmerton et al.
7,294,106 B2	11/2007	Birkenbach et al.	7,907,166 B2	3/2011	Lamprecht et al.
7,294,116 B1	11/2007	Ellman et al.	7,913,891 B2	3/2011	Doll et al.
7,296,724 B2	11/2007	Green et al.	7,918,230 B2	4/2011	Whitman et al.
7,317,955 B2	1/2008	McGreevy	7,918,377 B2	4/2011	Measamer et al.
7,328,828 B2	2/2008	Ortiz et al.	7,920,706 B2	4/2011	Asokan et al.
7,334,717 B2	2/2008	Rethy et al.	7,927,014 B2	4/2011	Dehler
7,343,565 B2	3/2008	Ying et al.	7,932,826 B2	4/2011	Fritchie et al.
7,344,532 B2	3/2008	Goble et al.	7,942,300 B2	5/2011	Rethy et al.
7,353,068 B2	4/2008	Tanaka et al.	7,945,065 B2	5/2011	Menzl et al.
7,362,228 B2	4/2008	Nycz et al.	7,945,342 B2	5/2011	Tsai et al.
7,371,227 B2	5/2008	Zeiner	7,951,148 B2	5/2011	McClurken
7,380,695 B2	6/2008	Doll et al.	7,954,682 B2	6/2011	Giordano et al.
7,383,088 B2	6/2008	Spinelli et al.	7,955,322 B2	6/2011	Devengenzo et al.
7,391,173 B2	6/2008	Schena	7,956,620 B2	6/2011	Gilbert
7,407,074 B2	8/2008	Ortiz et al.	7,963,433 B2	6/2011	Whitman et al.
7,408,439 B2	8/2008	Wang et al.	7,966,269 B2	6/2011	Bauer et al.
7,422,136 B1	9/2008	Marczyk	7,967,180 B2	6/2011	Scirica
7,422,139 B2	9/2008	Shelton, IV et al.	7,976,553 B2	7/2011	Shelton, IV et al.
7,423,972 B2	9/2008	Shaham et al.	7,979,157 B2	7/2011	Anvari
D579,876 S	11/2008	Novotney et al.	7,980,443 B2	7/2011	Scheib et al.
7,457,804 B2	11/2008	Uber, III et al.	7,982,776 B2	7/2011	Dunki-Jacobs et al.
D583,328 S	12/2008	Chiang	7,988,028 B2	8/2011	Farascioni et al.
7,464,847 B2	12/2008	Viola et al.	7,993,140 B2	8/2011	Sakezles
7,464,849 B2	12/2008	Shelton, IV et al.	7,995,045 B2	8/2011	Dunki-Jacobs
7,496,418 B2	2/2009	Kim et al.	8,005,947 B2	8/2011	Morris et al.
D589,447 S	3/2009	Sasada et al.	8,007,494 B1	8/2011	Taylor et al.
7,515,961 B2	4/2009	Germanson et al.	8,007,513 B2	8/2011	Nalagatla et al.
7,518,502 B2	4/2009	Austin et al.	8,010,180 B2	8/2011	Quaid et al.
7,563,259 B2	7/2009	Takahashi	8,012,170 B2	9/2011	Whitman et al.
7,568,604 B2	8/2009	Ehrenfels et al.	8,015,976 B2	9/2011	Shah
7,575,144 B2	8/2009	Ortiz et al.	8,016,855 B2	9/2011	Whitman et al.
7,597,731 B2	10/2009	Palmerton et al.	8,019,094 B2	9/2011	Hsieh et al.
7,617,137 B2	11/2009	Kreiner et al.	8,025,199 B2	9/2011	Whitman et al.
7,621,192 B2	11/2009	Conti et al.	8,027,710 B1	9/2011	Dannan
7,621,898 B2	11/2009	Lalomia et al.	8,035,685 B2	10/2011	Jensen
7,631,793 B2	12/2009	Rethy et al.	8,038,686 B2	10/2011	Huitema et al.
7,637,410 B2	12/2009	Marczyk	8,038,693 B2	10/2011	Allen
7,637,907 B2	12/2009	Blaha	8,043,560 B2	10/2011	Okumoto et al.
7,641,092 B2	1/2010	Kruszynski et al.	8,054,184 B2	11/2011	Cline et al.
7,644,848 B2	1/2010	Swayze et al.	8,054,752 B2	11/2011	Druke et al.
7,667,592 B2	2/2010	Ohyama et al.	8,062,306 B2	11/2011	Nobis et al.
7,667,839 B2	2/2010	Bates	8,062,330 B2	11/2011	Prommersberger et al.
7,670,334 B2	3/2010	Hueil et al.	8,066,721 B2	11/2011	Kortenbach et al.
7,694,865 B2	4/2010	Scirica	8,074,861 B2	12/2011	Ehrenfels et al.
7,699,860 B2	4/2010	Huitema et al.	8,075,571 B2	12/2011	Vitali et al.
7,720,306 B2	5/2010	Gardiner et al.	8,096,459 B2	1/2012	Ortiz et al.
7,721,934 B2	5/2010	Shelton, IV et al.	8,118,206 B2	2/2012	Zand et al.
7,721,936 B2	5/2010	Shalton, IV et al.	8,120,301 B2	2/2012	Goldberg et al.
7,736,357 B2	6/2010	Lee, Jr. et al.	8,123,764 B2	2/2012	Meade et al.
7,742,176 B2	6/2010	Braunecker et al.	D655,678 S	3/2012	Kobayashi et al.
7,743,960 B2	6/2010	Whitman et al.	8,128,625 B2	3/2012	Odom
7,753,245 B2	7/2010	Boudreaux et al.	8,131,565 B2	3/2012	Dicks et al.

# US D950,728 S

8,136,712 B2	3/2012	Zingman	8,512,325 B2	8/2013	Mathonnet
D657,368 S	4/2012	Magee et al.	8,512,365 B2	8/2013	Wiener et al.
8,147,486 B2	4/2012	Honour et al.	8,515,520 B2	8/2013	Brunnett et al.
8,155,479 B2	4/2012	Hoffman et al.	8,517,239 B2	8/2013	Scheib et al.
8,157,145 B2	4/2012	Shelton, IV et al.	8,521,331 B2	8/2013	Itkowitz
8,157,150 B2	4/2012	Viola et al.	8,523,043 B2	9/2013	Ullrich et al.
8,157,151 B2	4/2012	Ingmanson et al.	8,540,709 B2	9/2013	Allen
8,160,098 B1	4/2012	Yan et al.	8,546,996 B2	10/2013	Messerly et al.
8,160,690 B2	4/2012	Wilfley et al.	8,554,697 B2	10/2013	Claus et al.
8,161,977 B2	4/2012	Shelton, IV et al.	8,560,047 B2	10/2013	Haider et al.
8,170,396 B2	5/2012	Kuspa et al.	8,561,870 B2	10/2013	Baxter, III et al.
8,172,836 B2	5/2012	Ward	8,562,598 B2	10/2013	Falkenstein et al.
8,181,839 B2	5/2012	Beetel	8,566,115 B2	10/2013	Moore
8,185,409 B2	5/2012	Putnam et al.	8,567,393 B2	10/2013	Hickle et al.
8,206,345 B2	6/2012	Abboud et al.	8,571,598 B2	10/2013	Valavi
8,208,707 B2	6/2012	Mendonca et al.	8,573,459 B2	11/2013	Smith et al.
8,210,411 B2	7/2012	Yates et al.	8,573,465 B2	11/2013	Shelton, IV
8,214,007 B2	7/2012	Baker et al.	8,574,229 B2	11/2013	Eder et al.
8,216,849 B2	7/2012	Petty	8,585,694 B2	11/2013	Amoah et al.
8,220,688 B2	7/2012	Laurent et al.	8,590,762 B2 *	11/2013	Hess ..... A61B 17/0682
8,225,643 B2	7/2012	Abboud et al.			227/176.1
8,225,979 B2	7/2012	Farascioni et al.	8,591,536 B2	11/2013	Robertson
8,229,549 B2	7/2012	Whitman et al.	8,595,607 B2	11/2013	Nekoomaram et al.
8,231,042 B2	7/2012	Hessler et al.	8,596,513 B2	12/2013	Olson et al.
8,239,066 B2	8/2012	Jennings et al.	8,596,515 B2	12/2013	Okoniewski
8,241,322 B2	8/2012	Whitman et al.	8,604,709 B2	12/2013	Jalbout et al.
8,255,045 B2	8/2012	Gharib et al.	8,608,044 B2	12/2013	Hueil et al.
D667,838 S	9/2012	Magee et al.	8,608,045 B2	12/2013	Smith et al.
8,257,387 B2	9/2012	Cunningham	8,616,431 B2	12/2013	Timm et al.
8,260,016 B2	9/2012	Maeda et al.	8,620,055 B2	12/2013	Barratt et al.
8,262,560 B2	9/2012	Whitman	8,620,473 B2	12/2013	Diolaiti et al.
8,292,639 B2	10/2012	Achammer et al.	8,623,027 B2	1/2014	Price et al.
8,292,888 B2	10/2012	Whitman	8,627,483 B2	1/2014	Rachlin et al.
8,295,902 B2	10/2012	Salahieh et al.	8,627,993 B2	1/2014	Smith et al.
8,308,040 B2	11/2012	Huang et al.	8,627,995 B2	1/2014	Smith et al.
8,321,581 B2	11/2012	Katis et al.	8,628,518 B2	1/2014	Blumenkranz et al.
8,322,590 B2	12/2012	Patel et al.	8,628,545 B2	1/2014	Cabrera et al.
8,328,065 B2	12/2012	Shah	8,631,987 B2	1/2014	Shelton, IV et al.
8,335,590 B2	12/2012	Costa et al.	8,632,525 B2	1/2014	Kerr et al.
D675,164 S	1/2013	Kobayashi et al.	8,636,190 B2	1/2014	Zemlok et al.
8,343,065 B2	1/2013	Bartol et al.	8,636,736 B2	1/2014	Yates et al.
8,346,392 B2	1/2013	Walser et al.	8,641,621 B2	2/2014	Razzaque et al.
8,360,299 B2	1/2013	Zemlok et al.	8,652,086 B2	2/2014	Gerg et al.
8,364,222 B2	1/2013	Cook et al.	8,652,121 B2	2/2014	Quick et al.
D676,392 S	2/2013	Gassauer	8,652,128 B2	2/2014	Ward
8,365,975 B1	2/2013	Manoux et al.	8,657,176 B2	2/2014	Shelton, IV et al.
D678,196 S	3/2013	Miyauchi et al.	8,657,177 B2	2/2014	Scirica et al.
D678,304 S	3/2013	Yakoub et al.	8,663,220 B2	3/2014	Wiener et al.
8,388,652 B2	3/2013	Viola	8,666,544 B2	3/2014	Moll et al.
8,393,514 B2	3/2013	Shelton, IV et al.	8,679,114 B2	3/2014	Chapman et al.
8,397,972 B2	3/2013	Kostrzewski	8,682,049 B2	3/2014	Zhao et al.
8,398,541 B2	3/2013	DiMaio et al.	8,682,489 B2	3/2014	Itkowitz et al.
8,403,944 B2	3/2013	Pain et al.	8,685,056 B2	4/2014	Evans et al.
8,403,945 B2	3/2013	Whitfield et al.	8,688,188 B2	4/2014	Heller et al.
8,403,946 B2	3/2013	Whitfield et al.	8,690,864 B2	4/2014	Hoarau
8,406,859 B2	3/2013	Zuzak et al.	8,701,962 B2	4/2014	Kostrzewski
8,411,034 B2	4/2013	Boillot et al.	D704,839 S	5/2014	Juzkiw et al.
8,413,871 B2	4/2013	Racenet et al.	8,719,061 B2	5/2014	Birchall
8,422,035 B2	4/2013	Hinderling et al.	8,720,766 B2	5/2014	Hess et al.
8,423,182 B2	4/2013	Robinson et al.	8,733,613 B2	5/2014	Huitema et al.
8,428,722 B2	4/2013	Verhoef et al.	8,740,840 B2	6/2014	Foley et al.
8,429,153 B2	4/2013	Birdwell et al.	8,740,866 B2	6/2014	Reasoner et al.
8,439,910 B2	5/2013	Greep et al.	8,747,238 B2	6/2014	Shelton, IV et al.
8,444,663 B2	5/2013	Houser et al.	8,752,749 B2	6/2014	Moore et al.
8,452,615 B2	5/2013	Abri	8,757,465 B2	6/2014	Woodard, Jr. et al.
8,454,506 B2	6/2013	Rothman et al.	8,761,717 B1	6/2014	Buchheit
8,461,744 B2	6/2013	Wiener et al.	8,763,879 B2	7/2014	Shelton, IV et al.
8,468,030 B2	6/2013	Stroup et al.	8,768,251 B2	7/2014	Claus et al.
8,469,973 B2	6/2013	Meade et al.	8,771,270 B2	7/2014	Burbank
8,472,630 B2	6/2013	Konrad et al.	8,775,196 B2	7/2014	Simpson et al.
D687,146 S	7/2013	Juzkiw et al.	8,779,648 B2	7/2014	Giordano et al.
8,476,227 B2	7/2013	Kaplan et al.	8,790,253 B2	7/2014	Sunagawa et al.
8,489,235 B2	7/2013	Moll et al.	8,794,497 B2	8/2014	Zingman
8,499,992 B2	8/2013	Whitman et al.	8,795,001 B1	8/2014	Lam et al.
8,500,728 B2	8/2013	Newton et al.	8,799,008 B2	8/2014	Johnson et al.
8,500,756 B2	8/2013	Papa et al.	8,799,009 B2	8/2014	Mellin et al.
8,503,759 B2	8/2013	Greer et al.	8,800,838 B2	8/2014	Shelton, IV
8,505,801 B2	8/2013	Ehrenfels et al.	8,801,703 B2	8/2014	Gregg et al.
8,506,478 B2	8/2013	Mizuyoshi	8,814,996 B2	8/2014	Giurgiutiu et al.

