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Kern

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(54) **DEFROST NOZZLE**

(56)

References Cited

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U.S. PATENT DOCUMENTS

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(52) **U.S. Cl.**

USPC **D23/388**

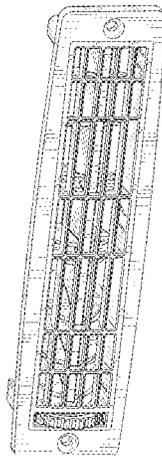
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B64C 11/20; B64C 2001/009; F03D
3/062; F03D 11/04; F04D 19/002; F04D
25/068; F04D 25/088; F04D 19/00; F04D
17/16; F04D 25/14; F04D 25/0606; F04D
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23/10

See application file for complete search history.

2,154,731	A *	4/1939	Crowley	B60S 1/54 239/284.1
2,560,467	A *	7/1951	Moore	.....	F24F 1/04 454/204
2,908,347	A *	10/1959	Roos	.....	B01D 46/00 55/497
3,045,580	A *	7/1962	Johnson	.....	F24F 13/075 454/313
3,252,398	A *	5/1966	First	.....	F24F 13/075 454/317
3,354,809	A *	11/1967	Orr	.....	F24F 11/04 454/202
3,572,233	A *	3/1971	Bar et al.	.....	B60S 1/54 454/154
3,683,787	A *	8/1972	Cary	.....	F24F 13/06 454/317
3,703,141	A *	11/1972	Pernoud	.....	B60H 1/345 239/519
3,777,650	A *	12/1973	Wenig	.....	F24F 13/075 454/317
4,018,159	A *	4/1977	Bennett	.....	F24F 13/15 415/125
4,591,153	A *	5/1986	Krey	.....	B60H 1/0065 180/90
D285,480	S *	9/1986	Schulz	.....	D23/392
4,646,625	A *	3/1987	Schroeder	.....	B60H 1/34 292/289
D290,745	S *	7/1987	Whitley, II	.....	D12/317
4,864,919	A *	9/1989	Schulz	.....	F24F 13/072 454/127
4,876,951	A *	10/1989	Vork	.....	F24F 13/1426 454/322
4,892,288	A *	1/1990	Norbury, Jr.	.....	B60H 1/3435 251/306
D307,632	S *	5/1990	Schulz	.....	D23/392
D315,790	S *	3/1991	Koessler	.....	D23/388
D321,934	S *	11/1991	Logue	.....	D23/388
D325,250	S *	4/1992	Kloster	.....	D23/326
D325,433	S *	4/1992	Siebert	.....	D23/382
5,162,018	A *	11/1992	Horton	.....	B60H 1/3407 251/100
D334,977	S *	4/1993	Avari	.....	D23/387
5,232,403	A *	8/1993	Marotta	.....	F24F 13/081 454/289
5,312,298	A *	5/1994	Myers	.....	F24F 13/15 454/290
D351,903	S *	10/1994	Whitley, II	.....	D12/317



