

Op Sewer : BTP 74.401 (HABIS4) (Z:)

"Cours B-Technics"

NATIONALE MAATSCHAPPIJ
DER
BELGISCHE SPOORWEGEN

CURSUS VOOR LEERLING-BESTUURDERS

Cursus 224.20

B

ELEKTRISCHE TRACTIE

FIGUREN

DIRECTIE M.
Bureau 22-32

1979

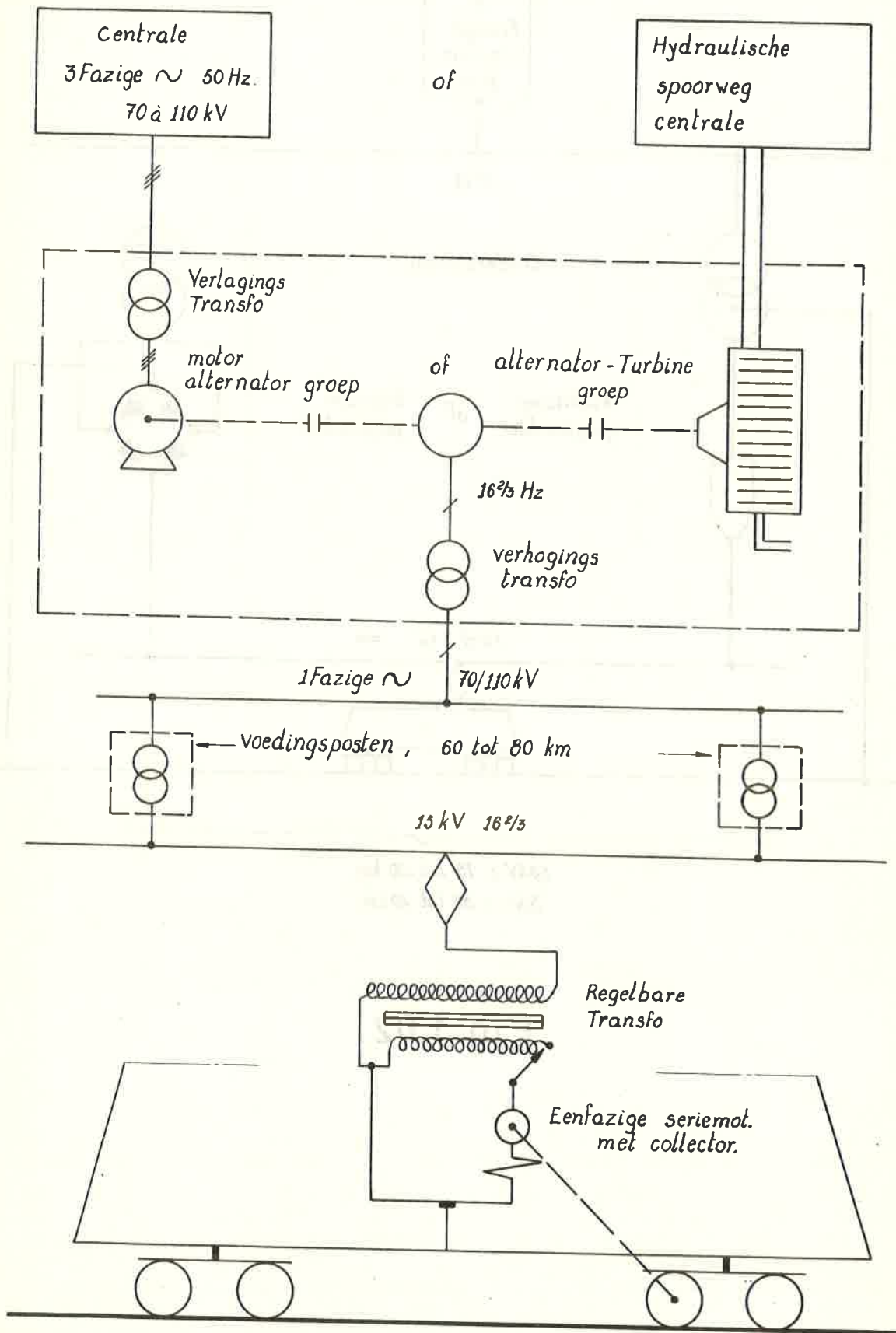


Fig. 1.01.

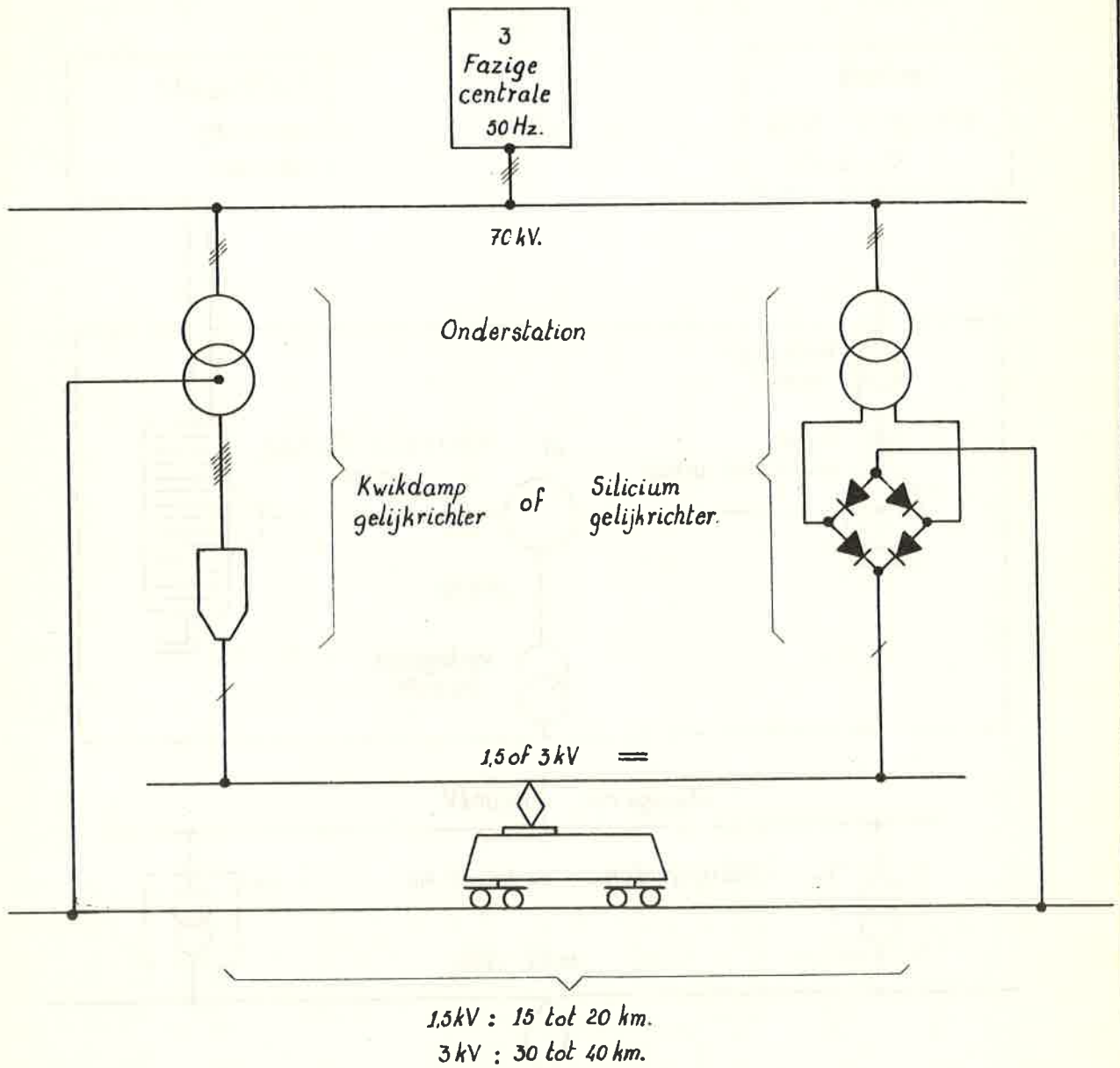


Fig. 1.02.

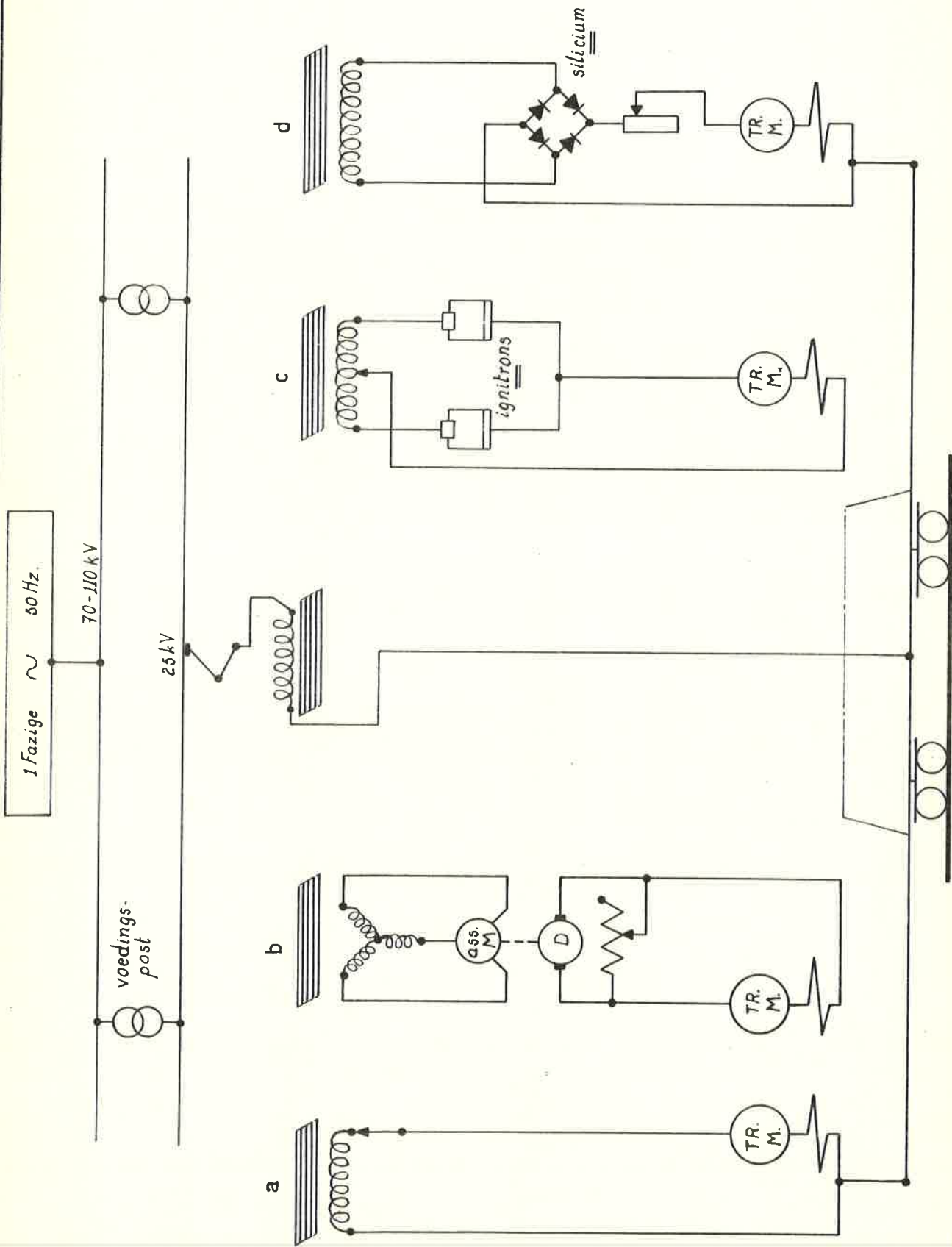


Fig. 1.03.

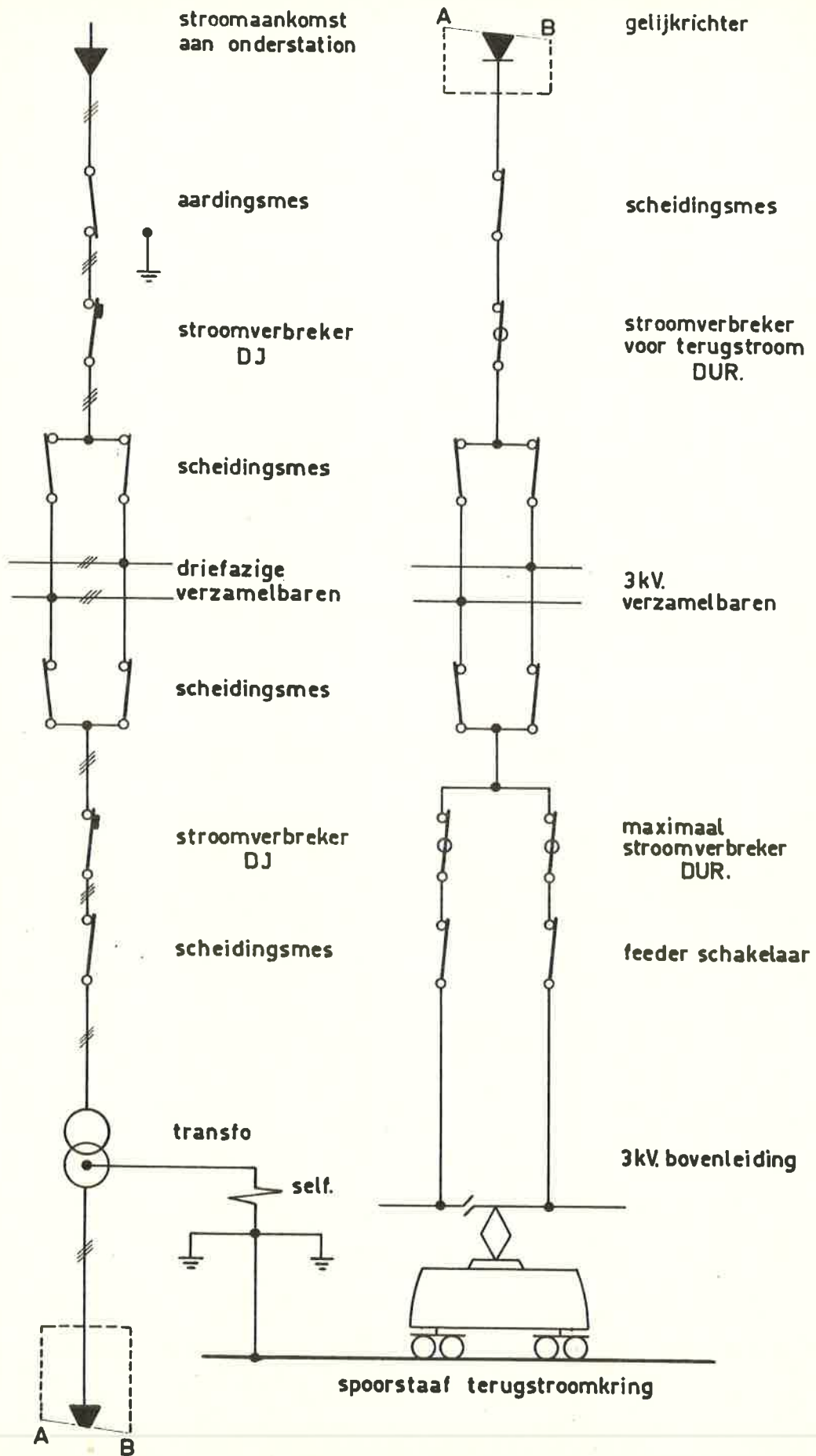


Fig. 2.01.

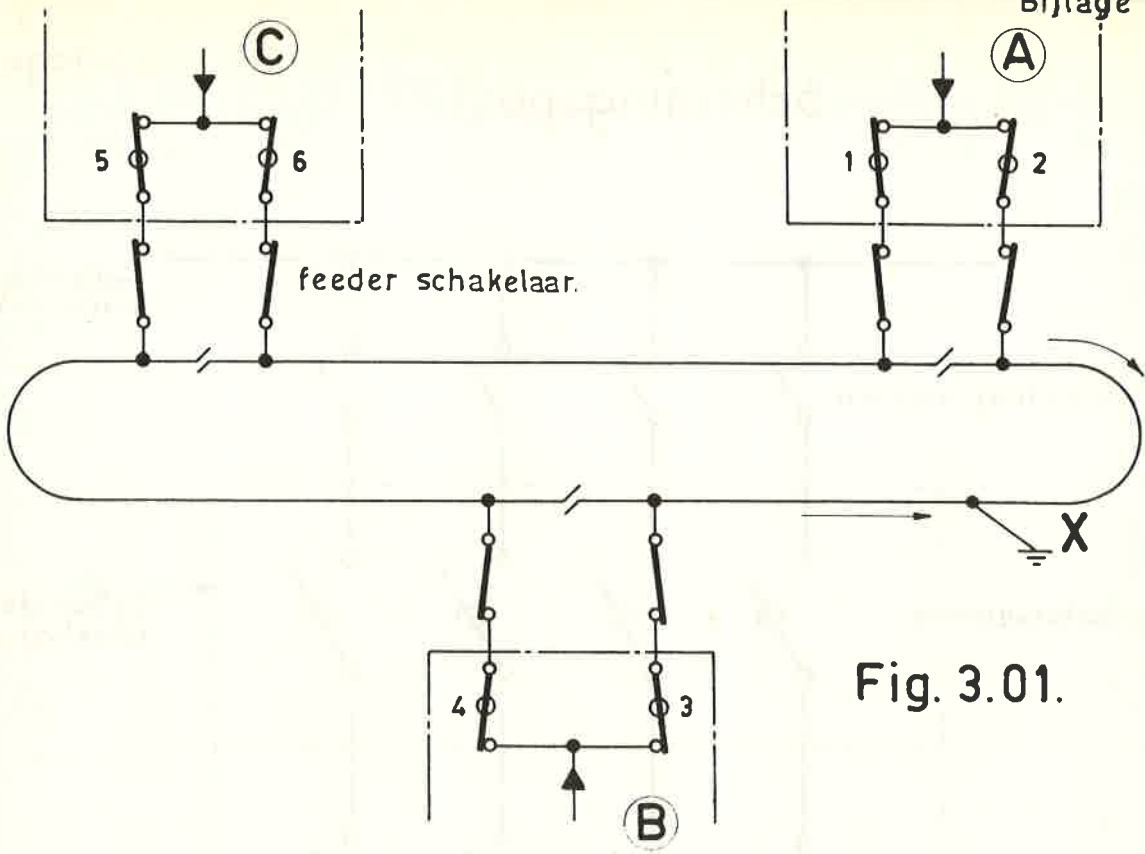


Fig. 3.01.

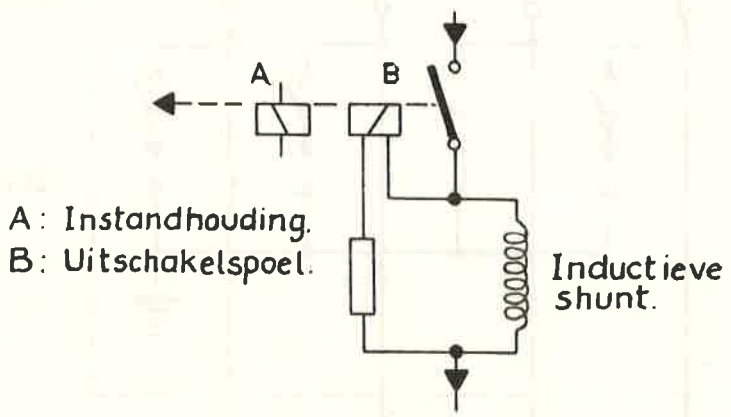


Fig. 3.02.

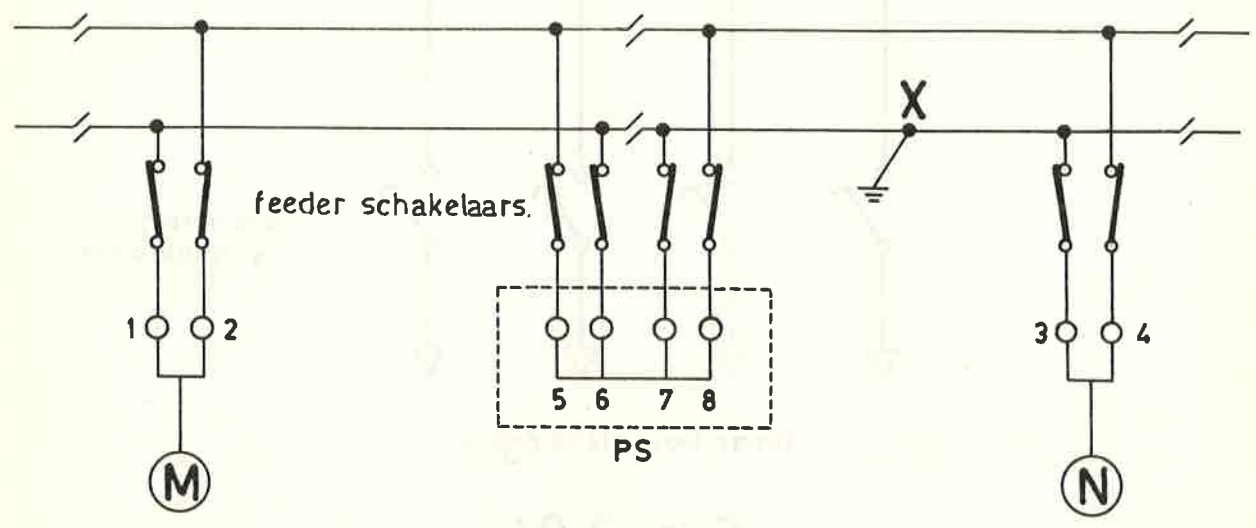


Fig. 3.03.

Scheidingspost.

