

FIG 2

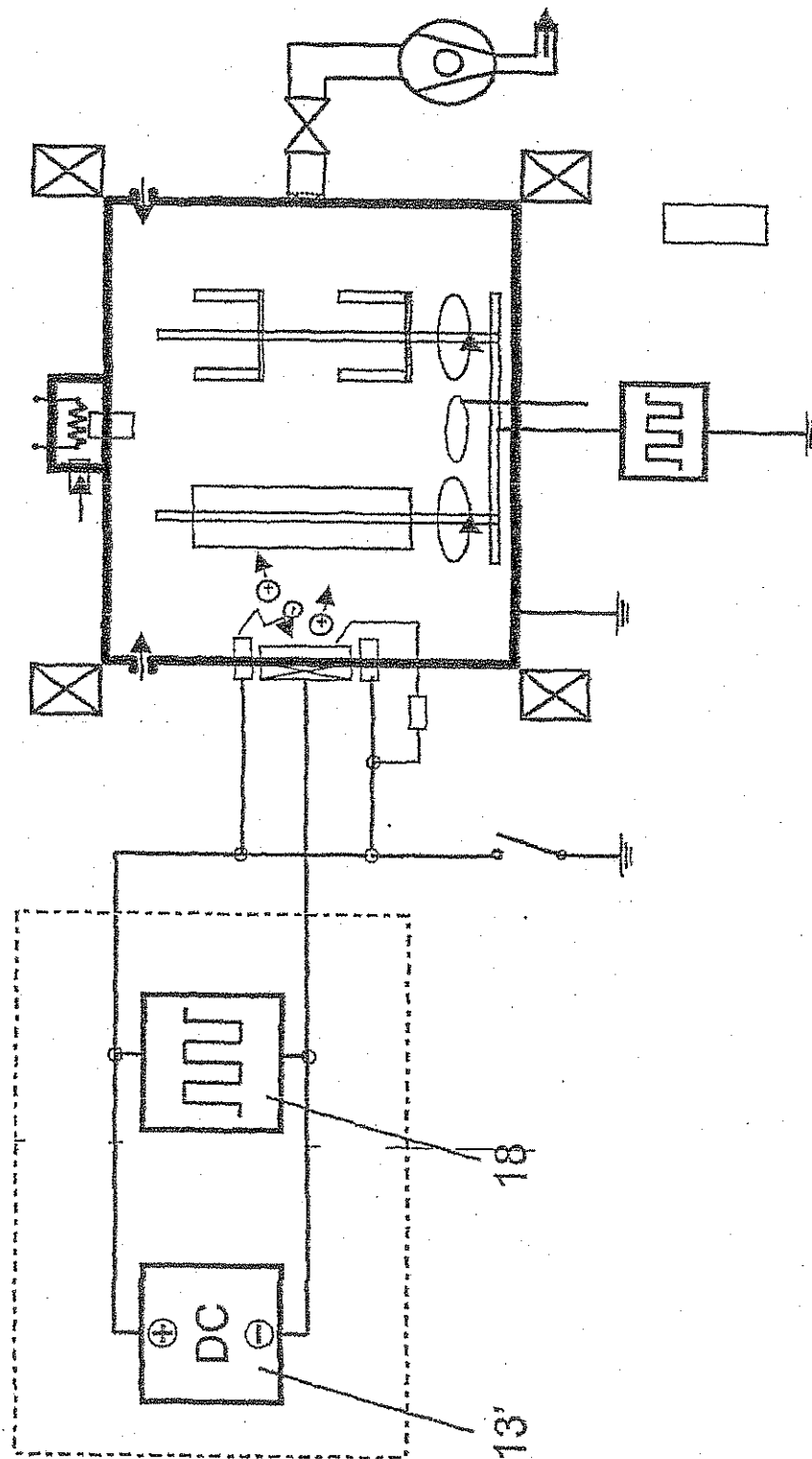


