

Fig. 1

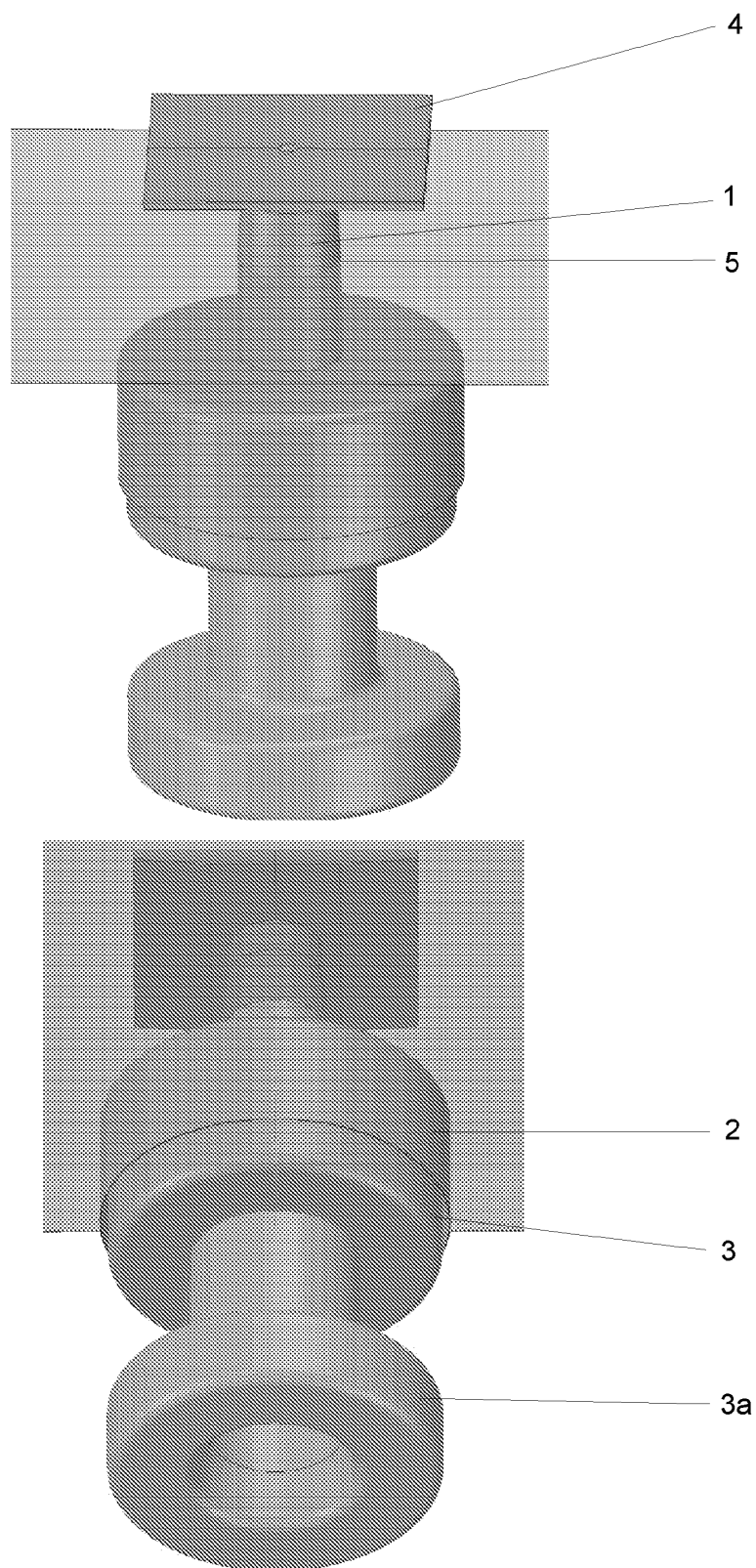
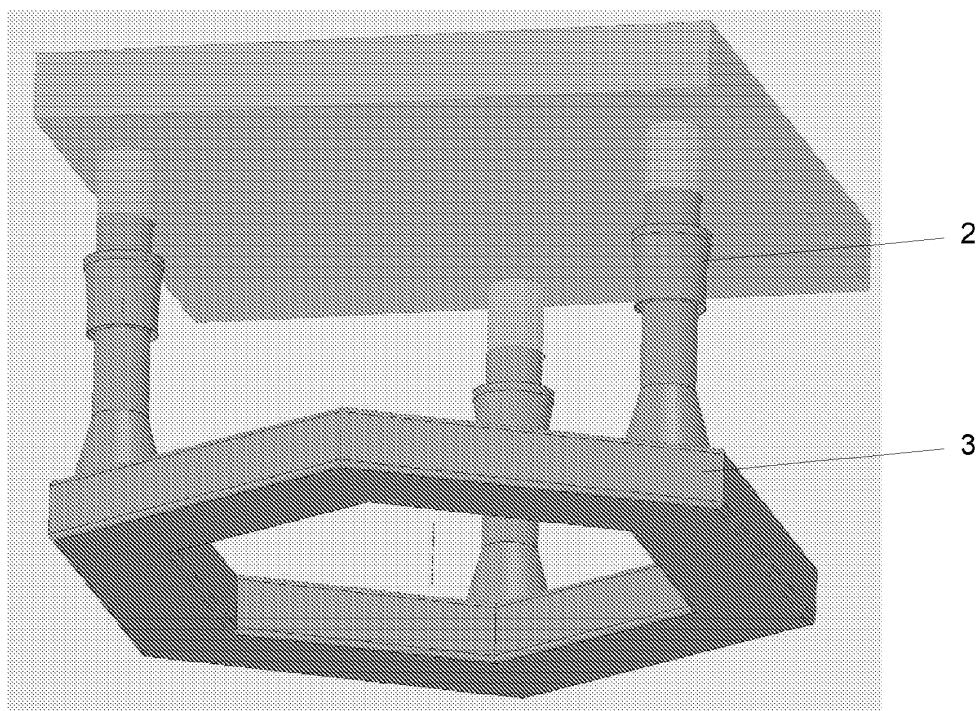
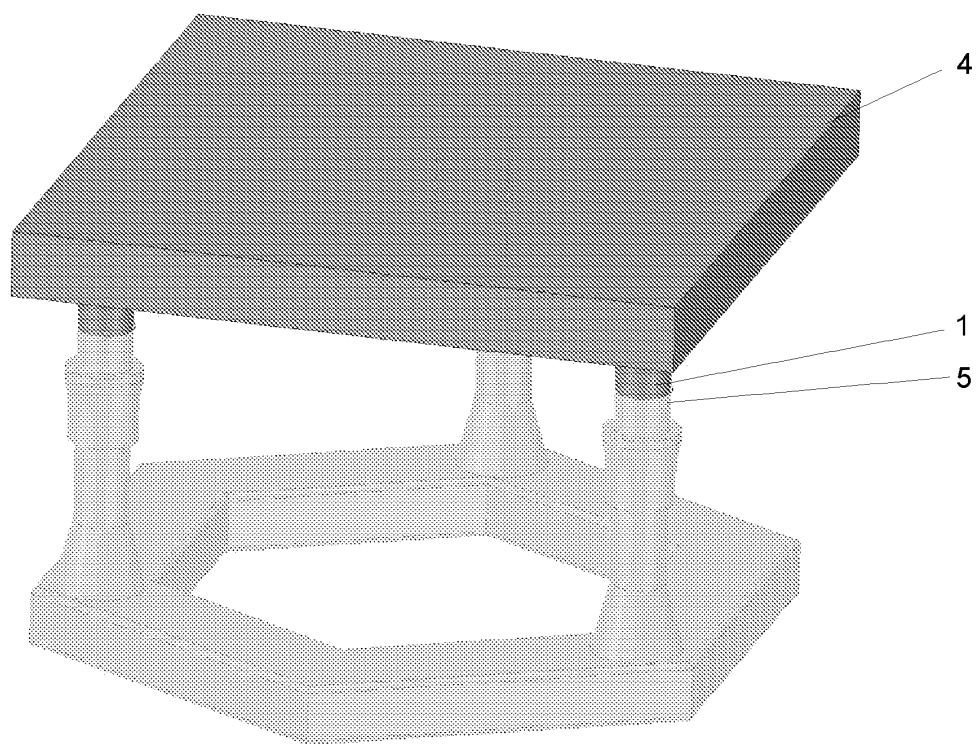


