

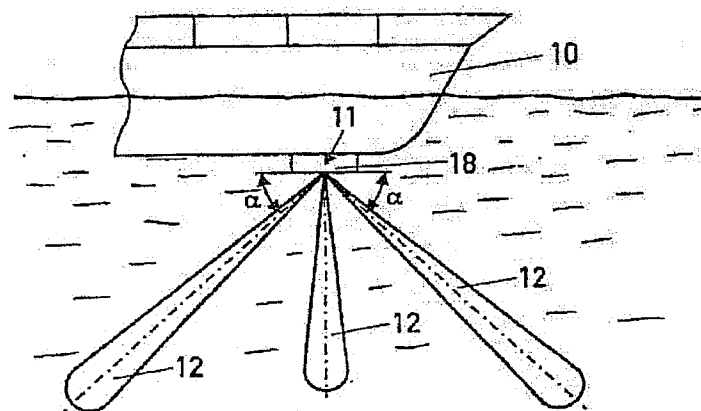


Fig. 1

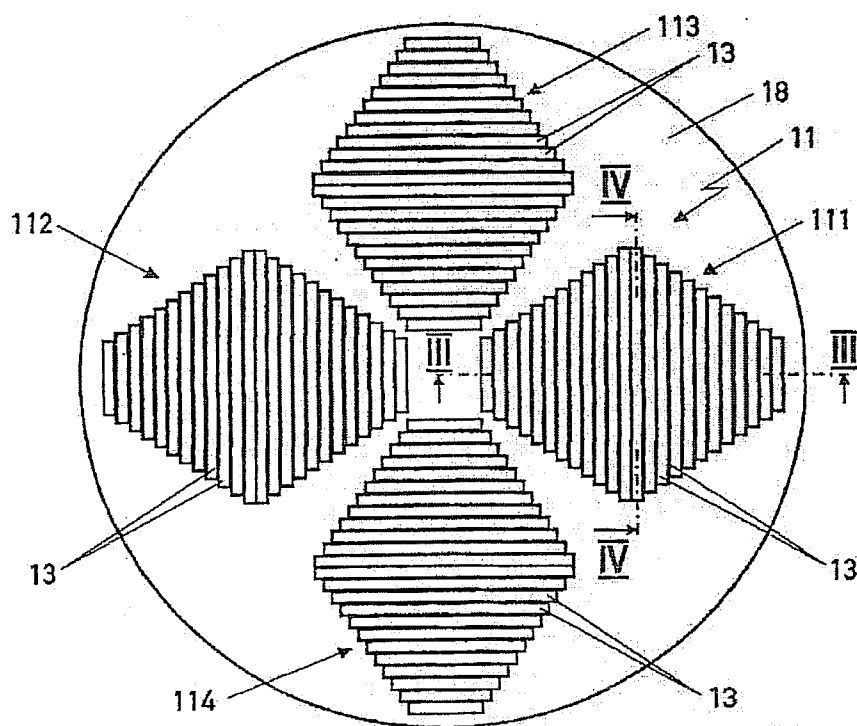


Fig. 2

Fig. 3

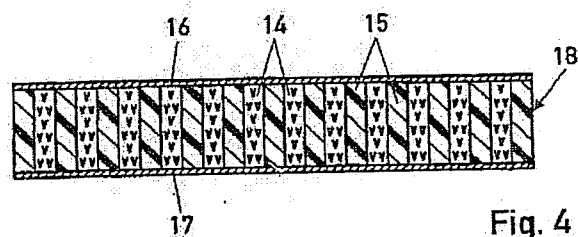


Fig. 4

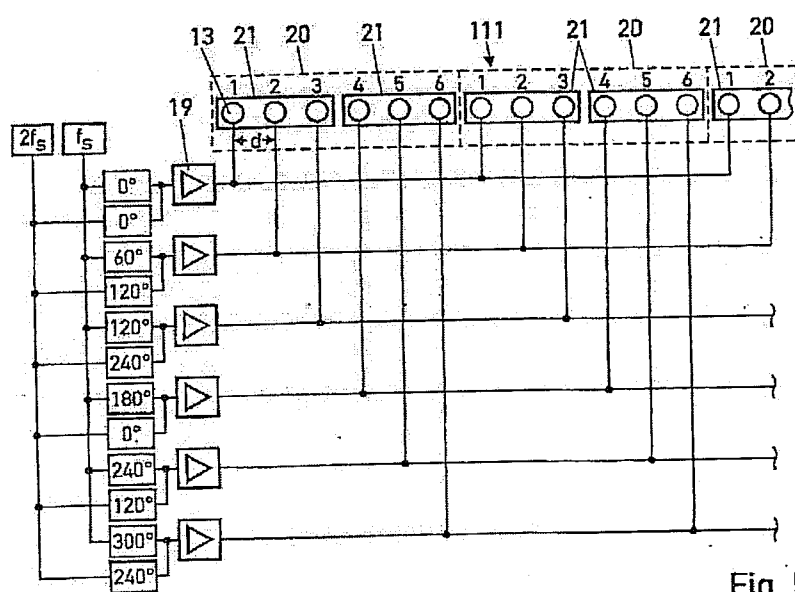


Fig. 5

Number of subgroups	Number of transducers per subgroup	Transmission frequency	Number of transducers per group = 6 phase shift on transducer No. in the group					
			1	2	3	4	5	6
—	—	f_s	0°	60°	120°	180°	240°	300°
2	3	$2f_s$	0°	120°	240°	0°	120°	240°

Fig. 6

Number of subgroups	Number of transducers per subgroup	Transmission frequency	Number of transducers per group = 12 phase shift on transducer No. in the group											
			1	2	3	4	5	6	7	8	9	10	11	12
1	—	f_s	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	360°
2	6	$2f_s$	0°	60°	120°	180°	240°	300°	0°	60°	120°	180°	240°	300°
3	4	$3f_s$	0°	90°	180°	270°	0°	90°	180°	270°	0°	90°	180°	270°
4	3	$4f_s$	0°	120°	240°	0°	120°	240°	0°	120°	240°	0°	120°	240°

Fig. 7