D358,205 S *	5/1995	Ruhland	D23/393	D743,017 S *	11/2015	Klochkov	D23/366
D362,059 S *	9/1995	Wojcik	D23/388	D746,424 S *	12/2015	Takahashi	D13/123
5,569,077 A *	10/1996	Lam	B60H 1/3435	D746,725 S *	1/2016	Stopka	D12/163
			454/289	D754,315 S *	4/2016	Morin	D23/365
D393,708 S *	4/1998	Assadi	D23/388	D754,830 S *	4/2016	Huang	D23/351
5,820,457 A *	10/1998	Kern	B60H 1/3428	D755,349 S *	5/2016	Murphey	D23/237
			454/315	D755,364 S *	5/2016	Vogtner	D23/388
D413,665 S *	9/1999	Hudson	D23/370	2002/0157415 A1 *	10/2002	Liu	F24F 1/027
D417,267 S *	11/1999	Sacco	D12/192				62/298
D425,481 S *	5/2000	Cutler	D10/105	2003/0217834 A1 *	11/2003	Campbell	F24F 1/027
D425,974 S *	5/2000	Esty	D23/354				165/47
D428,135 S *	7/2000	Potchen	D23/418	2005/0056037 A1 *	3/2005	Park	F24F 1/0011
D450,518 S *	11/2001	Frederick	D6/630				62/262
D451,187 S *	11/2001	Webb	D23/393	2005/0056039 A1 *	3/2005	Kim	F24F 1/0011
6,322,442 B1 *	11/2001	Cordell	F24F 13/06				62/262
			454/290	2006/0199525 A1 *	9/2006	Marcoux	F24F 13/1426
D453,375 S *	2/2002	Peng	D23/370				454/277
6,447,388 B1 *	9/2002	de Barros	B60H 1/3428	2007/0202794 A1 *	8/2007	Antill	F24F 13/075
			454/155				454/153
D468,008 S *	12/2002	Fraser	D23/390	2008/0220711 A1 *	9/2008	Banschbach	B60H 1/34
D468,417 S *	1/2003	Wolf	D23/392				454/155
6,503,140 B1 *	1/2003	Haynes	F24F 13/075	2008/0318512 A1 *	12/2008	Kern	B60H 1/00685
			454/290				454/317
D475,131 S *	5/2003	Pilger	D23/393	2014/0116414 A1 *	5/2014	Sinur	F24C 15/2042
6,705,833 B2 *	3/2004	Tam	F04D 25/14				126/299 D
			29/888.024				
D490,509 S *	5/2004	Negrao	D23/354				
D497,066 S *	10/2004	Pfeiffer	D6/356				
D506,003 S *	6/2005	Murphy	D23/392				
D511,377 S *	11/2005	Erwan	D23/393				
6,974,377 B2 *	12/2005	Gehring	B60H 1/3414				
			454/152				
D514,218 S *	1/2006	Kaminsky	D23/393				
D518,566 S *	4/2006	Bratton	D23/388				
D520,134 S *	5/2006	DePierro	D23/395				
D521,631 S *	5/2006	Habensuss	D23/388				
D537,213 S *	2/2007	Selstad	D30/106				
D537,935 S *	3/2007	Schluter	D23/412				
D542,898 S *	5/2007	Juraschek	D12/192				
D566,261 S *	4/2008	Brown	D23/388				
D572,358 S *	7/2008	Natras	D23/397				
D579,538 S *	10/2008	Brown, Jr.	D23/387				
D582,593 S *	12/2008	Cheng	D26/63				
D586,600 S *	2/2009	Norbury, Jr.	D23/392				
D593,673 S *	6/2009	Kern	D23/388				
D595,832 S *	7/2009	Asselbergs	D23/388				
D605,281 S *	12/2009	Kern	D23/388				
D607,667 S *	1/2010	Cayouette	D6/675.1				
D612,921 S *	3/2010	Rosenbohm	D23/327				
D613,393 S *	4/2010	Dorsey	D23/397				
D616,538 S *	5/2010	Lu	D23/418				
D622,521 S *	8/2010	Urquiola	D6/675.1				
D634,419 S *	3/2011	Lambertson	D23/393				
D654,162 S *	2/2012	Sykes	D23/393				
8,147,193 B2 *	4/2012	Weaver	F04D 25/12				
			415/213.1				
D664,246 S *	7/2012	Irvin	D23/356				
D678,594 S *	3/2013	McCane	D26/118				
D696,165 S *	12/2013	Campbell	D12/163				
8,651,924 B1 *	2/2014	Jones	B64D 13/02				
			244/118.5				
D717,595 S *	11/2014	Knoll	D7/402				
D718,086 S *	11/2014	Lewis	D7/391				
D719,253 S *	12/2014	Francescon	D23/388				
D723,434 S *	3/2015	McNeil	D12/167				
D733,274 S *	6/2015	An	D23/351				
D735,931 S *	8/2015	Lehman	D26/121				
D736,357 S *	8/2015	Melo	D23/262				
D736,366 S *	8/2015	Picco	D23/386				
D742,496 S *	11/2015	Carter	D23/365				

OTHER PUBLICATIONS

Rectangular Vents, image post date Apr. 10, 2012, site visited May 28, 2016, (online), <<http://www.thhs.co.uk/products/general-parts/air-vents-louvers/retangular-vents/>>.*

Air vent—EP 1226991 A1—from google patents, image post date Jul. 31, 2002, site visited May 28, 2016, (online), <<http://www.google.ms/patents/EP1226991A1?cl=en>>.*

Indoor Trickle Vent, image post date 2008, site visited May 28, 2016, (online), <<http://www.smartclima.com/category/air-terminal-device/page/4>>.*

* cited by examiner

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(57) CLAIM

The ornamental design for a defrost nozzle, as shown and described.