Fig. 2



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Fig. 3

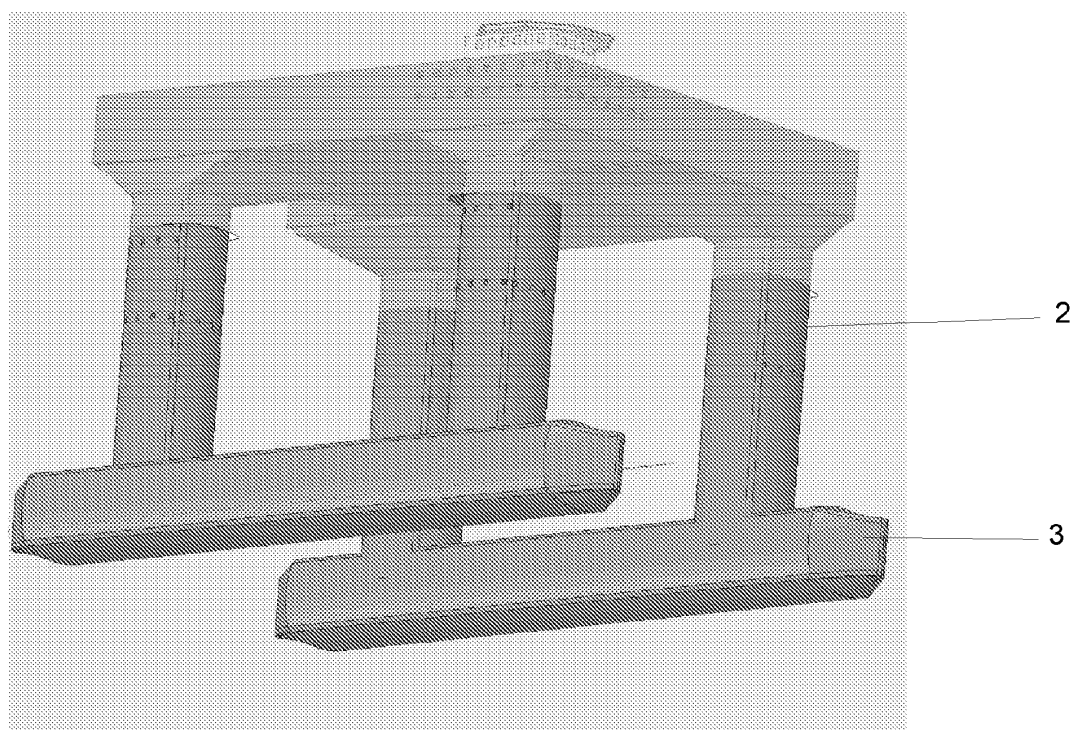
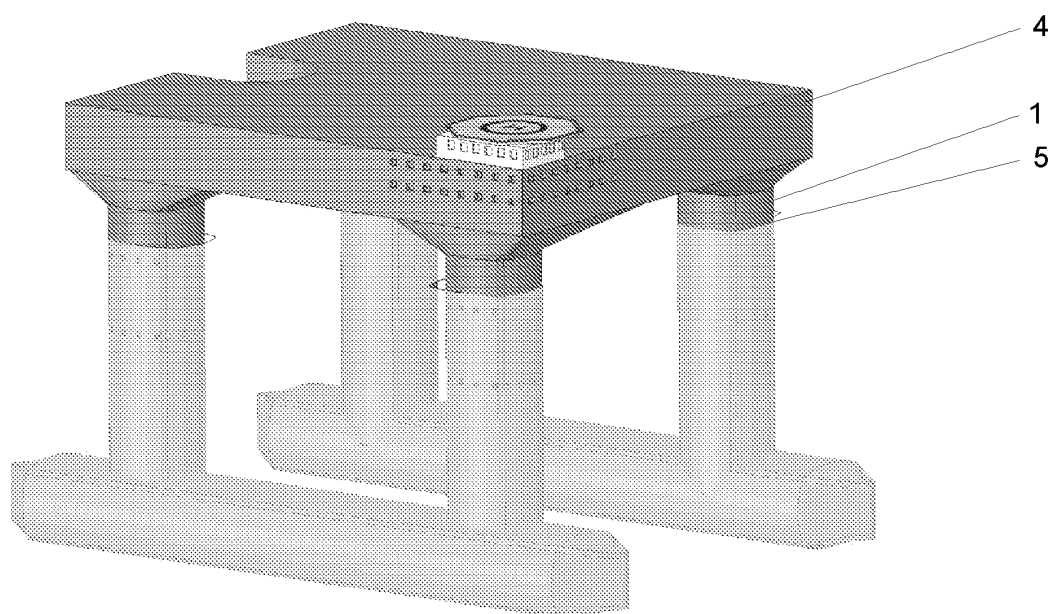