Bijlage 2

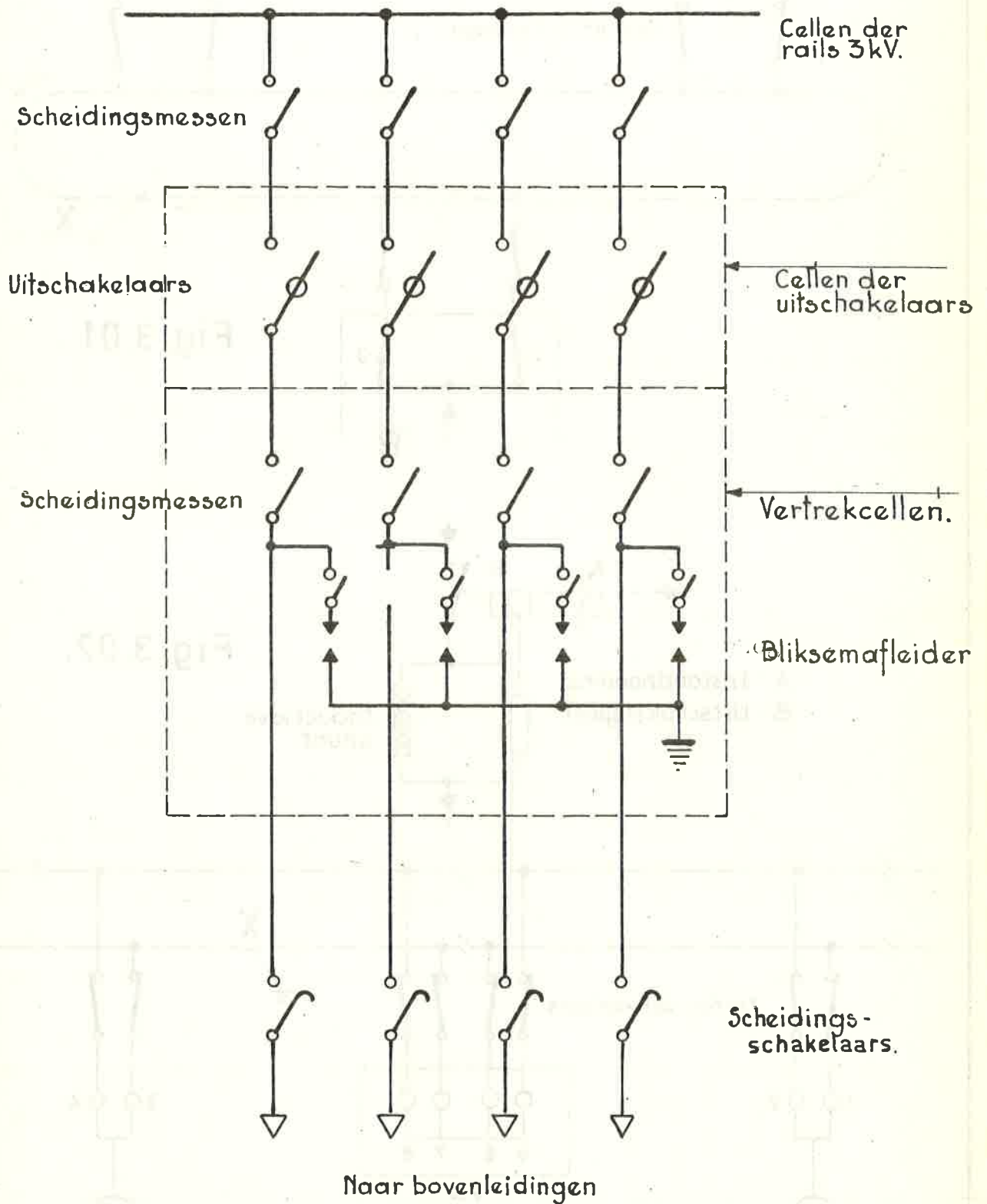


Fig. 3.04.

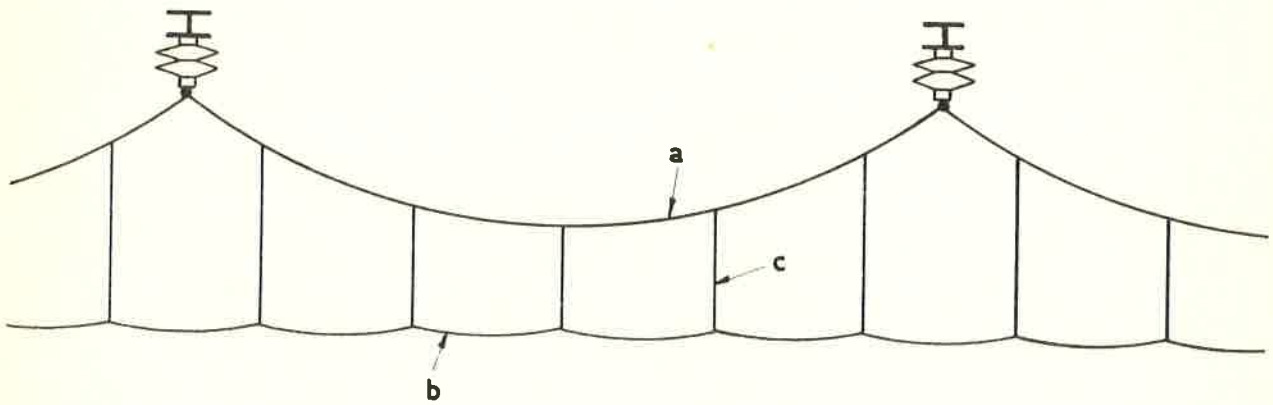


Fig. 3.06.

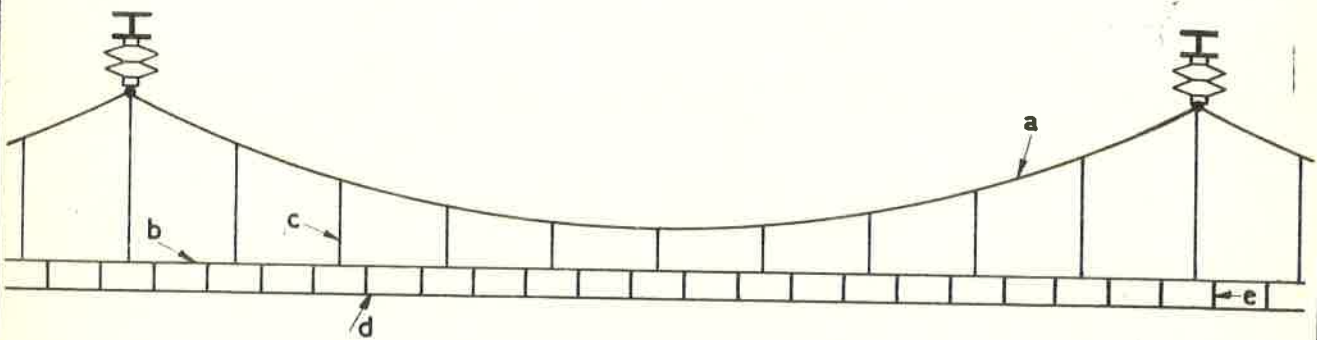


Fig. 3.07.



Fig. 3.05.

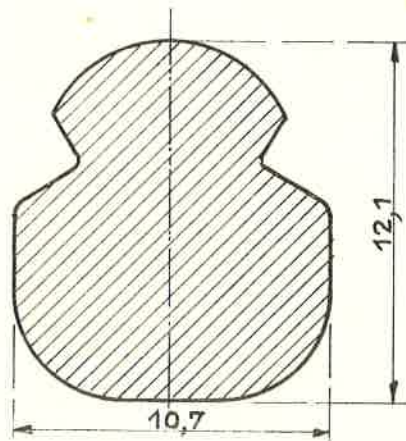


Fig. 5.01.

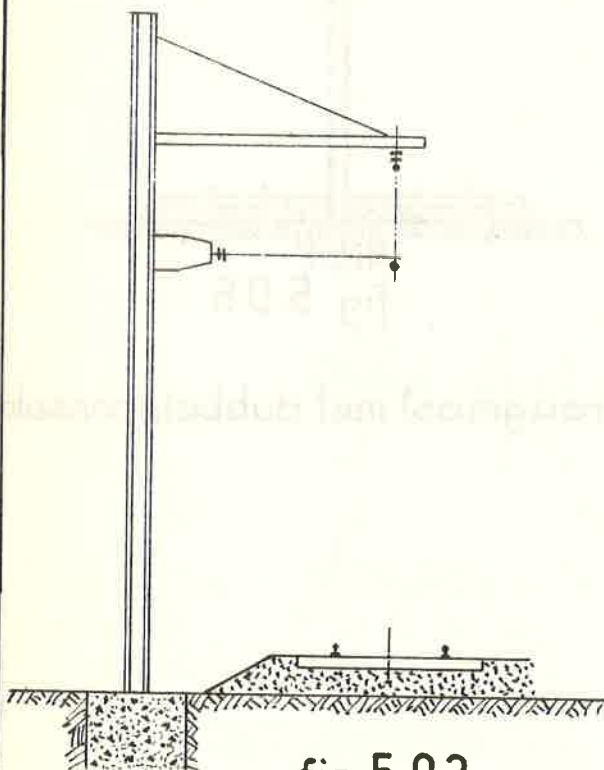


fig. 5.02

Paal met verankerde console

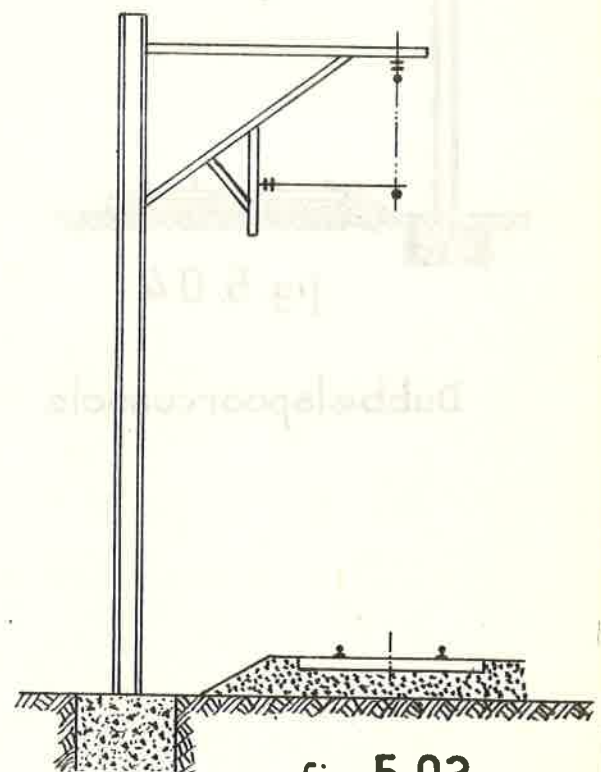


fig. 5.03.

Paal met geschoorde console.

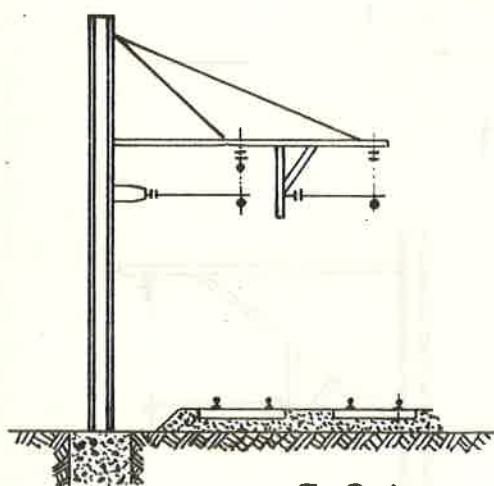


fig. 5.04

Dubbelspoorconsole

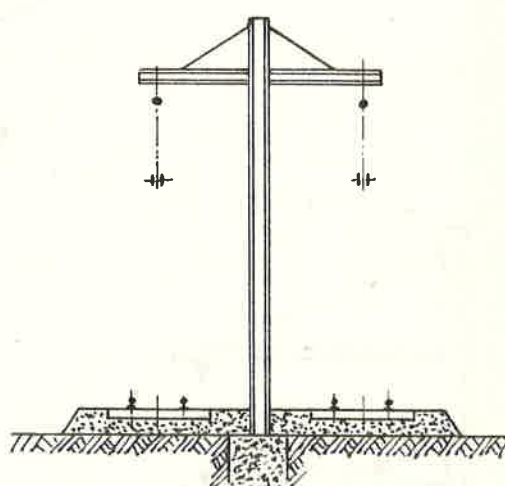


fig. 5.05.

Draagmast met dubbele console

Fig. 5.07

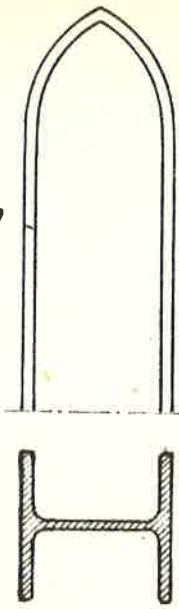
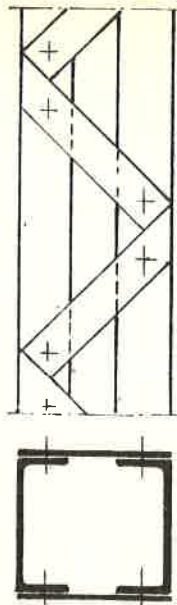


Fig. 5.06



Stijve portiek met gesteunde dwarsbalk.



fig. 5.08

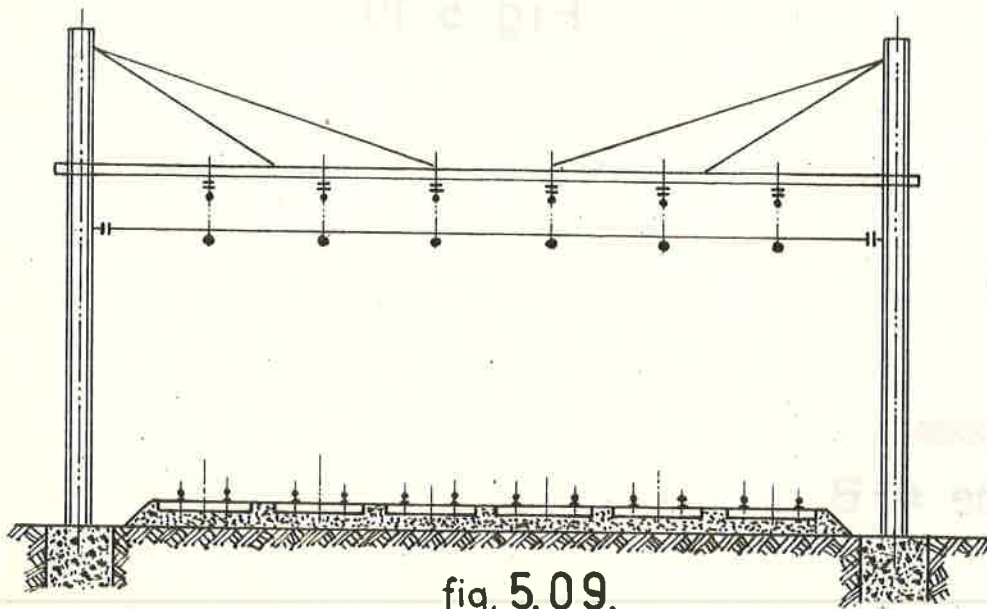


fig. 5.09.

Stijve portiek.

Kabelportiek.

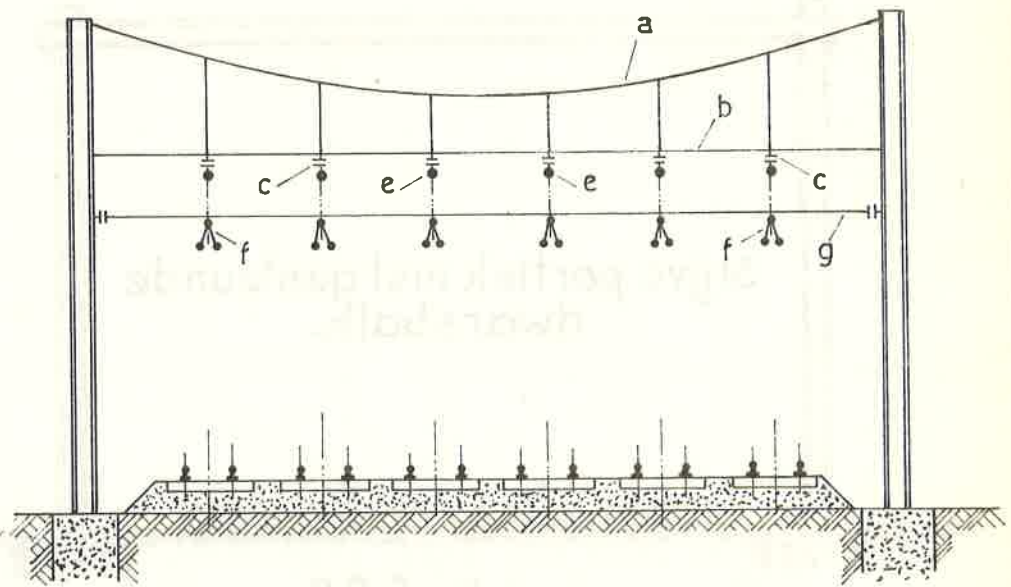
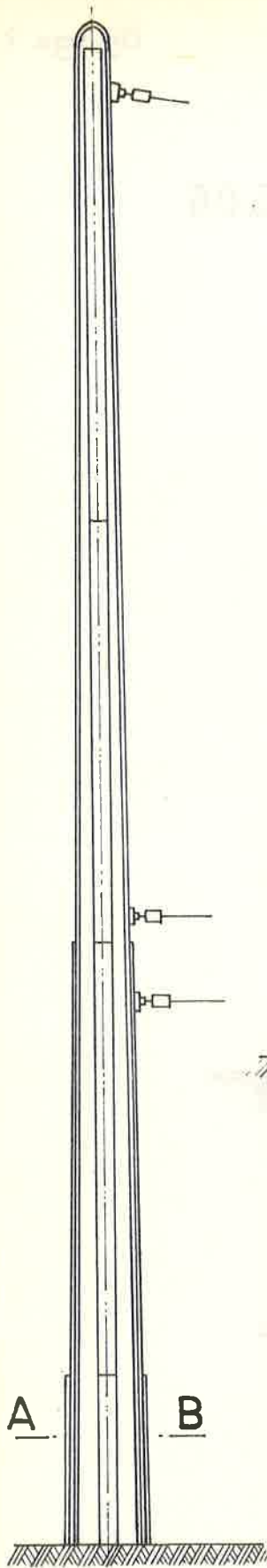


Fig. 5.10.



Doorsnede A-B



Fig. 5.11.

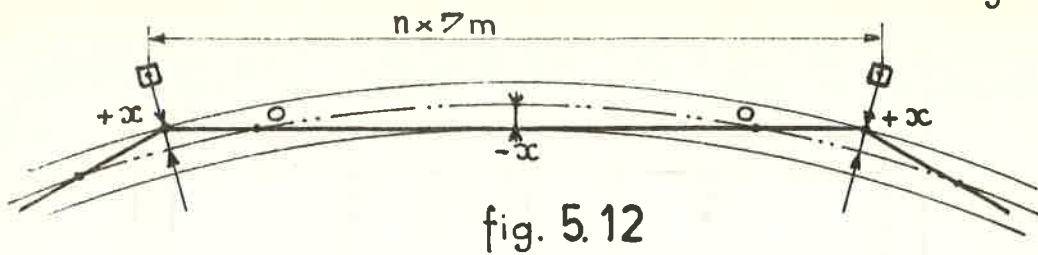


fig. 5.12

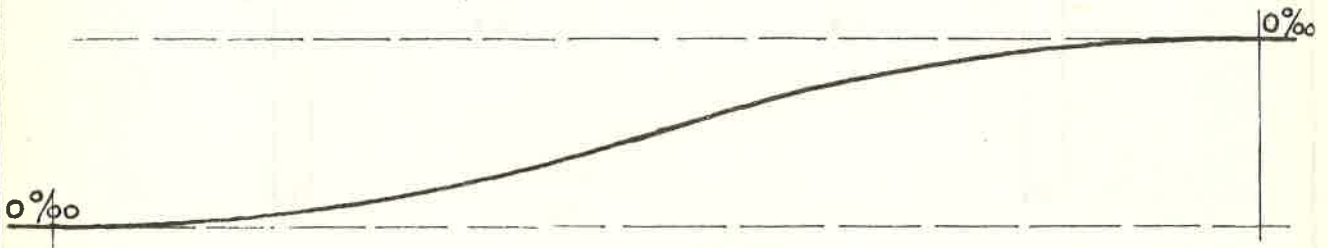


fig. 5.13

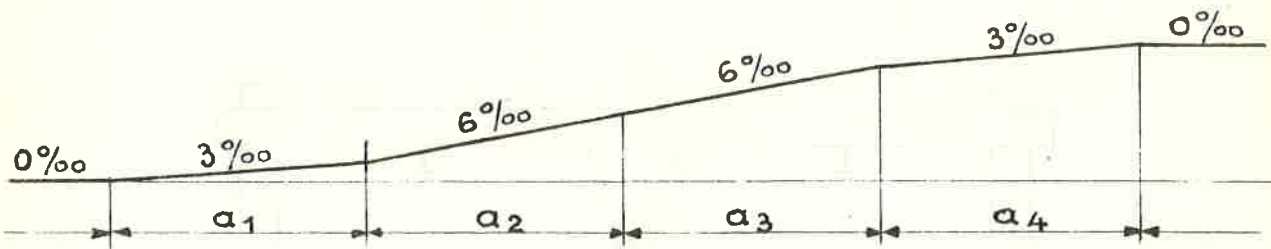


fig. 5.14.

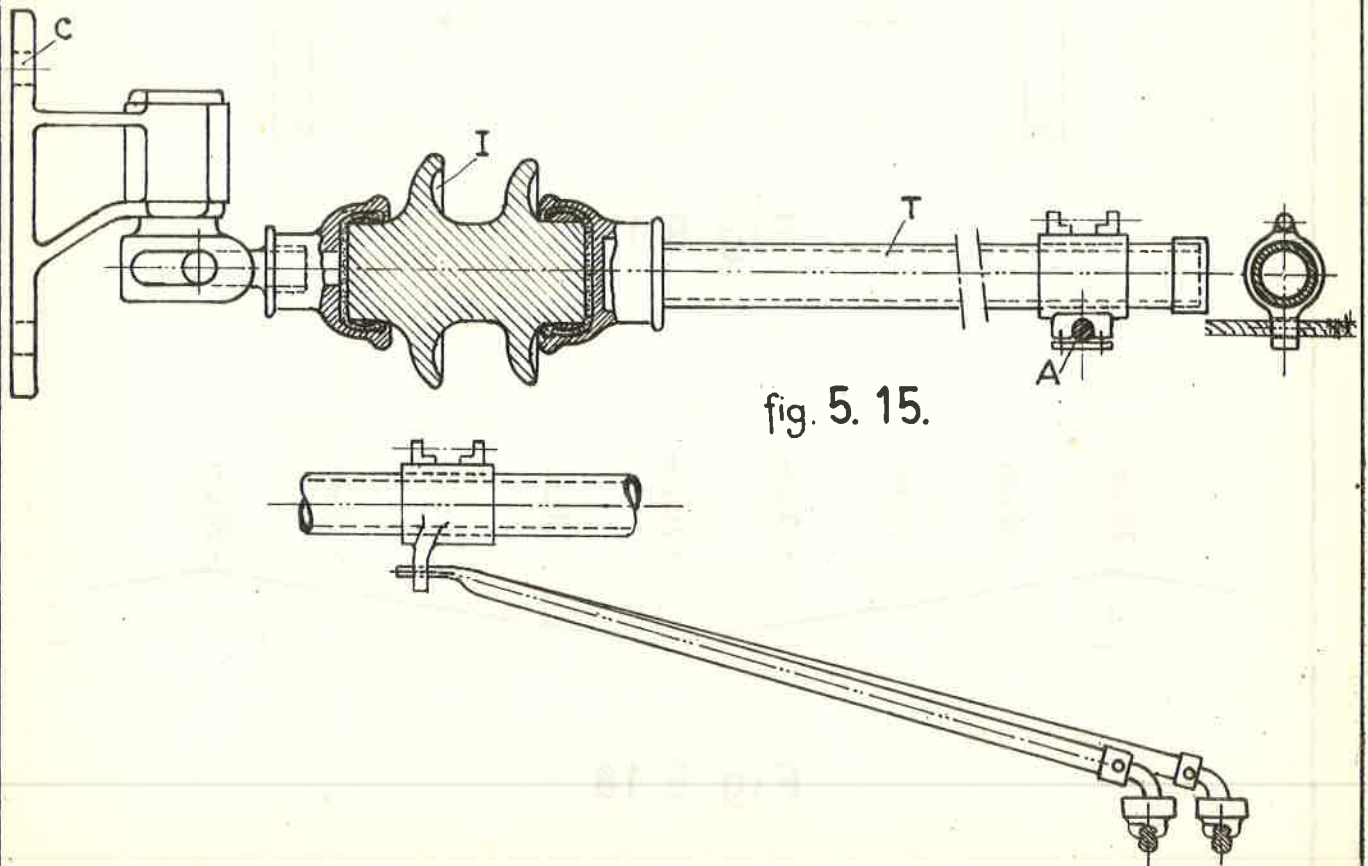


fig. 5.15.