DESCRIPTION

FIG. 1 is a front view of my defrost nozzle; FIG. 2 is an end view of my defrost nozzle; FIG. 3 is a top view of my defrost nozzle; FIG. 4 is another end view of my defrost nozzle; FIG. 5 is a rear view of my defrost nozzle; FIG. 6 is a bottom view of my defrost nozzle; and, FIG. 7 is a perspective view of my defrost nozzle. The broken lines (where present) in all figures illustrate portions of the defrost nozzle that represent environment and form no part of the claimed design.

1 Claim, 7 Drawing Sheets

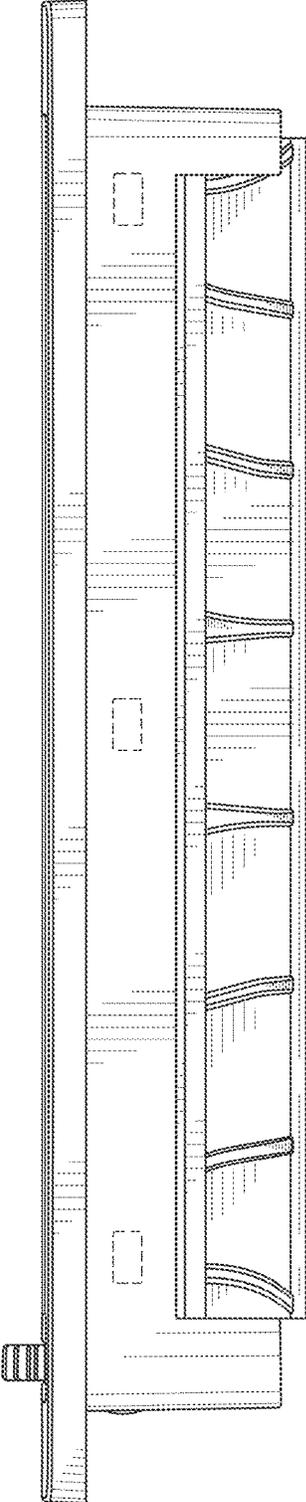


FIG. 1

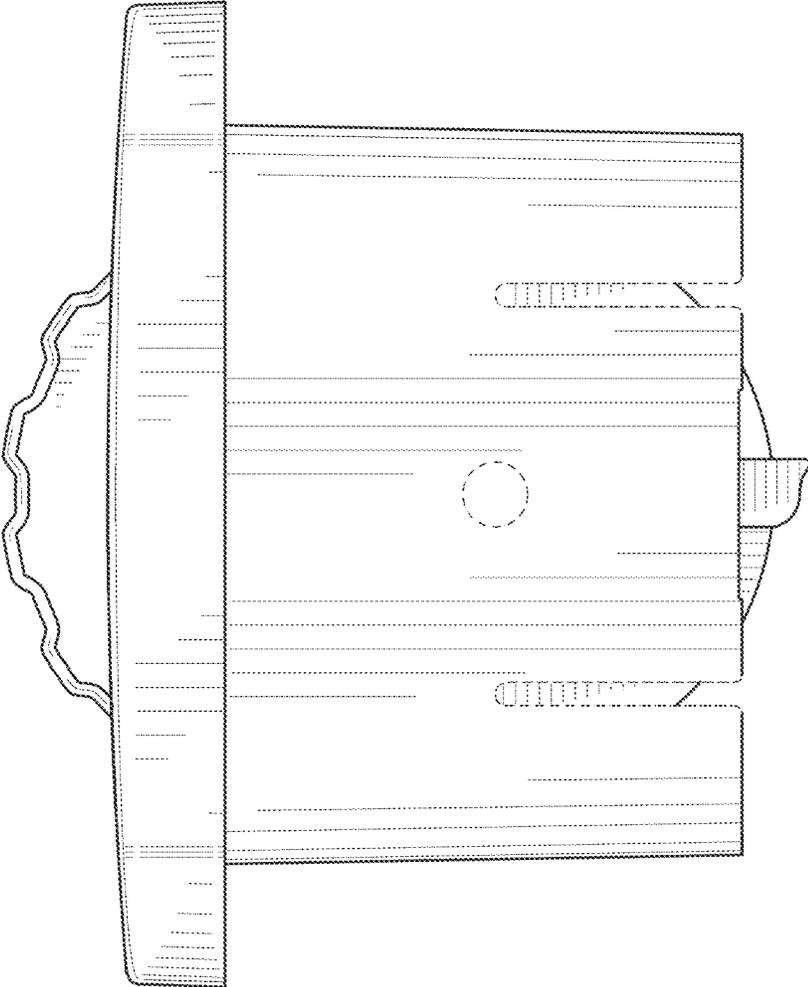


FIG. 2

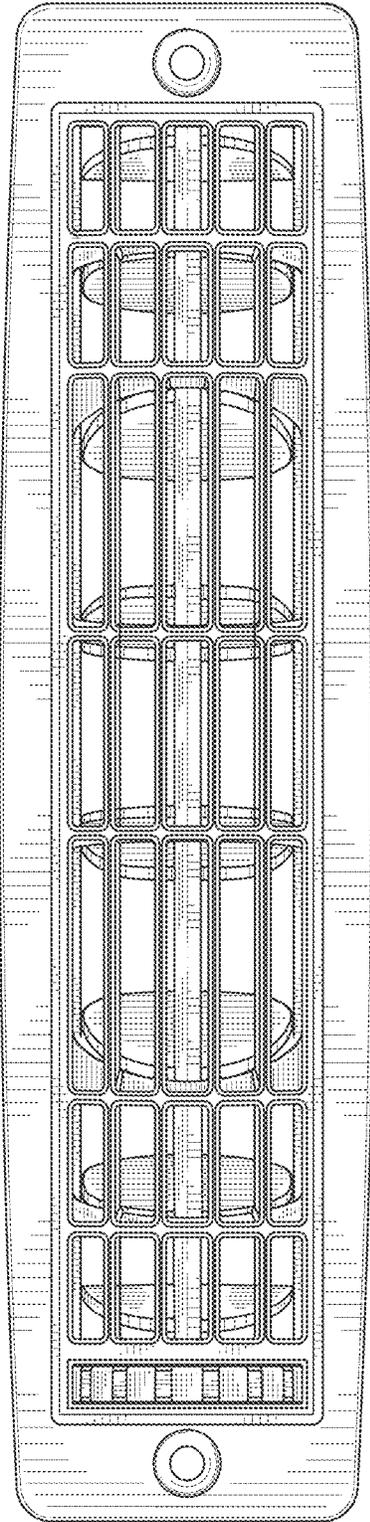