Fig. 4

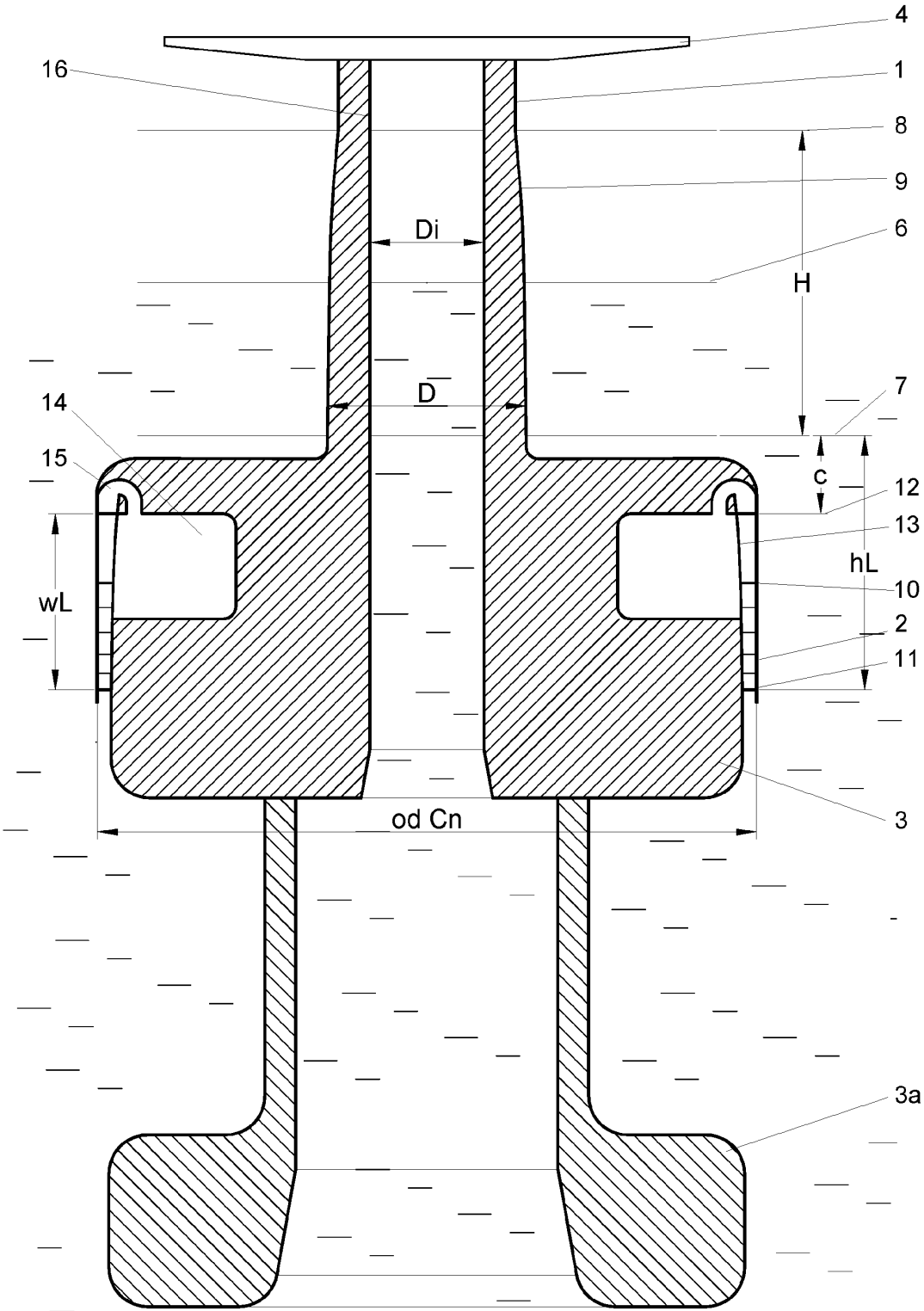
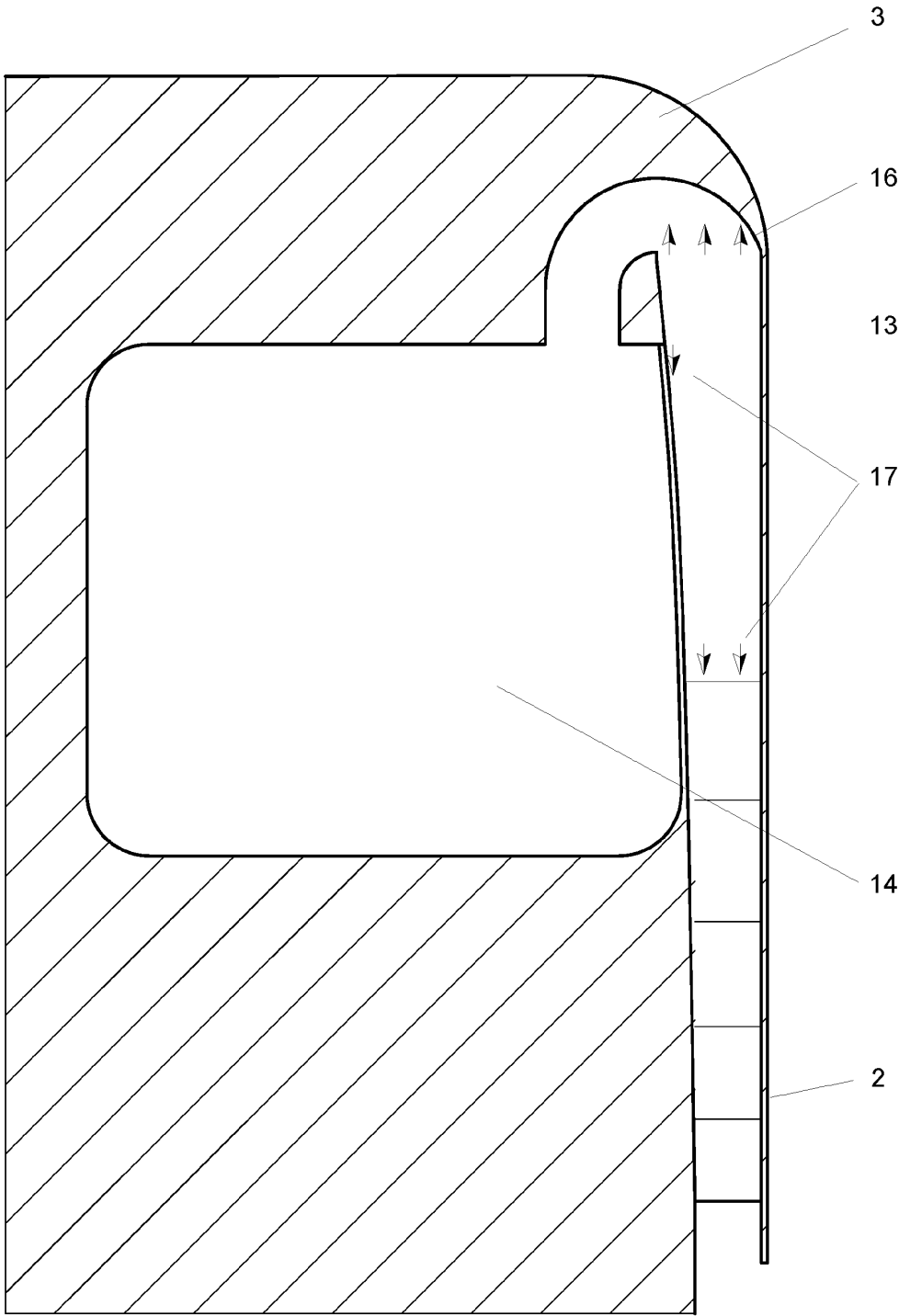
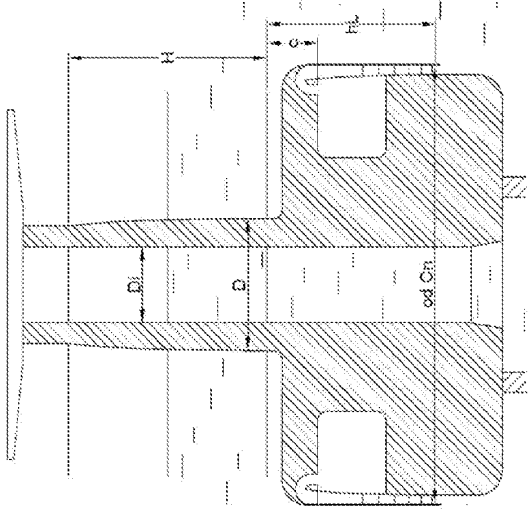


Fig. 5



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Fig. 6

	A	B	C	D	E	F	G	H	I	J	K
1	D, column	15,6	m								
2	Di, column	9	m								
3	od Cn	48	m								
4	H, max wave height	24	m								
5	hL, lowest level hydrostatic height	20	m								
6	c, clearance	4	m								
7	ΔH , increment	1,00	m								
8	Va L, air volume at hL	10 000,0	m ³								
9	Seawater specific gravity	1,025	kg/L								
10	Gross area column	191,13	m ²								
11	Area Di, column	63,62	m ²								
12	AD, dry area Column	127,5	m ²								
13	ΔV , total heave volume variation	3 060	m ³								
14	PV konstant, Va L x hL	200 000									
15											
16											