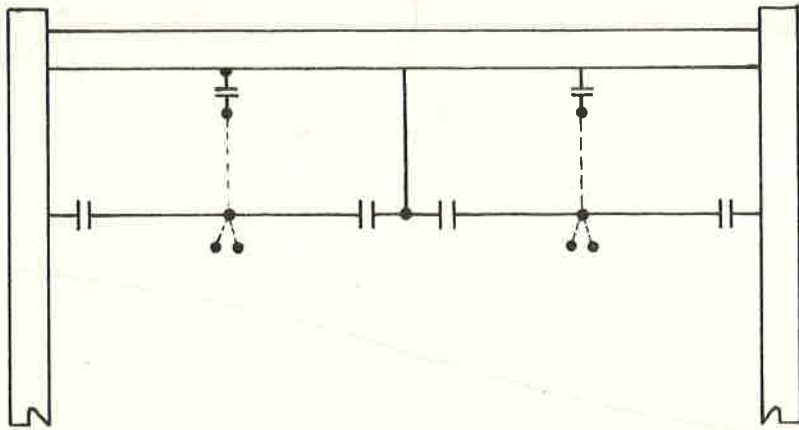


Fig. 5.16

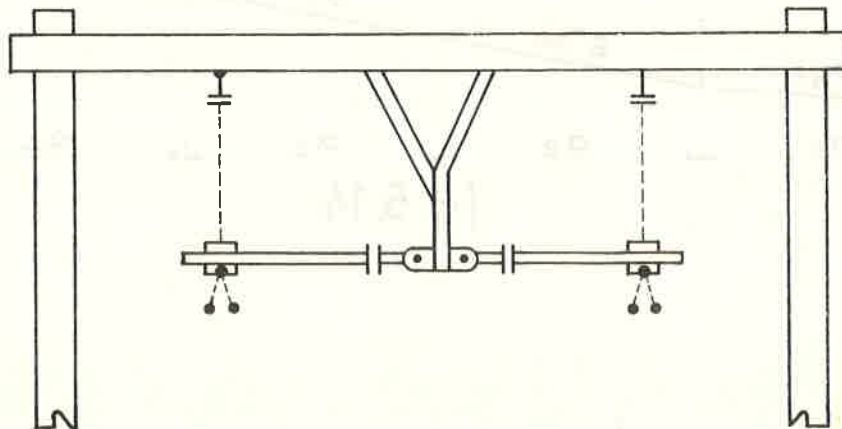


Fig. 5.17

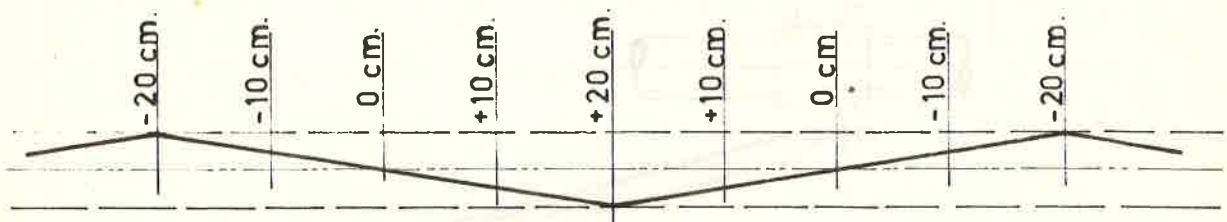


Fig. 5.18

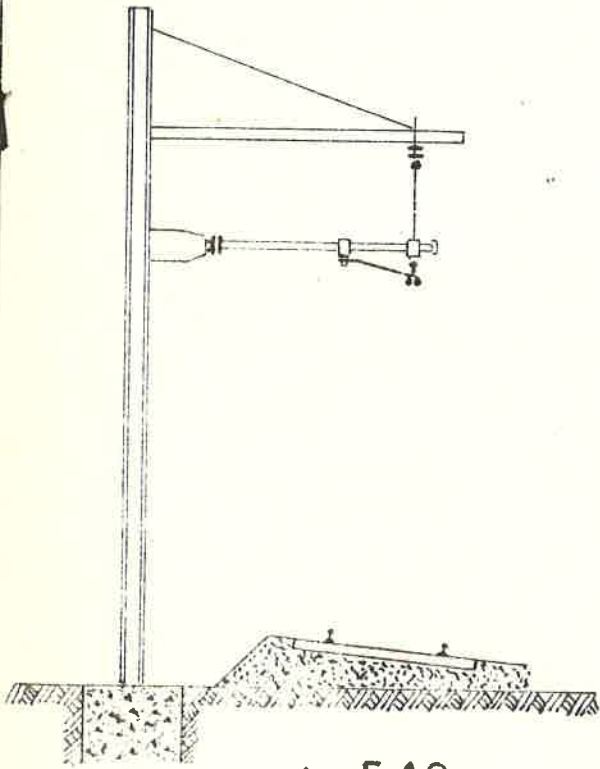


fig. 5.19

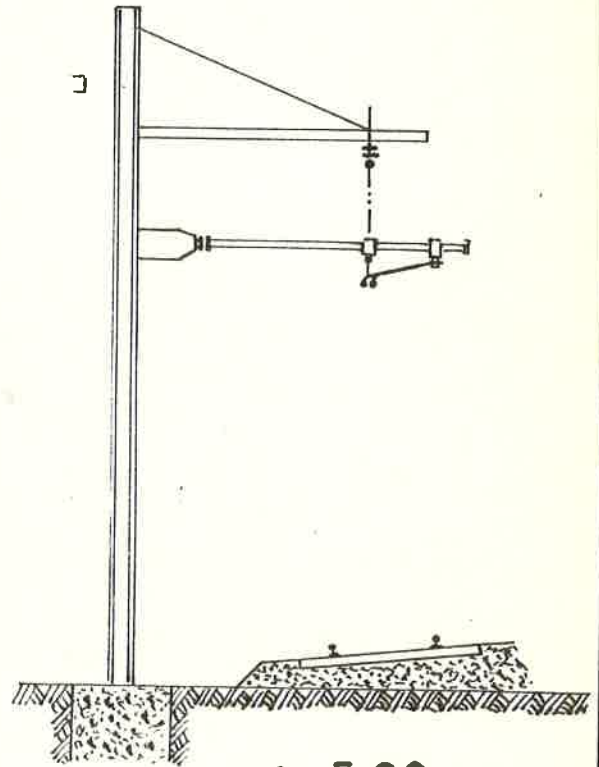


fig. 5.20.

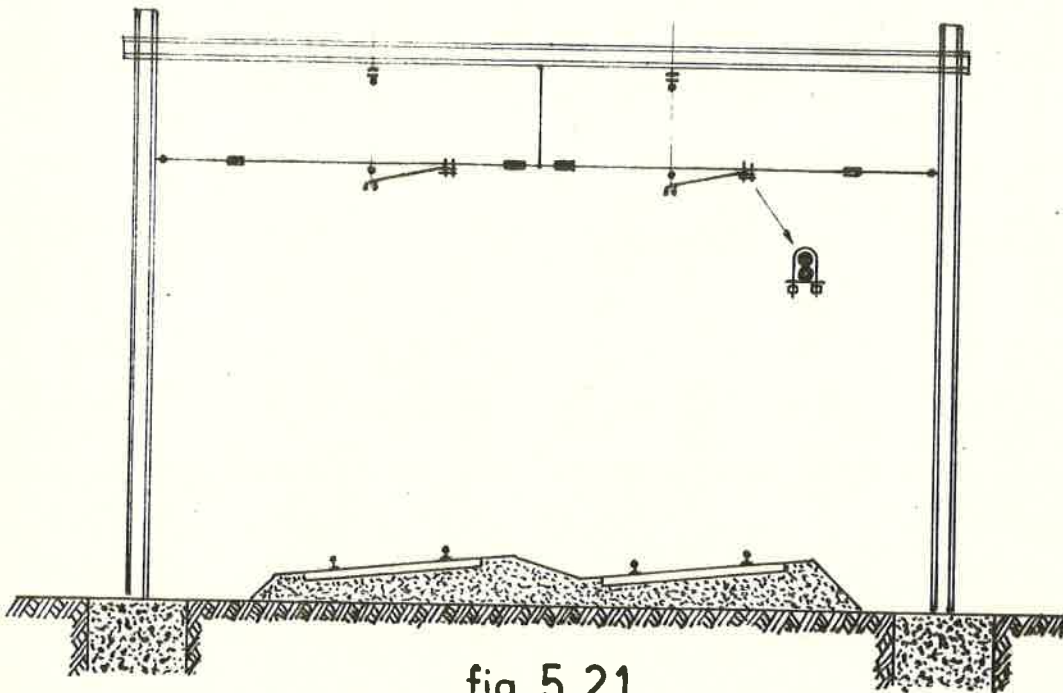


fig. 5.21

Fig. 2.30



Fig. 2.30



Fig. 2.31



Fig. 2.31

Fig. 2.30
Fig. 2.31

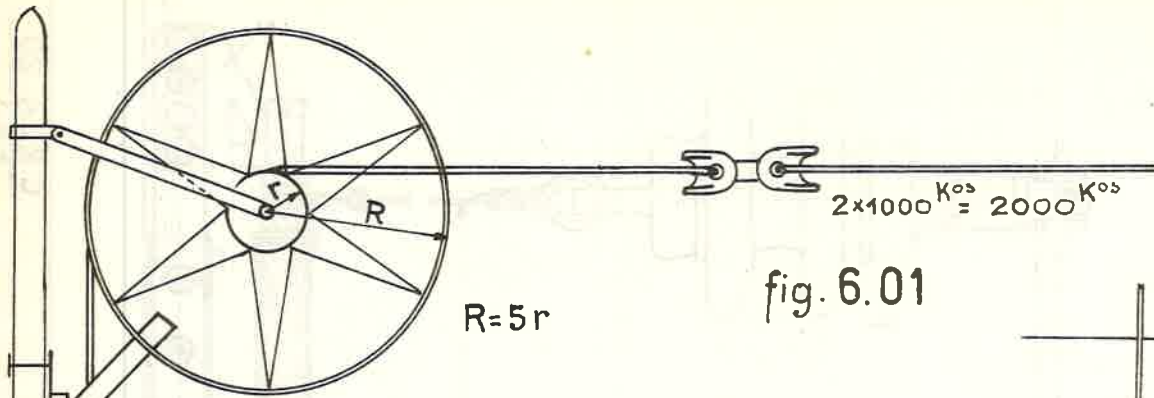


fig. 6.01

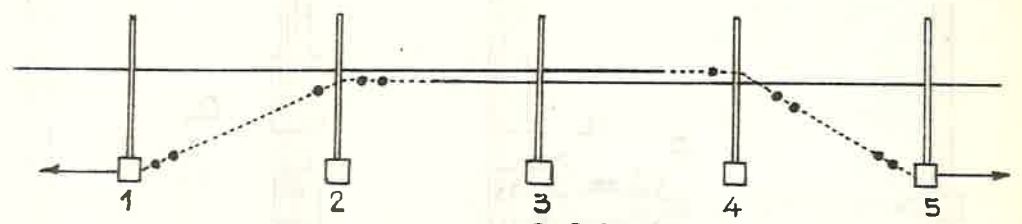


fig. 6.02

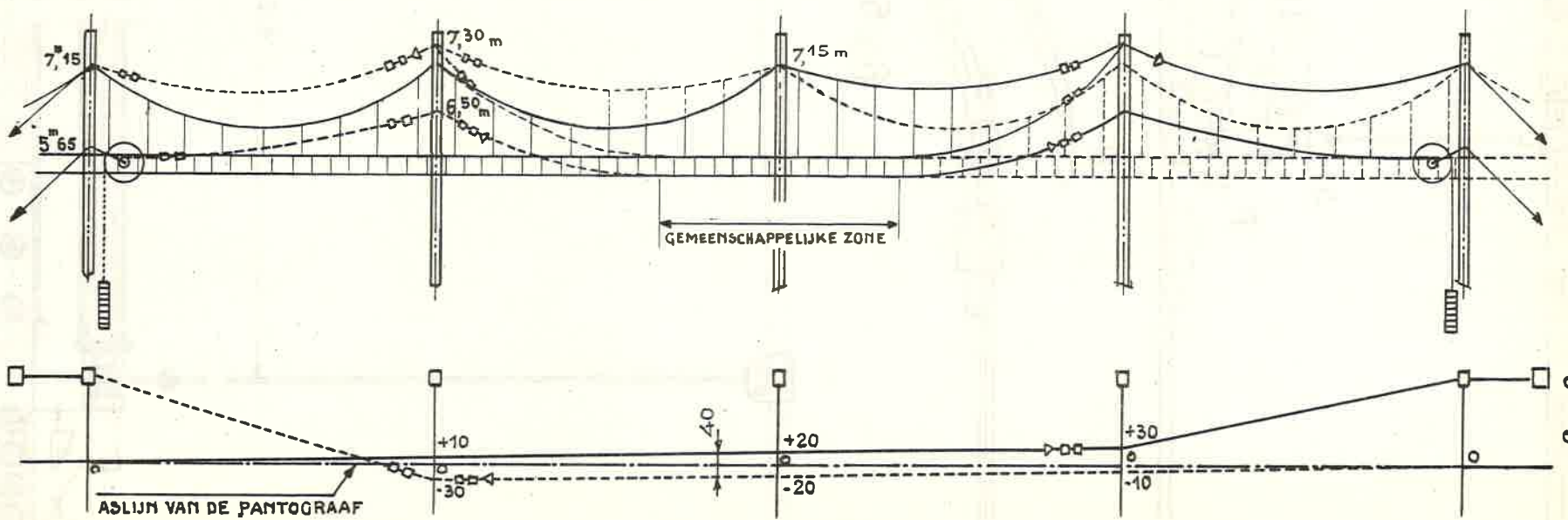


fig. 6.03

C.224.20
6e Les

Bijlage 1

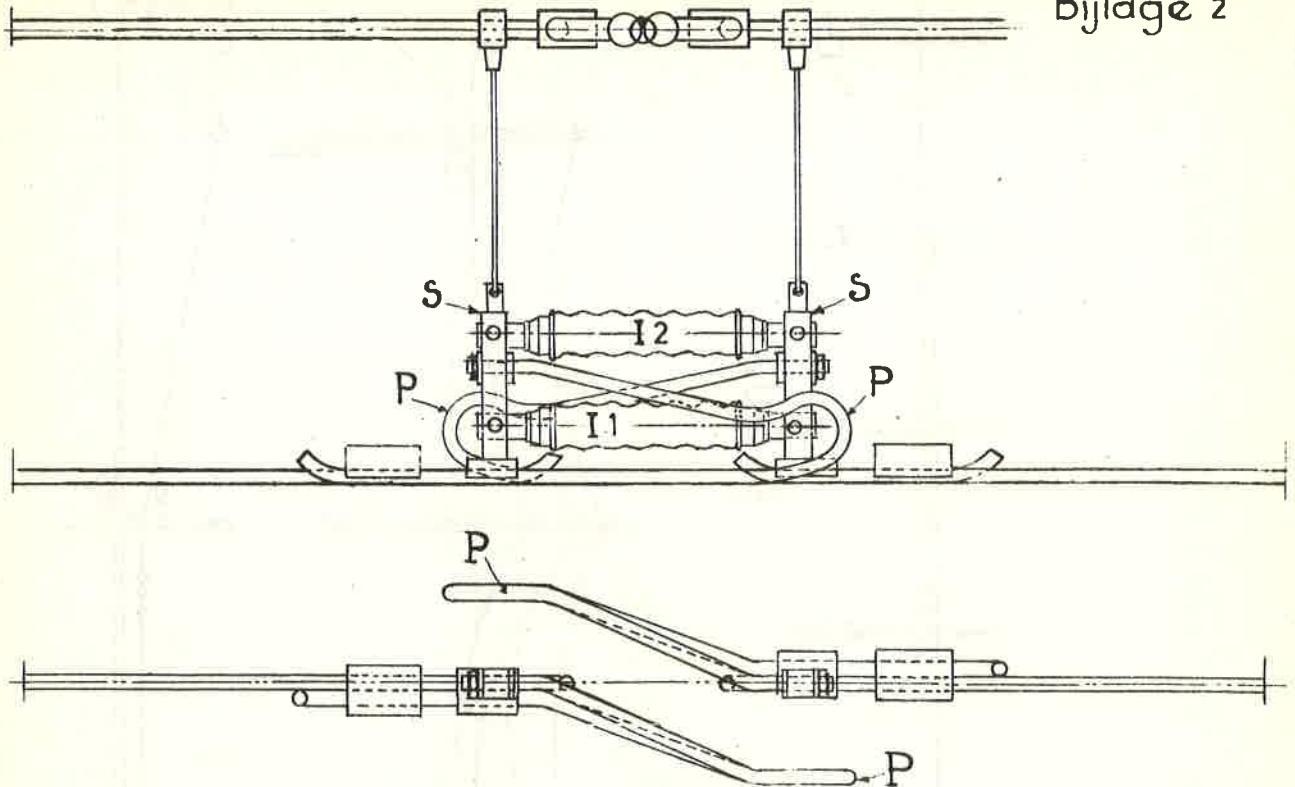


fig. 6.04

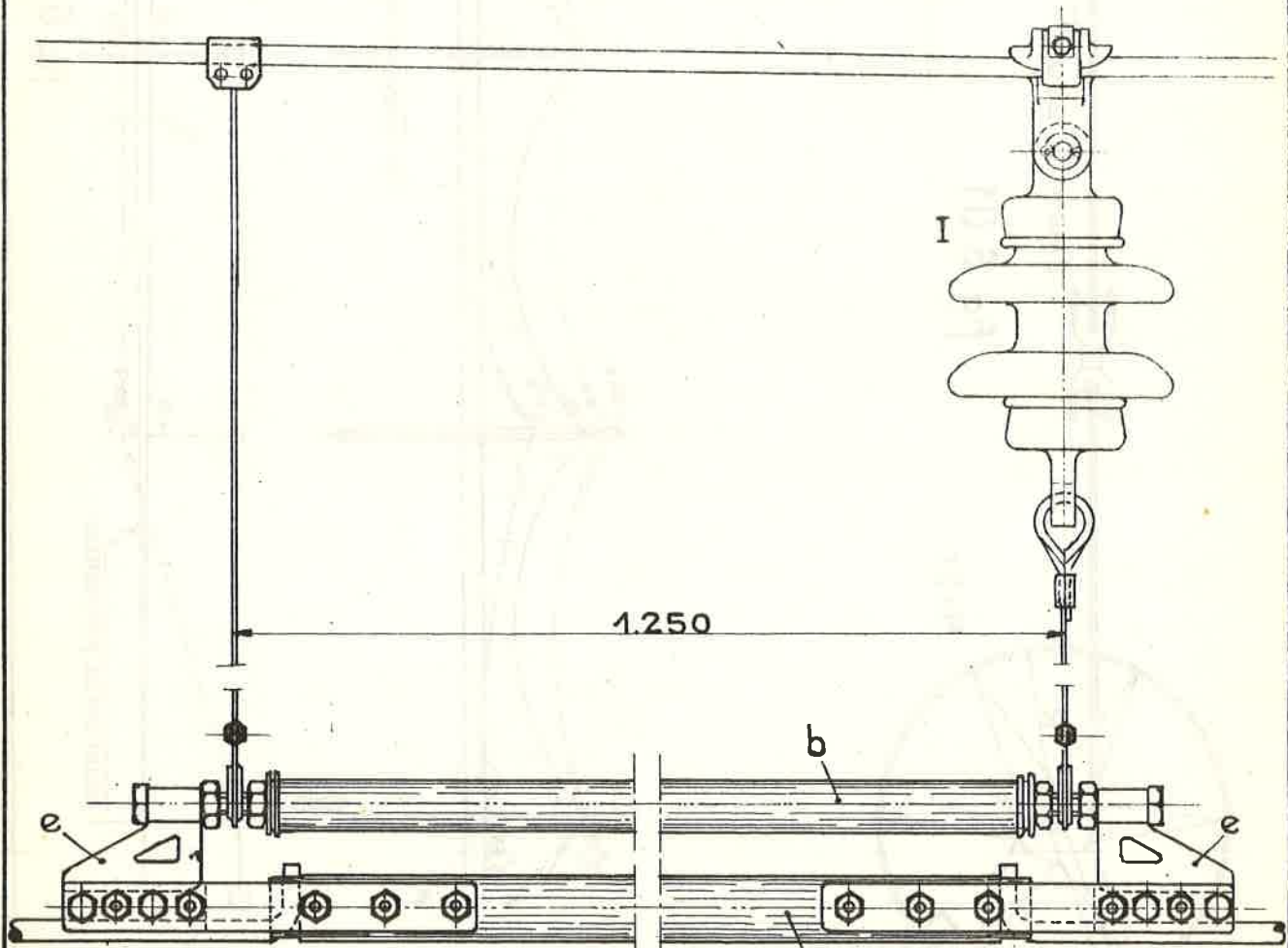


fig. 6.05 P

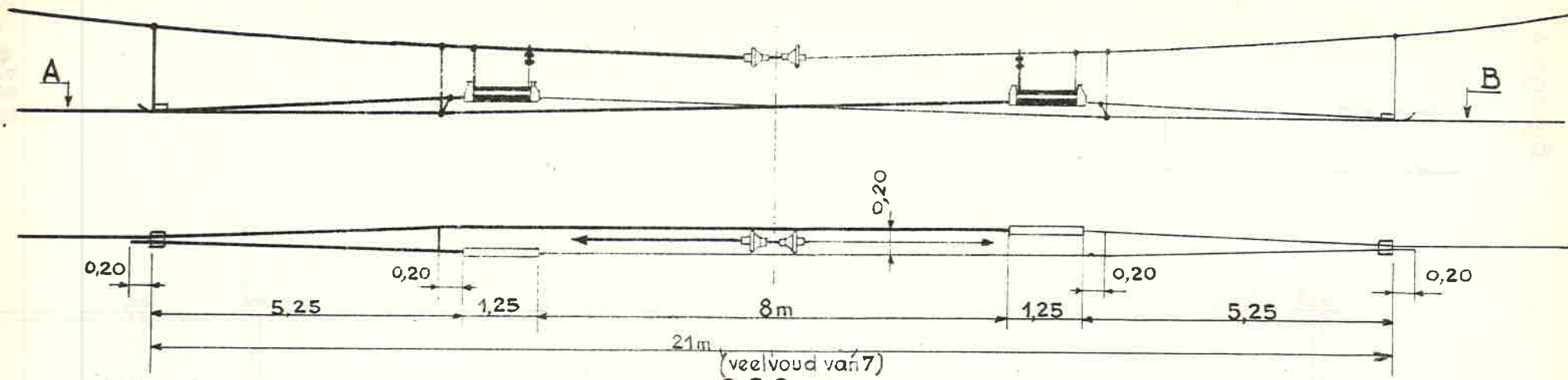


fig 6.06.