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8,818,556 B2	8/2014	Sanchez et al.	9,078,653 B2	7/2015	Leimbach et al.
8,819,581 B2	8/2014	Nakamura et al.	9,078,727 B2	7/2015	Miller
8,820,603 B2	9/2014	Shelton, IV et al.	9,084,606 B2	7/2015	Greep
8,820,608 B2	9/2014	Miyamoto	9,089,360 B2	7/2015	Messerly et al.
8,827,134 B2	9/2014	Viola et al.	9,095,362 B2	8/2015	Dachs, II et al.
8,840,003 B2	9/2014	Morgan et al.	9,095,367 B2	8/2015	Olson et al.
D716,333 S	10/2014	Chotin et al.	9,099,863 B2	8/2015	Smith et al.
8,851,354 B2	10/2014	Swensgard et al.	9,101,358 B2	8/2015	Kerr et al.
8,852,174 B2	10/2014	Burbank	9,101,359 B2	8/2015	Smith et al.
8,875,973 B2	11/2014	Whitman	9,101,374 B1	8/2015	Hoch et al.
8,882,662 B2	11/2014	Charles	9,106,270 B2	8/2015	Puterbaugh et al.
8,886,790 B2	11/2014	Harrang et al.	9,107,573 B2	8/2015	Birnkrant
8,893,949 B2	11/2014	Shelton, IV et al.	9,107,662 B2	8/2015	Kostrzewski
8,899,479 B2	12/2014	Cappuzzo et al.	9,107,684 B2	8/2015	Ma
8,905,977 B2	12/2014	Shelton et al.	9,107,688 B2	8/2015	Kimball et al.
8,912,746 B2	12/2014	Reid et al.	9,107,689 B2	8/2015	Robertson et al.
8,914,098 B2	12/2014	Brennan et al.	9,107,694 B2	8/2015	Hendriks et al.
8,917,513 B1	12/2014	Hazzard	9,111,548 B2	8/2015	Nandy et al.
8,918,207 B2	12/2014	Prisco	9,113,880 B2	8/2015	Zemlok et al.
8,920,186 B2	12/2014	Shishikura	9,114,494 B1	8/2015	Mah
8,920,414 B2	12/2014	Stone et al.	9,116,597 B1	8/2015	Gulasky
8,920,433 B2	12/2014	Barrier et al.	9,119,617 B2	9/2015	Souls et al.
8,930,203 B2	1/2015	Kiaie et al.	9,119,655 B2	9/2015	Bowling et al.
8,930,214 B2	1/2015	Woolford	9,119,657 B2	9/2015	Shelton, IV et al.
8,931,679 B2	1/2015	Kostrzewski	9,123,155 B2	9/2015	Cunningham et al.
8,936,614 B2	1/2015	Allen, IV	9,125,644 B2	9/2015	Lane et al.
8,945,095 B2	2/2015	Blumenkranz et al.	9,129,054 B2	9/2015	Nawana et al.
8,945,163 B2	2/2015	Voegele et al.	9,137,254 B2	9/2015	Bilbrey et al.
8,955,732 B2	2/2015	Zemlok et al.	9,138,129 B2	9/2015	Diolaiti
8,956,581 B2	2/2015	Rosenbaum et al.	9,138,225 B2	9/2015	Huang et al.
8,960,519 B2	2/2015	Whitman et al.	9,149,322 B2	10/2015	Knowlton
8,960,520 B2	2/2015	McCuen	9,155,503 B2	10/2015	Cadwell
8,962,062 B2	2/2015	Podhajsky et al.	9,160,853 B1	10/2015	Daddi et al.
8,967,443 B2	3/2015	McCuen	9,161,803 B2	10/2015	Yates et al.
8,967,455 B2	3/2015	Zhou	9,168,054 B2	10/2015	Turner et al.
8,968,276 B2	3/2015	Zemlok et al.	9,168,091 B2	10/2015	Janssen et al.
8,968,296 B2	3/2015	McPherson	9,168,104 B2	10/2015	Dein
8,968,309 B2	3/2015	Roy et al.	9,179,912 B2	11/2015	Yates et al.
8,968,312 B2	3/2015	Marczyk et al.	9,183,723 B2	11/2015	Sherman et al.
8,968,337 B2	3/2015	Whitfield et al.	9,186,143 B2	11/2015	Timm et al.
8,968,358 B2	3/2015	Reschke	9,192,375 B2	11/2015	Skinlo et al.
8,974,429 B2	3/2015	Gordon et al.	9,192,447 B2	11/2015	Choi et al.
8,979,890 B2	3/2015	Boudreaux	9,192,707 B2	11/2015	Gerber et al.
8,986,288 B2	3/2015	Konishi	9,198,711 B2	12/2015	Joseph
8,986,302 B2	3/2015	Aldridge et al.	9,202,078 B2	12/2015	Abuelsaad et al.
8,989,903 B2	3/2015	Weir et al.	9,204,830 B2	12/2015	Zand et al.
8,991,678 B2	3/2015	Wellman et al.	9,204,879 B2	12/2015	Shelton, IV
8,992,565 B2	3/2015	Brisson et al.	9,204,995 B2	12/2015	Scheller et al.
8,998,797 B2	4/2015	Omori	9,211,120 B2	12/2015	Scheib et al.
9,002,518 B2	4/2015	Manzo et al.	9,216,062 B2	12/2015	Duque et al.
9,010,611 B2	4/2015	Ross et al.	9,218,053 B2	12/2015	Komuro et al.
9,011,366 B2	4/2015	Dean et al.	9,220,502 B2	12/2015	Zemlok et al.
9,011,427 B2	4/2015	Price et al.	9,226,689 B2	1/2016	Jacobsen et al.
9,016,539 B2	4/2015	Kostrzewski et al.	9,226,751 B2	1/2016	Shelton, IV et al.
9,017,326 B2	4/2015	DiNardo et al.	9,226,766 B2	1/2016	Aldridge et al.
9,020,240 B2	4/2015	Pettersson et al.	9,226,767 B2	1/2016	Stulen et al.
D729,267 S	5/2015	Yoo et al.	9,226,791 B2	1/2016	McCarthy et al.
9,023,032 B2	5/2015	Robinson	9,232,883 B2	1/2016	Ozawa et al.
9,023,071 B2	5/2015	Miller et al.	9,237,891 B2	1/2016	Shelton, IV
9,027,431 B2	5/2015	Tang et al.	9,237,921 B2	1/2016	Messerly et al.
9,028,494 B2	5/2015	Shelton, IV et al.	9,241,728 B2	1/2016	Price et al.
9,035,568 B2	5/2015	Ganton et al.	9,241,730 B2	1/2016	Babaev
9,038,882 B2	5/2015	Racenet et al.	9,241,731 B2	1/2016	Boudreaux et al.
9,043,027 B2	5/2015	Durant et al.	9,247,996 B1	2/2016	Merana et al.
9,044,227 B2	6/2015	Shelton, IV et al.	9,250,172 B2	2/2016	Harris et al.
9,044,244 B2	6/2015	Ludwin et al.	9,255,907 B2	2/2016	Heanue et al.
9,044,261 B2	6/2015	Houser	9,265,429 B2	2/2016	St. Pierre et al.
9,050,063 B2	6/2015	Roe et al.	9,265,585 B2	2/2016	Wingardner et al.
9,050,083 B2	6/2015	Yates et al.	9,272,406 B2	3/2016	Aronhalt et al.
9,050,120 B2	6/2015	Swarup et al.	9,277,956 B2	3/2016	Zhang
9,052,809 B2	6/2015	Vesto	9,277,961 B2	3/2016	Panescu et al.
9,055,035 B2	6/2015	Porsch et al.	9,277,969 B2	3/2016	Brannan et al.
9,055,870 B2	6/2015	Meador et al.	9,280,884 B1	3/2016	Schultz et al.
9,060,770 B2	6/2015	Shelton, IV et al.	9,282,962 B2	3/2016	Schmid et al.
9,060,775 B2	6/2015	Wiener et al.	9,282,974 B2	3/2016	Shelton, IV
9,066,650 B2	6/2015	Sekiguchi	9,283,045 B2	3/2016	Rhee et al.
9,072,523 B2	7/2015	Houser et al.	9,283,054 B2	3/2016	Morgan et al.
9,072,535 B2	7/2015	Shelton, IV et al.	9,289,211 B2	3/2016	Williams et al.
9,072,536 B2	7/2015	Shelton, IV et al.	9,289,212 B2	3/2016	Shelton, IV et al.

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9,295,514 B2	3/2016	Shelton, IV et al.	9,532,845 B1	1/2017	Dossett et al.
9,301,691 B2	4/2016	Hufnagel et al.	9,539,007 B2	1/2017	Dhakad et al.
9,301,753 B2	4/2016	Aldridge et al.	9,539,020 B2	1/2017	Conlon et al.
9,301,759 B2	4/2016	Spivey et al.	9,542,481 B2	1/2017	Halter et al.
9,301,810 B2	4/2016	Amiri et al.	9,546,662 B2	1/2017	Shener-Irmakoglu et al.
9,302,213 B2	4/2016	Manahan et al.	9,549,781 B2	1/2017	He et al.
9,307,894 B2	4/2016	von Grunberg et al.	9,554,692 B2	1/2017	Levy
9,307,914 B2	4/2016	Fahey	9,554,794 B2	1/2017	Baber et al.
9,307,986 B2	4/2016	Hall et al.	9,554,854 B2	1/2017	Yates et al.
9,314,246 B2	4/2016	Shelton, IV et al.	9,561,038 B2	2/2017	Shelton, IV et al.
9,314,308 B2	4/2016	Parihar et al.	9,561,045 B2	2/2017	Hinman et al.
9,320,563 B2	4/2016	Brustad et al.	9,561,982 B2	2/2017	Enicks et al.
9,325,732 B1	4/2016	Stickle et al.	9,566,708 B2	2/2017	Kurnianto
9,326,767 B2	5/2016	Koch et al.	9,572,592 B2	2/2017	Price et al.
9,326,770 B2	5/2016	Shelton, IV et al.	9,579,503 B2	2/2017	McKinney et al.
9,331,422 B2	5/2016	Nazzaro et al.	9,585,657 B2	3/2017	Shelton, IV et al.
9,332,987 B2	5/2016	Leimbach et al.	9,592,095 B2	3/2017	Panescu et al.
9,333,042 B2	5/2016	Diolaiti et al.	9,597,081 B2	3/2017	Swayze et al.
9,336,385 B1	5/2016	Spencer et al.	9,600,031 B2	3/2017	Kaneko et al.
9,341,704 B2	5/2016	Picard et al.	9,600,138 B2	3/2017	Thomas et al.
9,345,481 B2	5/2016	Hall et al.	9,603,024 B2	3/2017	Wang et al.
9,345,490 B2	5/2016	Ippisch	9,603,277 B2	3/2017	Morgan et al.
9,345,546 B2	5/2016	Toth et al.	D783,675 S	4/2017	Yagisawa et al.
9,345,900 B2	5/2016	Wu et al.	D784,270 S	4/2017	Bhattacharya
9,351,726 B2	5/2016	Leimbach et al.	9,610,114 B2	4/2017	Baxter, III et al.
9,351,727 B2	5/2016	Leimbach et al.	9,622,684 B2	4/2017	Wybo
9,358,003 B2	6/2016	Hall et al.	9,622,808 B2	4/2017	Beller et al.
9,358,685 B2	6/2016	Meier et al.	9,628,501 B2	4/2017	Datta Ray et al.
9,360,449 B2	6/2016	Durie	9,629,560 B2	4/2017	Joseph
9,364,231 B2	6/2016	Wenchell	9,629,623 B2	4/2017	Lytle, IV et al.
9,364,249 B2	6/2016	Kimball et al.	9,629,628 B2	4/2017	Aranyi
9,364,294 B2	6/2016	Razzaque et al.	9,629,629 B2	4/2017	Leimbach et al.
9,370,400 B2	6/2016	Parihar	9,630,318 B2	4/2017	Ibarz Gabardos et al.
9,375,282 B2	6/2016	Nau, Jr. et al.	9,636,188 B2	5/2017	Gattani et al.
9,375,539 B2	6/2016	Stearns et al.	9,636,239 B2	5/2017	Durand et al.
9,381,003 B2	7/2016	Todor et al.	9,636,825 B2	5/2017	Penn et al.
9,381,058 B2	7/2016	Houser et al.	9,641,596 B2	5/2017	Unagami et al.
9,386,984 B2	7/2016	Aronhalt et al.	9,641,815 B2	5/2017	Richardson et al.
9,386,988 B2	7/2016	Baxter, III et al.	9,642,620 B2	5/2017	Baxter, III et al.
9,387,295 B1	7/2016	Mastri et al.	9,643,022 B2	5/2017	Mashiach et al.
9,393,017 B2	7/2016	Flanagan et al.	9,649,110 B2	5/2017	Parihar et al.
9,393,037 B2	7/2016	Olson et al.	9,649,111 B2	5/2017	Shelton, IV et al.
9,398,905 B2	7/2016	Martin	9,649,126 B2	5/2017	Robertson et al.
9,398,911 B2	7/2016	Auld	9,649,169 B2	5/2017	Cinquin et al.
9,402,629 B2	8/2016	Ehrenfels et al.	9,652,655 B2	5/2017	Satish et al.
9,414,776 B2	8/2016	Sillay et al.	9,655,616 B2	5/2017	Aranyi
9,414,940 B2	8/2016	Stein et al.	9,656,092 B2	5/2017	Golden
9,419,018 B2	8/2016	Sasagawa et al.	9,662,116 B2	5/2017	Smith et al.
9,421,014 B2	8/2016	Ingmanson et al.	9,662,177 B2	5/2017	Weir et al.
9,433,470 B2	9/2016	Choi	9,668,729 B2	6/2017	Williams et al.
9,439,622 B2	9/2016	Case et al.	9,668,732 B2	6/2017	Patel et al.
9,439,668 B2	9/2016	Timm et al.	9,668,765 B2	6/2017	Grace et al.
9,439,736 B2	9/2016	Olson	9,671,860 B2	6/2017	Ogawa et al.
9,445,764 B2	9/2016	Gross et al.	9,675,264 B2	6/2017	Acquista et al.
9,445,813 B2	9/2016	Shelton, IV et al.	9,675,354 B2	6/2017	Weir et al.
9,450,701 B2	9/2016	Do et al.	9,681,870 B2	6/2017	Baxter, III et al.
9,451,949 B2	9/2016	Gorek et al.	9,686,306 B2	6/2017	Chizeck et al.
9,451,958 B2	9/2016	Shelton, IV et al.	9,687,230 B2	6/2017	Leimbach et al.
9,463,022 B2	10/2016	Swayze et al.	9,690,362 B2	6/2017	Leimbach et al.
9,463,646 B2	10/2016	Payne et al.	9,700,292 B2	7/2017	Nawana et al.
9,468,438 B2	10/2016	Baber et al.	9,700,309 B2	7/2017	Jaworek et al.
9,474,565 B2	10/2016	Shikhman et al.	9,700,312 B2	7/2017	Kostrzewski et al.
D772,252 S	11/2016	Myers et al.	9,700,320 B2	7/2017	Dinardo et al.
9,480,492 B2	11/2016	Aranyi et al.	9,706,993 B2	7/2017	Hessler et al.
9,485,475 B2	11/2016	Speier et al.	9,710,214 B2	7/2017	Lin et al.
9,486,271 B2	11/2016	Dunning	9,710,644 B2	7/2017	Reybok et al.
9,492,146 B2	11/2016	Kostrzewski et al.	9,713,424 B2	7/2017	Spaide
9,492,237 B2	11/2016	Kang et al.	9,713,503 B2	7/2017	Goldschmidt
9,493,807 B2	11/2016	Little et al.	9,717,141 B1	7/2017	Tegg
9,498,182 B2	11/2016	Case et al.	9,717,498 B2	8/2017	Aranyi et al.
9,498,215 B2	11/2016	Duque et al.	9,717,525 B2	8/2017	Ahluwalia et al.
9,498,231 B2	11/2016	Haider et al.	9,717,548 B2	8/2017	Couture
9,516,239 B2	12/2016	Blanquart et al.	9,724,094 B2	8/2017	Baber et al.
9,519,753 B1	12/2016	Gerdeman et al.	9,724,100 B2	8/2017	Scheib et al.
9,522,003 B2	12/2016	Weir et al.	9,724,118 B2	8/2017	Schulte et al.
9,526,407 B2	12/2016	Hoeg et al.	9,733,663 B2	8/2017	Leimbach et al.
9,526,499 B2	12/2016	Kostrzewski et al.	9,737,301 B2	8/2017	Baber et al.
9,526,587 B2	12/2016	Zhao et al.	9,737,310 B2	8/2017	Whitfield et al.
9,532,827 B2	1/2017	Morgan et al.	9,737,335 B2	8/2017	Butler et al.