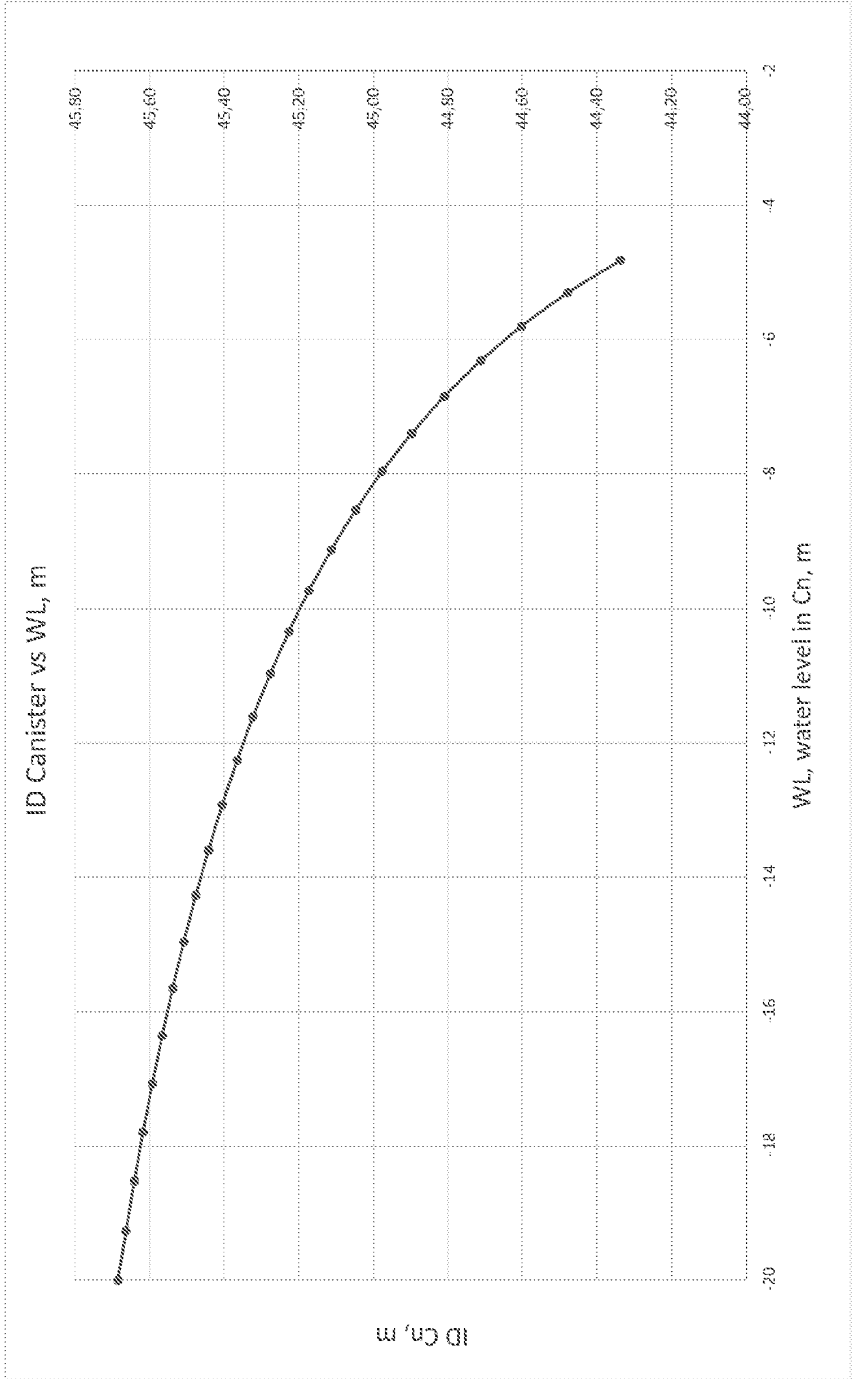


The technical drawing shows a cross-section of a column. It is a rectangular shape with rounded corners and a central vertical slot. Dimensions are indicated by letters A through K. A is the total width, B is the width of the central slot, C is the thickness of the side walls, D is the total height, E is the height of the side walls, F is the height of the central slot, G is the width of the top flange, H is the height of the top flange, I is the thickness of the top flange, J is the width of the bottom flange, and K is the height of the bottom flange.

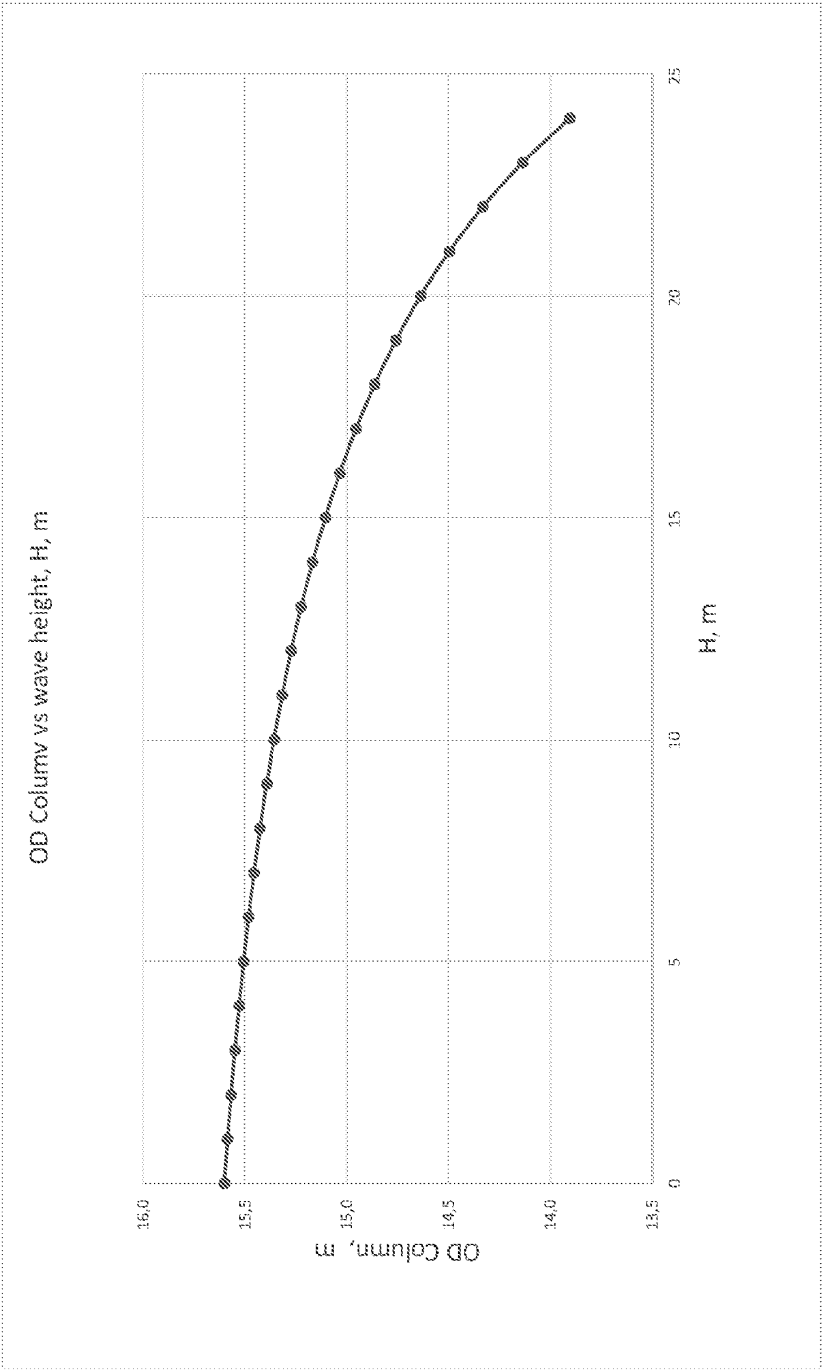
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Fig. 7

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
	Wave, H Level, m	Va, air volume, m3	Air volume increment, m3	Hydrostatic pressure height, h, m	Water volume increment, m3	WL water level in Cn, m	WL change increments, m	Area Cn, m2	Cn id, m	Area Cn increase, m2	Air pressure, kPa	Air pressure increase, kPa	CBE increase, kN	Ballast correction for CBE, m3	AW area correction, m2	OD area, m2	Column OD, m
1																	
2	0	10 000,0		20,0		-2,0		170,4	45,58	0,00	201,11	0,00	0	0,0	0,0	191,1	15,6
3	3,00	9 872,5	-127,5	20,3	127,5	-1,9,3	0,74	171,9	45,66	1,58	203,70	2,60	4,11	0,41	0,409	190,7	15,6
4	2,00	9 745,0	-127,5	20,5	127,5	-1,8,5	0,73	173,5	45,84	3,38	206,37	2,67	4,22	0,42	0,419	190,3	15,6
5	3,00	9 617,4	-127,5	20,8	127,5	-1,7,8	0,73	175,2	45,62	3,68	209,10	2,74	4,59	0,46	0,456	189,9	15,5
6	4,00	9 489,9	-127,5	21,1	127,5	-1,7,1	0,72	177,0	45,59	3,78	211,91	2,81	5,00	0,50	0,497	189,4	15,5
7	5,00	9 362,4	-127,5	21,4	127,5	-1,6,4	0,71	178,9	45,57	3,89	214,80	2,89	5,45	0,54	0,542	188,8	15,5
8	6,00	9 234,9	-127,5	21,7	127,5	-1,5,7	0,71	180,9	45,54	2,01	217,77	2,87	5,96	0,59	0,593	188,2	15,5
9	7,00	9 107,4	-127,5	22,0	127,5	-1,5,0	0,70	183,0	45,51	2,14	220,82	3,05	6,54	0,65	0,650	187,6	15,5
10	8,00	8 979,9	-127,5	22,3	127,5	-1,4,3	0,69	185,3	45,48	2,29	223,95	3,14	7,18	0,71	0,714	186,9	15,4
11	9,00	8 852,3	-127,5	22,6	127,5	-1,3,6	0,68	187,8	45,44	2,45	227,18	3,23	7,91	0,79	0,786	186,1	15,4
12	10,00	8 724,8	-127,5	22,9	127,5	-1,2,9	0,67	190,4	45,40	2,63	230,50	3,32	8,73	0,87	0,868	185,2	15,4
13	11,00	8 597,3	-127,5	23,3	127,5	-1,2,3	0,66	193,2	45,37	2,83	233,92	3,42	9,66	0,96	0,961	184,2	15,3
14	12,00	8 469,8	-127,5	23,6	127,5	-1,1,6	0,65	196,3	45,32	3,04	237,44	3,52	10,72	1,07	1,066	183,2	15,3
15	13,00	8 342,3	-127,5	24,0	127,5	-1,1,0	0,64	199,5	45,28	3,29	241,07	3,63	11,93	1,19	1,187	182,0	15,2
16	14,00	8 214,8	-127,5	24,3	127,5	-1,0,3	0,63	203,1	45,23	3,56	244,81	3,74	13,33	1,33	1,325	180,7	15,2
17	15,00	8 087,2	-127,5	24,7	127,5	-0,9,7	0,62	207,0	45,17	3,87	248,67	3,86	14,93	1,49	1,485	179,2	15,1
18	16,00	7 959,7	-127,5	25,1	127,5	-0,9,1	0,60	211,2	45,11	4,22	252,85	3,98	16,80	1,67	1,670	177,5	15,0
19	17,00	7 832,2	-127,5	25,5	127,5	-0,8,5	0,59	215,8	45,05	4,61	256,77	4,11	18,97	1,89	1,886	175,6	15,0
20	18,00	7 704,7	-127,5	26,0	127,5	-0,8,0	0,58	220,9	44,98	5,06	261,02	4,25	21,51	2,14	2,139	173,5	14,9
21	19,00	7 577,2	-127,5	26,4	127,5	-0,7,4	0,56	226,4	44,90	5,58	265,81	4,39	24,51	2,44	2,437	171,0	14,8
22	20,00	7 449,7	-127,5	26,8	127,5	-0,6,8	0,55	232,6	44,81	6,18	269,95	4,54	28,06	2,79	2,791	168,3	14,6
23	21,00	7 322,1	-127,5	27,3	127,5	-0,6,3	0,53	239,5	44,71	6,87	274,65	4,70	32,32	3,21	3,214	165,0	14,5
24	22,00	7 194,6	-127,5	27,8	127,5	-0,5,8	0,52	247,2	44,60	7,69	279,52	4,87	37,45	3,72	3,725	161,3	14,3
25	23,00	7 067,1	-127,5	28,3	127,5	-0,5,3	0,50	255,8	44,48	8,66	284,56	5,04	43,70	4,35	4,346	157,0	14,1
26	24,00	6 939,6	-127,5	28,8	127,5	-0,4,8	0,48	265,7	44,34	9,83	289,78	5,23	51,38	5,11	5,110	151,9	13,9
27		3 060,4	-3 060,4	8,8	3060,4	-15,2	15,2	95,3,2	-1,3,5	95,32	938,69	938,69	394,35	39,28	39,3	-39,3	-1,7