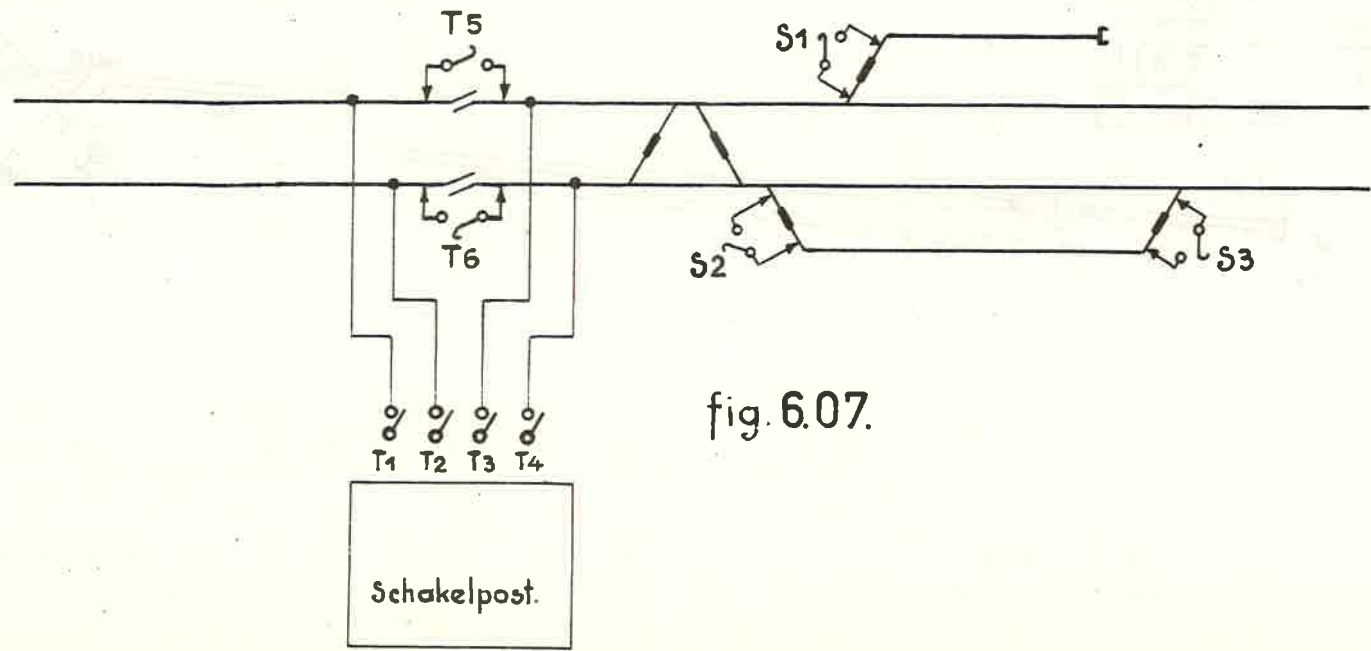


fig. 6.07.

C.224.20
6e Les

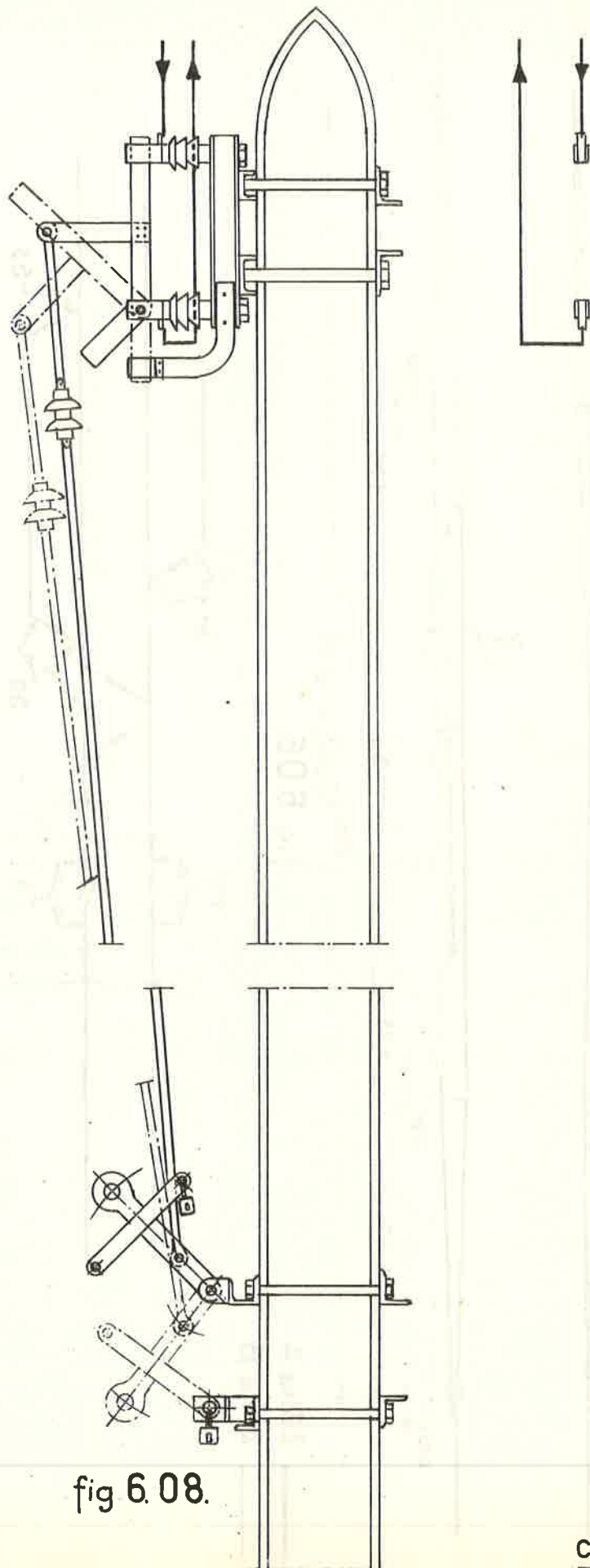


fig 6.08.

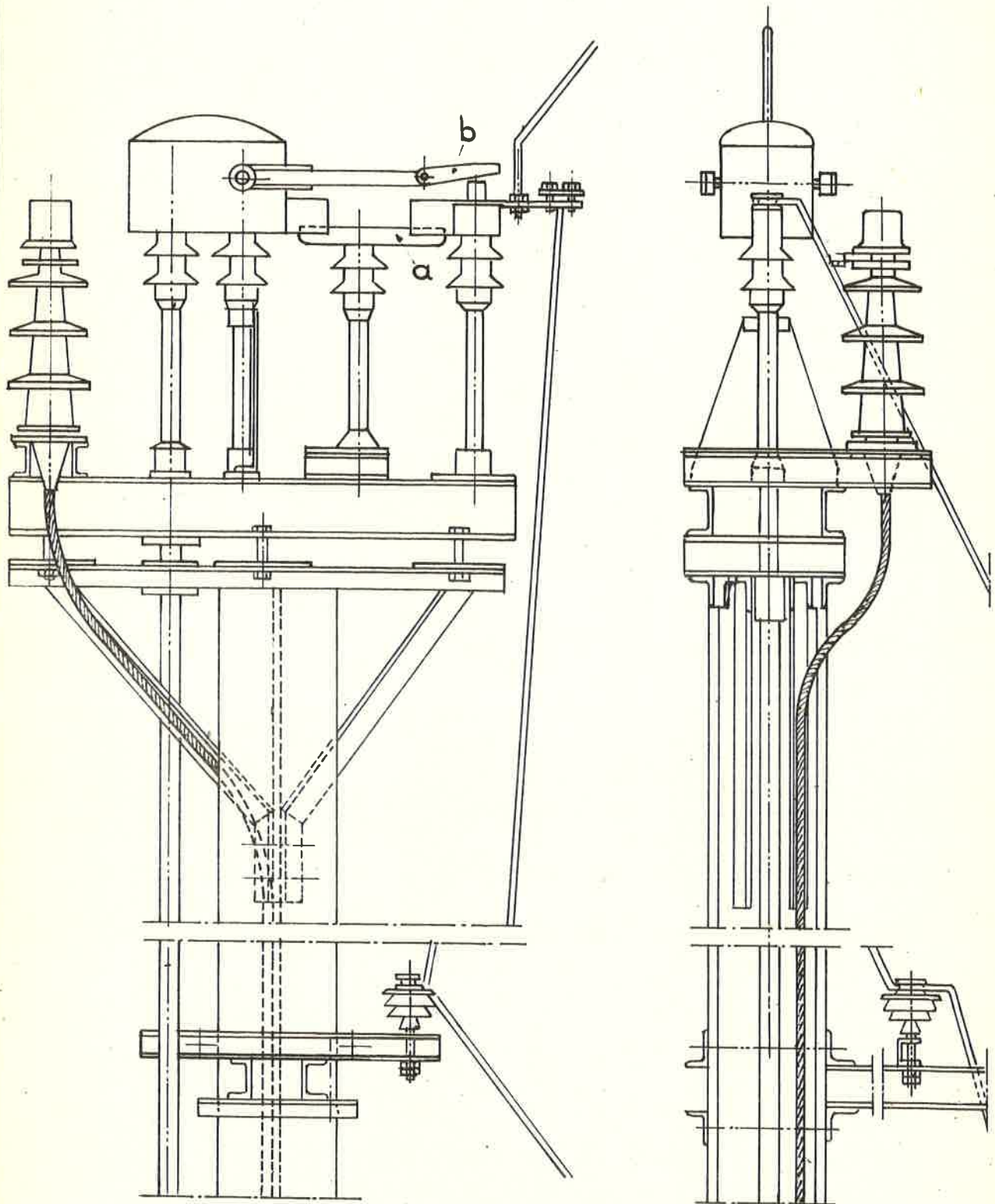


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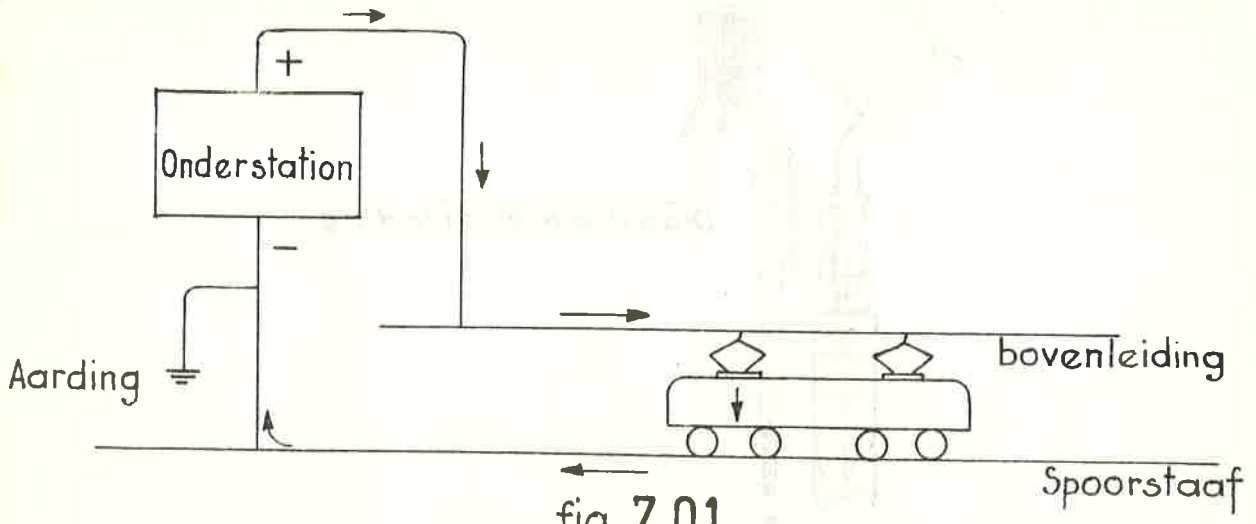


fig 7.01.

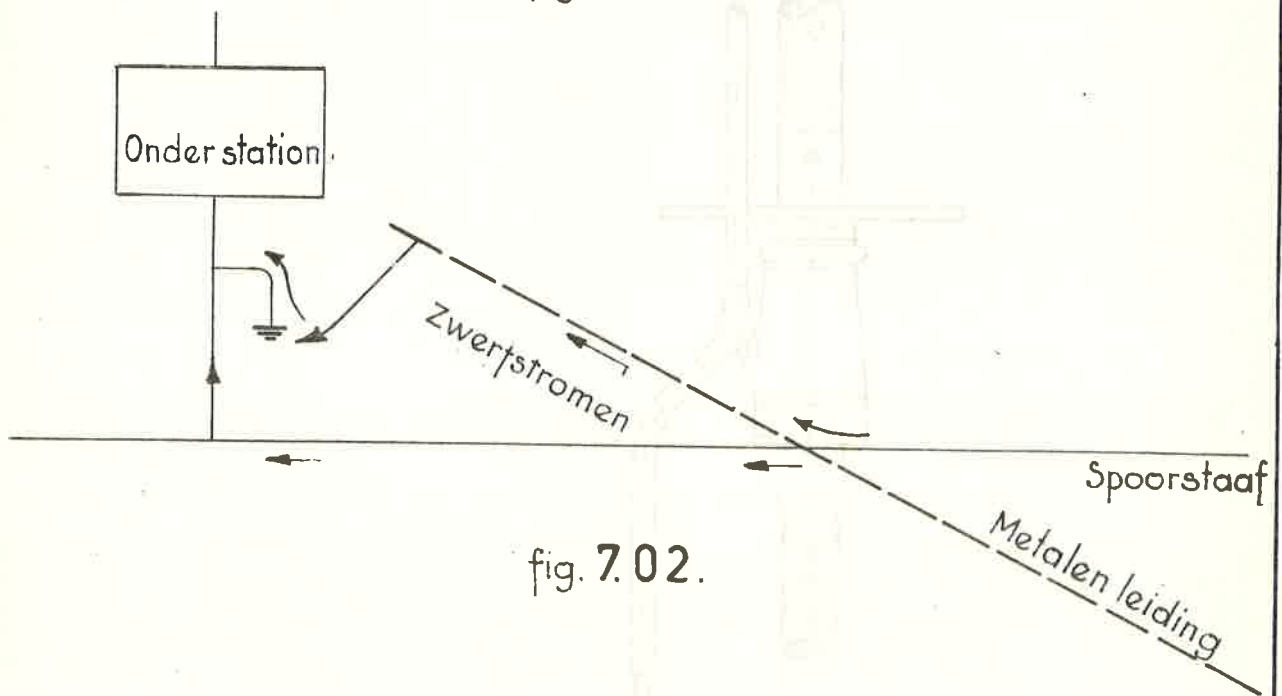


fig. 7.02.

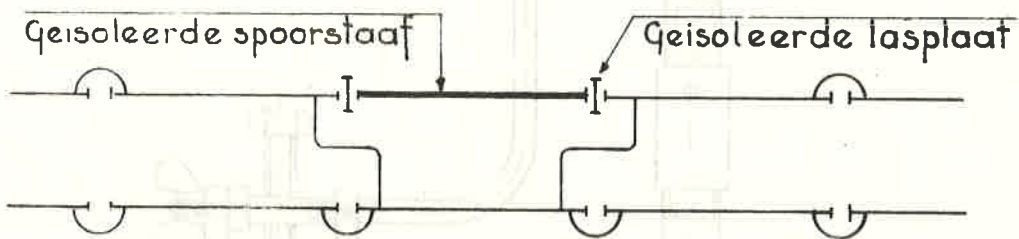


fig. 7.03.

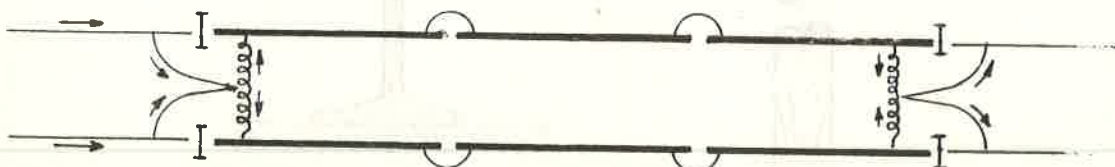


fig 7.04.

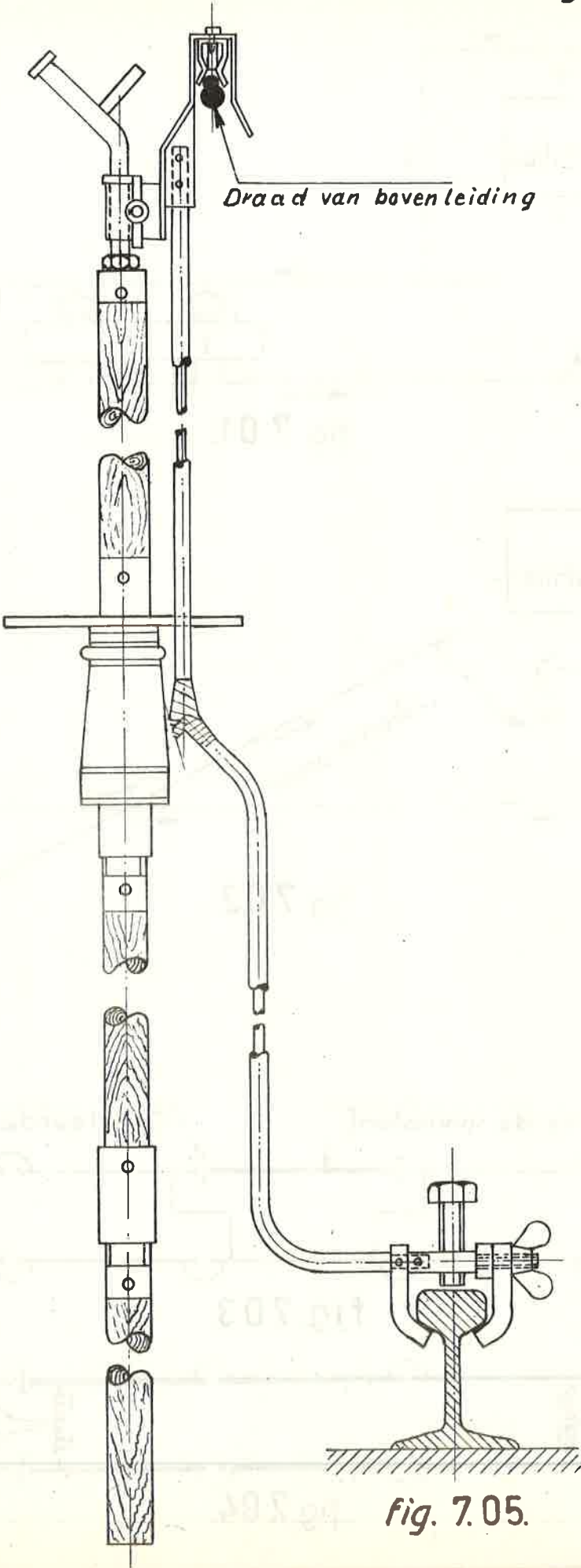


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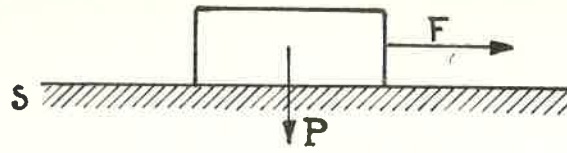


fig. 9.01.

Specifieke weerstand van een elektrische locomotief.