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9,737,355 B2	8/2017	Yates et al.	9,867,670 B2	1/2018	Brannan et al.
9,740,826 B2	8/2017	Raghavan et al.	9,867,914 B2	1/2018	Bonano et al.
9,743,016 B2	8/2017	Nestares et al.	9,872,609 B2	1/2018	Levy
9,743,929 B2	8/2017	Leimbach et al.	9,872,683 B2	1/2018	Hopkins et al.
9,743,946 B2	8/2017	Faller et al.	9,877,718 B2	1/2018	Weir et al.
9,743,947 B2	8/2017	Price et al.	9,877,721 B2	1/2018	Schellin et al.
9,750,499 B2	9/2017	Leimbach et al.	9,883,860 B2	2/2018	Leimbach
9,750,500 B2	9/2017	Malkowski	9,888,864 B2	2/2018	Rondoni et al.
9,750,522 B2	9/2017	Scheib et al.	9,888,914 B2	2/2018	Martin et al.
9,750,523 B2	9/2017	Tsubuku	9,888,919 B2	2/2018	Leimbach et al.
9,750,563 B2	9/2017	Shikhman et al.	9,888,921 B2	2/2018	Williams et al.
9,753,135 B2	9/2017	Bosch	9,888,975 B2	2/2018	Auld
9,753,568 B2	9/2017	McMillen	9,895,148 B2	2/2018	Shelton, IV et al.
9,757,126 B2	9/2017	Cappola	9,900,787 B2	2/2018	Ou
9,757,128 B2	9/2017	Baber et al.	9,901,342 B2	2/2018	Shelton, IV et al.
9,757,142 B2	9/2017	Shimizu	9,901,406 B2	2/2018	State et al.
9,757,152 B2	9/2017	Ogilvie et al.	9,905,000 B2	2/2018	Chou et al.
9,763,741 B2	9/2017	Alvarez et al.	9,907,196 B2	2/2018	Susini et al.
9,764,164 B2	9/2017	Wiener et al.	9,907,550 B2	3/2018	Sniffin et al.
9,770,541 B2	9/2017	Carr et al.	9,913,642 B2	3/2018	Leimbach et al.
9,775,611 B2	10/2017	Kostrzewski	9,913,645 B2	3/2018	Zerkle et al.
9,777,913 B2	10/2017	Talbert et al.	9,918,326 B2	3/2018	Gilson et al.
9,782,164 B2	10/2017	Mumaw et al.	9,918,730 B2	3/2018	Trees et al.
9,782,169 B2	10/2017	Kimsey et al.	9,918,778 B2	3/2018	Walberg et al.
9,782,212 B2	10/2017	Wham et al.	9,918,788 B2	3/2018	Paul et al.
9,782,214 B2	10/2017	Houser et al.	9,922,304 B2	3/2018	DeBusk et al.
9,788,835 B2	10/2017	Morgan et al.	9,924,941 B2	3/2018	Burbank
9,788,836 B2	10/2017	Overmyer et al.	9,924,944 B2 *	3/2018	Shelton, IV ..... A61B 17/072
9,788,851 B2	10/2017	Dannaher et al.	9,924,961 B2	3/2018	Shelton, IV et al.
9,788,902 B2	10/2017	Inoue et al.	9,931,040 B2	4/2018	Homyk et al.
9,788,907 B1	10/2017	Alvi et al.	9,931,118 B2	4/2018	Shelton, IV et al.
9,795,436 B2	10/2017	Yates et al.	9,931,124 B2	4/2018	Gokharu
9,797,486 B2	10/2017	Zergiebel et al.	9,936,863 B2	4/2018	Tesar
9,801,531 B2	10/2017	Morita et al.	9,936,942 B2	4/2018	Chin et al.
9,801,626 B2	10/2017	Parihar et al.	9,936,955 B2	4/2018	Miller et al.
9,801,627 B2	10/2017	Harris et al.	9,936,961 B2	4/2018	Chien et al.
9,801,679 B2	10/2017	Trees et al.	9,937,012 B2	4/2018	Hares et al.
9,802,033 B2	10/2017	Hibner et al.	9,937,014 B2	4/2018	Bowling et al.
9,804,618 B2	10/2017	Leimbach et al.	9,937,626 B2	4/2018	Rockrohr
9,805,472 B2	10/2017	Chou et al.	9,938,972 B2	4/2018	Walley
9,808,244 B2	11/2017	Leimbach et al.	9,943,230 B2	4/2018	Kaku et al.
9,808,245 B2	11/2017	Richard et al.	9,943,309 B2	4/2018	Shelton, IV et al.
9,808,246 B2	11/2017	Shelton, IV et al.	9,943,312 B2	4/2018	Posada et al.
9,808,248 B2	11/2017	Hoffman	9,943,377 B2	4/2018	Yates et al.
9,808,249 B2	11/2017	Shelton, IV	9,943,379 B2	4/2018	Gregg, II et al.
9,814,457 B2	11/2017	Martin et al.	9,943,918 B2	4/2018	Grogan et al.
9,814,460 B2	11/2017	Kimsey et al.	9,949,785 B2	4/2018	Price et al.
9,814,462 B2	11/2017	Woodard, Jr. et al.	9,962,157 B2	5/2018	Sapre
9,814,463 B2	11/2017	Williams et al.	9,968,355 B2	5/2018	Shelton, IV et al.
9,820,699 B2	11/2017	Bingley et al.	9,974,595 B2	5/2018	Anderson et al.
9,820,738 B2	11/2017	Lytle, IV et al.	9,980,140 B1	5/2018	Spencer et al.
9,820,741 B2	11/2017	Kostrzewski	9,980,769 B2	5/2018	Trees et al.
9,826,976 B2	11/2017	Parihar et al.	9,980,778 B2	5/2018	Ohline et al.
9,826,977 B2	11/2017	Leimbach et al.	9,987,000 B2	6/2018	Shelton, IV et al.
9,827,054 B2	11/2017	Richmond et al.	9,987,068 B2	6/2018	Anderson et al.
9,827,059 B2	11/2017	Robinson et al.	9,987,072 B2	6/2018	McPherson
9,830,424 B2	11/2017	Dixon et al.	9,990,856 B2	6/2018	Kuchenbecker et al.
9,833,241 B2	12/2017	Huitema et al.	9,993,248 B2	6/2018	Shelton, IV et al.
9,833,254 B1	12/2017	Barral et al.	9,993,258 B2	6/2018	Shelton, IV et al.
9,839,419 B2	12/2017	Deck et al.	9,993,305 B2	6/2018	Andersson
9,839,424 B2	12/2017	Zergiebel et al.	10,004,491 B2	6/2018	Martin et al.
9,839,428 B2	12/2017	Baxter, III et al.	10,004,497 B2	6/2018	Overmyer et al.
9,839,470 B2	12/2017	Gilbert et al.	10,004,500 B2	6/2018	Shelton, IV et al.
9,839,487 B2	12/2017	Dachs, II	10,004,501 B2	6/2018	Shelton, IV et al.
9,844,321 B1	12/2017	Ekvall et al.	10,004,527 B2	6/2018	Gee et al.
9,844,368 B2	12/2017	Boudreaux et al.	10,004,557 B2	6/2018	Gross
9,844,369 B2	12/2017	Huitema et al.	D822,206 S	7/2018	Shelton, IV et al.
9,844,374 B2	12/2017	Lytle, IV et al.	10,010,322 B2	7/2018	Shelton, IV et al.
9,844,375 B2	12/2017	Overmyer et al.	10,010,324 B2	7/2018	Huitema et al.
9,844,376 B2	12/2017	Baxter, III et al.	10,013,049 B2	7/2018	Leimbach et al.
9,844,379 B2	12/2017	Shelton, IV et al.	10,016,199 B2	7/2018	Baber et al.
9,848,058 B2	12/2017	Johnson et al.	10,021,318 B2	7/2018	Hugosson et al.
9,848,877 B2	12/2017	Shelton, IV et al.	10,022,090 B2	7/2018	Whitman
9,861,354 B2	1/2018	Saliman et al.	10,022,120 B2	7/2018	Martin et al.
9,861,363 B2	1/2018	Chen et al.	10,022,391 B2	7/2018	Ruderman Chen et al.
9,861,428 B2	1/2018	Trees et al.	10,022,568 B2	7/2018	Messerly et al.
9,864,839 B2	1/2018	Baym et al.	10,028,402 B1	7/2018	Walker
9,867,612 B2	1/2018	Parihar et al.	10,028,744 B2 *	7/2018	Shelton, IV ..... A61B 17/105
9,867,651 B2	1/2018	Wham	10,028,761 B2	7/2018	Leimbach et al.

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10,028,788 B2	7/2018	Kang	10,180,463 B2	1/2019	Beckman et al.
10,034,704 B2	7/2018	Asher et al.	10,182,814 B2	1/2019	Okoniewski
10,037,641 B2	7/2018	Hyde et al.	10,182,816 B2	1/2019	Shelton, IV et al.
10,037,715 B2	7/2018	Toly et al.	10,182,818 B2	1/2019	Hensel et al.
D826,405 S	8/2018	Shelton, IV et al.	10,188,385 B2	1/2019	Kerr et al.
10,039,546 B2	8/2018	Williams et al.	10,189,157 B2	1/2019	Schlegel et al.
10,039,564 B2	8/2018	Hibner et al.	10,190,888 B2	1/2019	Hryb et al.
10,039,565 B2	8/2018	Vezzu	10,194,891 B2	2/2019	Jeong et al.
10,039,589 B2	8/2018	Virshek et al.	10,194,907 B2	2/2019	Marczyk et al.
10,041,822 B2	8/2018	Zemlok	10,194,913 B2	2/2019	Nalagatla et al.
10,044,791 B2	8/2018	Kamen et al.	10,194,972 B2	2/2019	Yates et al.
10,045,704 B2	8/2018	Fagin et al.	10,197,803 B2	2/2019	Badiali et al.
10,045,776 B2	8/2018	Shelton, IV et al.	10,198,965 B2	2/2019	Hart
10,045,779 B2	8/2018	Savage et al.	10,201,311 B2	2/2019	Chou et al.
10,045,781 B2	8/2018	Cropper et al.	10,201,349 B2	2/2019	Leimbach et al.
10,045,782 B2	8/2018	Murthy Aravalli	10,201,364 B2	2/2019	Leimbach et al.
10,045,813 B2	8/2018	Mueller	10,201,365 B2	2/2019	Boudreaux et al.
10,048,379 B2	8/2018	Markendorf et al.	10,205,708 B1	2/2019	Fletcher et al.
10,052,044 B2	8/2018	Shelton, IV et al.	10,206,605 B2	2/2019	Shelton, IV et al.
10,052,102 B2	8/2018	Baxter, III et al.	10,206,752 B2	2/2019	Hares et al.
10,052,104 B2 *	8/2018	Shelton, IV ..... A61B 17/072	10,213,201 B2	2/2019	Shelton, IV et al.
10,054,441 B2	8/2018	Schorr et al.	10,213,266 B2	2/2019	Zemlok et al.
10,058,393 B2	8/2018	Bonutti et al.	10,213,268 B2	2/2019	Dachs, II
10,069,633 B2	9/2018	Gulati et al.	10,219,491 B2	3/2019	Stiles, Jr. et al.
10,076,326 B2	9/2018	Yates et al.	10,220,522 B2	3/2019	Rockrohr
10,080,618 B2	9/2018	Marshall et al.	10,222,750 B2	3/2019	Bang et al.
10,084,833 B2	9/2018	McDonnell et al.	10,226,249 B2	3/2019	Jaworek et al.
D831,209 S *	10/2018	Huitema ..... D24/145	10,226,250 B2	3/2019	Beckman et al.
10,085,748 B2	10/2018	Morgan et al.	10,226,302 B2	3/2019	Lacal et al.
10,085,749 B2	10/2018	Cappola et al.	10,231,634 B2	3/2019	Zand et al.
10,092,355 B1	10/2018	Hannaford et al.	10,231,733 B2	3/2019	Ehrenfels et al.
10,095,942 B2	10/2018	Mentese et al.	10,231,775 B2	3/2019	Shelton, IV et al.
10,097,578 B2	10/2018	Baldonado et al.	10,238,413 B2	3/2019	Hibner et al.
10,098,527 B2	10/2018	Weisenburgh, II et al.	10,245,027 B2	4/2019	Shelton, IV et al.
10,098,635 B2	10/2018	Burbank	10,245,028 B2	4/2019	Shelton, IV et al.
10,098,642 B2	10/2018	Baxter, III et al.	10,245,029 B2	4/2019	Hunter et al.
10,098,705 B2	10/2018	Brisson et al.	10,245,030 B2	4/2019	Hunter et al.
10,102,926 B1	10/2018	Leonardi	10,245,033 B2	4/2019	Overmyer et al.
10,105,140 B2	10/2018	Malinouskas et al.	10,245,037 B2	4/2019	Conklin et al.
10,105,142 B2	10/2018	Baxter, III et al.	10,245,038 B2	4/2019	Hopkins et al.
10,105,470 B2	10/2018	Reasoner et al.	10,251,661 B2	4/2019	Collings et al.
10,111,658 B2	10/2018	Chowaniec et al.	10,251,725 B2	4/2019	Valentine et al.
10,111,665 B2	10/2018	Aranyi et al.	10,258,331 B2	4/2019	Shelton, IV et al.
10,111,679 B2	10/2018	Baber et al.	10,258,359 B2	4/2019	Kapadia
D834,541 S	11/2018	You et al.	10,258,362 B2	4/2019	Conlon
10,117,649 B2	11/2018	Baxter et al.	10,258,363 B2	4/2019	Worrell et al.
10,117,651 B2	11/2018	Whitman et al.	10,258,415 B2	4/2019	Harrah et al.
10,117,702 B2	11/2018	Danziger et al.	10,258,418 B2	4/2019	Shelton, IV et al.
10,118,119 B2	11/2018	Sappok	10,258,425 B2	4/2019	Mustufa et al.
10,130,359 B2	11/2018	Hess et al.	10,263,171 B2	4/2019	Wiener et al.
10,130,360 B2	11/2018	Olson et al.	10,265,035 B2	4/2019	Fehre et al.
10,130,361 B2	11/2018	Yates et al.	10,265,068 B2	4/2019	Harris et al.
10,130,367 B2	11/2018	Cappola et al.	10,265,072 B2	4/2019	Shelton, IV et al.
10,133,248 B2	11/2018	Fitzsimmons et al.	10,265,090 B2	4/2019	Ingmanson et al.
10,135,242 B2	11/2018	Baber et al.	10,265,130 B2	4/2019	Hess et al.
10,136,887 B2	11/2018	Shelton, IV et al.	10,271,840 B2	4/2019	Sapre
10,136,891 B2	11/2018	Shelton, IV et al.	10,271,844 B2	4/2019	Valentine et al.
10,136,949 B2	11/2018	Felder et al.	10,271,850 B2	4/2019	Williams
10,136,954 B2	11/2018	Johnson et al.	10,271,851 B2	4/2019	Shelton, IV et al.
10,137,245 B2	11/2018	Melker et al.	D847,989 S	5/2019	Shelton, IV et al.
10,143,526 B2	12/2018	Walker et al.	10,278,698 B2	5/2019	Racenet
10,143,948 B2	12/2018	Bonitas et al.	10,278,778 B2	5/2019	State et al.
10,147,148 B2	12/2018	Wu et al.	10,283,220 B2	5/2019	Azizian et al.
10,149,680 B2	12/2018	Parihar et al.	10,285,694 B2	5/2019	Viola et al.
10,152,789 B2	12/2018	Carnes et al.	10,285,698 B2	5/2019	Cappola et al.
10,154,841 B2	12/2018	Weaner et al.	10,285,700 B2 *	5/2019	Scheib ..... A61B 17/072
10,159,044 B2	12/2018	Hrabak	10,285,705 B2	5/2019	Shelton, IV et al.
10,159,481 B2	12/2018	Whitman et al.	10,292,704 B2	5/2019	Harris et al.
10,159,483 B2	12/2018	Beckman et al.	10,292,707 B2	5/2019	Shelton, IV et al.
10,164,466 B2	12/2018	Calderoni	10,292,758 B2	5/2019	Boudreaux et al.
10,166,025 B2	1/2019	Leimbach et al.	10,292,771 B2	5/2019	Wood et al.
10,166,061 B2	1/2019	Berry et al.	10,293,129 B2	5/2019	Fox et al.
10,169,862 B2	1/2019	Andre et al.	10,299,792 B2	5/2019	Huitema et al.
10,172,618 B2	1/2019	Shelton, IV et al.	10,299,870 B2	5/2019	Connolly et al.
10,172,687 B2	1/2019	Garbus et al.	10,305,926 B2	5/2019	Mihan et al.
10,175,096 B2	1/2019	Dickerson	D850,617 S	6/2019	Shelton, IV et al.
10,175,127 B2	1/2019	Collins et al.	10,307,159 B2	6/2019	Harris et al.
10,178,992 B2	1/2019	Wise et al.	10,307,170 B2	6/2019	Parfett et al.
10,179,413 B2	1/2019	Rockrohr	10,307,199 B2	6/2019	Farritor et al.