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Fig. 8

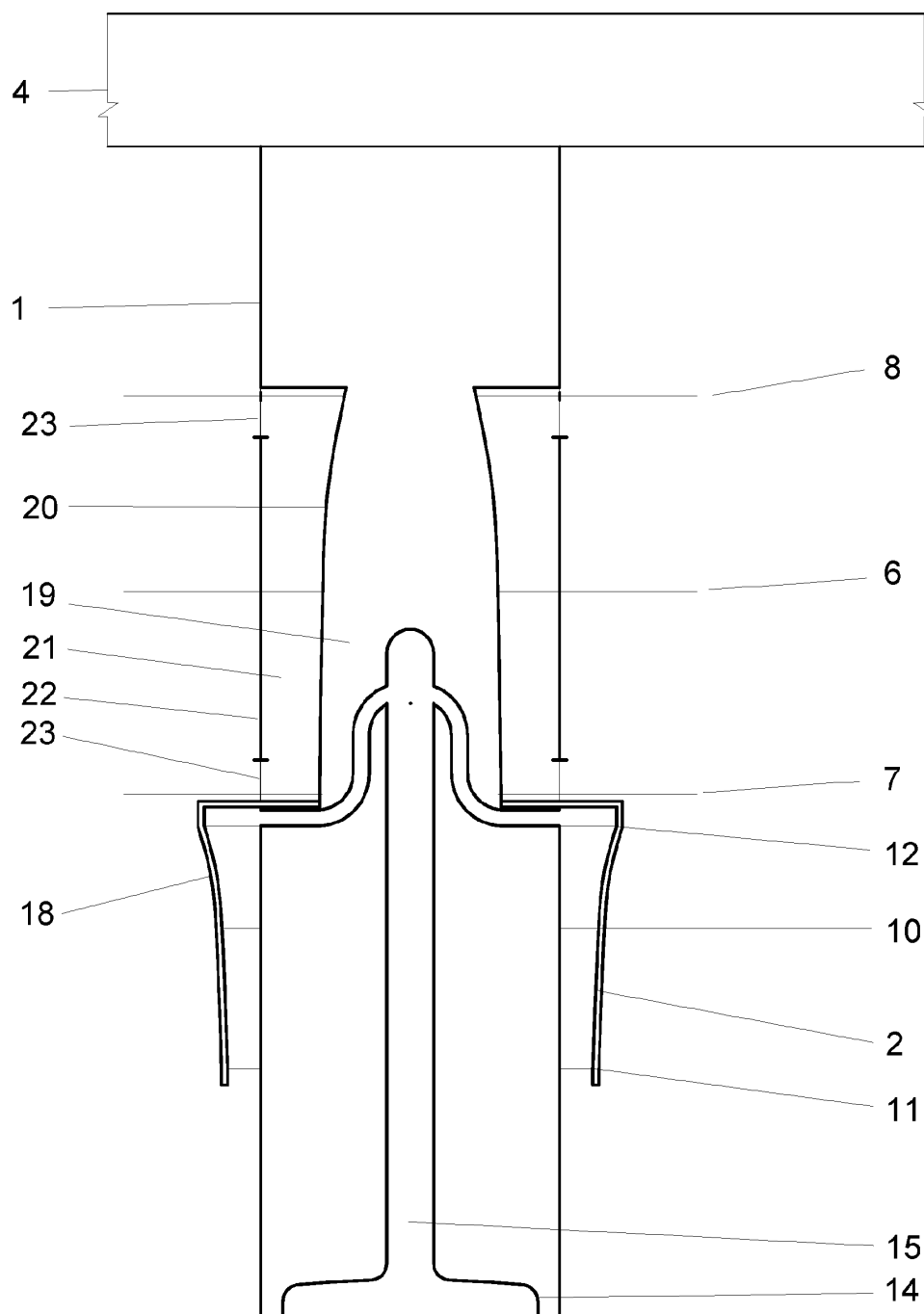


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Fig. 9

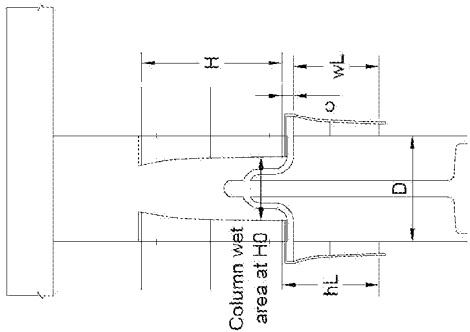


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Fig. 10



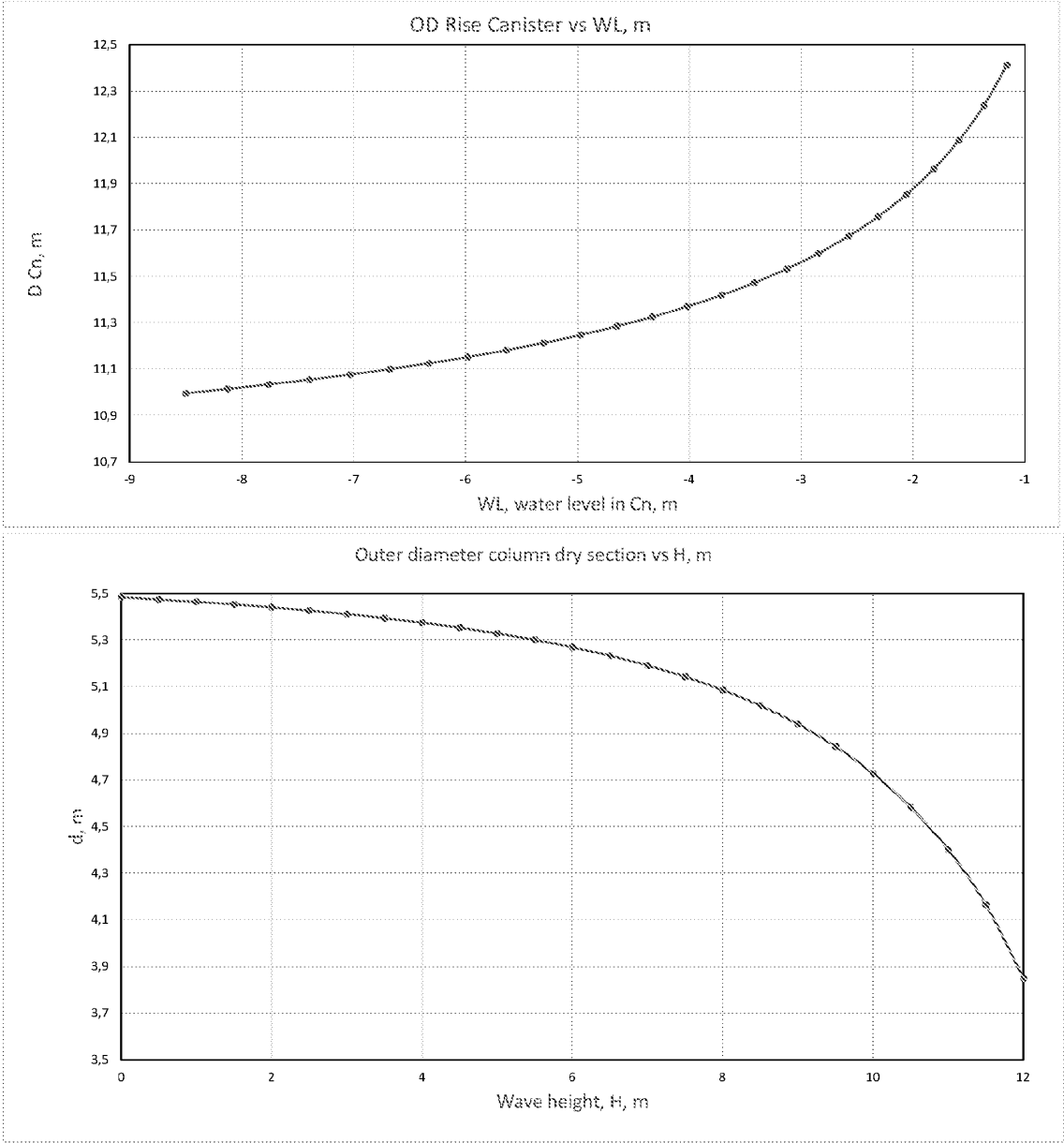
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Fig. 11