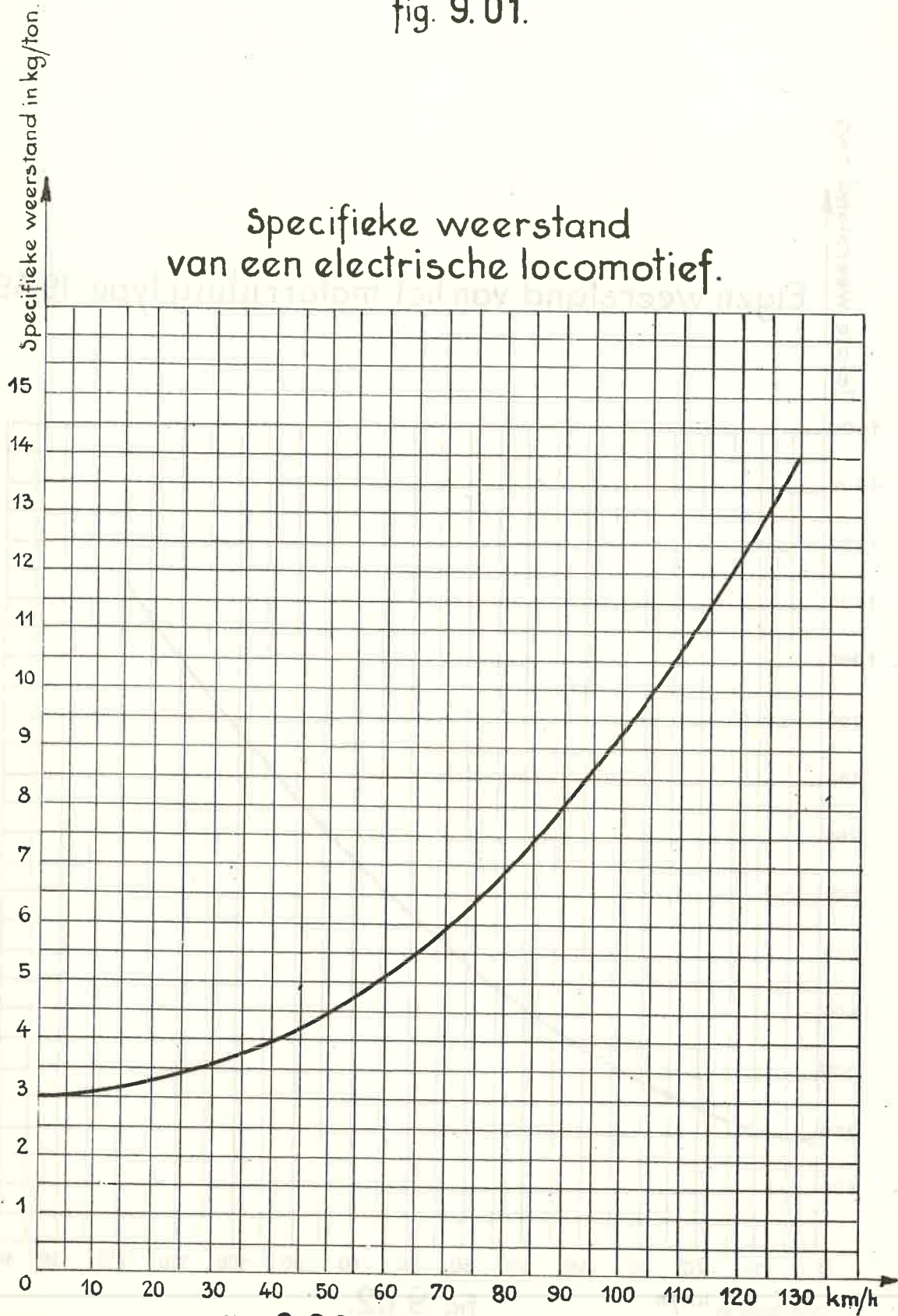


fig. 9.03.

Totale weerstand in kg.

Eigen weerstand van het motorrijtuig type 1939.

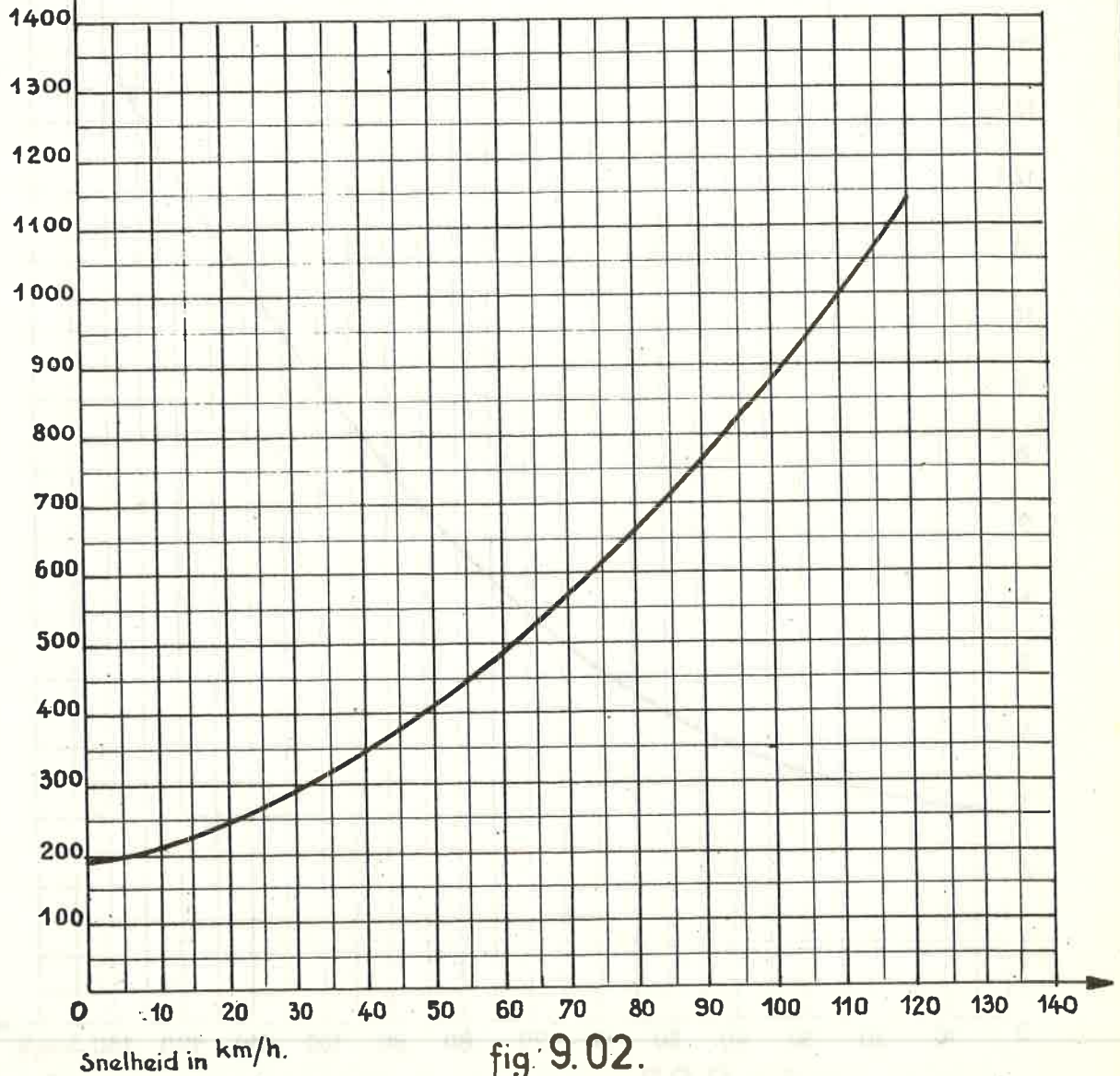


fig. 9.02.

Karakteristieke kurven.

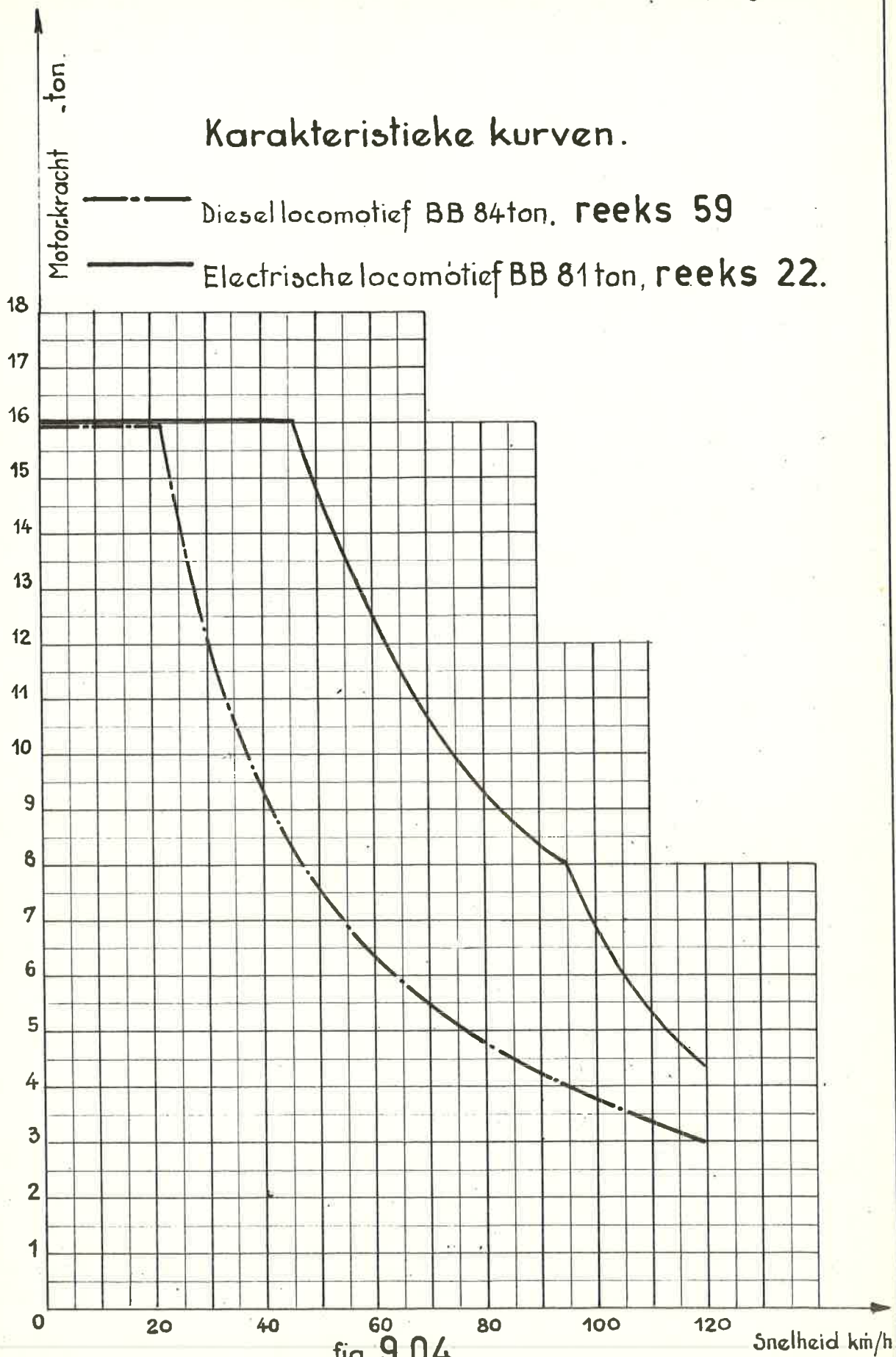


fig. 9.04.

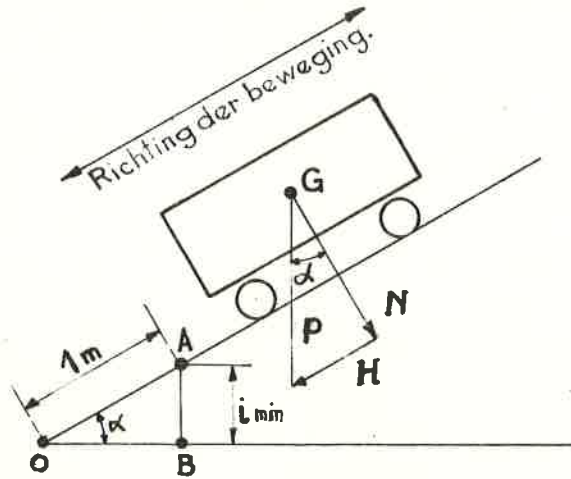


fig. 10. 01.

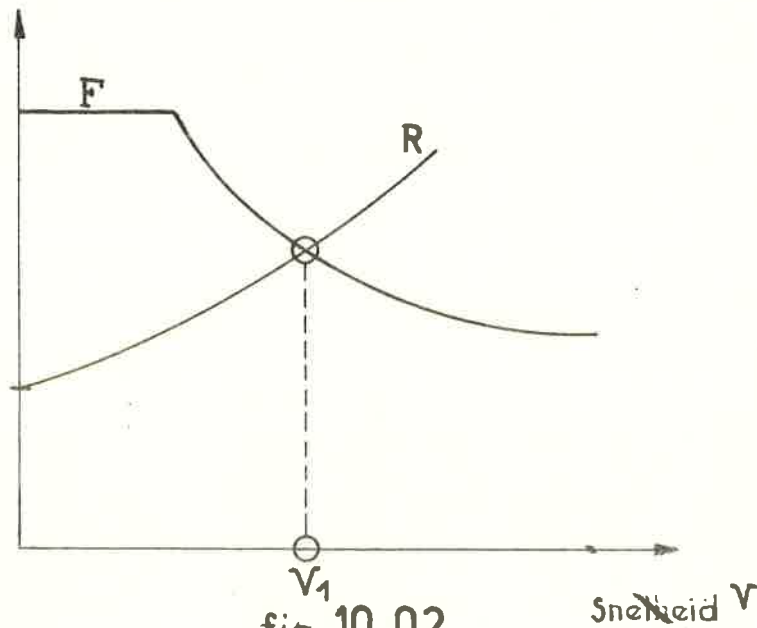


fig. 10. 02.

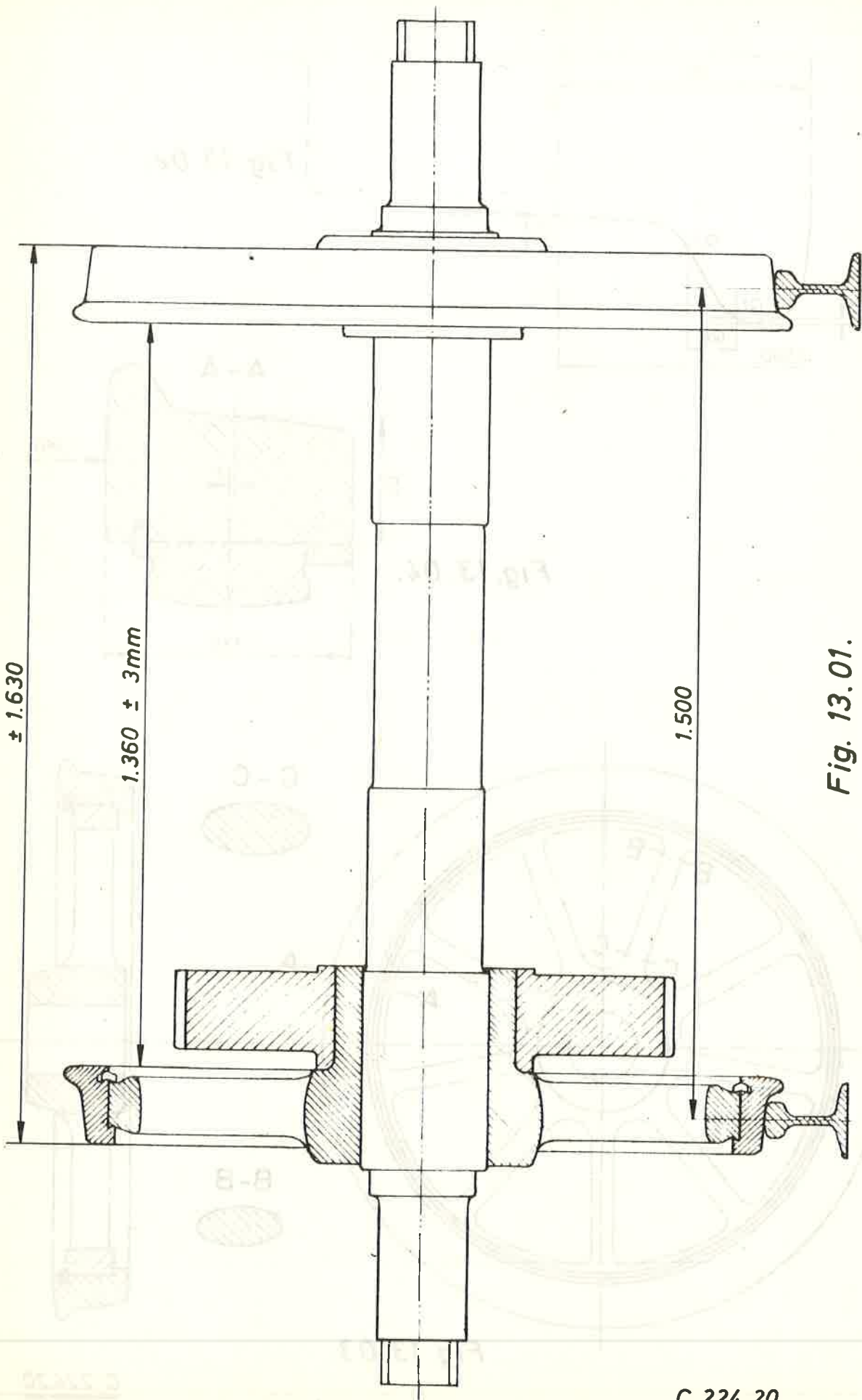


Fig. 13.01.

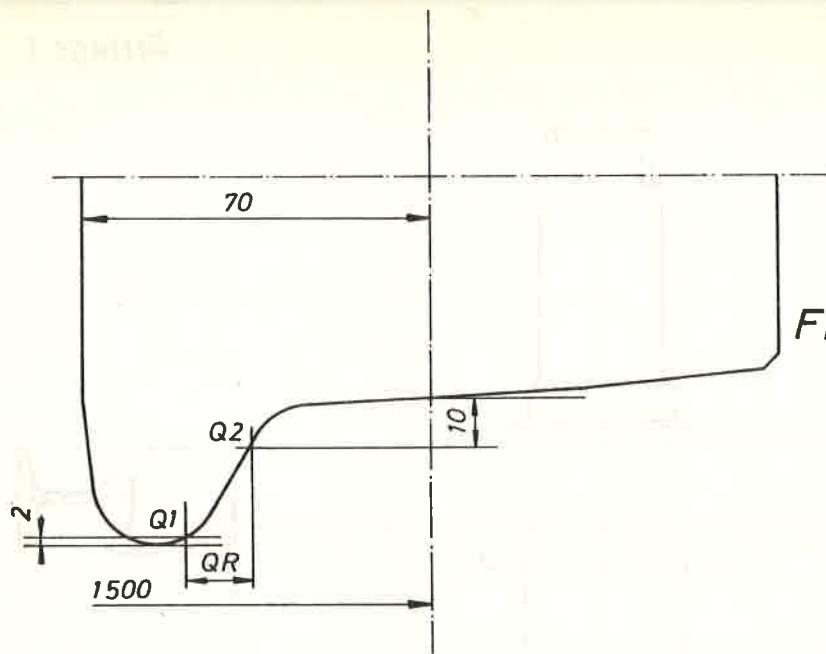


Fig. 13.02.

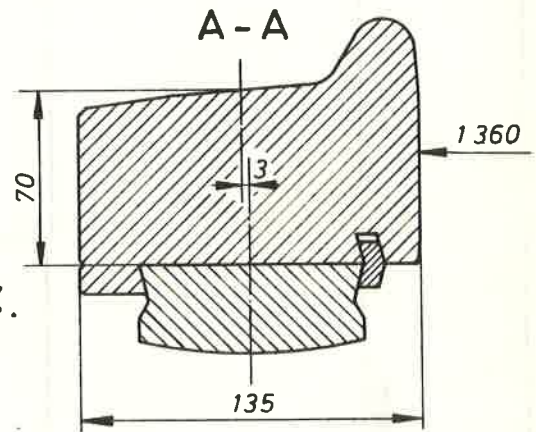


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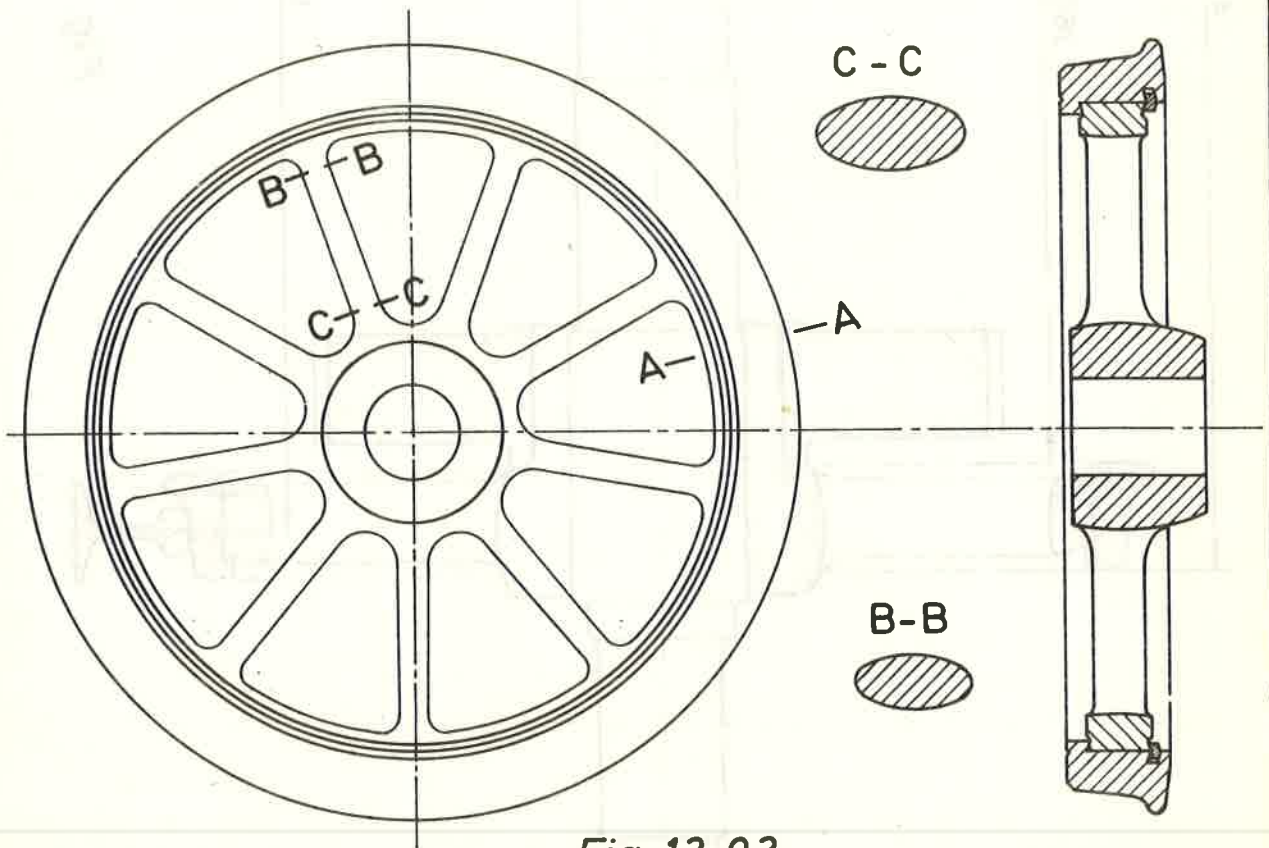


Fig. 13.03.