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10,311,036 B1	6/2019	Hussam et al.	10,456,193 B2	10/2019	Yates et al.
10,313,137 B2	6/2019	Aarnio et al.	10,463,365 B2	11/2019	Williams
10,314,577 B2	6/2019	Laurent et al.	10,463,367 B2	11/2019	Kostrzewski et al.
10,314,582 B2	6/2019	Shelton, IV et al.	10,463,371 B2	11/2019	Kostrzewski
10,321,907 B2	6/2019	Shelton, IV et al.	10,463,436 B2	11/2019	Jackson et al.
10,321,964 B2	6/2019	Grover et al.	10,470,762 B2	11/2019	Leimbach et al.
10,327,764 B2	6/2019	Harris et al.	10,470,764 B2	11/2019	Baxter, III et al.
10,335,147 B2	7/2019	Rector et al.	10,470,768 B2	11/2019	Harris et al.
10,335,149 B2	7/2019	Baxter, III et al.	10,470,791 B2	11/2019	Houser
10,335,180 B2	7/2019	Johnson et al.	10,471,254 B2	11/2019	Sano et al.
10,335,227 B2	7/2019	Heard	10,478,181 B2	11/2019	Shelton, IV et al.
10,339,496 B2	7/2019	Matson et al.	10,478,185 B2	11/2019	Nicholas
10,342,543 B2	7/2019	Shelton, IV et al.	10,478,189 B2	11/2019	Bear et al.
10,342,602 B2	7/2019	Strobl et al.	10,478,190 B2	11/2019	Miller et al.
10,342,623 B2	7/2019	Huelman et al.	10,478,544 B2	11/2019	Friederichs et al.
10,343,102 B2	7/2019	Reasoner et al.	10,485,450 B2	11/2019	Gupta et al.
10,349,824 B2	7/2019	Claude et al.	10,485,542 B2	11/2019	Shelton, IV et al.
10,349,939 B2	7/2019	Shelton, IV et al.	10,485,543 B2	11/2019	Shelton, IV et al.
10,349,941 B2	7/2019	Marczyk et al.	10,492,783 B2	12/2019	Shelton, IV et al.
10,350,016 B2	7/2019	Burbank et al.	10,492,784 B2	12/2019	Beardsley et al.
10,357,184 B2	7/2019	Crawford et al.	10,492,785 B2	12/2019	Overmyer et al.
10,357,246 B2	7/2019	Shelton, IV et al.	10,496,788 B2	12/2019	Amarasingham et al.
10,357,247 B2	7/2019	Shelton, IV et al.	10,498,269 B2	12/2019	Zemlok et al.
10,362,179 B2	7/2019	Harris	10,499,847 B2	12/2019	Latimer et al.
10,363,032 B2	7/2019	Scheib et al.	10,499,891 B2	12/2019	Chaplin et al.
10,363,037 B2	7/2019	Aronhalt et al.	10,499,914 B2	12/2019	Huang et al.
10,368,861 B2	8/2019	Baxter, III et al.	10,499,915 B2	12/2019	Aranyi
10,368,865 B2	8/2019	Harris et al.	10,499,994 B2	12/2019	Luks et al.
10,368,867 B2	8/2019	Harris et al.	10,507,068 B2	12/2019	Kopp et al.
10,368,876 B2	8/2019	Bhatnagar et al.	10,512,461 B2	12/2019	Gupta et al.
10,368,894 B2	8/2019	Madan et al.	10,512,499 B2	12/2019	McHenry et al.
10,368,903 B2	8/2019	Morales et al.	10,512,514 B2	12/2019	Nowlin et al.
10,376,263 B2	8/2019	Morgan et al.	10,517,588 B2	12/2019	Gupta et al.
10,376,305 B2	8/2019	Yates et al.	10,517,595 B2	12/2019	Hunter et al.
10,376,337 B2	8/2019	Kilroy et al.	10,517,596 B2	12/2019	Hunter et al.
10,376,338 B2	8/2019	Taylor et al.	10,517,686 B2	12/2019	Vokrot et al.
10,378,893 B2	8/2019	Mankovskii	10,524,789 B2	1/2020	Swayze et al.
10,383,518 B2	8/2019	Abu-Tarif et al.	10,531,579 B2	1/2020	Hsiao et al.
10,383,699 B2	8/2019	Kilroy et al.	10,531,874 B2	1/2020	Morgan et al.
10,384,021 B2	8/2019	Koeth et al.	10,531,929 B2	1/2020	Widenhouse et al.
10,386,990 B2	8/2019	Shikhman et al.	10,532,330 B2	1/2020	Diallo et al.
10,390,718 B2	8/2019	Chen et al.	10,536,617 B2	1/2020	Liang et al.
10,390,794 B2	8/2019	Kuroiwa et al.	10,537,325 B2	1/2020	Bakos et al.
10,390,825 B2	8/2019	Shelton, IV et al.	10,537,351 B2	1/2020	Shelton, IV et al.
10,390,831 B2	8/2019	Holsten et al.	10,542,978 B2	1/2020	Chowaniec et al.
10,390,895 B2	8/2019	Henderson et al.	10,542,979 B2	1/2020	Shelton, IV et al.
10,398,348 B2	9/2019	Osadchy et al.	10,542,982 B2	1/2020	Beckman et al.
10,398,434 B2	9/2019	Shelton, IV et al.	10,542,991 B2	1/2020	Shelton, IV et al.
10,398,517 B2	9/2019	Eckert et al.	D876,466 S	2/2020	Kobayashi et al.
10,398,521 B2	9/2019	Itkowitz et al.	10,548,504 B2	2/2020	Shelton, IV et al.
10,404,521 B2	9/2019	McChord et al.	10,548,612 B2	2/2020	Martinez et al.
10,404,801 B2	9/2019	Martch	10,548,673 B2	2/2020	Harris et al.
10,405,857 B2	9/2019	Shelton, IV et al.	10,552,574 B2	2/2020	Sweeney
10,405,863 B2	9/2019	Wise et al.	10,555,675 B2	2/2020	Satish et al.
10,413,291 B2	9/2019	Worthington et al.	10,555,748 B2	2/2020	Yates et al.
10,413,293 B2	9/2019	Shelton, IV et al.	10,555,750 B2	2/2020	Conlon et al.
10,413,297 B2	9/2019	Harris et al.	10,555,769 B2	2/2020	Worrell et al.
10,417,446 B2	9/2019	Takeyama	10,561,422 B2	2/2020	Schellin et al.
10,420,552 B2	9/2019	Shelton, IV et al.	10,561,471 B2	2/2020	Nichogi
10,420,558 B2	9/2019	Nalagatla et al.	10,561,753 B2	2/2020	Thompson et al.
10,420,559 B2	9/2019	Marczyk et al.	10,568,625 B2	2/2020	Harris et al.
10,420,620 B2	9/2019	Rockrohr	10,568,626 B2	2/2020	Shelton, IV et al.
10,420,865 B2	9/2019	Reasoner et al.	10,568,632 B2	2/2020	Miller et al.
10,422,727 B2	9/2019	Pliskin	10,568,704 B2	2/2020	Savall et al.
10,426,466 B2	10/2019	Contini et al.	10,575,868 B2	3/2020	Hall et al.
10,426,467 B2	10/2019	Miller et al.	10,582,928 B2	3/2020	Hunter et al.
10,426,468 B2	10/2019	Contini et al.	10,582,931 B2	3/2020	Mujawar
10,426,471 B2	10/2019	Shelton, IV et al.	10,582,964 B2	3/2020	Weinberg et al.
10,426,481 B2	10/2019	Aronhalt et al.	10,586,074 B2	3/2020	Rose et al.
10,433,837 B2	10/2019	Worthington et al.	10,588,625 B2	3/2020	Weaner et al.
10,433,844 B2	10/2019	Shelton, IV et al.	10,588,629 B2	3/2020	Malinouskas et al.
10,433,849 B2	10/2019	Shelton, IV et al.	10,588,630 B2	3/2020	Shelton, IV et al.
10,433,918 B2	10/2019	Shelton, IV et al.	10,588,631 B2	3/2020	Shelton, IV et al.
10,441,279 B2	10/2019	Shelton, IV et al.	10,588,632 B2	3/2020	Shelton, IV et al.
10,441,345 B2	10/2019	Aldridge et al.	10,588,711 B2	3/2020	DiCarlo et al.
10,448,948 B2	10/2019	Shelton, IV et al.	10,592,067 B2	3/2020	Merdan et al.
10,448,950 B2	10/2019	Shelton, IV et al.	10,595,844 B2	3/2020	Nawana et al.
10,456,137 B2	10/2019	Vendely et al.	10,595,882 B2	3/2020	Parfett et al.
10,456,140 B2	10/2019	Shelton, IV et al.	10,595,887 B2	3/2020	Shelton, IV et al.

US D950,728 S

Table with 5 columns: ID, Classification, Date, Name, and Reference. The table lists various entries from 10,595,930 to 10,736,628, including names like Scheib et al., Forrest et al., Takano, Magana, Hunter et al., Zergiebel et al., Wellman et al., Shelton, IV et al., Wiener et al., Bailey et al., and many others. Some entries include asterisks and 'S' classifications, and some have 'D24/145' references.











2020/0275928	A1	9/2020	Shelton, IV et al.	EP	1214913	A2	6/2002
2020/0275930	A1*	9/2020	Harris ..... A61B 17/07207	EP	2732772	A1	5/2014
2020/0281665	A1	9/2020	Kopp	EP	2942023	A2	11/2015
2020/0305924	A1	10/2020	Carroll	EP	3047806	A1	7/2016
2020/0305945	A1	10/2020	Morgan et al.	EP	3056923	A1	8/2016
2020/0314569	A1	10/2020	Morgan et al.	EP	3095399	A2	11/2016
2020/0405375	A1	12/2020	Shelton, IV et al.	EP	3120781	A2	1/2017
2021/0000555	A1	1/2021	Shelton, IV et al.	EP	3135225	A2	3/2017
2021/0007760	A1	1/2021	Reisin	EP	3141181	A1	3/2017
2021/0015568	A1	1/2021	Liao et al.	FR	2838234	A1	10/2003
2021/0022731	A1	1/2021	Eisinger	GB	2509523	A	7/2014
2021/0022738	A1	1/2021	Weir et al.	JP	S5373315	A	6/1978
2021/0022809	A1	1/2021	Crawford et al.	JP	2001029353	A	2/2001
2021/0059674	A1	3/2021	Shelton, IV et al.	JP	2007123394	A	5/2007
2021/0068834	A1*	3/2021	Shelton, IV ..... A61B 17/068	JP	2017513561	A	6/2017
2021/0128149	A1*	5/2021	Whitfield ..... A61B 17/07207	KR	20140104587	A	8/2014
2021/0153889	A1	5/2021	Nott et al.	KR	101587721	B1	1/2016
2021/0169516	A1	6/2021	Houser et al.	WO	WO-9734533	A1	9/1997
2021/0176179	A1	6/2021	Shelton, IV	WO	WO-0024322	A1	5/2000
2021/0177452	A1	6/2021	Nott et al.	WO	WO-0108578	A1	2/2001
2021/0177489	A1	6/2021	Yates et al.	WO	WO-0112089	A1	2/2001
2021/0192914	A1	6/2021	Shelton, IV et al.	WO	WO-0120892	A2	3/2001
2021/0201646	A1	7/2021	Shelton, IV et al.	WO	WO-03079909	A2	10/2003
2021/0205020	A1	7/2021	Shelton, IV et al.	WO	WO-2007137304	A2	11/2007
2021/0205021	A1	7/2021	Shelton, IV et al.	WO	WO-2008053485	A1	5/2008
2021/0205028	A1	7/2021	Shelton, IV et al.	WO	WO-2008056618	A2	5/2008
2021/0205029	A1	7/2021	Wiener et al.	WO	WO-2008069816	A1	6/2008
2021/0205030	A1	7/2021	Shelton, IV et al.	WO	WO-2008147555	A2	12/2008
2021/0205031	A1	7/2021	Shelton, IV et al.	WO	WO-2011112931	A1	9/2011
2021/0212602	A1	7/2021	Shelton, IV et al.	WO	WO-2013143573	A1	10/2013
2021/0212694	A1	7/2021	Shelton, IV et al.	WO	WO-2014031800	A1	2/2014
2021/0212717	A1	7/2021	Yates et al.	WO	WO-2014071184	A1	5/2014
2021/0212719	A1	7/2021	Houser et al.	WO	WO-2014134196	A1	9/2014
2021/0212770	A1	7/2021	Messerly et al.	WO	WO-2015129395	A1	9/2015
2021/0212771	A1	7/2021	Shelton, IV et al.	WO	WO-2016100719	A1	6/2016
2021/0212774	A1	7/2021	Shelton, IV et al.	WO	WO-2016206015	A1	12/2016
2021/0212775	A1	7/2021	Shelton, IV et al.	WO	WO-2017011382	A1	1/2017
2021/0212782	A1	7/2021	Shelton, IV et al.	WO	WO-2017011646	A1	1/2017
2021/0219976	A1*	7/2021	DiNardo ..... A61B 17/07207	WO	WO-2017058617		4/2017
2021/0220058	A1	7/2021	Messerly et al.	WO	WO-2017058695	A1	4/2017
2021/0240852	A1	8/2021	Shelton, IV et al.	WO	WO-2017151996	A1	9/2017
2021/0241898	A1	8/2021	Shelton, IV et al.	WO	WO-2017189317	A1	11/2017
2021/0249125	A1	8/2021	Morgan et al.	WO	WO-2017205308	A1	11/2017
2021/0251487	A1	8/2021	Shelton, IV et al.	WO	WO-2017210499	A1	12/2017
2021/0259687	A1*	8/2021	Gonzalez ..... A61B 17/07207	WO	WO-2017210501	A1	12/2017
2021/0259697	A1	8/2021	Shelton, IV et al.	WO	WO-2018116247	A1	6/2018
2021/0259698	A1	8/2021	Shelton, IV et al.	WO	WO-2018152141	A1	8/2018
2021/0282780	A1	9/2021	Shelton, IV et al.	WO	WO-2018176414	A1	10/2018
2021/0282781	A1	9/2021	Shelton, IV et al.				
2021/0315579	A1	10/2021	Shelton, IV et al.				
2021/0315580	A1	10/2021	Shelton, IV et al.				
2021/0315581	A1	10/2021	Shelton, IV et al.				
2021/0315582	A1	10/2021	Shelton, IV et al.				
2021/0322014	A1	10/2021	Shelton, IV et al.				
2021/0322015	A1	10/2021	Shelton, IV et al.				
2021/0322017	A1	10/2021	Shelton, IV et al.				
2021/0322018	A1	10/2021	Shelton, IV et al.				
2021/0322019	A1	10/2021	Shelton, IV et al.				
2021/0322020	A1	10/2021	Shelton, IV et al.				
2021/0336939	A1	10/2021	Wiener et al.				