FIG 3

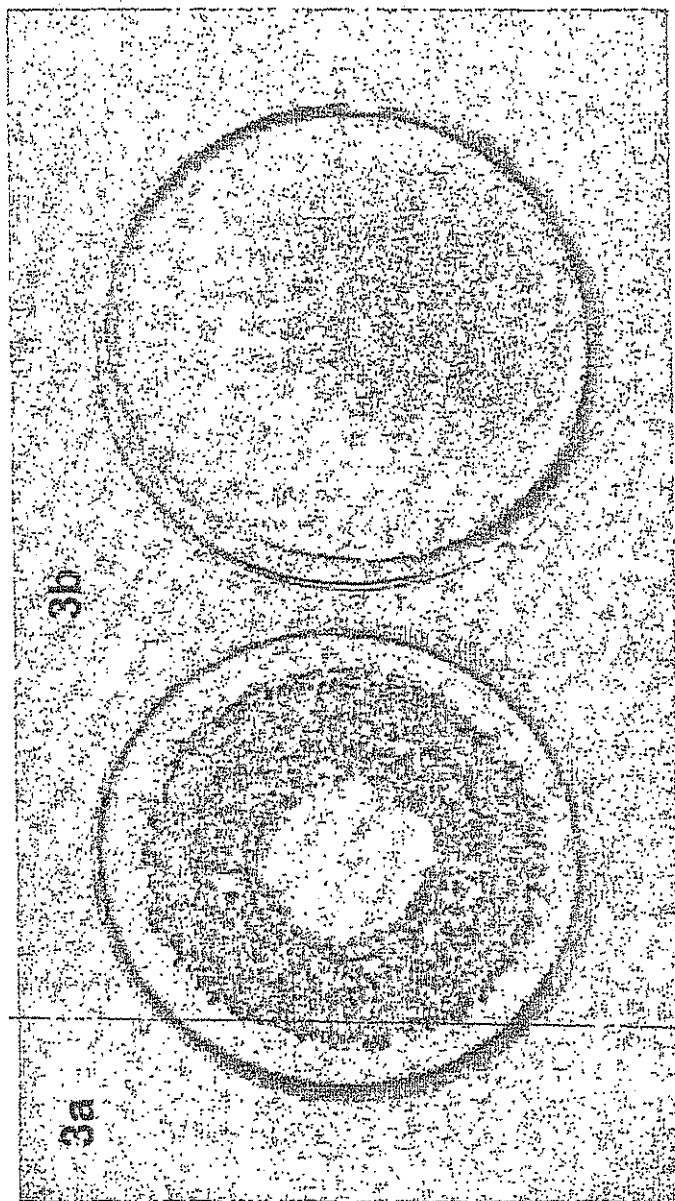