	A	B	C	D	E	F	G	H
1	D, column	9	m					
2	Column wet area at H 0	40	m ²					
3	H, max wave height	12	m					
4	hL, lowest level hydrostatic height	8,5	m					
5	c, clearance	1	m					
6	ΔH, increment	0,50	m					
7	Va L, air volume at hL	800,0	m ³					
8	Seawater specific gravity	1,025	kg/L					
9	Gross area column	63,62	m ²					
10	Ad, dry area Column	23,6	m ²					
11	ΔV, total heave volume variation	283	m ³					
12	PV konstant, Va L x hL	6 800						
13								

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Fig. 12

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
	Wave, H Level, m	Va, air volume, m3	Air volume increment, m3	Hydrostatic pressure height, h, m	Water volume increment, m3	WL, water level in Cn, m	WL change increments, m	Area Cn, m2	Cn D, m	Air Cn increase, m2	Air pressure, kPa	Air pressure increase, kPa	CBE increase, kN	Ballast correction for CBE, m3	AW area correction, m2	AW area, m2	AD, column dry area, m2	Column dry d, m
1																		
2	2	800.0	-11.8	8.5	11.8	-8.5	0.4	31.4	11.80	0.00	85.47	0.00	0	0.0	0.0	40.0	23.6	5.464
3	2.50	788.2	-11.8	8.6	11.8	-8.1	0.4	31.7	11.82	0.23	86.75	1.28	0.43	0.04	0.085	40.1	23.5	5.474
4	3	776.4	-11.8	8.8	11.8	-7.6	0.4	32.0	11.83	0.53	88.07	1.32	0.44	0.04	0.087	40.2	23.4	5.484
5	3.50	764.6	-11.8	8.9	11.8	-7.1	0.4	32.4	11.86	0.86	89.43	1.36	0.48	0.05	0.095	40.3	23.3	5.492
6	4.00	752.8	-11.8	9.0	11.8	-6.7	0.4	32.8	11.88	1.21	90.83	1.40	0.53	0.05	0.105	40.4	23.2	5.502
7	4.50	741.0	-11.8	9.2	11.8	-6.2	0.4	33.2	11.90	1.58	92.28	1.45	0.59	0.06	0.118	40.5	23.1	5.512
8	5.00	729.1	-11.8	9.3	11.8	-5.7	0.4	33.6	11.93	1.97	93.77	1.49	0.66	0.07	0.131	40.6	23.0	5.521
9	5.50	717.3	-11.8	9.5	11.8	-5.2	0.3	34.1	11.95	2.37	95.32	1.54	0.73	0.07	0.146	40.8	22.8	5.534
10	6.00	705.5	-11.8	9.6	11.8	-4.7	0.3	34.6	11.98	2.78	96.91	1.60	0.82	0.08	0.163	40.9	22.7	5.544
11	6.50	693.7	-11.8	9.8	11.8	-4.2	0.3	35.2	12.01	3.20	98.56	1.65	0.92	0.09	0.183	41.1	22.5	5.553
12	7.00	681.9	-11.8	10.0	11.8	-3.7	0.3	35.8	12.05	3.63	100.27	1.71	1.03	0.10	0.205	41.3	22.3	5.562
13	7.50	670.1	-11.8	10.1	11.8	-3.2	0.3	36.4	12.09	4.08	102.04	1.77	1.17	0.12	0.232	41.5	22.1	5.573
14	8.00	658.3	-11.8	10.3	11.8	-2.7	0.3	37.1	12.13	4.54	103.87	1.83	1.32	0.13	0.263	41.8	21.8	5.589
15	8.50	646.5	-11.8	10.5	11.8	-2.2	0.3	37.9	12.17	5.01	105.76	1.90	1.51	0.15	0.299	42.1	21.5	5.602
16	9.00	634.7	-11.8	10.7	11.8	-1.7	0.3	38.8	12.21	5.48	107.73	1.97	1.72	0.17	0.343	42.5	21.2	5.618
17	9.50	622.9	-11.8	10.9	11.8	-1.2	0.3	39.8	12.25	5.97	109.78	2.04	1.98	0.20	0.394	42.9	20.8	5.642
18	10.00	611.1	-11.8	11.1	11.8	-0.7	0.3	40.9	12.29	6.48	111.90	2.12	2.29	0.23	0.455	43.3	20.3	5.685
19	10.50	599.3	-11.8	11.3	11.8	-0.2	0.3	42.1	12.33	7.01	114.10	2.20	2.67	0.27	0.531	43.8	19.8	5.738
20	11.00	587.4	-11.8	11.6	11.8	0.3	0.3	43.4	12.37	7.56	116.40	2.29	3.13	0.31	0.622	44.5	19.2	5.799
21	11.50	575.6	-11.8	11.8	11.8	0.8	0.3	45.0	12.41	8.11	118.78	2.39	3.70	0.37	0.735	45.2	18.4	5.863
22	12.00	563.8	-11.8	12.1	11.8	1.3	0.3	46.7	12.45	8.67	121.27	2.49	4.41	0.44	0.876	46.1	17.5	5.927
23	12.50	552.0	-11.8	12.3	11.8	1.8	0.2	48.8	12.49	9.24	123.86	2.59	5.30	0.53	1.055	47.1	16.5	6.002
24	13.00	540.2	-11.8	12.6	11.8	2.3	0.2	51.2	12.53	9.82	126.57	2.71	6.46	0.64	1.285	48.4	15.2	6.089
25	13.50	528.4	-11.8	12.9	11.8	2.8	0.2	54.0	12.57	10.41	129.40	2.83	7.97	0.79	1.585	50.0	13.6	6.188
26	14.00	516.6	-11.8	13.2	11.8	3.3	0.2	57.4	12.61	11.01	132.36	2.96	9.98	0.99	1.985	52.0	11.6	6.299
27		283.4	-263.4	4.7	283.4	-7.3	7.3	263.2	3.22	263.02	36.89	46.33	58.73	5.98	12.0	32.0	-12.3	-5.638