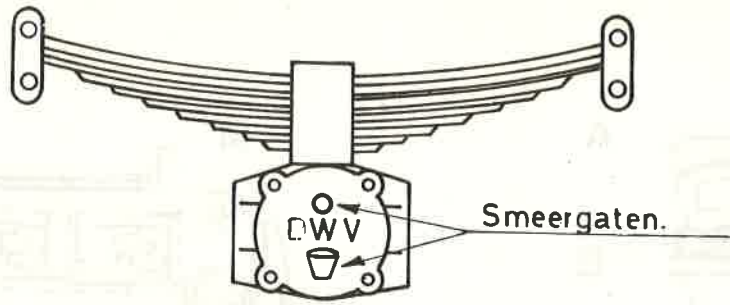


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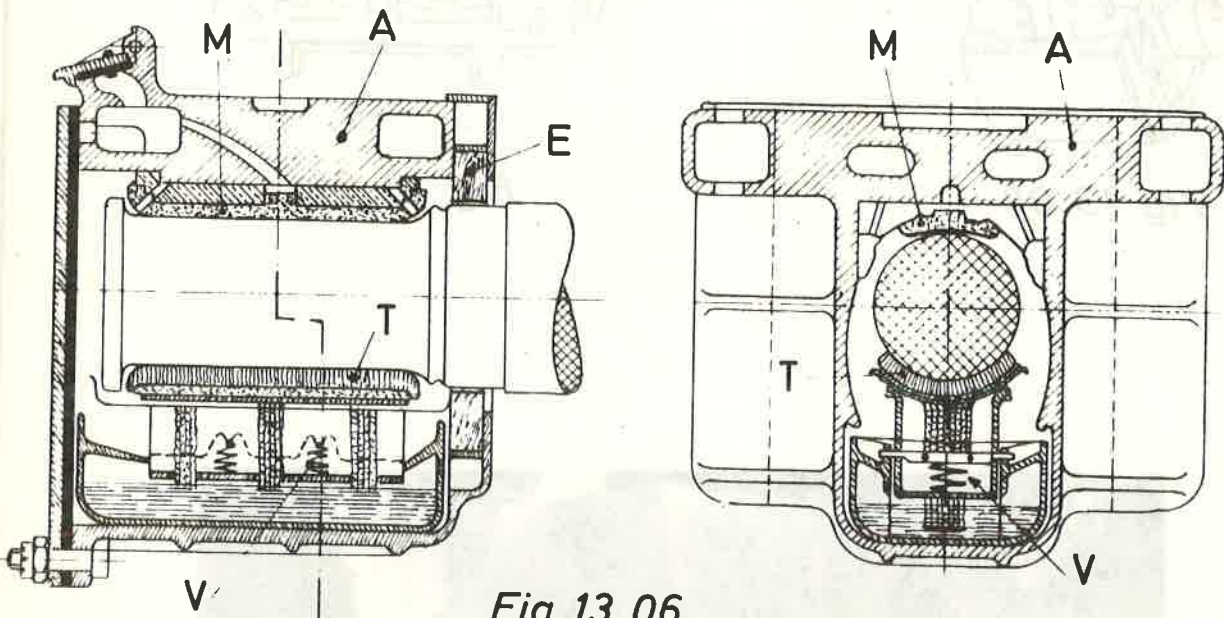


Fig. 13.06.

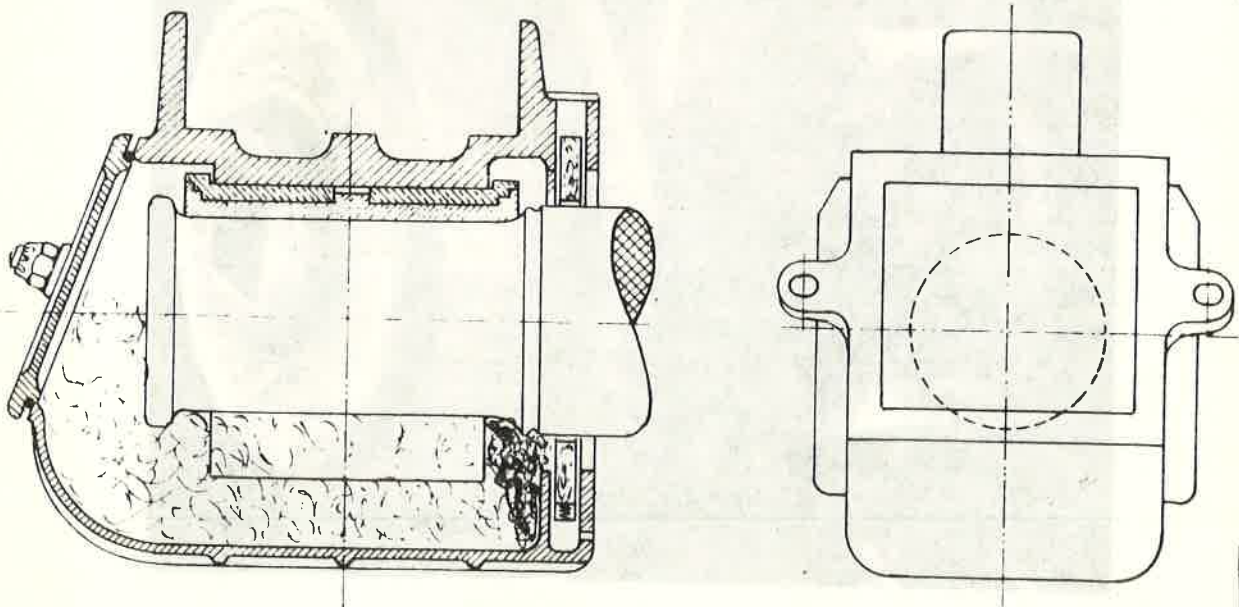


Fig. 13.07.

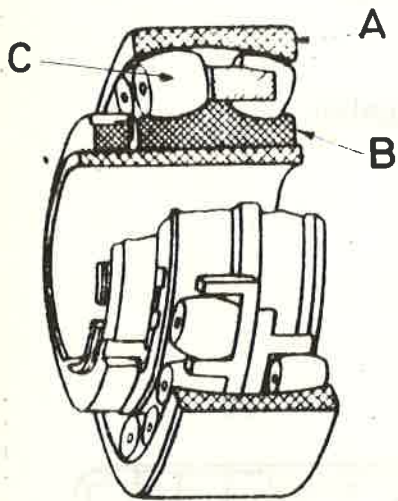


Fig. 13.08.

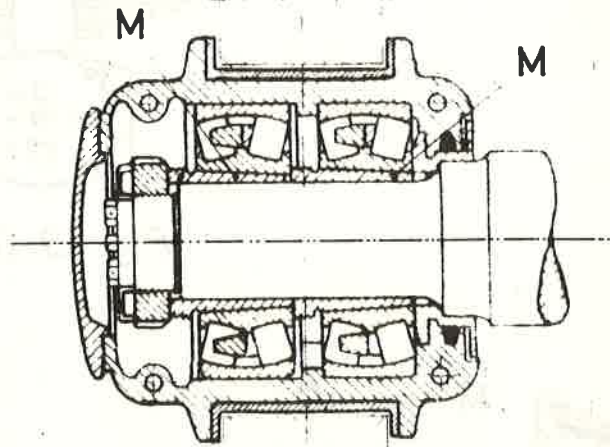


Fig. 13.09.

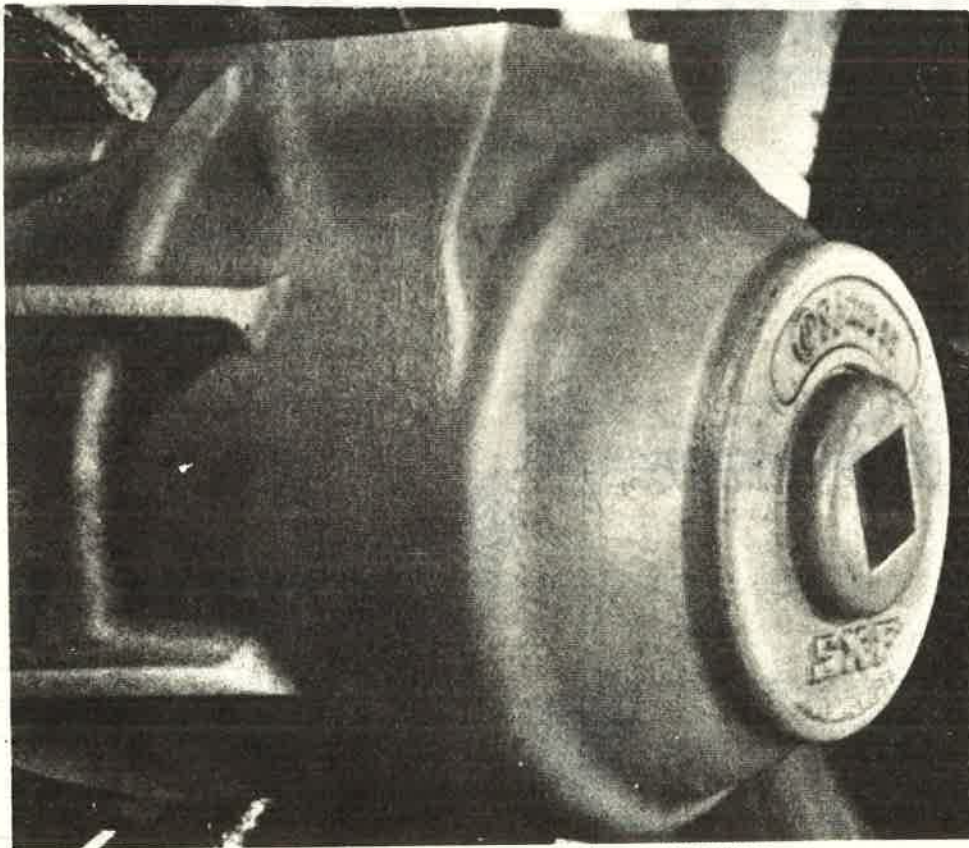


Fig. 13.10.

05-155-3
E/m

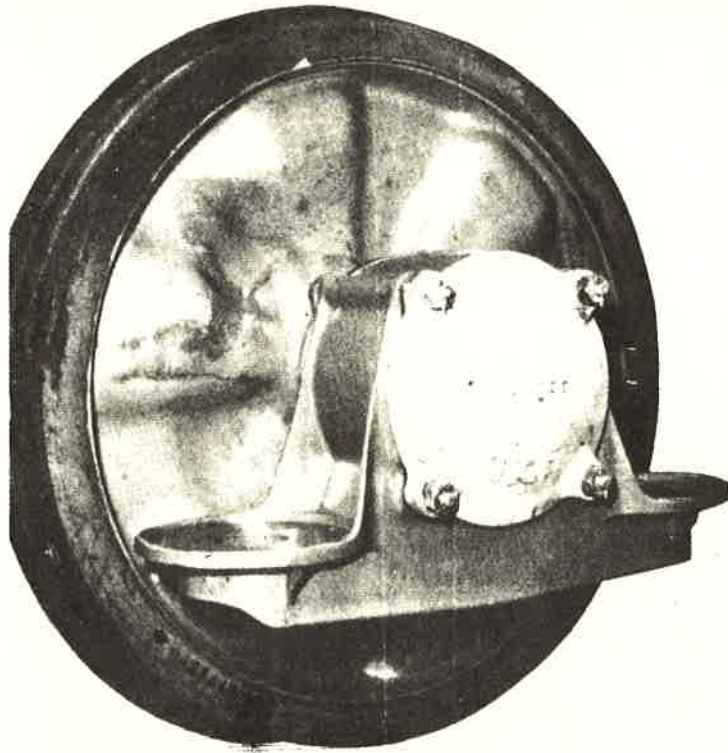
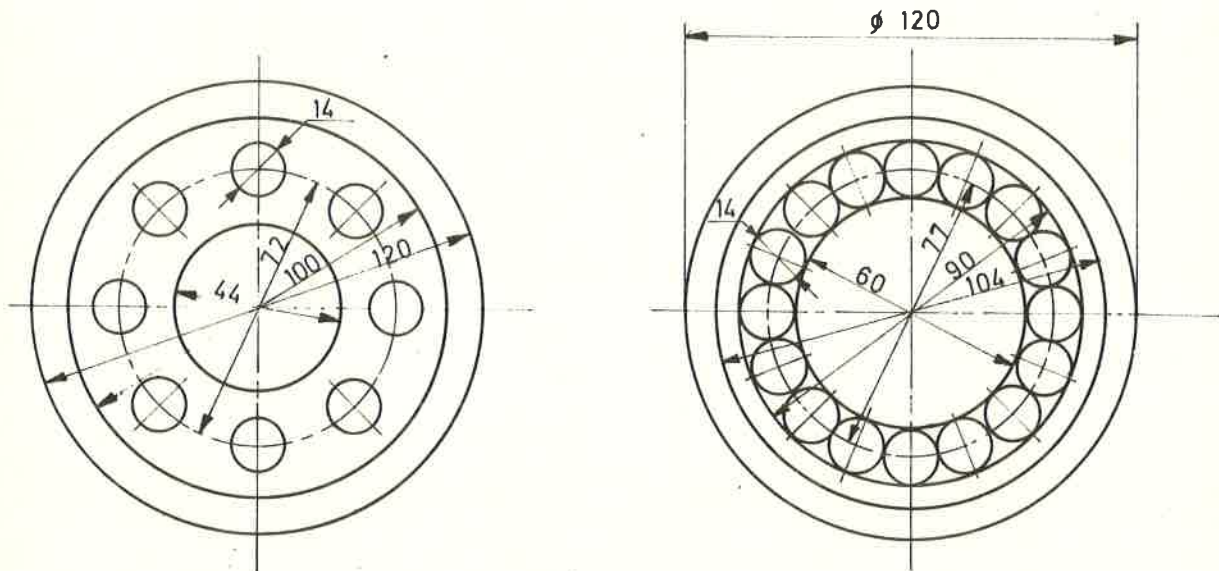


Fig. 13.11.

F.S. / N.M.B.S. - Net.

S.N.C.F. - Net.



De twee merken zijn in 't wit geschilderd met het middelpunt volledig in 't wit.

Fig. 13.12.

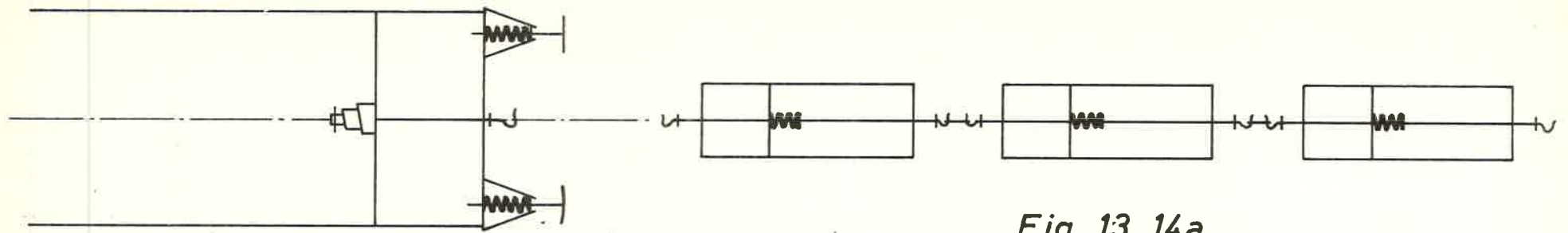


Fig. 13.13a.

Fig. 13.14a.

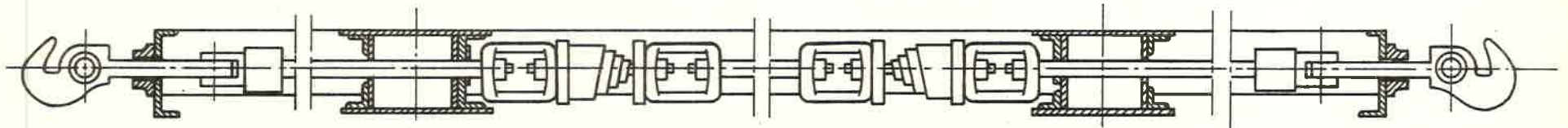


Fig. 13.14b.

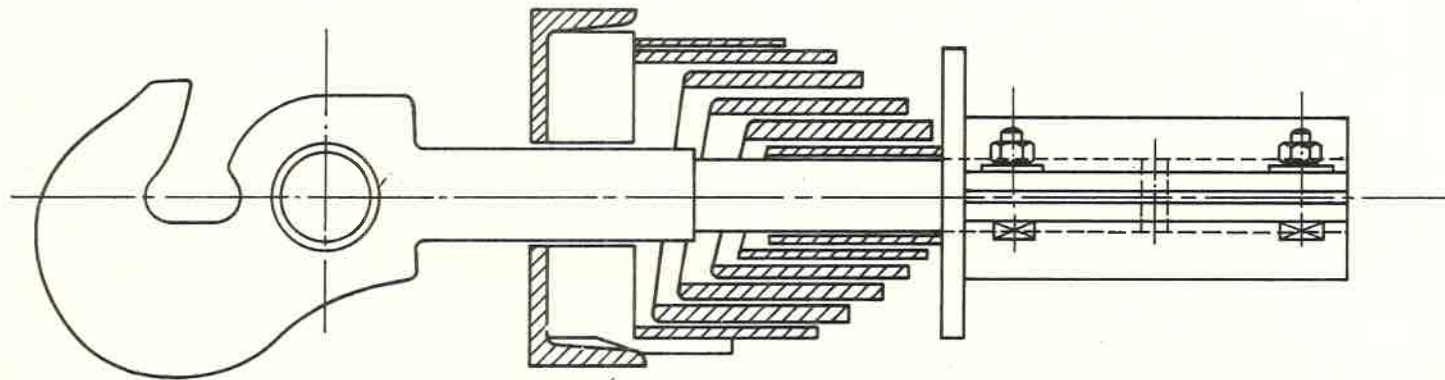


Fig. 13.13b.

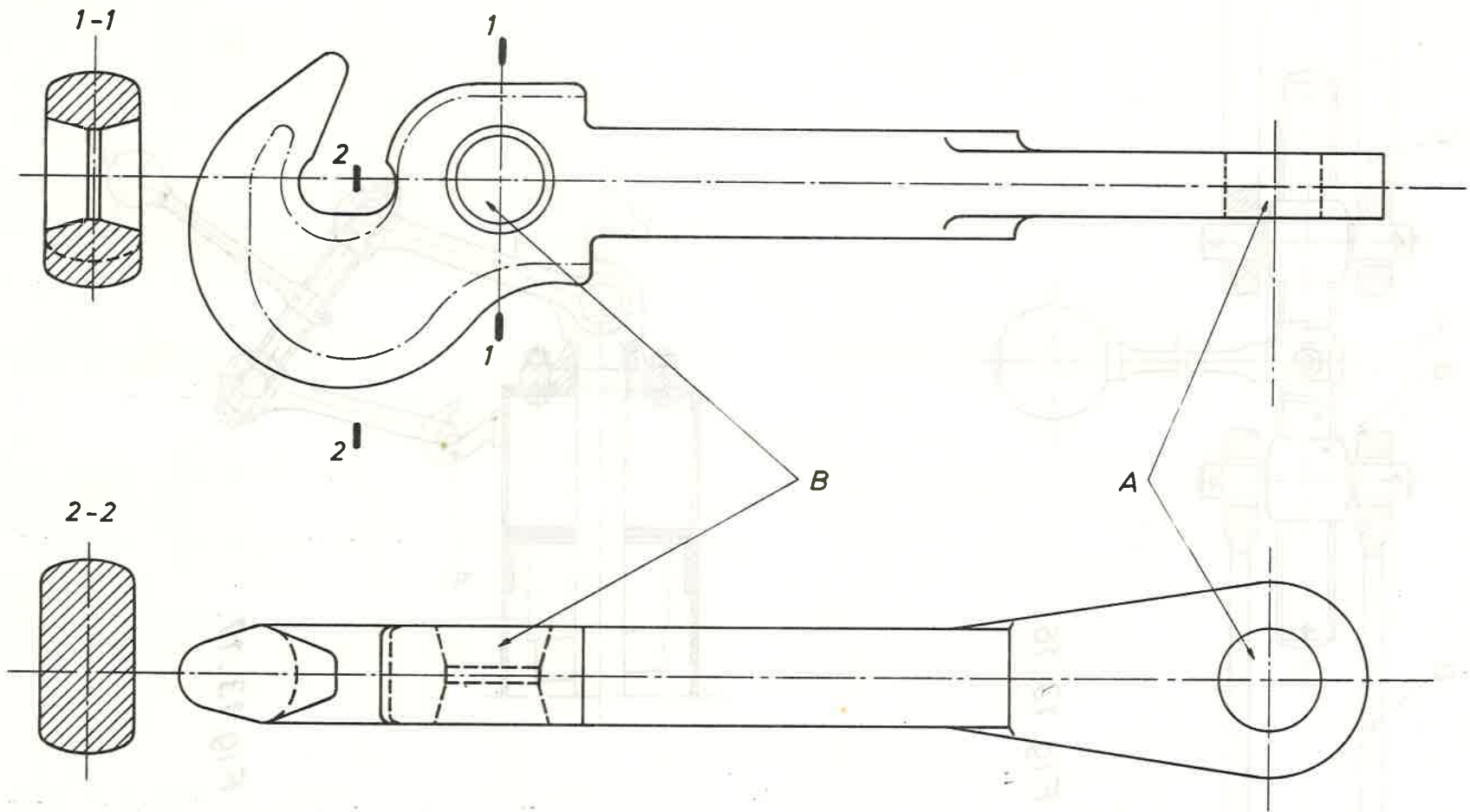


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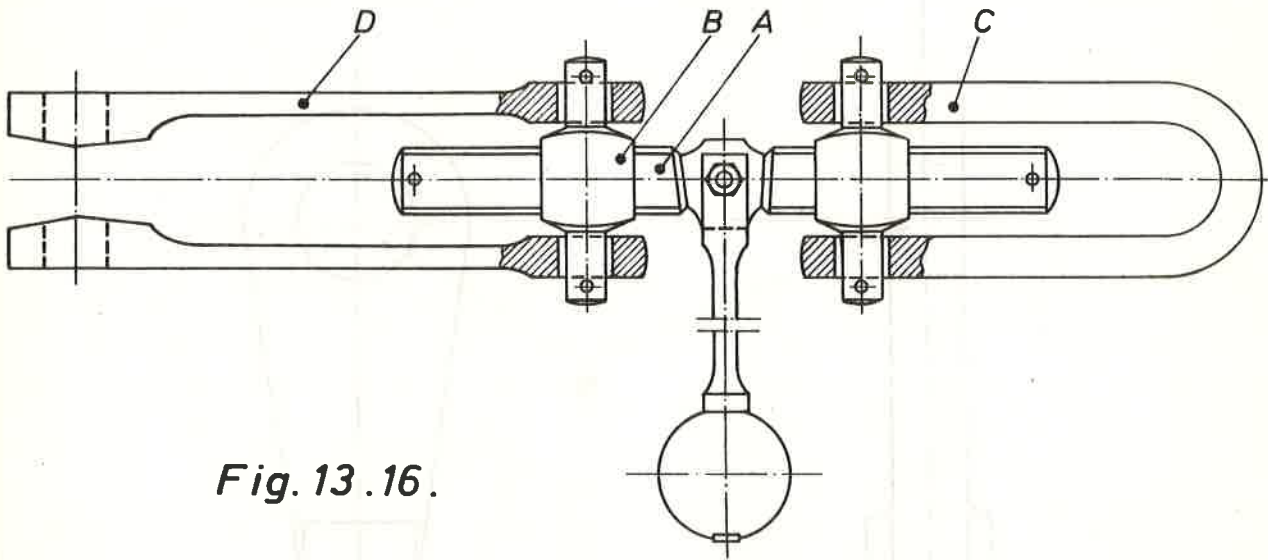


Fig. 13.16.