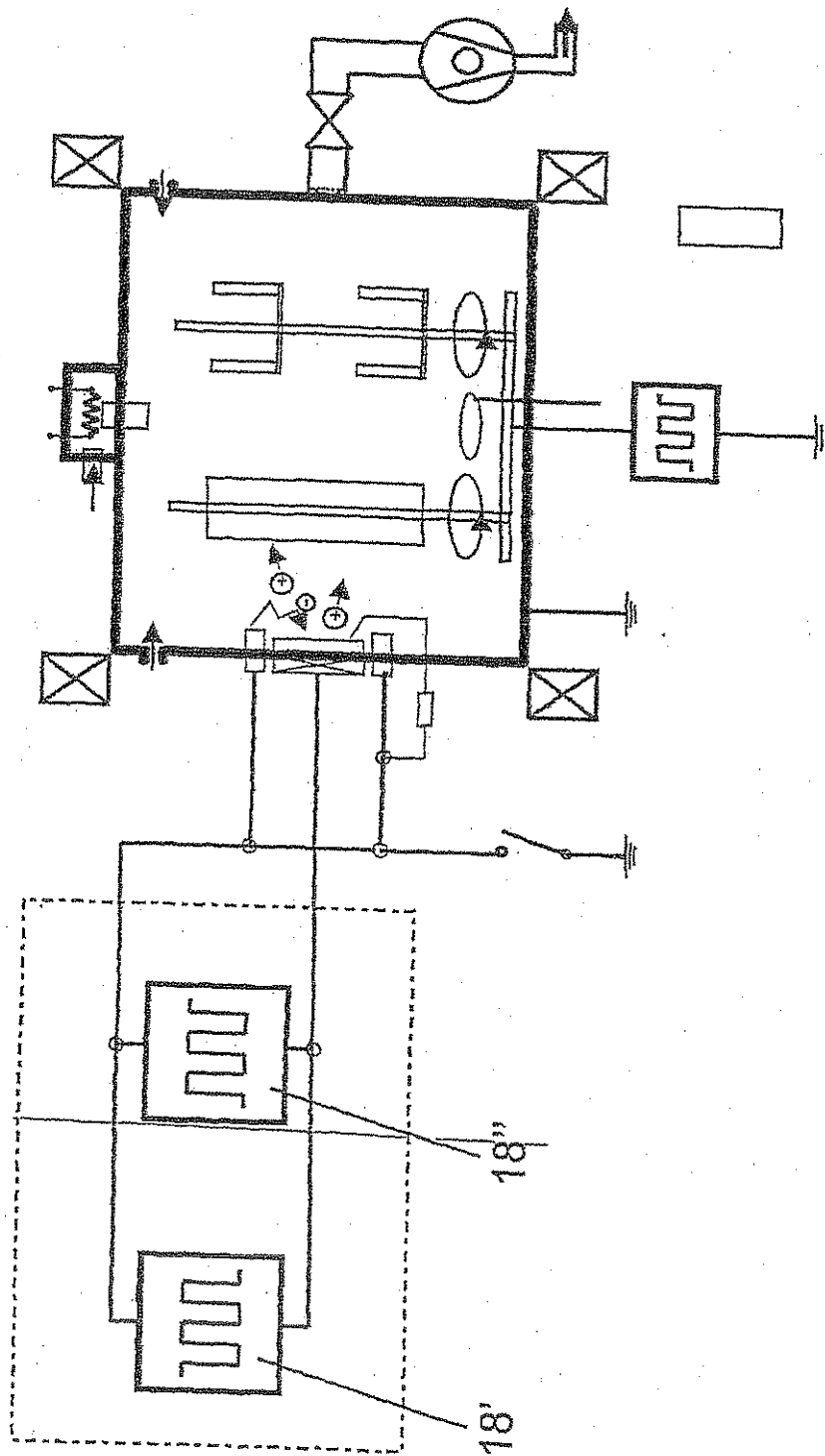