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Fig. 13



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Fig. 14

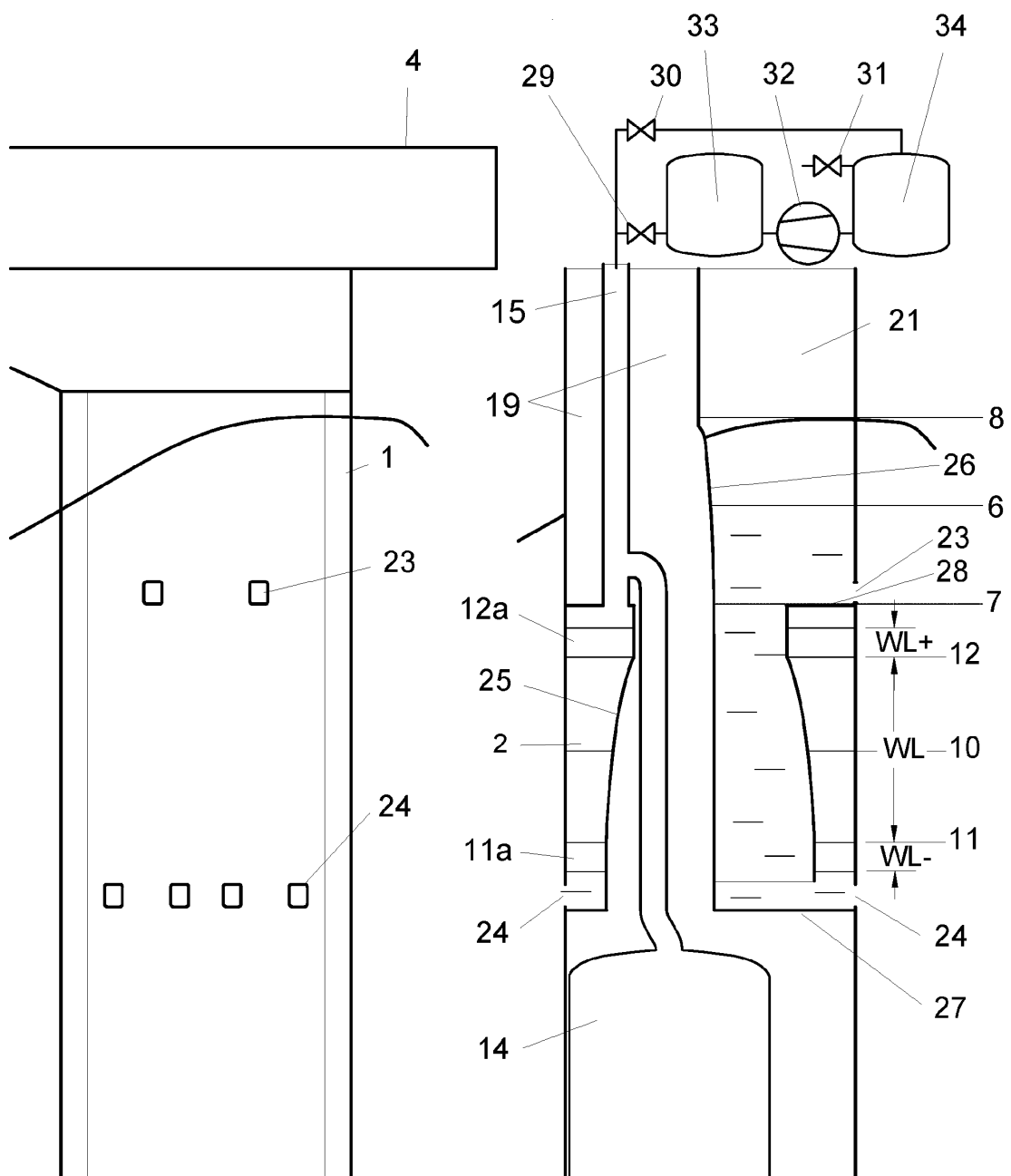


Fig. 15

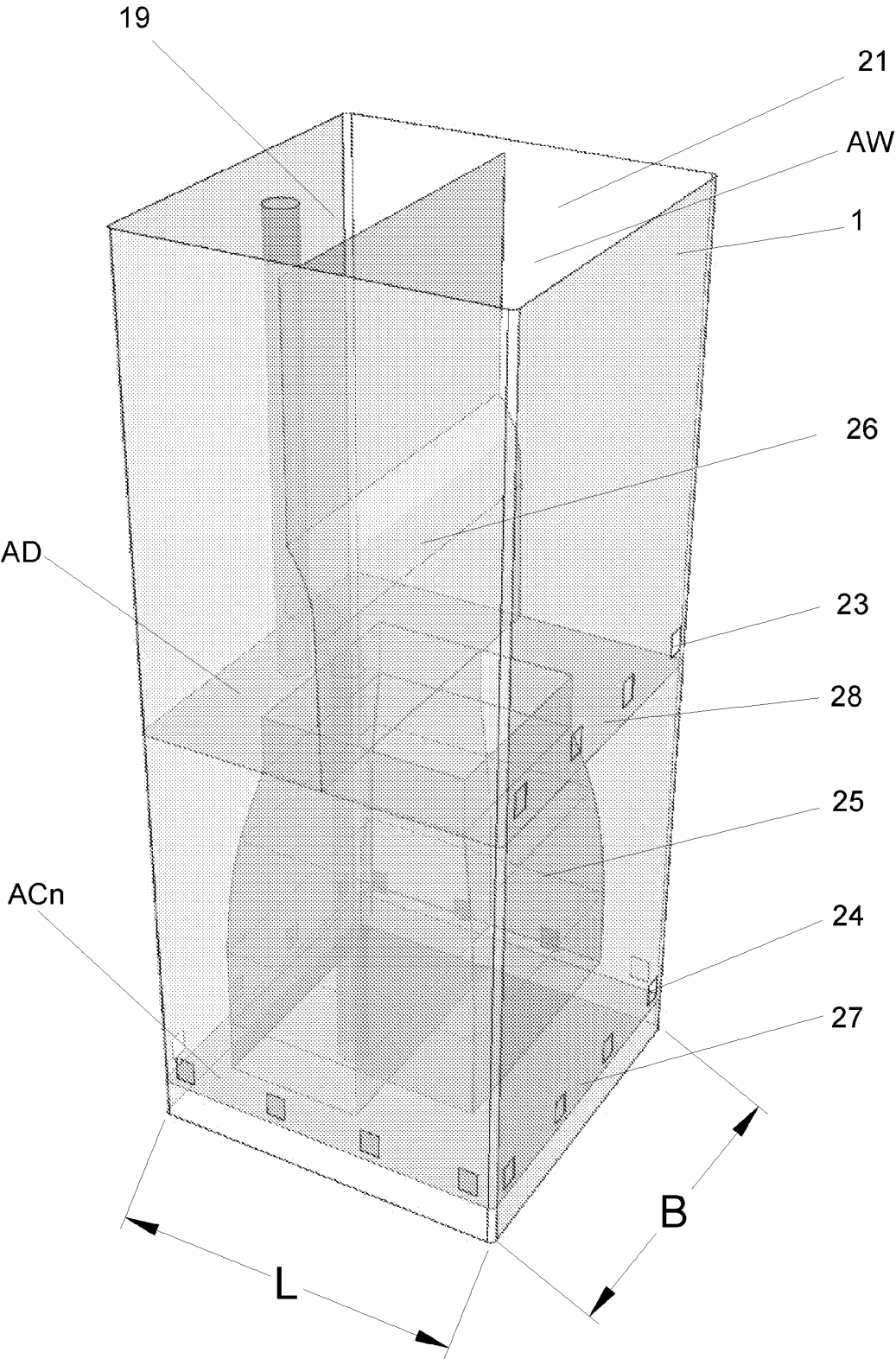
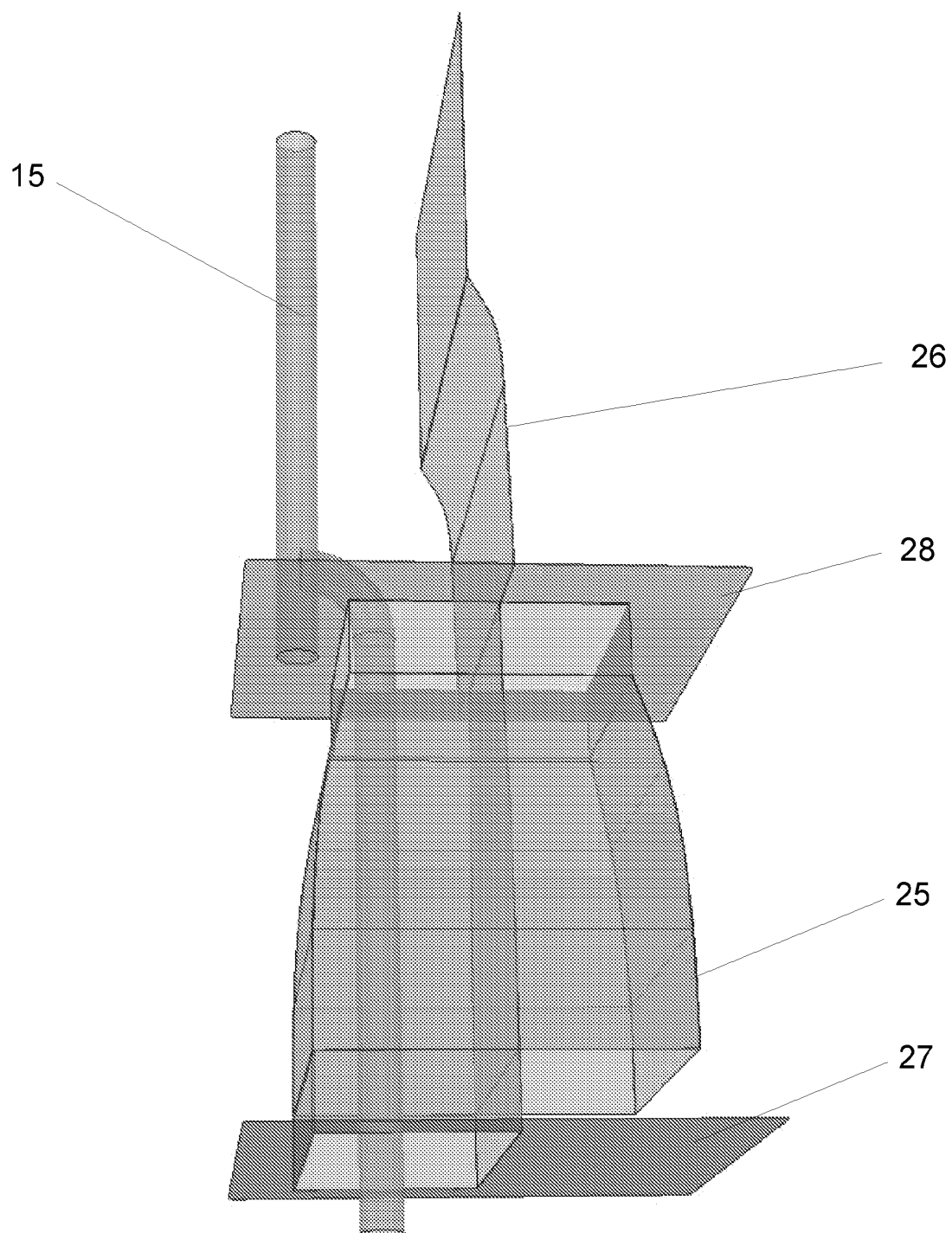