FOREIGN PATENT DOCUMENTS

AU	2015201140	A1	3/2015
CA	2795323	A1	5/2014
CN	101617950	A	1/2010
CN	104490448	B	3/2017
CN	206097107	U	4/2017
CN	108652695	A	10/2018
DE	2037167	A1	7/1980
DE	3016131	A1	10/1981
DE	3824913	A1	2/1990
DE	4002843	C1	4/1991
DE	102005051367	A1	4/2007
DE	102016207666	A1	11/2017
EP	0000756	B1	10/1981
EP	0408160	A1	1/1991
EP	0473987	A1	3/1992
EP	0929263	B1	7/1999

OTHER PUBLICATIONS

Flores et al., "Large-scale Offloading in the Internet of Things," 2017 IEEE International Conference on Pervasive Computing and Communications Workshops (Percom Workshops), IEEE, pp. 479-484, Mar. 13, 2017.

Kalantarian et al., "Computation Offloading for Real-Time Health-Monitoring Devices," 2016 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EBMC), IEEE, pp. 4971-4974, Aug. 16, 2016.

Yuyi Mao et al., "A Survey on Mobile Edge Computing: The Communication Perspective," IEEE Communications Surveys & Tutorials, pp. 2322-2358, Jun. 13, 2017.

Khazaei et al., "Health Informatics for Neonatal Intensive Care Units: An Analytical Modeling Perspective," IEEE Journal of Translational Engineering in Health and Medicine, vol. 3, pp. 1-9, Oct. 21, 2015.

Benkmann et al., "Concept of iterative optimization of minimally invasive surgery," 2017 22nd International Conference on Methods and Models in Automation and Robotics (MMAR), IEEE pp. 443-446, Aug. 28, 2017.

Trautman, Peter, "Breaking the Human-Robot Deadlock: Surpassing Shared Control Performance Limits with Sparse Human-Robot Interaction," Robotics: Science and Systems XIII, pp. 1-10, Jul. 12, 2017.



- Yang et al., "A dynamic strategy for packet scheduling and bandwidth allocation based on channel quality in IEEE 802.16e OFDMA system," *Journal of Network and Computer Applications*, vol. 39, pp. 52-60, May 2, 2013.
- Takahashi et al., "Automatic smoke evacuation in laparoscopic surgery: a simplified method for objective evaluation," *Surgical Endoscopy*, vol. 27, No. 8, pp. 2980-2987, Feb. 23, 2013.
- Miksch et al., "Utilizing temporal data abstraction for data validation and therapy planning for artificially ventilated newborn infants," *Artificial Intelligence in Medicine*, vol. 8, No. 6, pp. 543-576 (1996).
- Horn et al., "Effective data validation of high-frequency data: Time-point-time-interval-, and trend-based methods," *Computers in Biology and Medic*, New York, NY, vol. 27, No. 5, pp. 389-409 (1997).
- Stacey et al., "Temporal abstraction in intelligent clinical data analysis: A survey," *Artificial Intelligence in Medicine*, vol. 39, No. 1, pp. 1-24 (2006).
- Zoccali, Bruno, "A Method for Approximating Component Temperatures at Altitude Conditions Based on CFD Analysis at Sea Level Conditions," (white paper), [www.tdmginc.com](http://www.tdmginc.com), Dec. 6, 2018 (9 pages).
- Slocinski et al., "Distance measure for impedance spectra for quantified evaluations," *Lecture Notes on Impedance Spectroscopy*, vol. 3, Taylor and Francis Group (Jul. 2012)—Book Not Attached.
- Engel et al. "A safe robot system for craniofacial surgery", 2013 IEEE International Conference on Robotics and Automation (ICRA); May 6-10, 2013; Karlsruhe, Germany, vol. 2, Jan. 1, 2001, pp. 2020-2024.
- Bonaci et al., "To Make a Robot Secure: An Experimental Analysis of Cyber Security Threats Against Teleoperated Surgical Robots," May 13, 2015. Retrieved from the Internet: URL:<https://arxiv.org/pdf/1504.04339v2.pdf> [retrieved on Aug. 24, 2019].
- Homa Alemzadeh et al., "Targeted Attacks on Teleoperated Surgical Robots: Dynamic Model-Based Detection and Mitigation," 2016 46th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN), IEEE, Jun. 28, 2016, pp. 395-406.
- Phumzile Malindi, "5. QoS in Telemedicine," "Telemedicine," Jun. 20, 2011, *IntechOpen*, pp. 119-138.
- Staub et al., "Contour-based Surgical Instrument Tracking Supported by Kinematic Prediction," *Proceedings of the 2010 3rd IEEE RAS & EMBS International Conference on Biomedical Robotics and Biomechanics*, Sep. 1, 2010, pp. 746-752.
- Allan et al., "3-D Pose Estimation of Articulated Instruments in Robotic Minimally Invasive Surgery," *IEEE Transactions on Medical Imaging*, vol. 37, No. 5, May 1, 2018, pp. 1204-1213.
- Kassahun et al., "Surgical Robotics Beyond Enhanced Dexterity Instrumentation: A Survey of the Machine Learning Techniques and their Role in Intelligent and Autonomous Surgical Actions." *International Journal of Computer Assisted Radiology and Surgery*, vol. 11, No. 4, Oct. 2015, pp. 553-568.
- Weede et al. "An Intelligent and Autonomous Endoscopic Guidance System for Minimally Invasive Surgery," 2013 IEEE International Conference on Robotics and Automation (ICRA), May 6-10, 2013. Karlsruhe, Germany, May 1, 2011, pp. 5762-5768.
- Altenberg et al., "Genes of Glycolysis are Ubiquitously Overexpressed in 24 Cancer Classes," *Genomics*, vol. 84, pp. 1014-1020 (2004).
- Harold I. Brandon and V. Leroy Young, Mar. 1997, *Surgical Services Management* vol. 3 No. 3. retrieved from the internet <<https://www.surgimedics.com/Research%20Articles/Electrosurgical%20Plume/Characterization%20And%20Removal%20Of%20Electrosurgical%20Smoke.pdf>> (Year: 1997).
- Marshall Brain, *How Microcontrollers Work*, 2006, retrieved from the internet <<https://web.archive.org/web/20060221235221/http://electronics.howstuffworks.com/microcontroller.htm/printable>> (Year: 2006).
- CRC Press, "The Measurement, Instrumentation and Sensors Handbook," 1999, Section VII, Chapter 41, Peter O'Shea, "Phase Measurement," pp. 1303-1321, ISBN 0-8493-2145-X.
- Jiang, "'Sound of Silence': a secure indoor wireless ultrasonic communication system," Article, 2014, pp. 46-50, *Snapshots of Doctoral Research at University College Cork, School of Engineering—Electrical & Electronic Engineering*, UCC, Cork, Ireland.
- Li, et al., "Short-range ultrasonic communications in air using quadrature modulation," *Journal*, Oct. 30, 2009, pp. 2060-2072, *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 56, No. 10, IEEE.
- Salamon, "AI Detects Polyps Better Than Colonoscopists" Online Article, Jun. 3, 2018, *Medscape Medical News, Digestive Disease Week (DDW) 2018: Presentation 133*.
- Misawa, et al. "Artificial Intelligence-Assisted Polyp Detection for Colonoscopy: Initial Experience," Article, Jun. 2018, pp. 2027-2029, vol. 154, Issue 8, *American Gastroenterology Association*.
- Dottorato, "Analysis and Design of the Rectangular Microstrip Patch Antennas for TM<sub>0n0</sub> operating mode," Article, Oct. 8, 2010, pp. 1-9, *Microwave Journal*.
- Miller, et al., "Impact of Powered and Tissue-Specific Endoscopic Stapling Technology on Clinical and Economic Outcomes of Video-Assisted Thoracic Surgery Lobectomy Procedures: A Retrospective, Observational Study," Article, Apr. 2018, pp. 707-723, vol. 35 (Issue 5), *Advances in Therapy*.
- Hsiao-Wei Tang, "ARCM", Video, Sep. 2012, YouTube, 5 screenshots, Retrieved from Internet: <<https://www.youtube.com/watch?v=UldQaxb3fRw&feature=youtu.be>>.
- Giannios, et al., "Visible to near-infrared refractive properties of freshly-excised human-liver tissues: marking hepatic malignancies," Article, Jun. 14, 2016, pp. 1-10, *Scientific Reports* 6, Article No. 27910, *Nature*.
- Vander Heiden, et al., "Understanding the Warburg effect: the metabolic requirements of cell proliferation," Article, May 22, 2009, pp. 1-12, vol. 324, Issue 5930, *Science*.
- Hirayama et al., "Quantitative Metabolome Profiling of Colon and Stomach Cancer Microenvironment by Capillary Electrophoresis Time-of-Flight Mass Spectrometry," Article, Jun. 2009, pp. 4918-4925, vol. 69, Issue 11, *Cancer Research*.
- Cengiz, et al., "A Tale of Two Compartments: Interstitial Versus Blood Glucose Monitoring," Article, Jun. 2009, pp. S11-S16, vol. 11, Supplement 1, *Diabetes Technology & Therapeutics*.
- Shen, et al., "An iridium nanoparticles dispersed carbon based thick film electrochemical biosensor and its application for a single use, disposable glucose biosensor," Article, Feb. 3, 2007, pp. 106-113, vol. 125, Issue 1, *Sensors and Actuators B: Chemical*, *Science Direct*.
- "ATM-MPLS Network Interworking Version 2.0, af-aic-0178.001" ATM Standard, The ATM Forum Technical Committee, published Aug. 2003.
- IEEE Std 802.3-2012 (Revision of IEEE Std 802.3-2008, published Dec. 28, 2012).
- IEEE Std No. 177, "Standard Definitions and Methods of Measurement for Piezoelectric Vibrators," published May 1966, The Institute of Electrical and Electronics Engineers, Inc., New York, N.Y.
- Shi et al., "An intuitive control console for robotic surgery system, 2014, IEEE, p. 404-407 (Year: 2014).
- Choi et al., "A haptic augmented reality surgeon console for a laparoscopic surgery robot system, 2013, IEEE, p. 355-357 (Year: 2013).
- Xie et al., "Development of stereo vision and master-slave controller for a compact surgical robot system, 2015, IEEE, p. 403-407 (Year: 2015).
- Sun et al., "Innovative effector design for simulation training in robotic surgery, 2010, IEEE, p. 1735-1759 (Year: 2010).
- Anonymous, "Internet of Things Powers Connected Surgical Device Infrastructure Case Study", Dec. 31, 2016 (Dec. 31, 2016), Retrieved from the Internet: URL:[https://www.cognizant.com/services-resources/150110\\_loT\\_connected\\_surgical\\_devices.pdf](https://www.cognizant.com/services-resources/150110_loT_connected_surgical_devices.pdf).
- Draijer, Matthijs et al., "Review of laser speckle contrast techniques for visualizing tissue perfusion," *Lasers in Medical Science*, Springer-Verlag, LO, vol. 24, No. 4, Dec. 3, 2008, pp. 639-651.
- Roy D Cullum, "Handbook of Engineering Design", ISBN: 9780408005586, Jan. 1, 1988 (Jan. 1, 1988), XP055578597, ISBN: 9780408005586, 10-20, Chapter 6, p. 138, right-hand column, paragraph 3.
- "Surgical instrumentation: the true cost of instrument trays and a potential strategy for optimization"; Mhlaba et al.; Sep. 23, 2015 (Year: 2015).

Nabil Simaan et al., “Intelligent Surgical Robots with Situational Awareness: From Good to Great Surgeons”, DOI: 10.1115/1.2015-Sep-6 external link, Sep. 2015 (Sep. 2015), p. 3-6, Retrieved from the Internet: URL:<http://memagazineselect.asmedigitalcollection.asme.org/data/journals/meena/936888/me-2015-sep6.pdf> XP055530863.

Anonymous: “Titanium Key Chain Tool 1.1, Ultralight Multipurpose Key Chain Tool, Forward Cutting Can Opener—Vargo Titanium,” [vargoooutdoors.com](http://vargoooutdoors.com), Jul. 5, 2014 (Jul. 5, 2014), retrieved from the internet: <https://vargoooutdoors.com/titanium-key-chain-tool-1-1.html>.

Anonymous: “Screwdriver—Wikipedia”, [en.wikipedia.org](http://en.wikipedia.org), Jun. 23, 2019, XP055725151, Retrieved from the Internet: URL:<https://en.wikipedia.org/w/index.php?title=Screwdriver&oldid=903111203> [retrieved on Mar. 20, 2021].

Nordlinger, Christopher, “The Internet of Things and the Operating Room of the Future,” May 4, 2015, <https://medium.com/@chrisonrdlinger/the-internet-of-things-and-the-operating-room-of-the-future-8999a143d7b1>, retrieved from the internet on Apr. 27, 2021, 9 pages.

Sorrells, P., “Application Note AN680. Passive RFID Basics,” retrieved from <http://ww1.microchip.com/downloads/en/AppNotes/00680b.pdf> on Feb. 26, 2020, Dec. 31, 1998, pp. 1-7.

Screen captures from YouTube video clip entitled “Four ways to use the Lego Brick Separator Tool,” 2 pages, uploaded on May 29, 2014 by user “Sarah Lewis”. Retrieved from internet: <https://www.youtube.com/watch?v=ucKiRD6U1LU> (Year: 2014).

\* cited by examiner

*Primary Examiner* — Wan Laymon

(57) **CLAIM**

The ornamental design for a surgical staple cartridge, as shown and described.

**DESCRIPTION**

FIG. 1 is a front perspective view of a surgical staple cartridge according to a first embodiment of our new design; FIG. 2 is a right side elevational view of the surgical staple cartridge of the first embodiment; FIG. 3 is a left side elevational view of the surgical staple cartridge of the first embodiment; FIG. 4 is a top view of the surgical staple cartridge of the first embodiment; FIG. 5 is a bottom view of the surgical staple cartridge of the first embodiment; FIG. 6 is an enlarged front elevational view of the surgical staple cartridge of the first embodiment; and FIG. 7 is an enlarged rear elevational view of the surgical staple cartridge of the first embodiment; FIG. 8 is a front perspective view of a surgical staple cartridge according to a second embodiment of our new design;

FIG. 9 is a right side elevational view of the surgical staple cartridge of the second embodiment; FIG. 10 is a left side elevational view of the surgical staple cartridge of the second embodiment of our new design; FIG. 11 is a top view of the surgical staple cartridge of the second embodiment; FIG. 12 is a bottom view of the surgical staple cartridge of the second embodiment; FIG. 13 is an enlarged front elevational view of the surgical staple cartridge of the second embodiment; and FIG. 14 is an enlarged rear elevational view of the surgical staple cartridge of the second embodiment; FIG. 15 is a front perspective view of a surgical staple cartridge according to a third embodiment of our new design; FIG. 16 is a right side elevational view of the surgical staple cartridge of the third embodiment; FIG. 17 is a left side elevational view of the surgical staple cartridge of the third embodiment; FIG. 18 is a top view of the surgical staple cartridge of the third embodiment; FIG. 19 is a bottom view of the surgical staple cartridge of the third embodiment; FIG. 20 is an enlarged front elevational view of the surgical staple cartridge of the third embodiment; and FIG. 21 is an enlarged rear elevational view of the surgical staple cartridge of the third embodiment; FIG. 22 is a front perspective view of a surgical staple cartridge according to a fourth embodiment of our new design; FIG. 23 is a right side elevational view of the surgical staple cartridge of the fourth embodiment; FIG. 24 is a left side elevational view of the surgical staple cartridge of the fourth embodiment; FIG. 25 is a top view of the surgical staple cartridge of the fourth embodiment; FIG. 26 is a bottom view of the surgical staple cartridge of the fourth embodiment; FIG. 27 is an enlarged front elevational view of the surgical staple cartridge of the fourth embodiment; and, FIG. 28 is an enlarged rear elevational view of the surgical staple cartridge of the fourth embodiment.