FIG 4



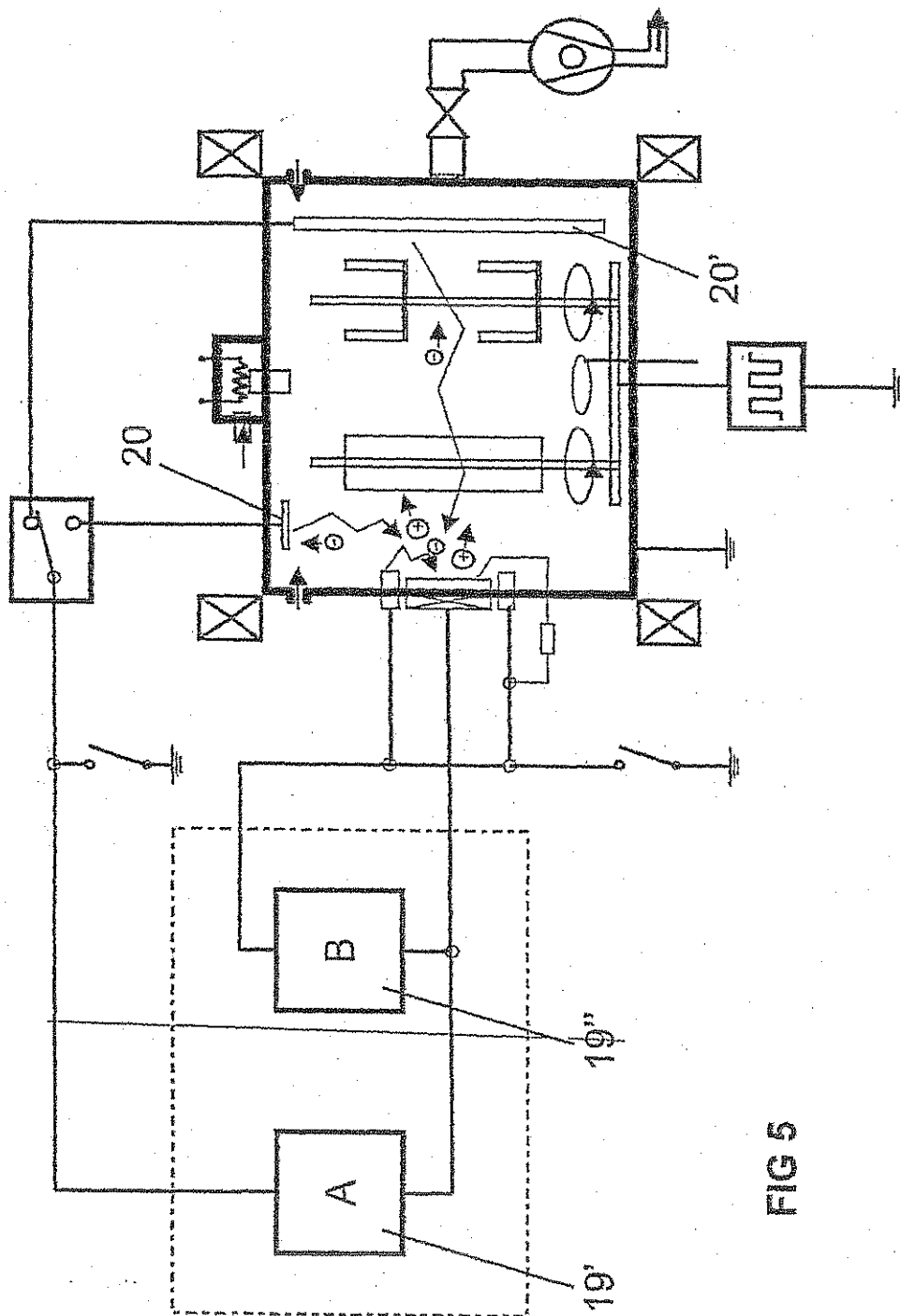


FIG 5

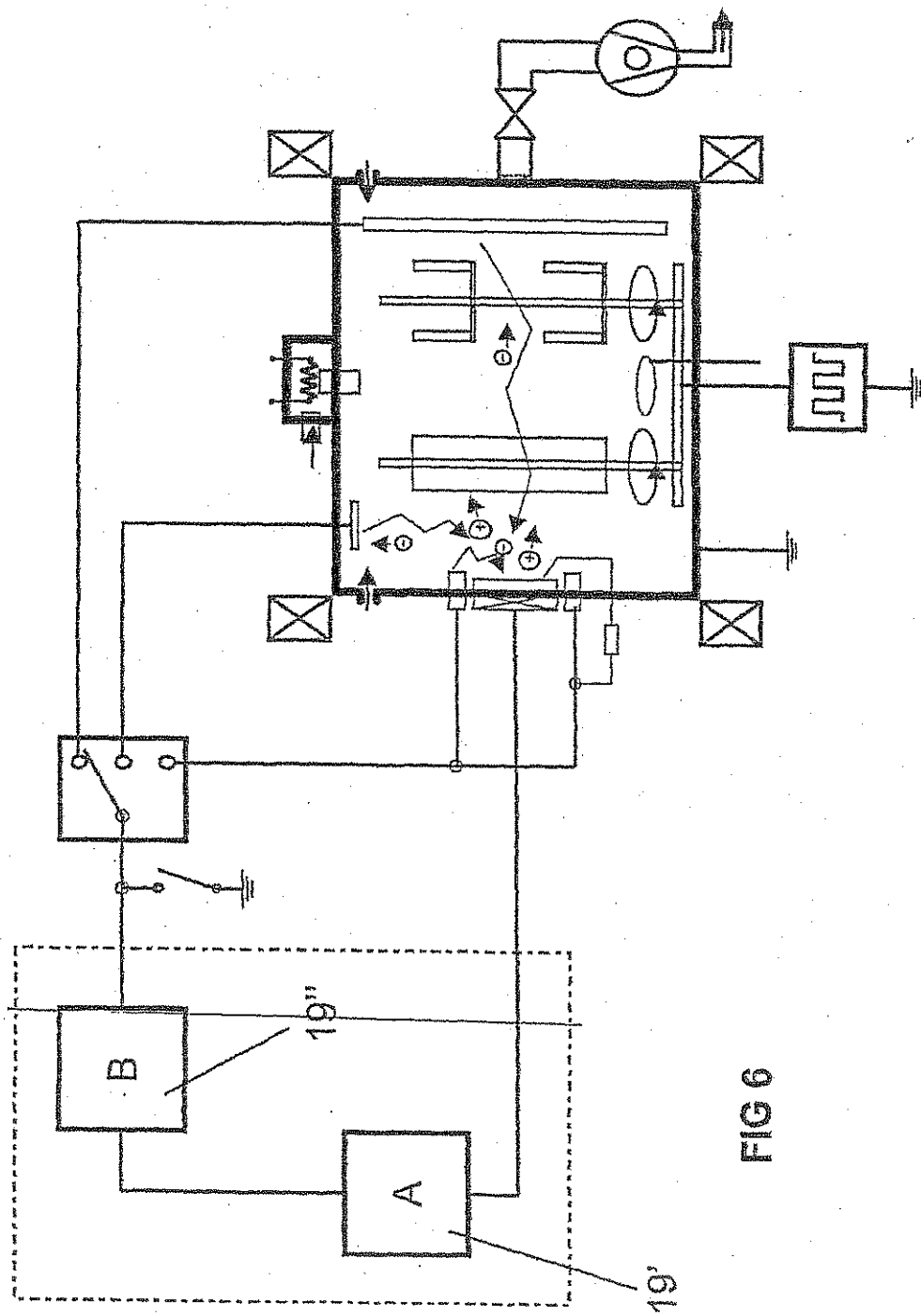


FIG 6

FIG 7

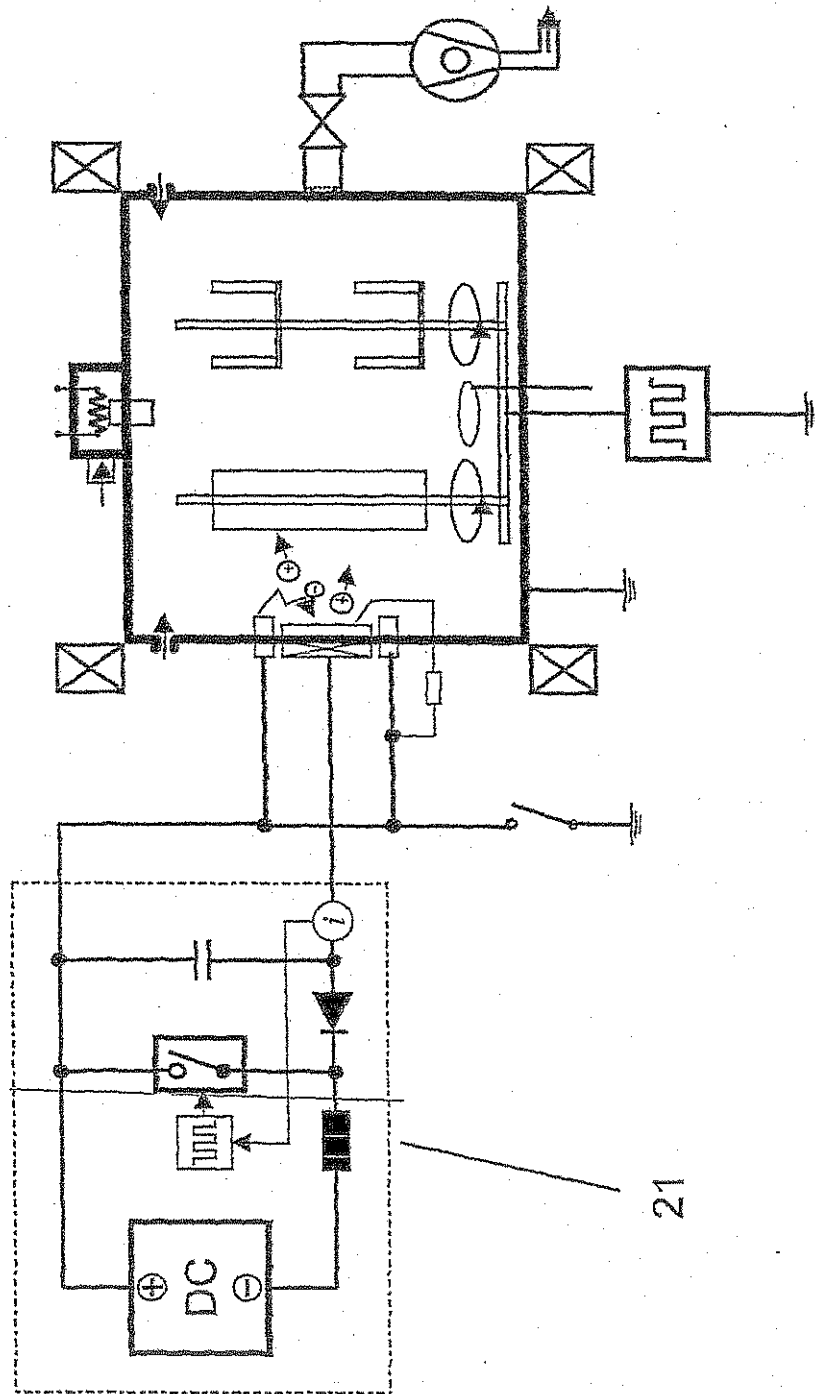


FIG 8

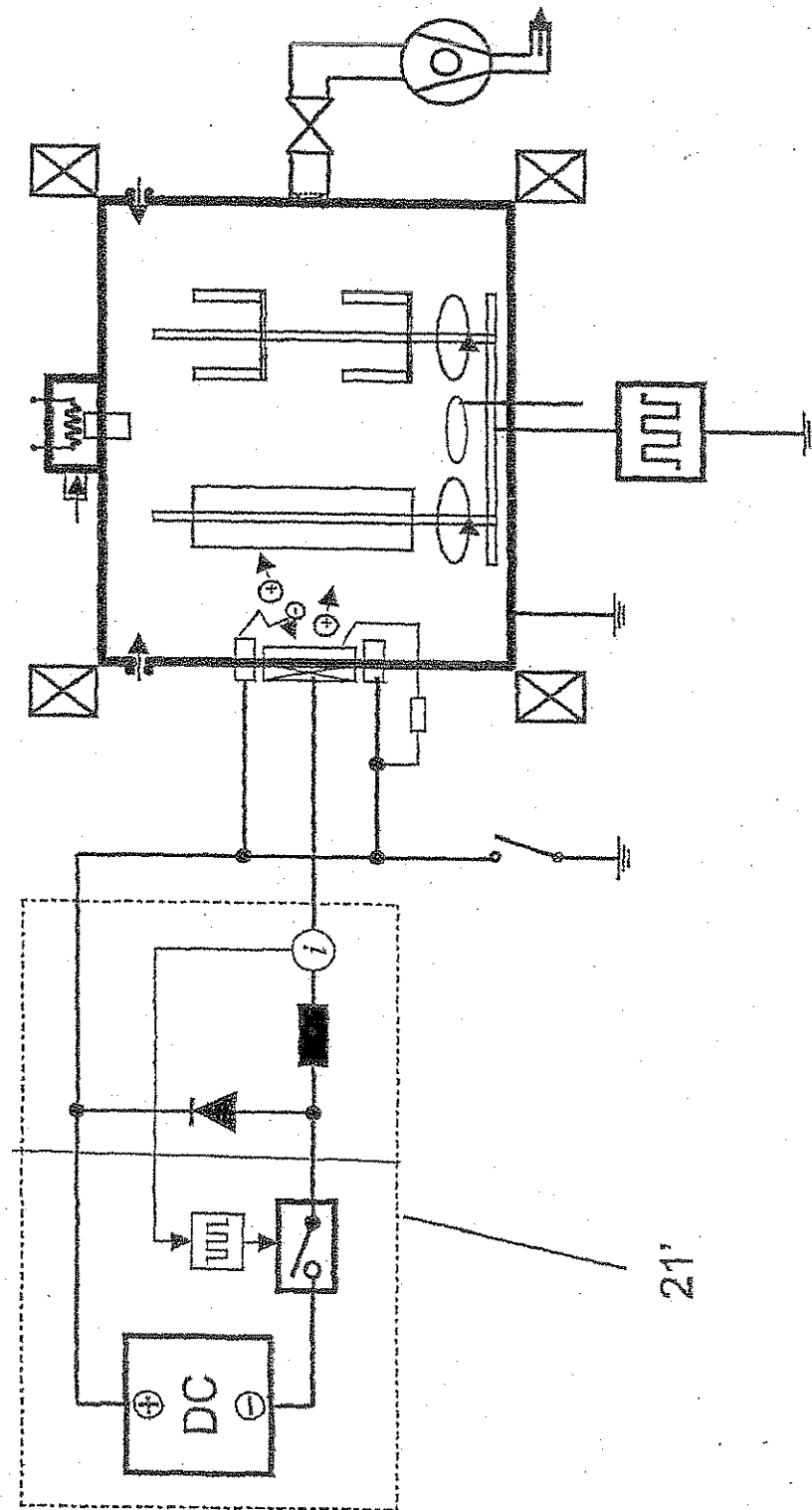


FIG 9

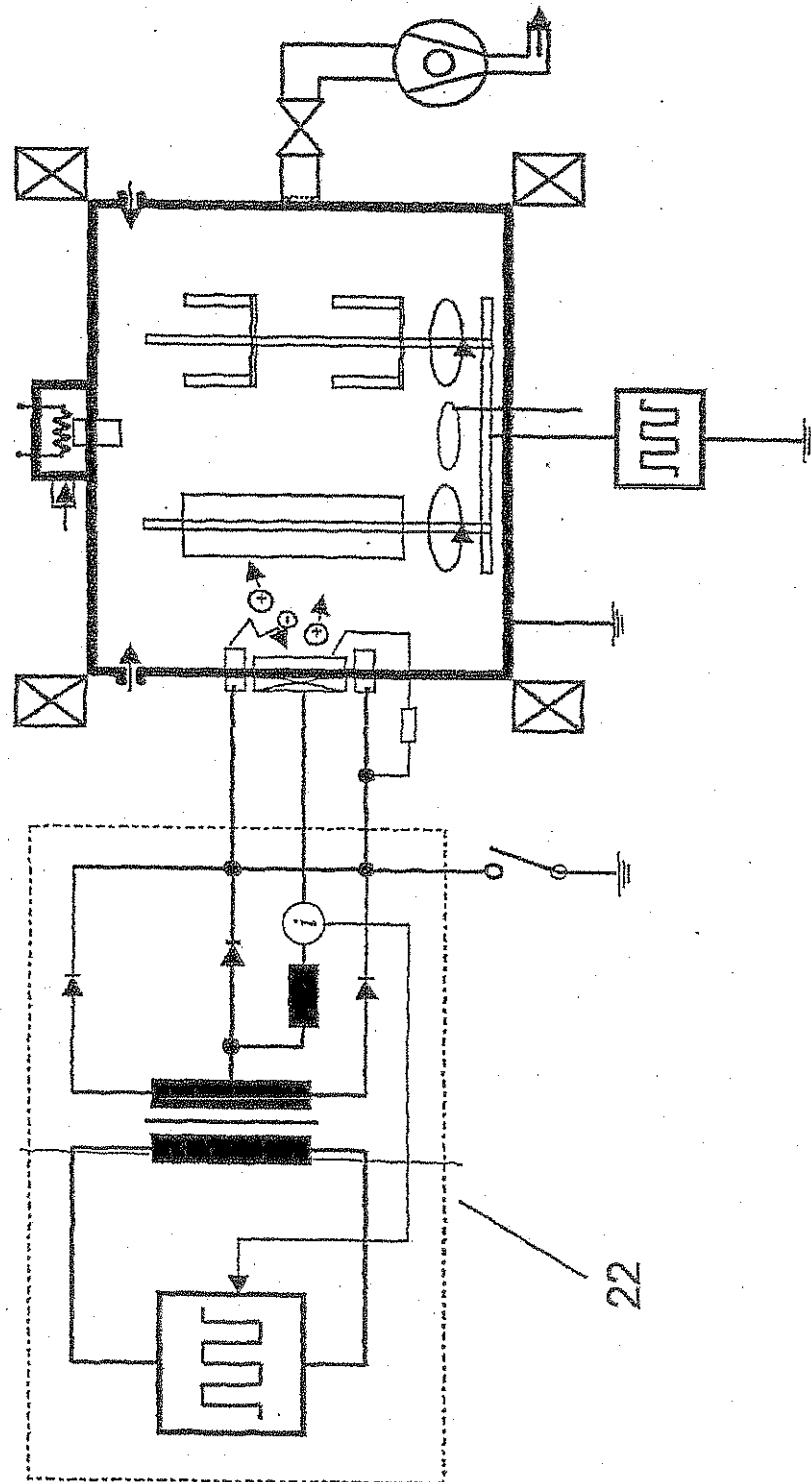


Fig. 10

Table 1

Target Typ, Mode		Al, DC		Al, DC-gepulst		Cr, DC		Cr, DC-gepulst		Ti, DC		Ti, DC-gepulst	