FIG. 3

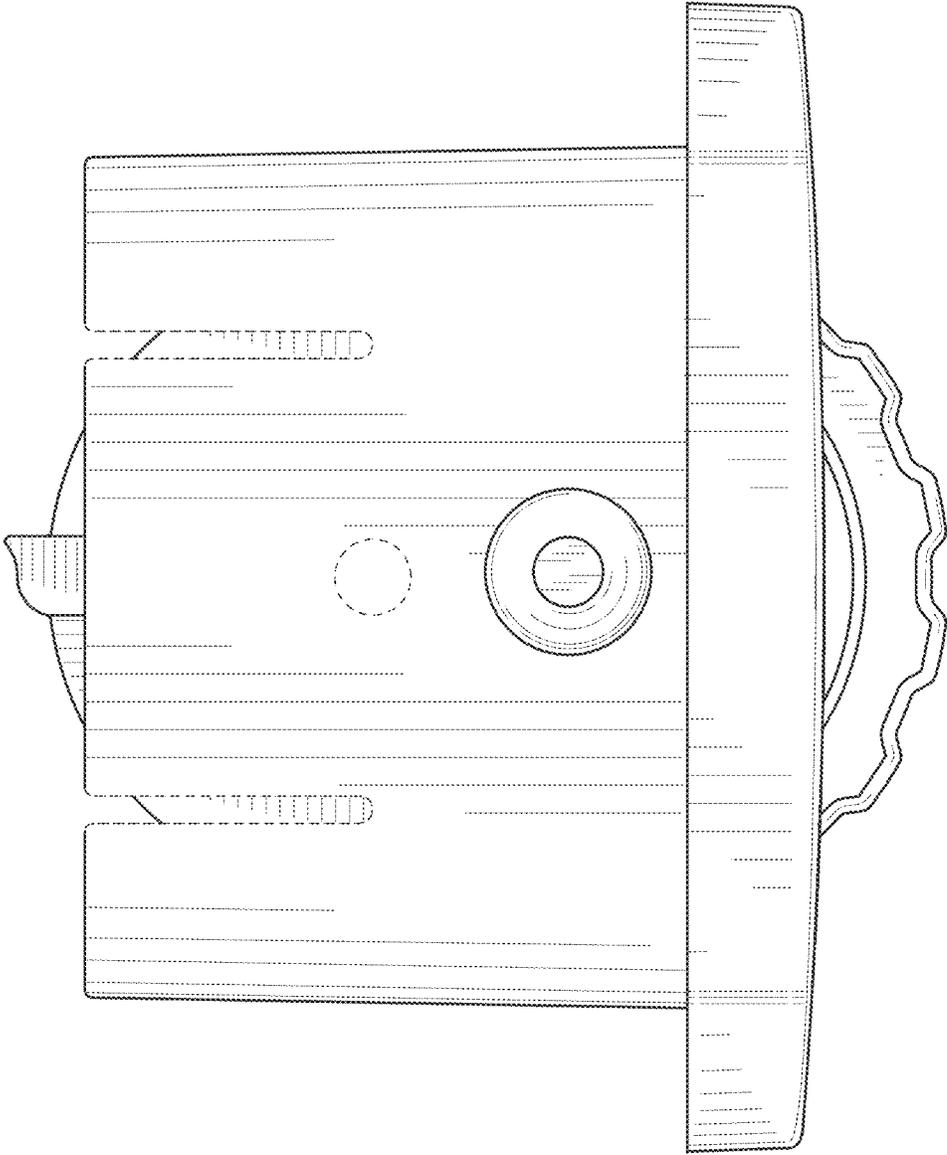


FIG. 4

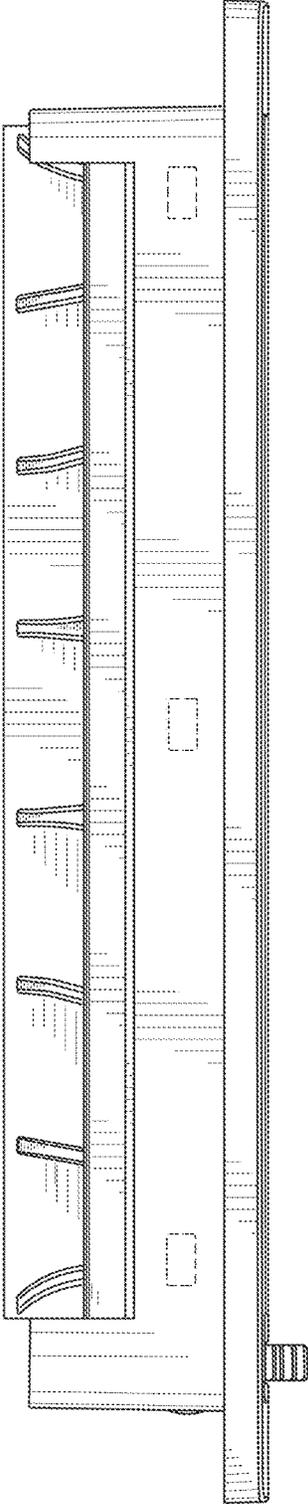


FIG. 5

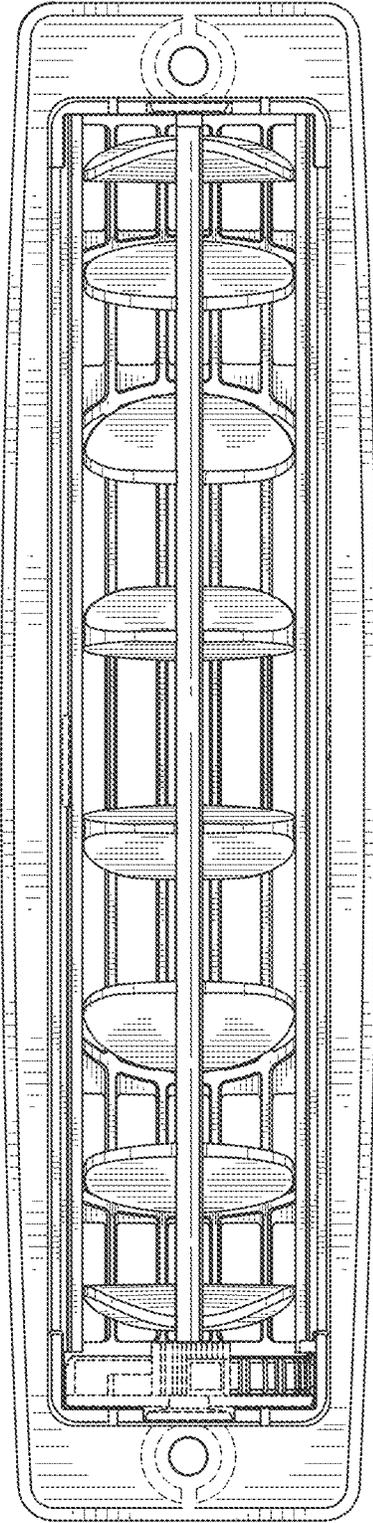


FIG. 6

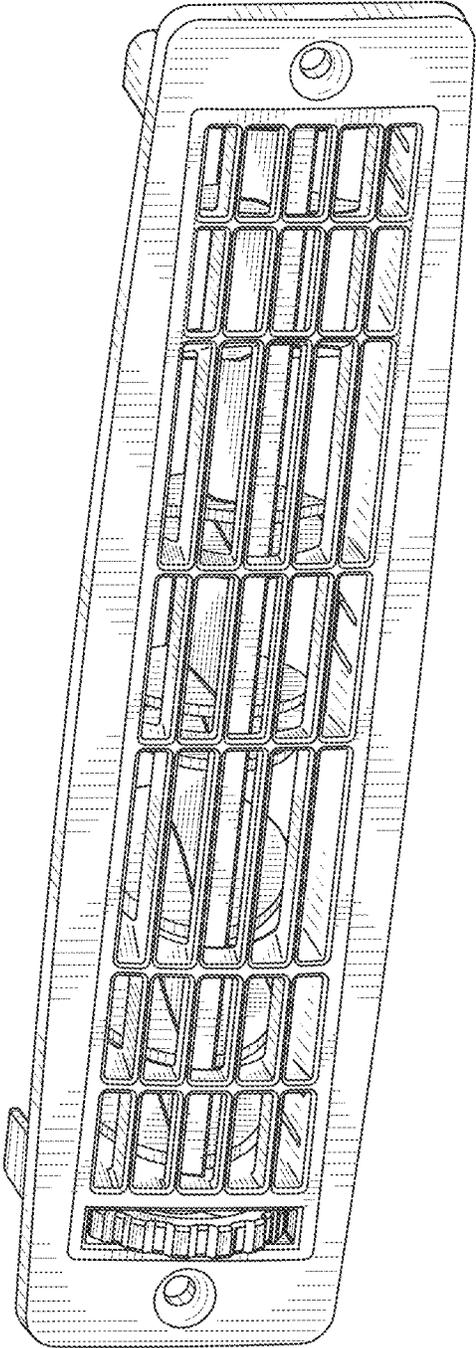


FIG. 7