The broken lines shown in the figures are included for the purpose of illustrating portions of the surgical staple cartridge and form no part of the claimed design.

The ETHICON forming part of the claimed design is a registered trademark of Johnson & Johnson Corporation.

**1 Claim, 20 Drawing Sheets**



FIG. 1

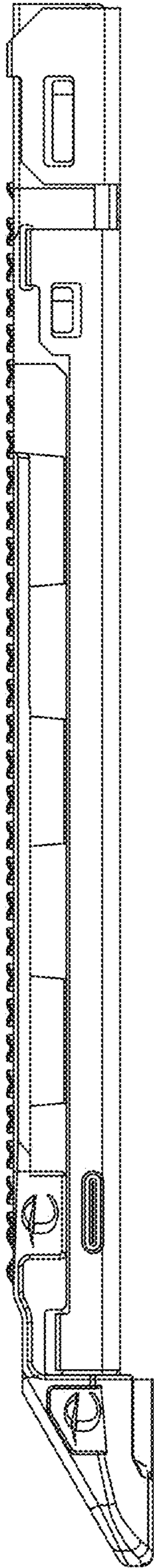


FIG. 2

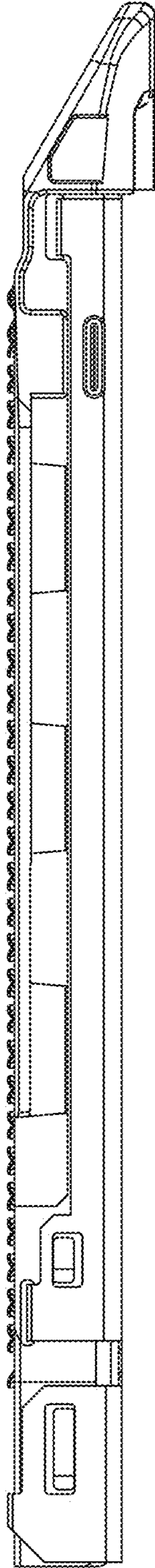


FIG. 3

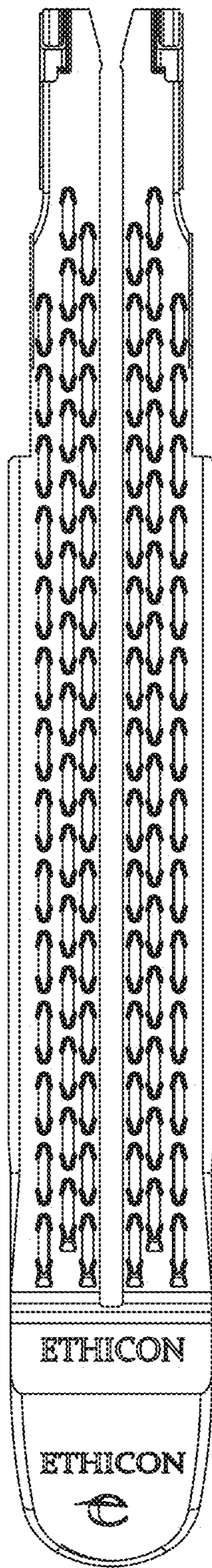


FIG. 4

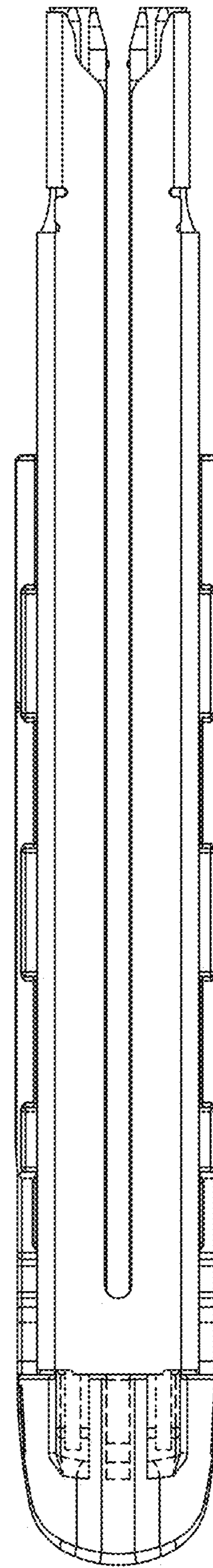


FIG. 5

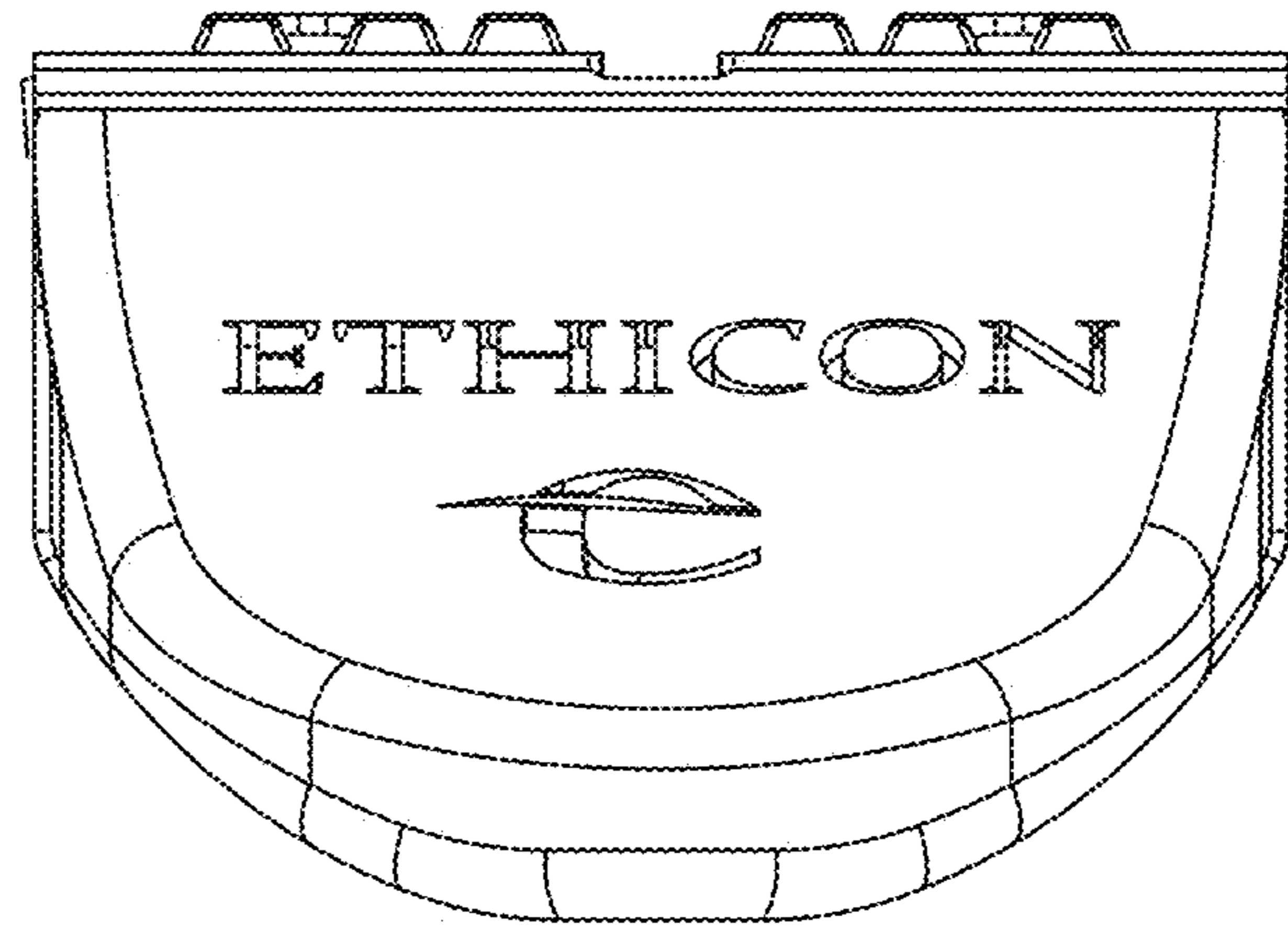


FIG. 6

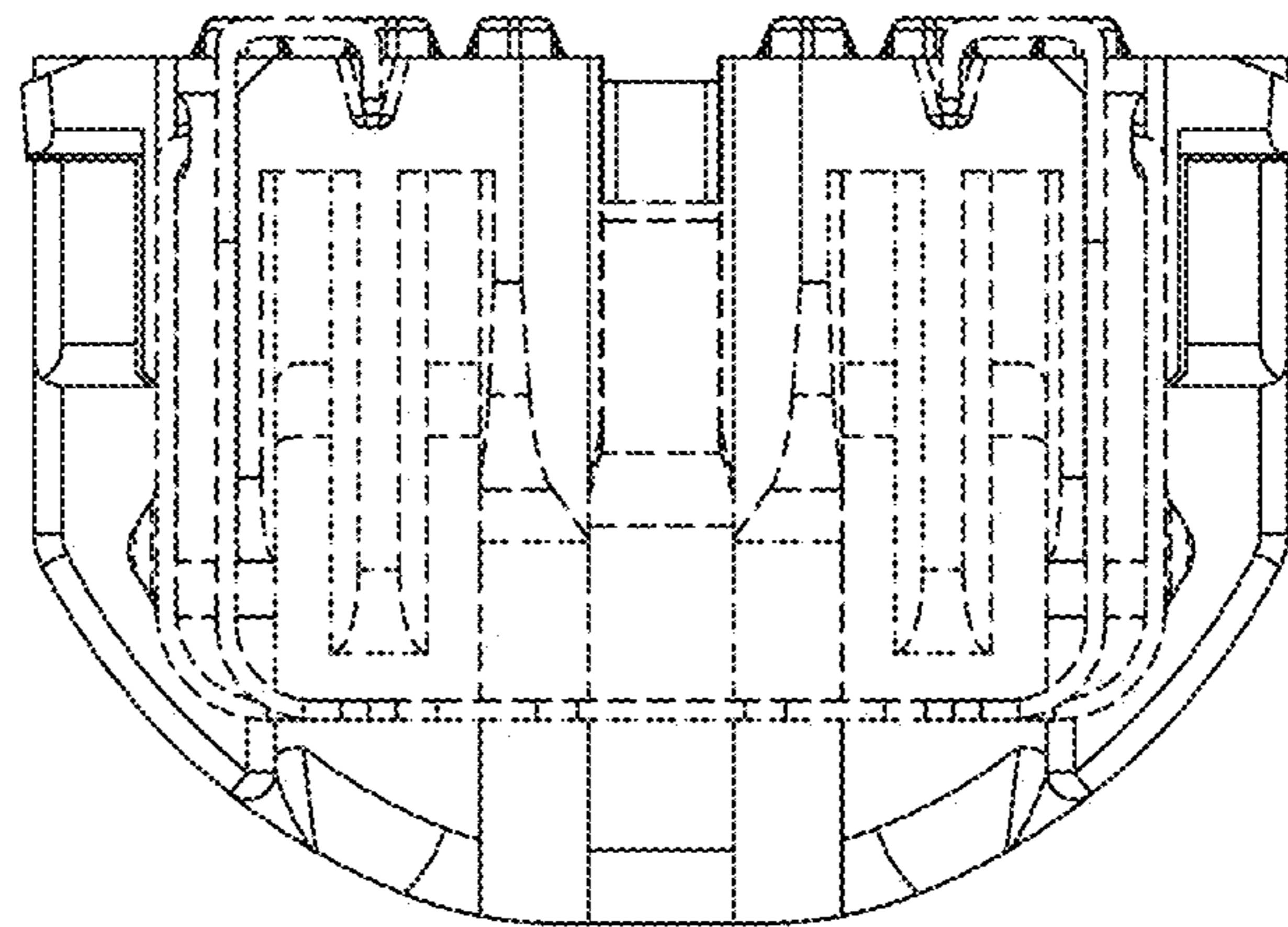


FIG. 7



FIG. 8



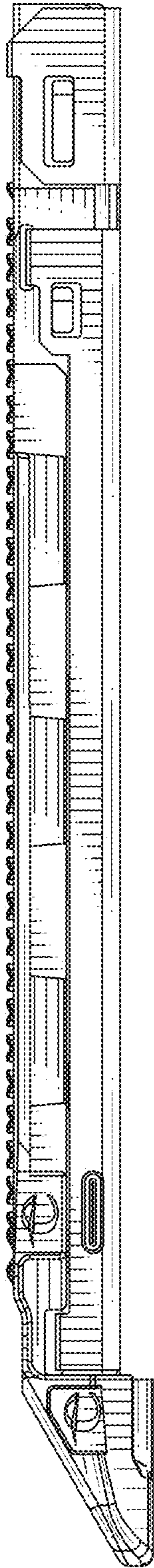


FIG. 9

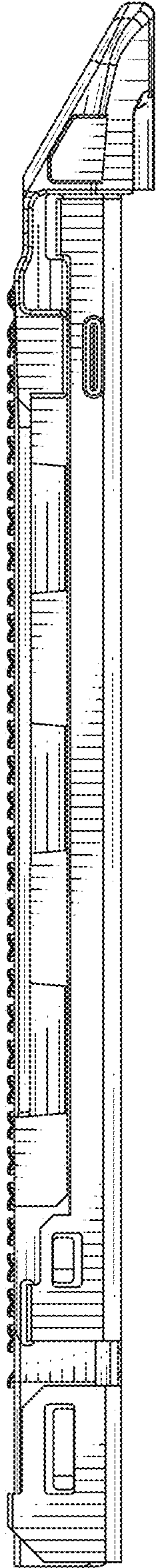


FIG. 10

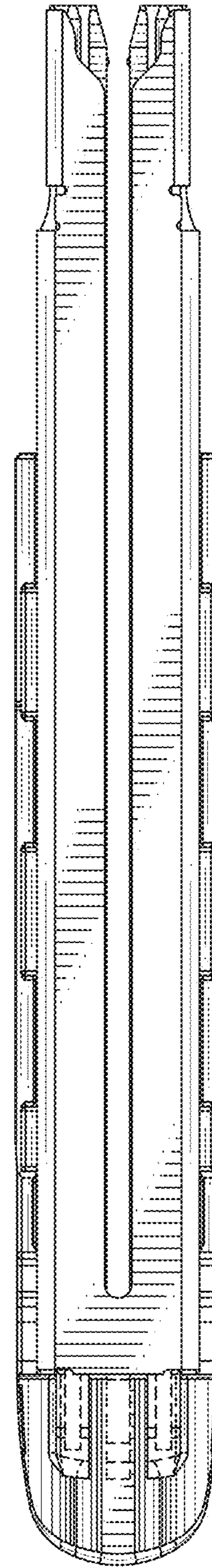
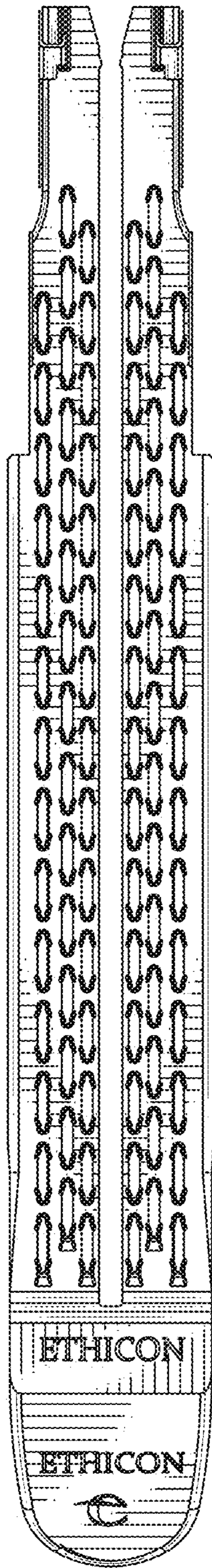