i-DC/i-pulsed DC [A]		100/0		100/150		100/0		100/150		100/0		100/150	
U-Pulsquelle [V]		--		250		--		250		--		250	
Pulsbreite on/off [µs]		--		10/10		---		10/10		--		10/10	
Temperatur [°C]		400		400		400		400		400		400	
Oxidische Schichten													
Nr	Gas-Fluss [sccm]	U-DC-Qu. [V]	p [mbar]	U-DC-Qu. [V]	p [mbar]	U-DC-Qu. [V]	p [mbar]	U-DC-Qu. [V]	p [mbar]	U-DC-Qu. [V]	p [mbar]	U-DC-Qu. [V]	p [mbar]
2	O ₂ = 0 / Ar = 100	22.4		23.2	3.00E-03	28	3.40E-03	--	--	24.2	3.40E-03	--	--
3	O ₂ = 200 / Ar = 100	28.6		--	--	37.4		--	--	33		--	--
4	O ₂ = 400 / Ar = 100	34.4		--	--	41		--	--	36.1		--	--
5	O ₂ = 200 / Ar = 50	29		--	--	--		--	--	--		--	--
6	O ₂ = 200 / Ar = 0	31.7	5.00E-03	29.3	4.40E-03	36.3		32	3.40E-03	35.8		30.1	