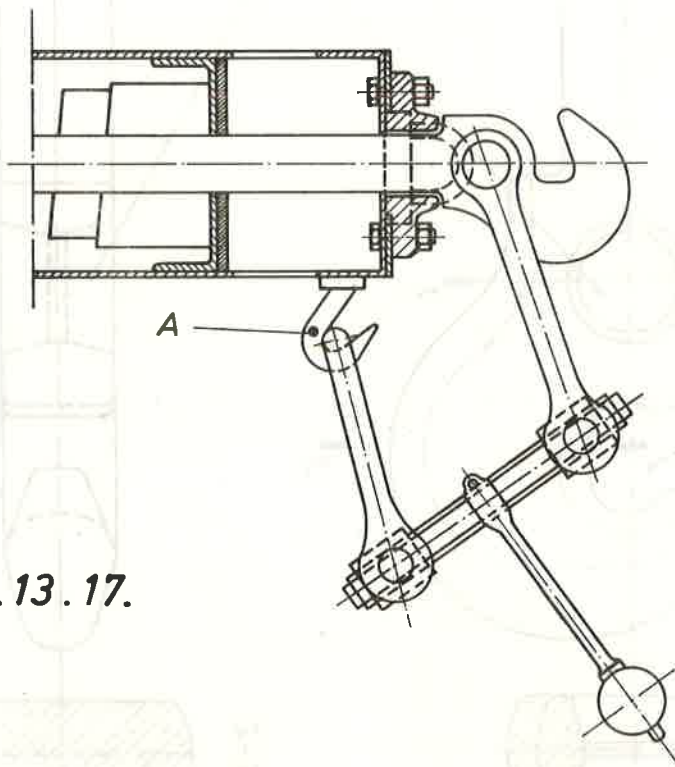


Fig. 13.17.

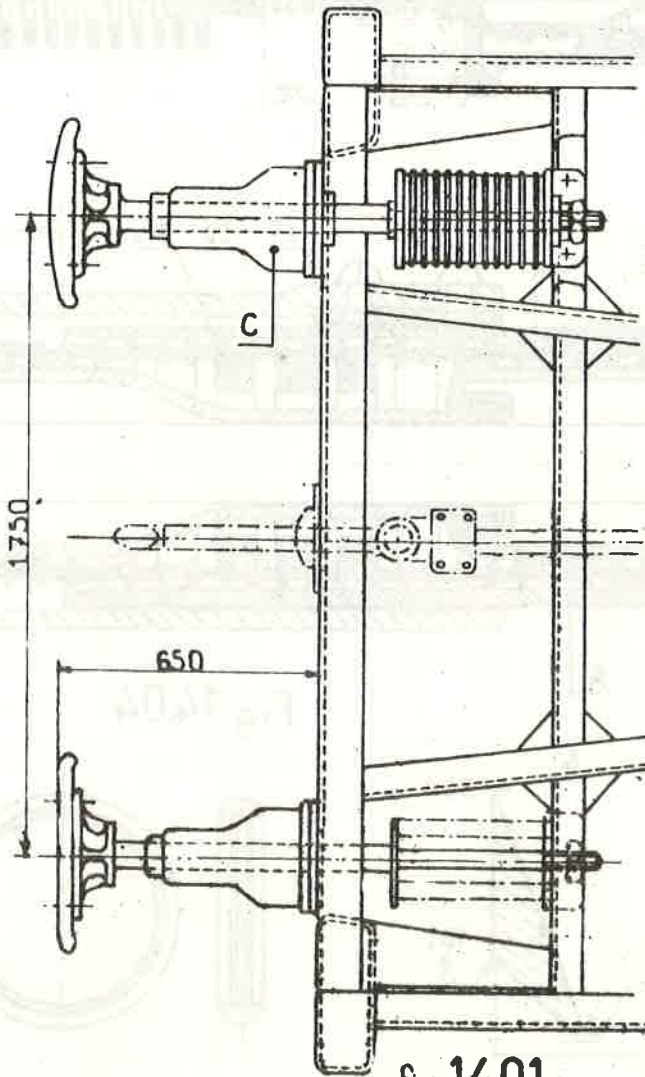
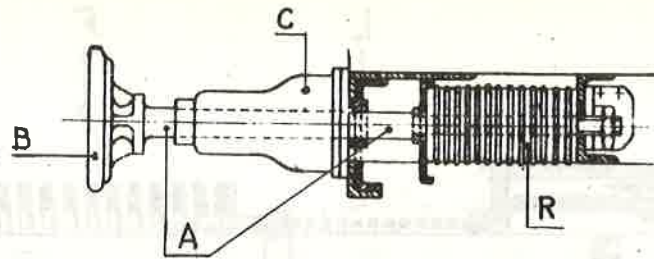


fig.14.01

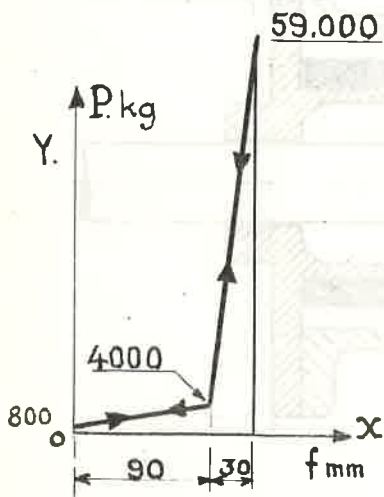


fig. 14.03

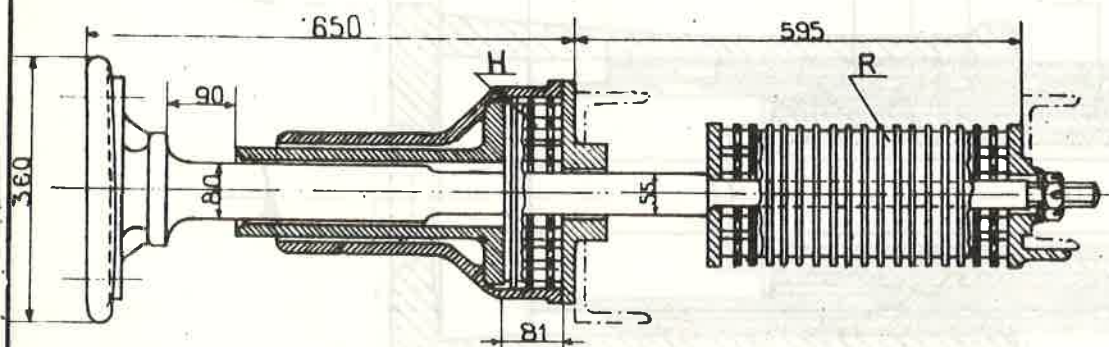


fig.14.02

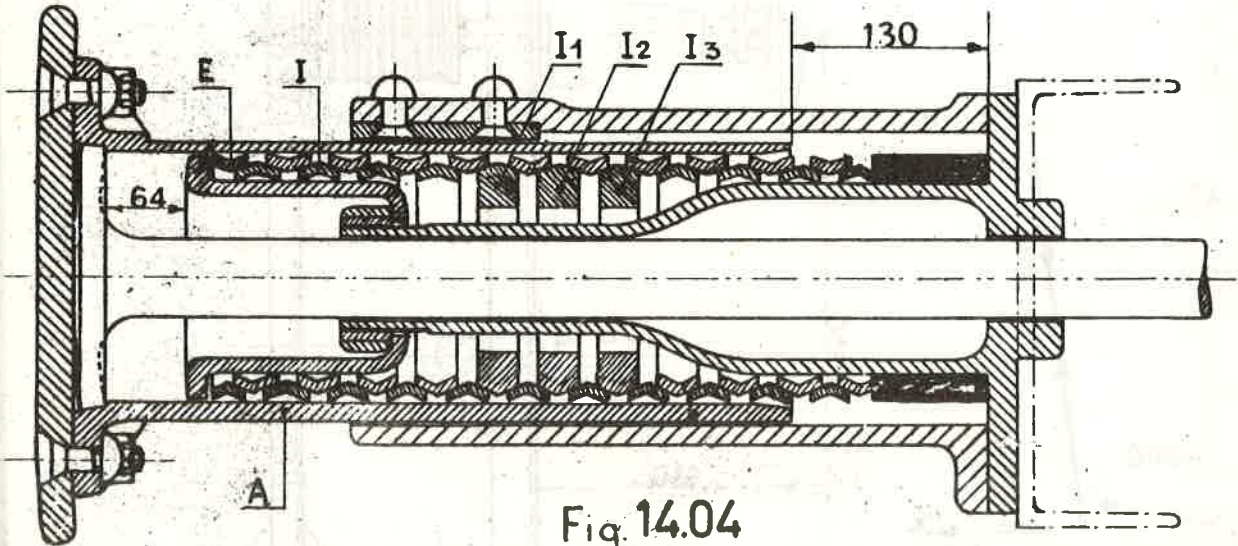
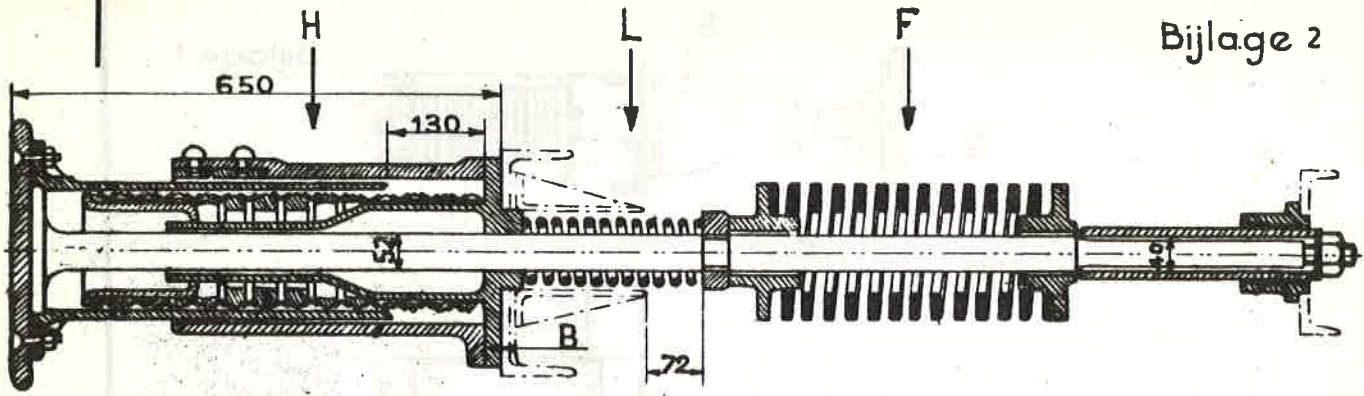


Fig. 14.04

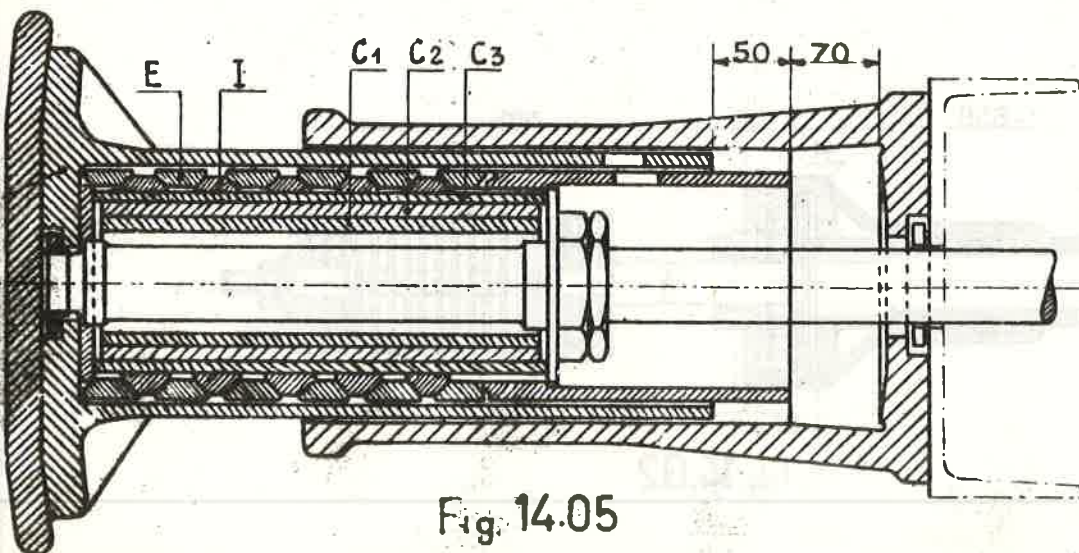
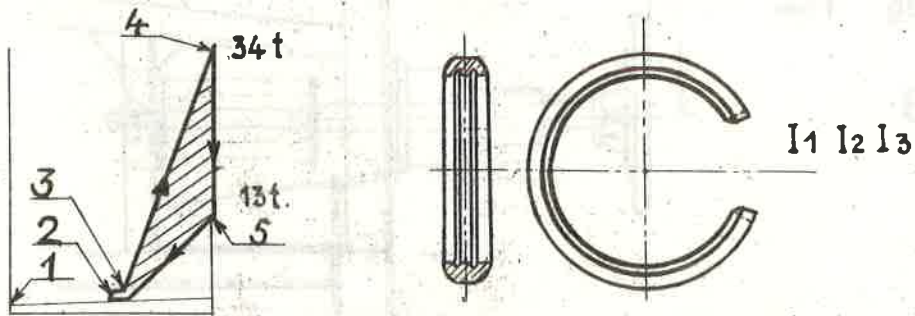


Fig. 14.05

C 1,2,3

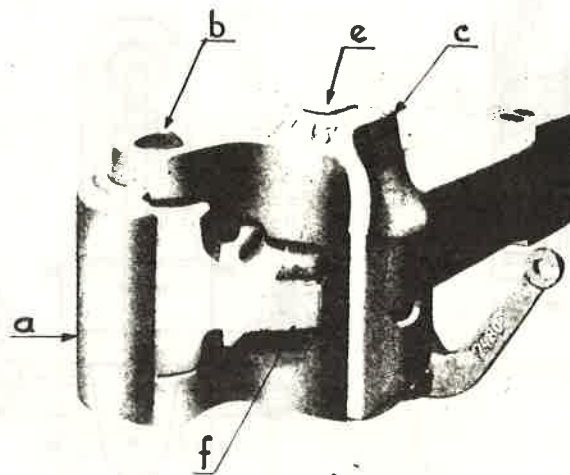
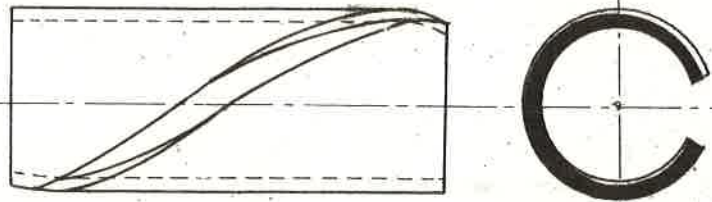


fig. 14.06

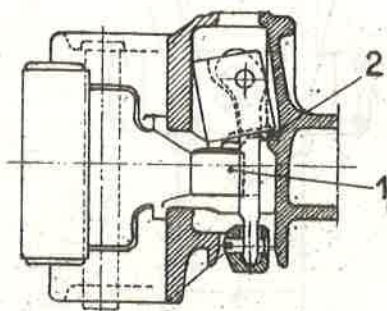


fig. 14.07



fig. 14.08

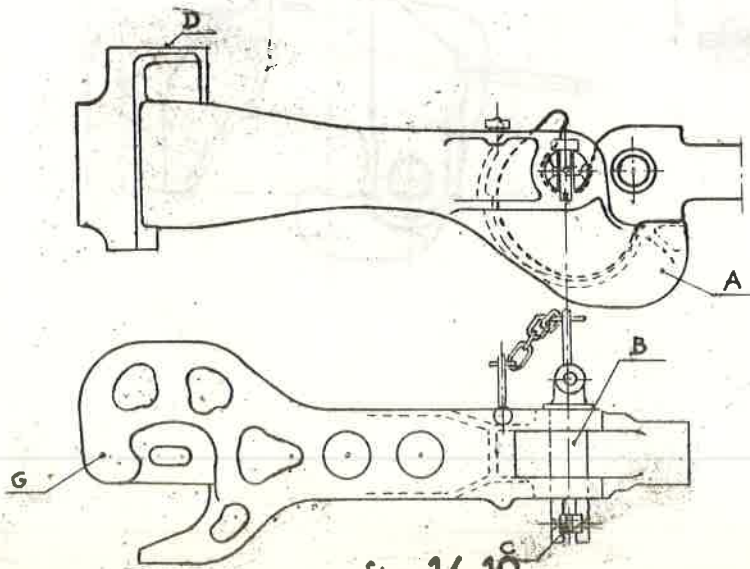
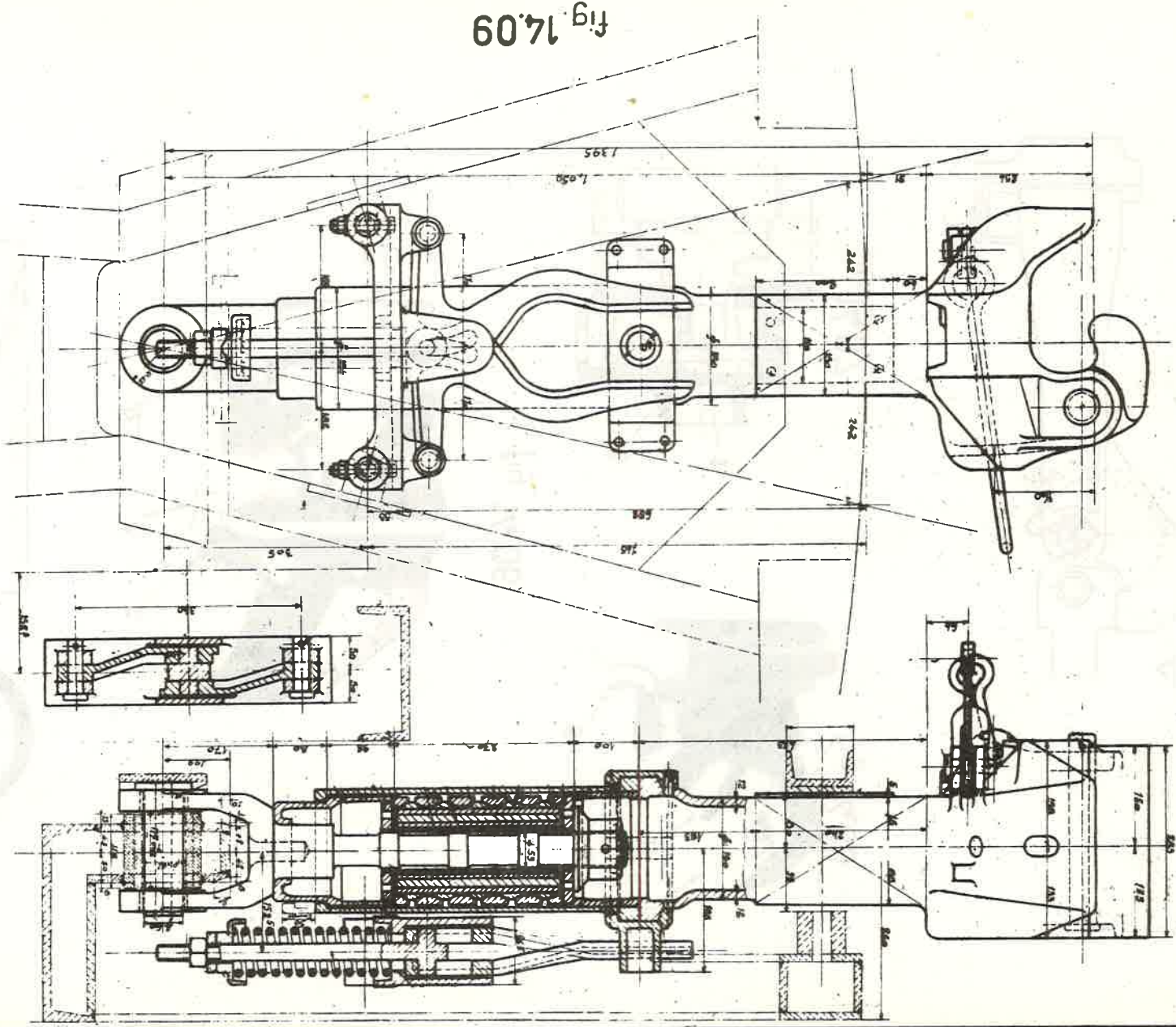