FIG. 11

FIG. 12

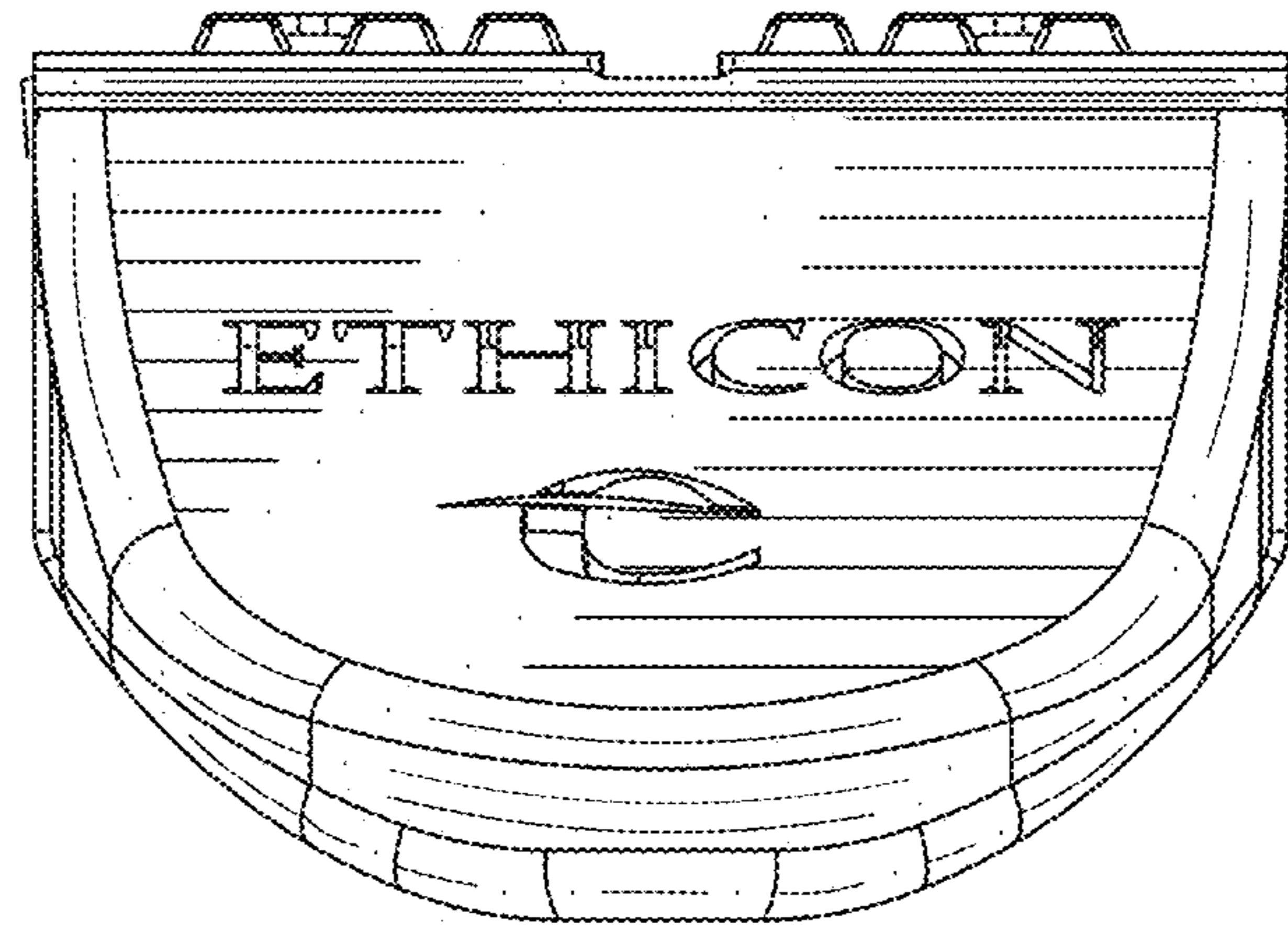


FIG. 13

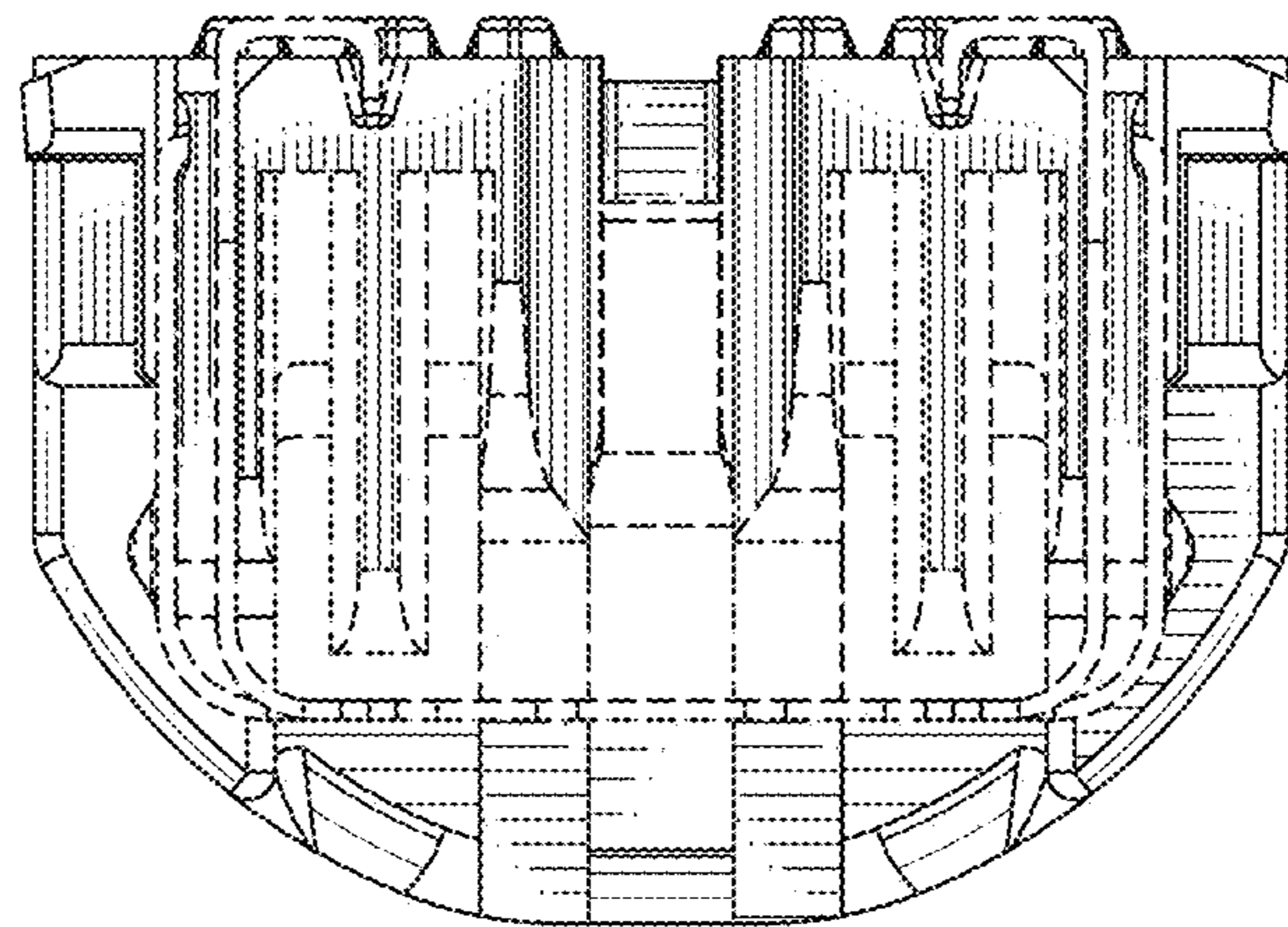


FIG. 14



FIG. 15

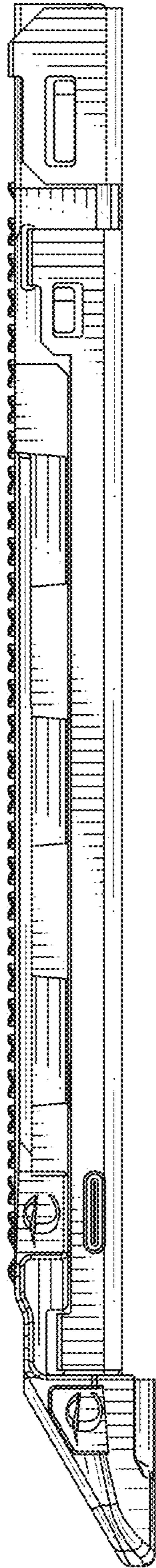


FIG. 16

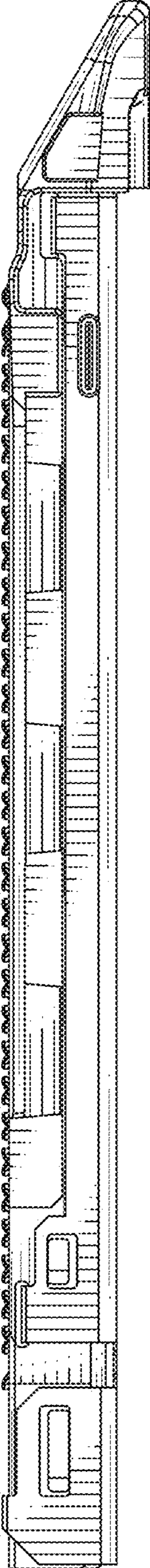


FIG. 17

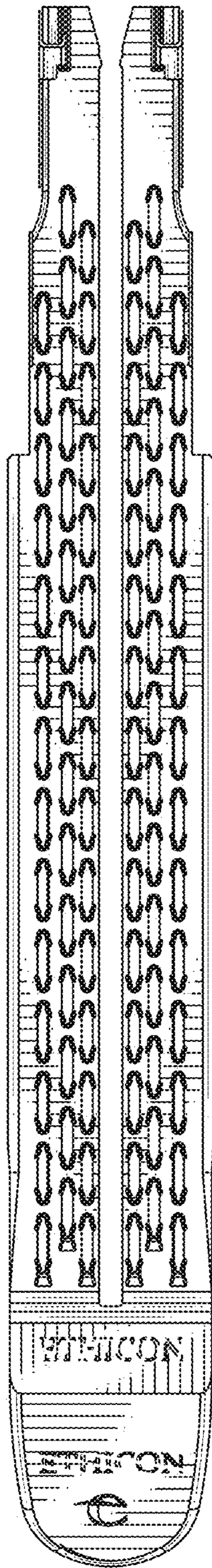


FIG. 18

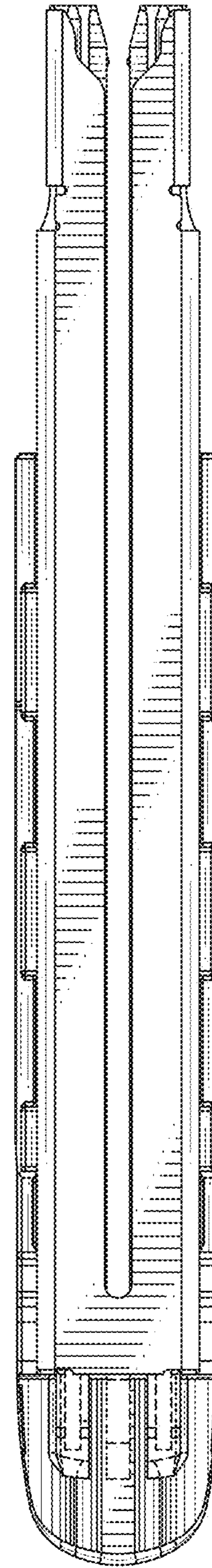


FIG. 19



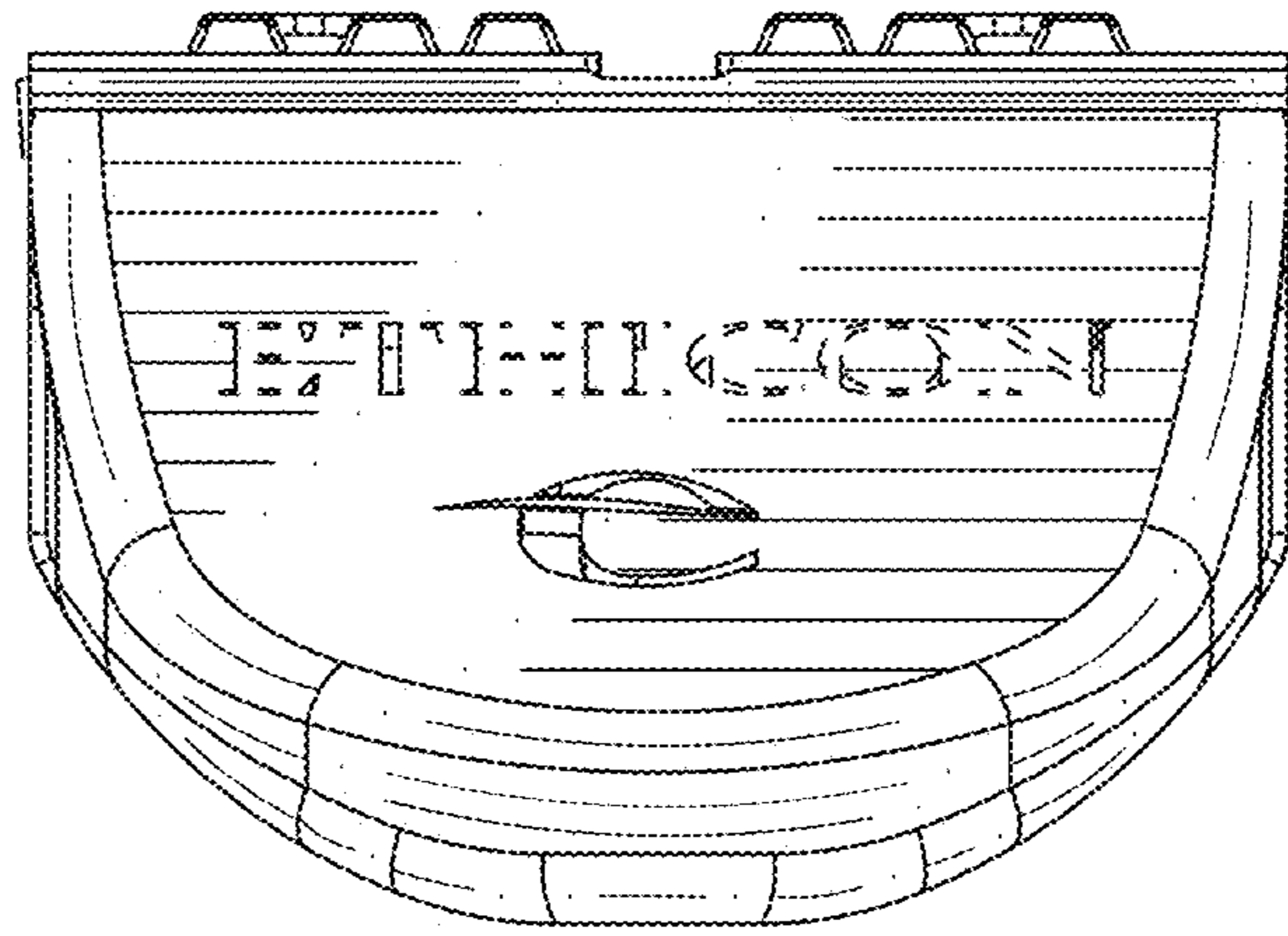