7	O ₂ = 400 / Ar = 0	34.4		33.2	9.00E-03	38		31	9.00E-03	36.5		28.4	
Nitridische Schichten													
Nr	Gas-Fluss [sccm]	U-DC-Qu. [V]	p [mbar]	U-DC-Qu. [V]	p [mbar]	U-DC-Qu. [V]	p [mbar]	U-DC-Qu. [V]	p [mbar]	U-DC-Qu. [V]	p [mbar]	U-DC-Qu. [V]	p [mbar]
8	N ₂ = 0 / Ar = 100	22	3.40E-03	--	--	24	3.40E-03	--	--	23.6	3.80E-03	--	--
9	N ₂ = 200 / Ar = 100	26	8.00E-03	--	--	28.5	7.80E-03	--	--	28.6	8.20E-03	--	--
10	N ₂ = 400 / Ar = 100	25.5	1.30E-02	--	--	28	1.20E-02	--	--	27.2	1.30E-02	--	--
11	N ₂ = 200 / Ar = 0	27	5.00E-03	26.4	4.70E-03	27.6	5.20E-03	26.8	5.00E-03	27.3	5.10E-03	26.7	4.70E-03
12	N ₂ = 400 / Ar = 0	27.5	1.00E-02	27	1.00E-02	28	1.00E-02	27	1.00E-02	27.7	1.00E-02	26.6	1.00E-02