Fig. 16



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Fig. 17

	A	B	C	D	E	F	G	H	I	J
1	1	L, side column	13	m						
2	2	B, side column	13	m						
3	3	Column wet area, AW	95,00	m ²						
4	4	H, max wave height	12	m						
5	5	hL, lowest level hydrostatic height	8,9	m						
6	6	c, clearance	1	m						
7	7	ΔH, increment	0,50	m						
8	8	Va L, air volume at hL	2 800,0	m ³						
9	9	Seawater specific gravity	1,025							
10	10	Gross area column	169,00	m ²						
11	11	AD, dry area Column	74,0	m ²						
12	12	ΔV, total heave volume variation	888	m ³						
13	13	pV konstant, Va L x hL	24 920							
14	14	Area Cn at hL	97,16	m ²						
15										
16										

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Fig. 18

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
	Wave, H Level, m	Va, air volume, m3	Air volume increment, m3	Hydrostatic pressure height, h, m	Water volume increment, m3	WL water level in Cn, m	WL change increments, m	ACn, area Cn, m2	Cn B and Cn, m	Area Cn increase, m2	Air pressure, kPa	Air pressure increase, kPa	CBE increase, kN	Ballast correction for CBE, m3	AW area correction, m2	AW area, m2	AWL side wall length, m
1	1	2 800.0		8.9		-8.9	0.38	97.2	8.48	0.00	89.49	0.00	0	0.0		95.0	7.308
2	2	2 763.0	-37.0	9.0	37.0	-6.5	0.38	97.2	8.48	0.00	90.89	1.20	0.0	0.00	0.000	95.00	7.308
3	3	2 726.0	-37.0	9.1	37.0	-8.1	0.38	97.2	8.48	0.00	91.32	1.23	0.0	0.00	0.000	95.00	7.308
4	4	2 689.0	-37.0	9.3	37.0	-7.8	0.37	98.0	8.43	0.83	93.19	1.26	1.1	0.10	0.001	95.00	7.308
5	5	2 652.0	-37.0	9.4	37.0	-7.4	0.37	98.9	8.37	0.88	94.49	1.30	1.1	0.11	0.001	95.00	7.308
6	6	2 615.0	-37.0	9.5	37.0	-7.0	0.37	99.8	8.32	0.94	95.82	1.34	1.3	0.12	0.001	95.00	7.308
7	7	2 578.0	-37.0	9.7	37.0	-6.7	0.36	100.8	8.26	0.99	97.20	1.38	1.4	0.14	0.001	95.00	7.308
8	8	2 541.0	-37.0	9.8	37.0	-6.3	0.36	101.9	8.19	1.06	98.61	1.42	1.5	0.15	0.002	95.00	7.308
9	9	2 504.0	-37.0	10.0	37.0	-6.0	0.36	103.0	8.12	1.13	100.07	1.46	1.6	0.16	0.002	95.00	7.308
10	10	2 467.0	-37.0	10.1	37.0	-5.6	0.35	104.2	8.05	1.21	101.57	1.50	1.8	0.18	0.002	95.00	7.308
11	11	2 430.0	-37.0	10.3	37.0	-5.3	0.35	105.5	7.97	1.28	103.12	1.55	2.0	0.20	0.002	95.00	7.308
12	12	2 393.0	-37.0	10.4	37.0	-4.9	0.34	106.9	7.88	1.39	104.71	1.59	2.2	0.22	0.002	95.00	7.308
13	13	2 356.0	-37.0	10.6	37.0	-4.6	0.34	108.4	7.79	1.49	106.36	1.64	2.4	0.24	0.003	95.00	7.308
14	14	2 319.0	-37.0	10.7	37.0	-4.2	0.33	110.0	7.68	1.60	108.05	1.70	2.7	0.27	0.003	95.00	7.308
15	15	2 282.0	-37.0	10.9	37.0	-3.9	0.33	111.7	7.57	1.73	109.81	1.75	3.0	0.30	0.003	95.00	7.308
16	16	2 245.0	-37.0	11.1	37.0	-3.6	0.32	113.6	7.44	1.88	111.62	1.81	3.4	0.34	0.004	95.00	7.308
17	17	2 208.0	-37.0	11.3	37.0	-3.3	0.31	115.6	7.31	2.04	113.49	1.87	3.8	0.38	0.004	95.00	7.308
18	18	2 171.0	-37.0	11.5	37.0	-3.0	0.31	117.8	7.15	2.22	115.42	1.99	4.3	0.43	0.004	95.00	7.308
19	19	2 134.0	-37.0	11.7	37.0	-2.7	0.30	120.3	6.98	2.43	117.42	2.00	4.9	0.48	0.005	95.01	7.308
20	20	2 097.0	-37.0	11.9	37.0	-2.4	0.29	122.9	6.79	2.67	119.49	2.07	5.5	0.55	0.006	95.01	7.308
21	21	2 060.0	-37.0	12.1	37.0	-2.1	0.29	125.9	6.57	2.94	121.64	2.15	6.3	0.63	0.007	95.01	7.308
22	22	2 023.0	-37.0	12.3	37.0	-1.8	0.28	129.1	6.32	3.25	123.86	2.22	7.2	0.72	0.008	95.01	7.308
23	23	1 986.0	-37.0	12.5	37.0	-1.5	0.27	132.7	6.02	3.62	126.17	2.31	8.3	0.83	0.009	95.01	7.308
24	24	1 949.0	-37.0	12.8	37.0	-1.3	0.26	136.8	5.68	4.05	128.57	2.40	9.7	0.96	0.010	95.01	7.308
25	25	1 912.0	-37.0	13.0	37.0	-1.0	0.25	141.3	5.26	4.55	131.05	2.49	11.3	1.13	0.012	95.01	7.308
26	26	888.0	-888.0	4.1	888.0	-7.9	8.25	44.2	3.22	44.17	41.56	41.56	87	3.6	0.051		-0.081
27	27																

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Fig. 19