FIG. 20

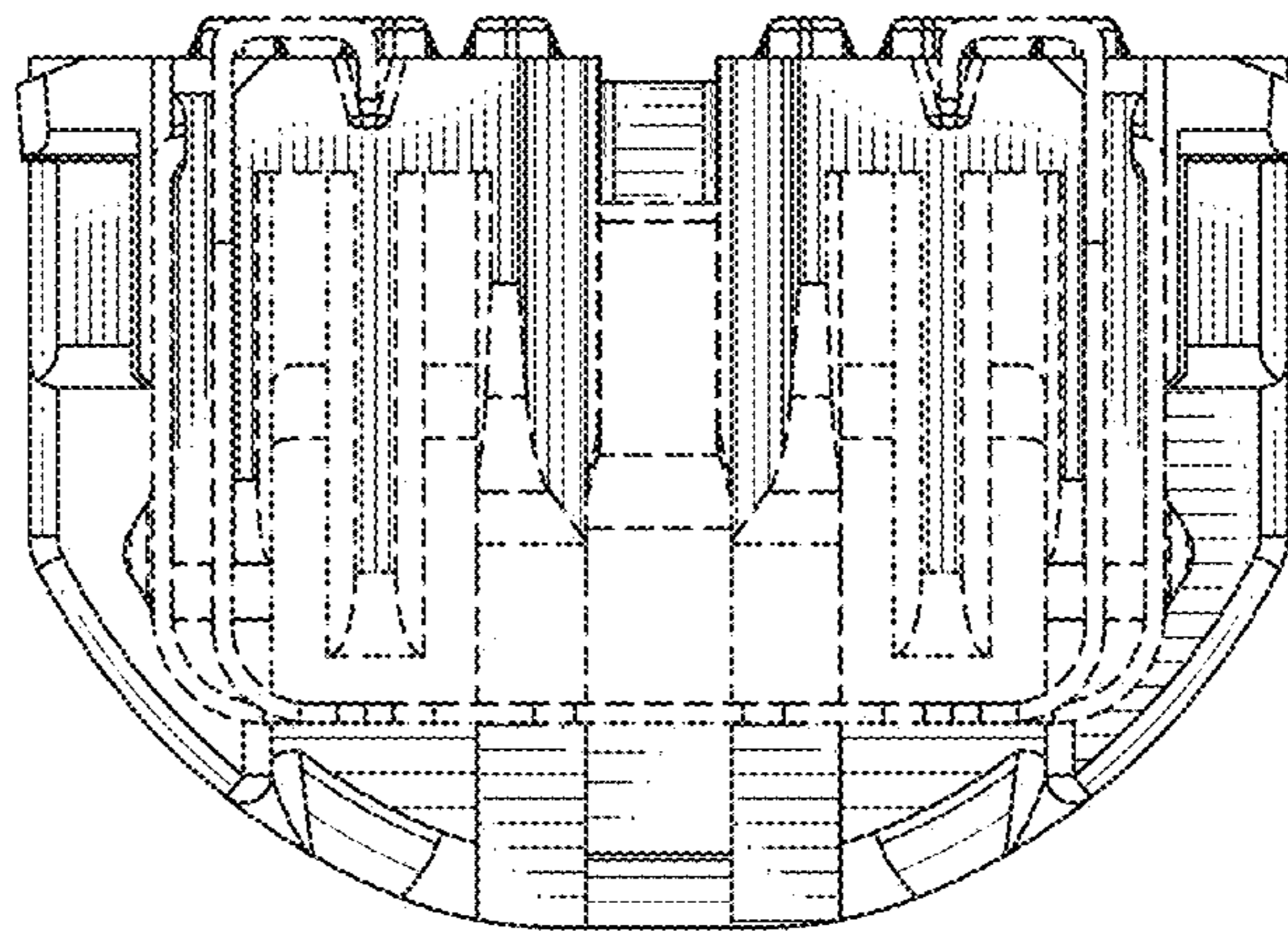


FIG. 21



FIG. 22

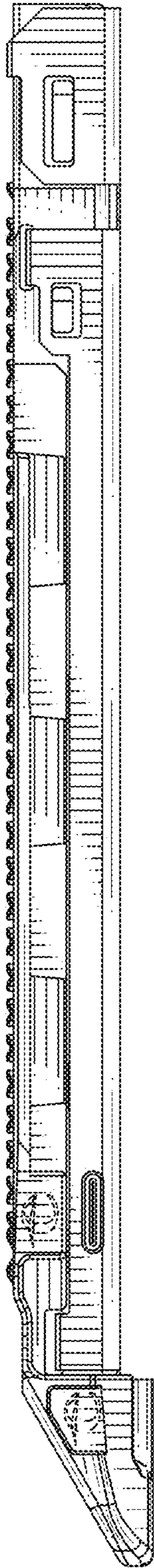


FIG. 23

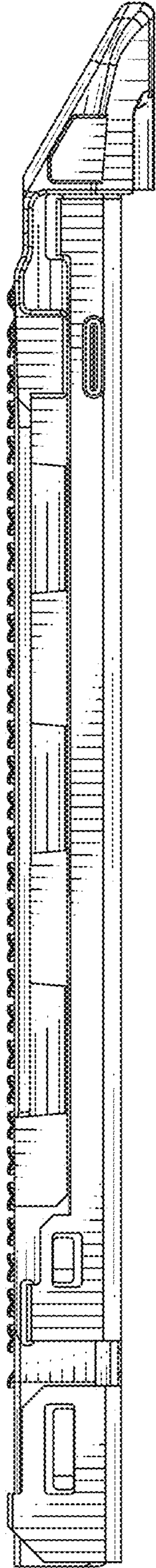


FIG. 24

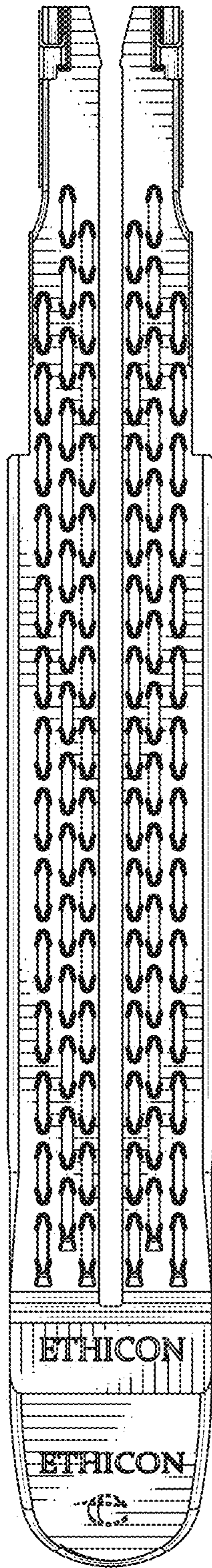


FIG. 25

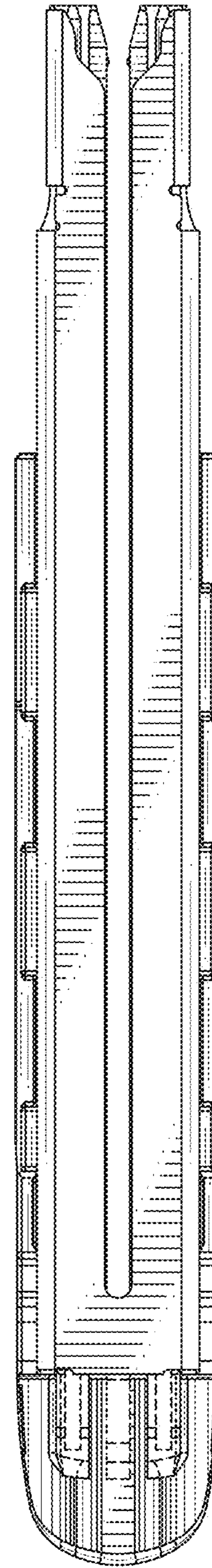


FIG. 26

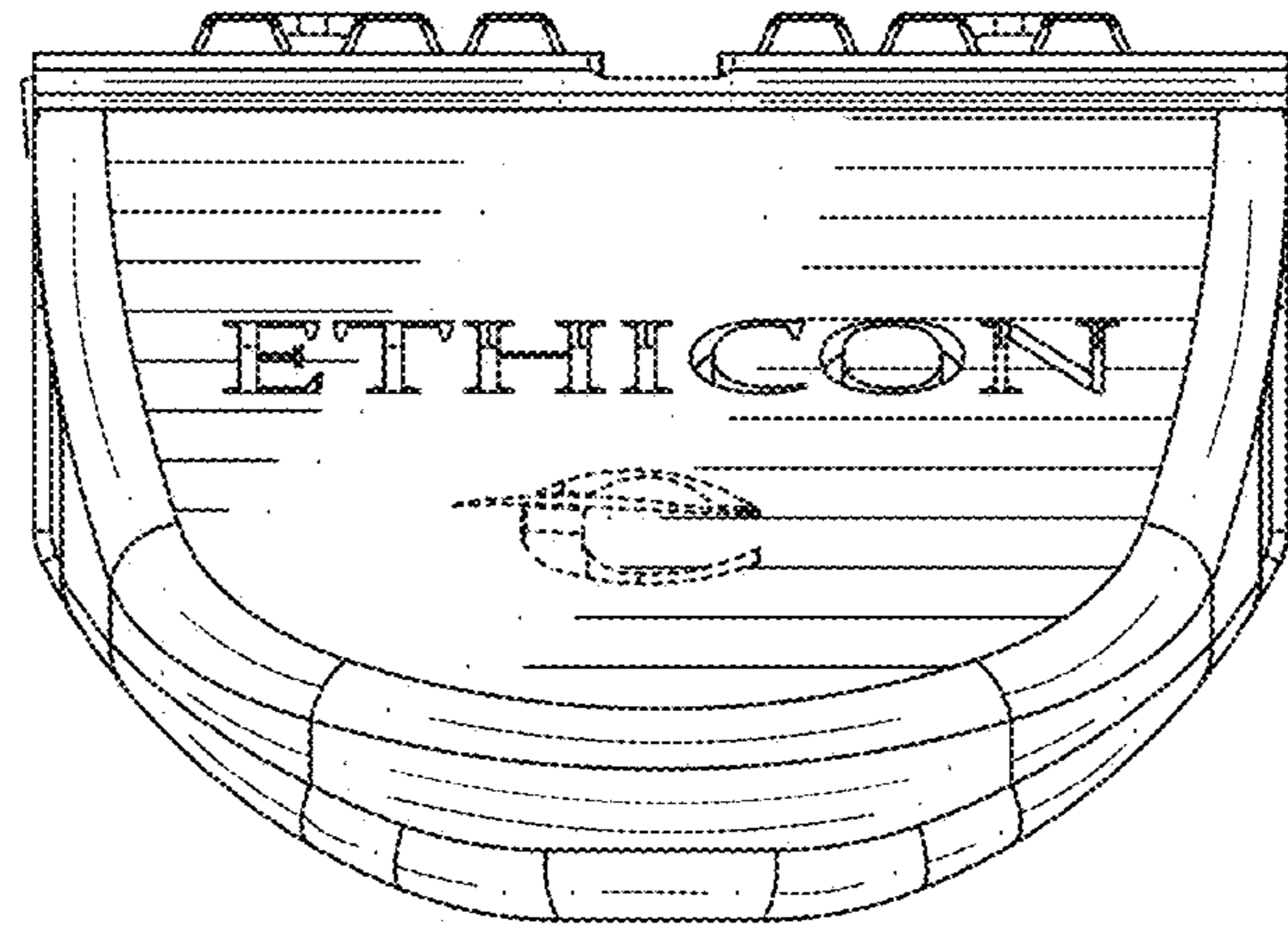


FIG. 27

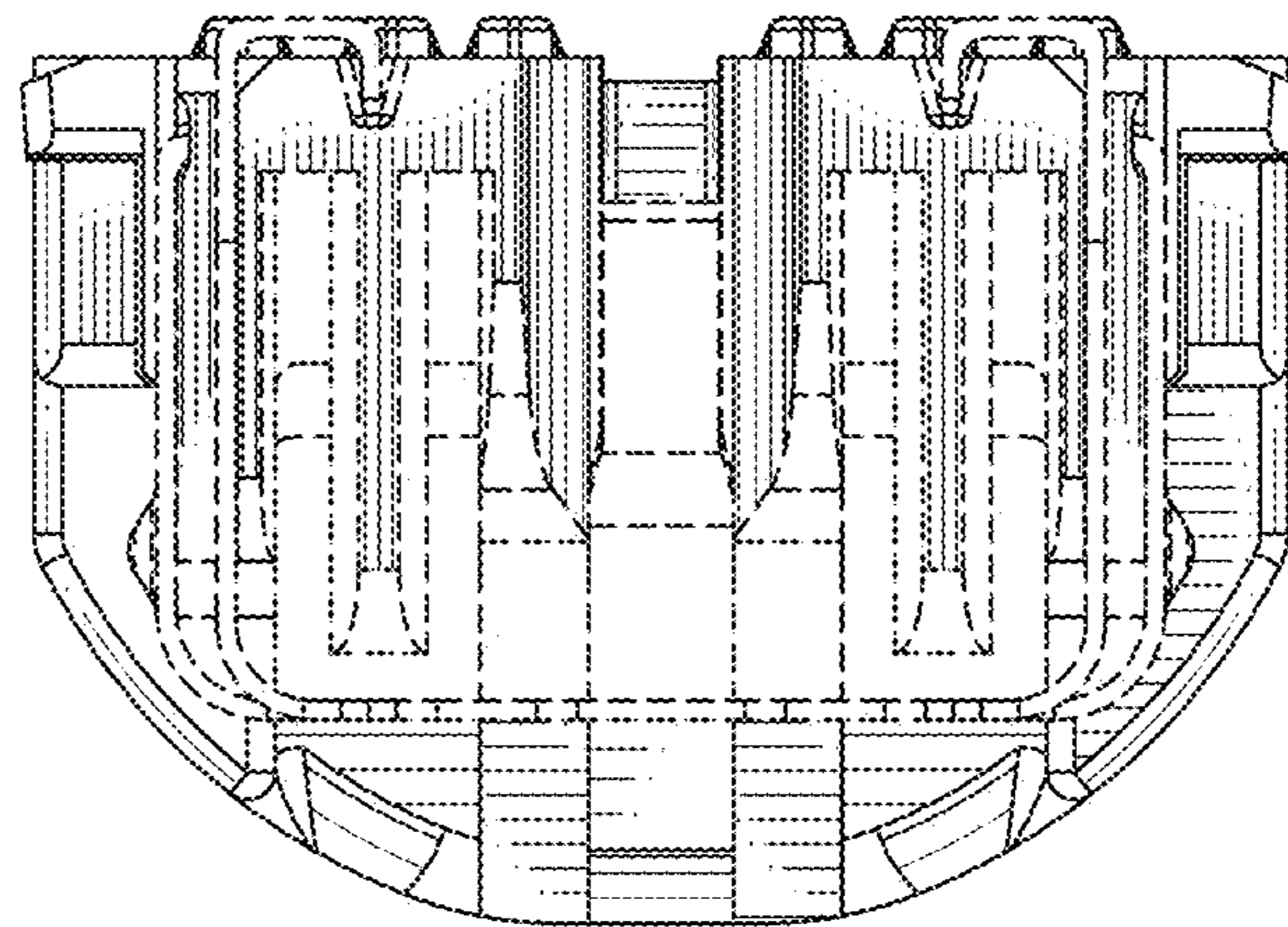


FIG. 28