fig. 14.10



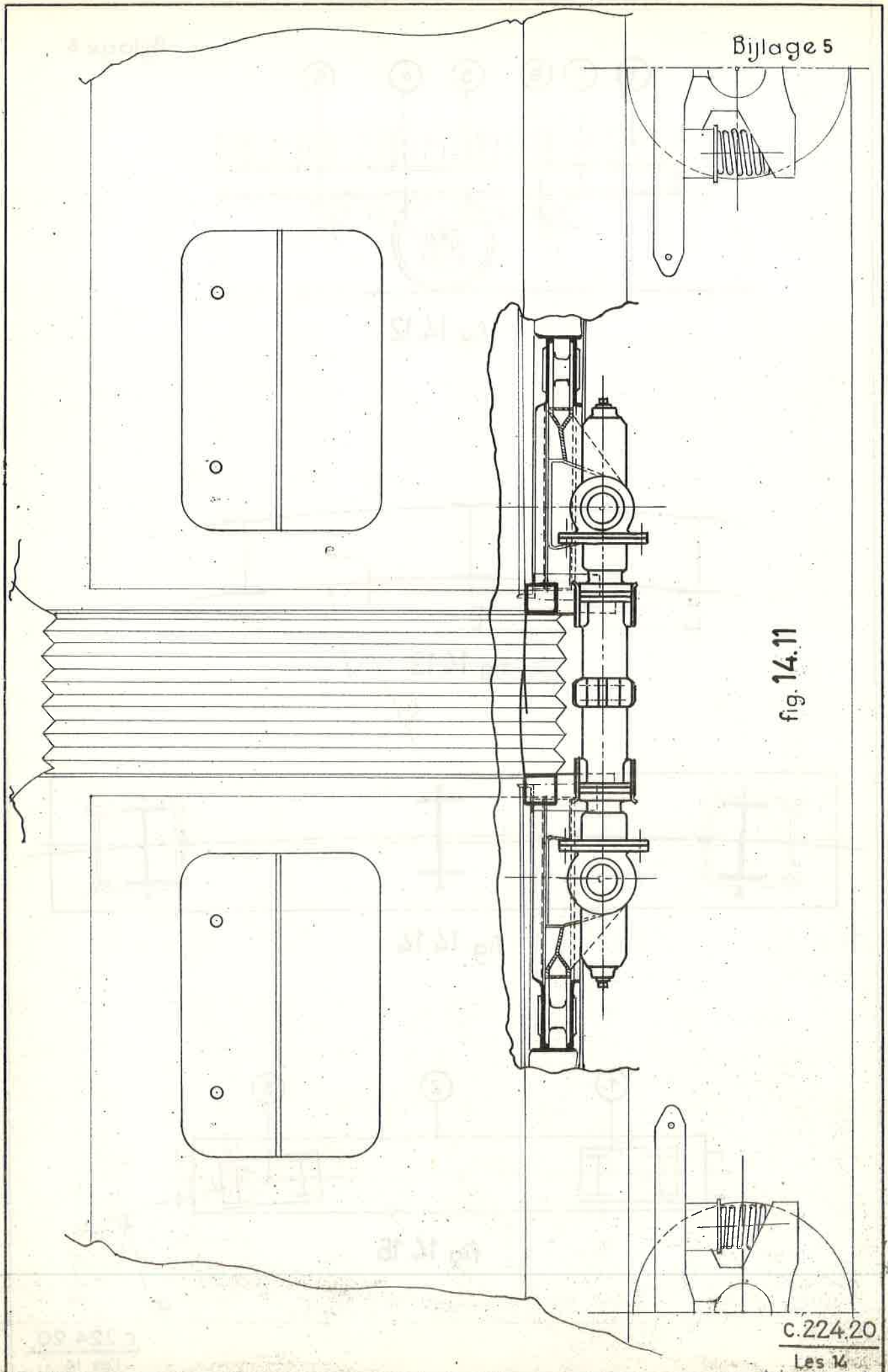


fig. 14.11

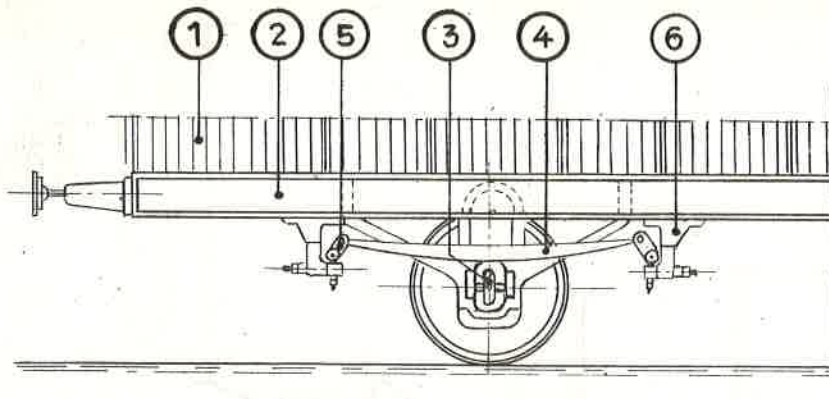


fig. 14.12

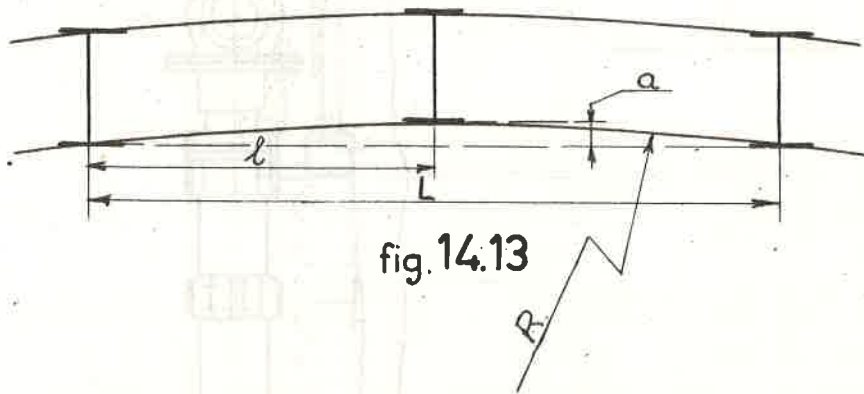


fig. 14.13

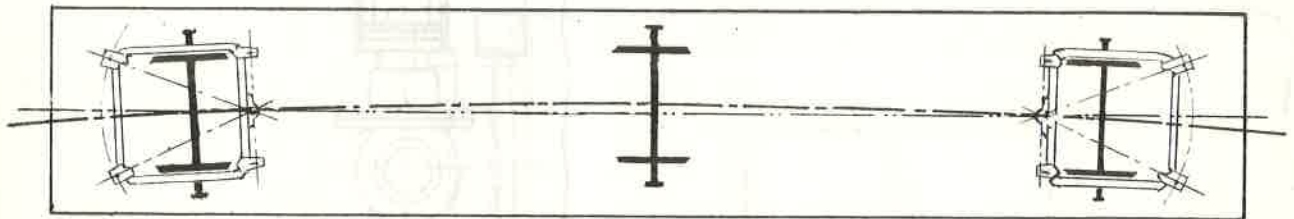


fig. 14.14

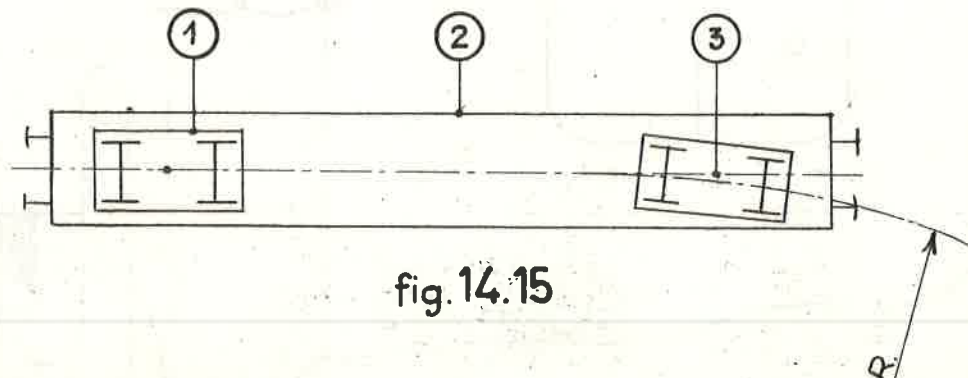


fig. 14.15

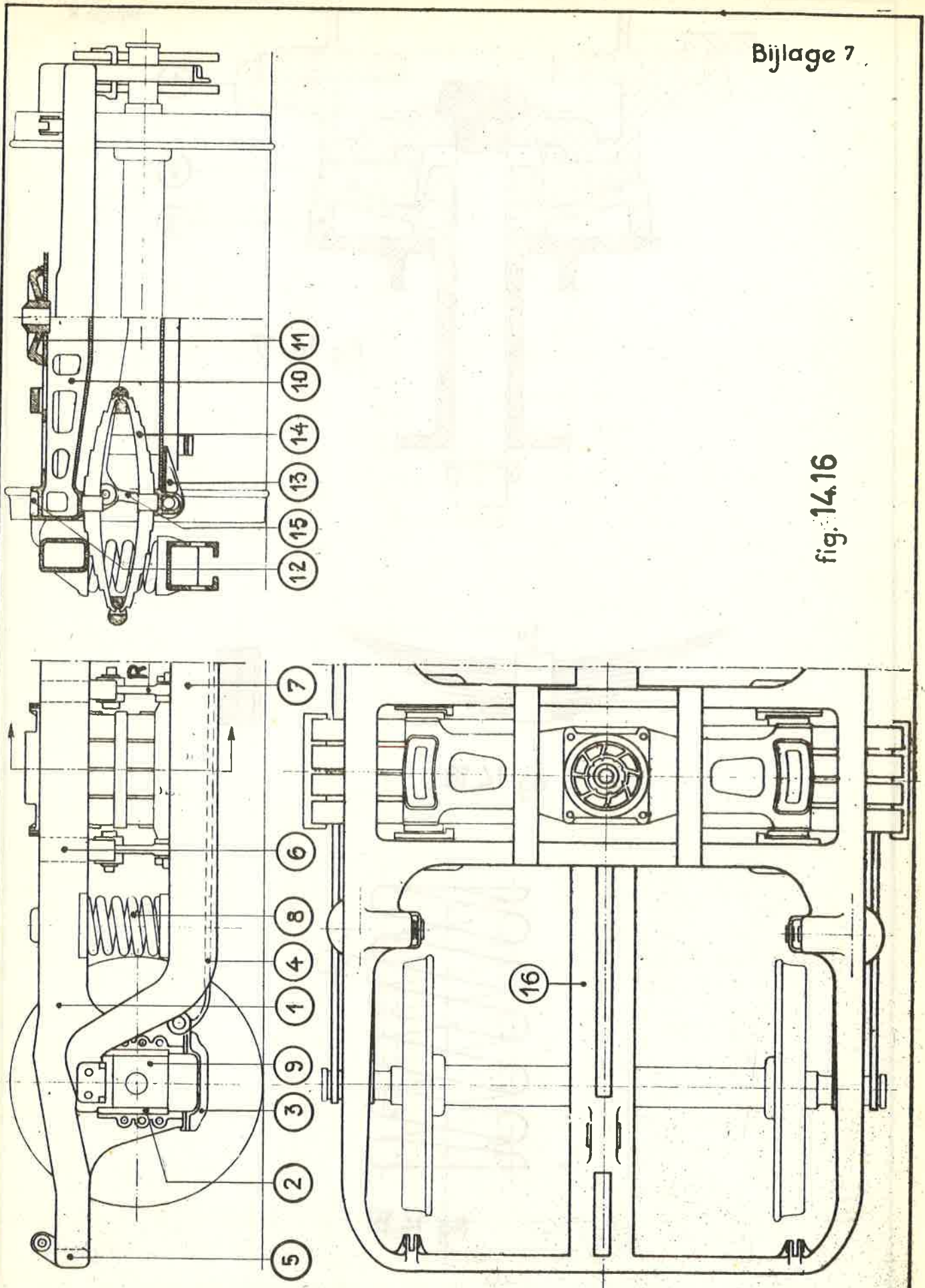


fig. 14.16

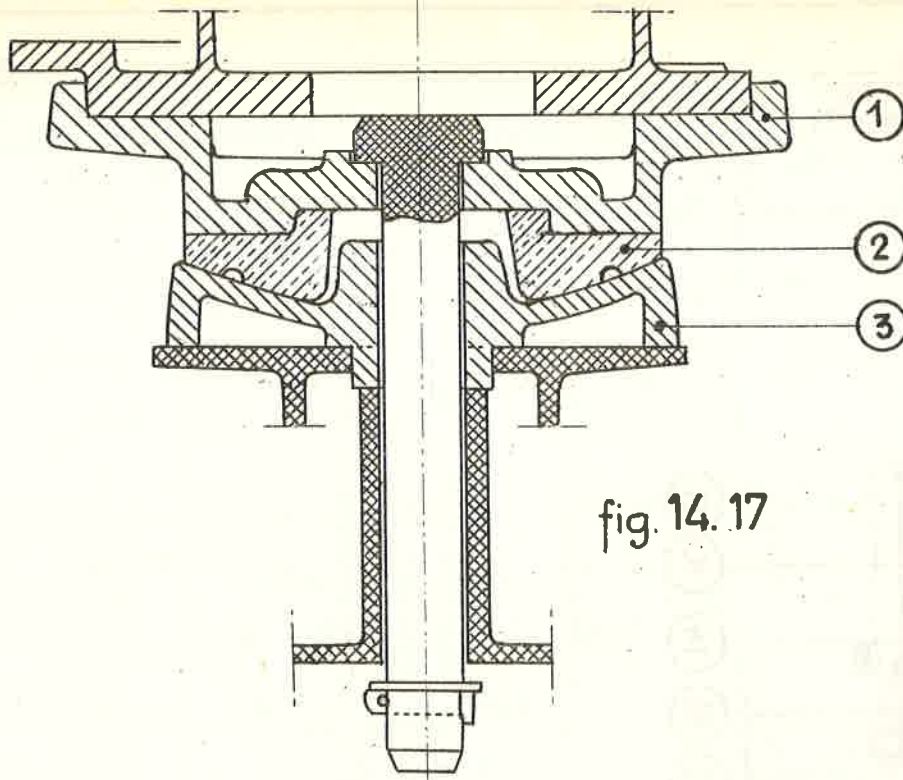


fig. 14.17

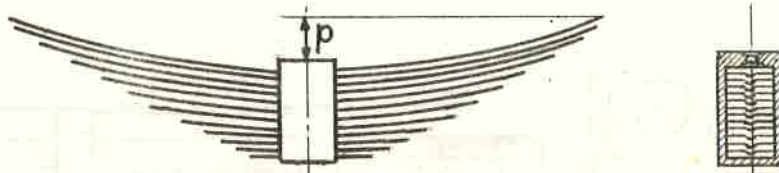


fig. 14.18

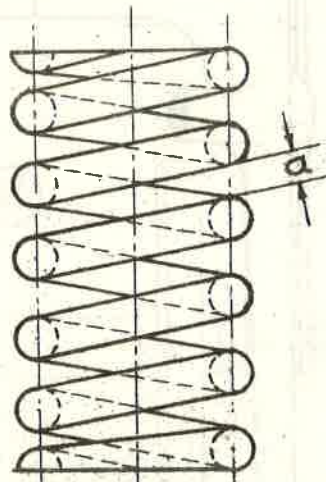
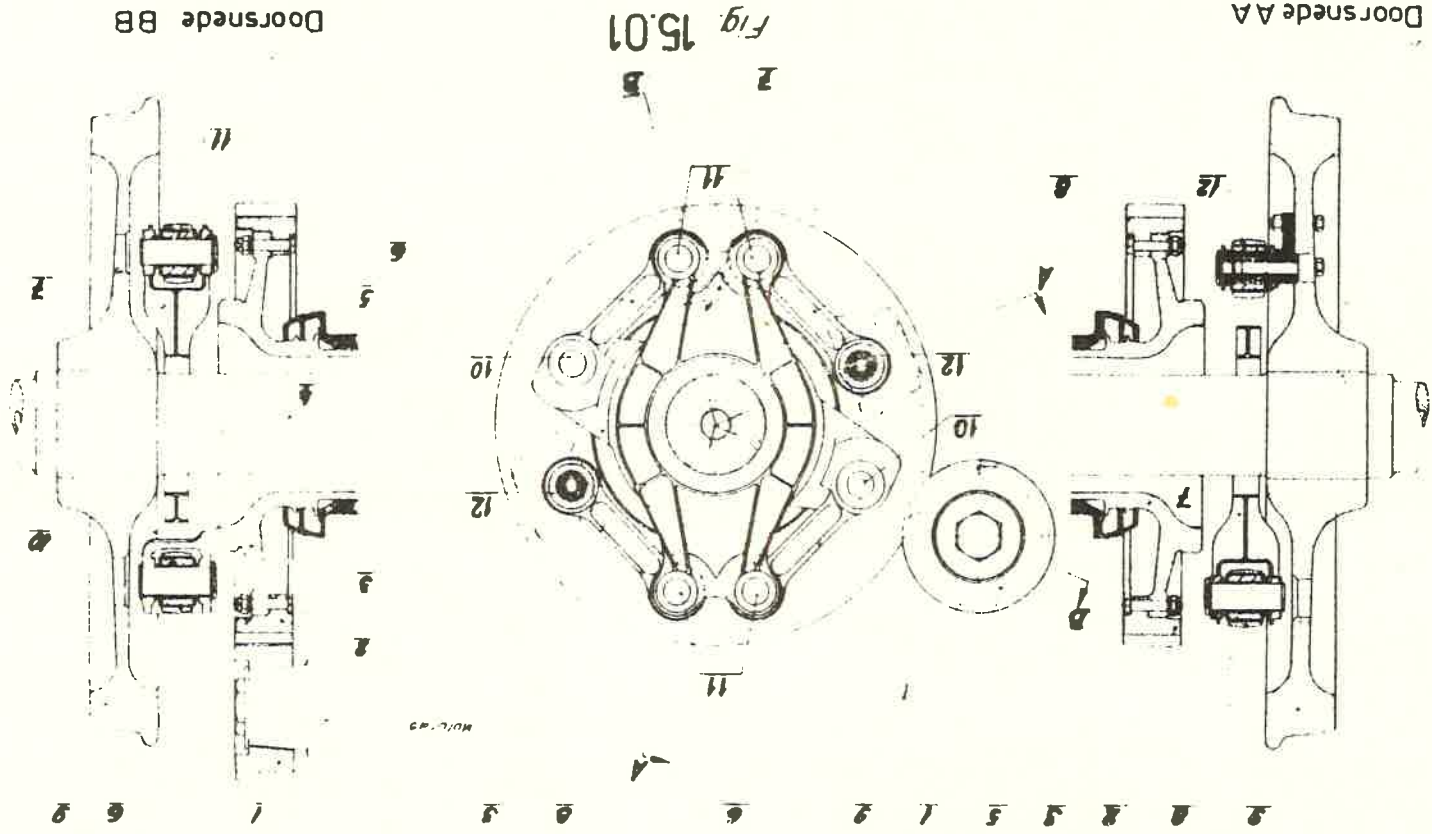


fig. 14.19



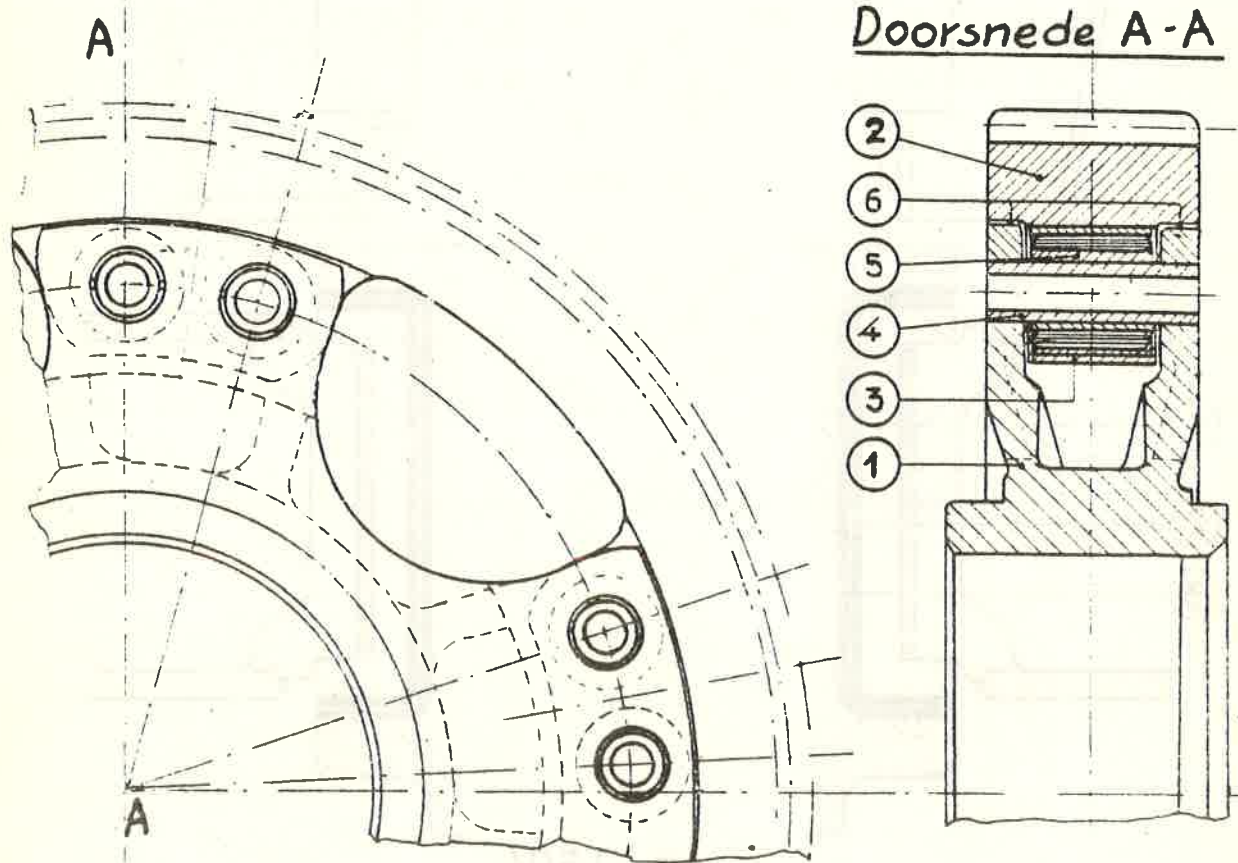


fig. 1503

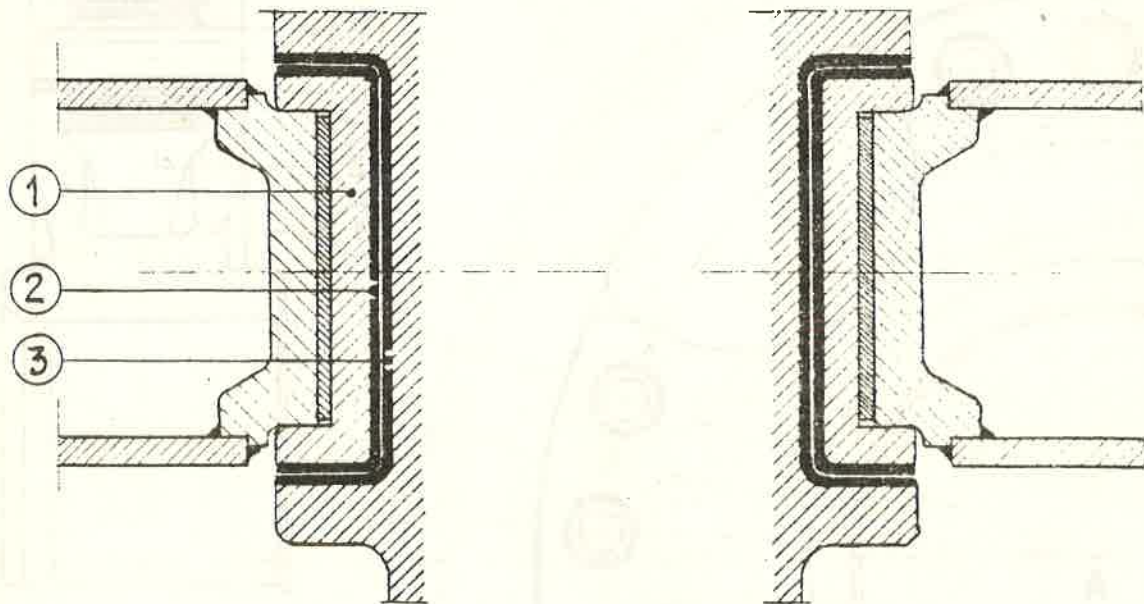


fig. 1504

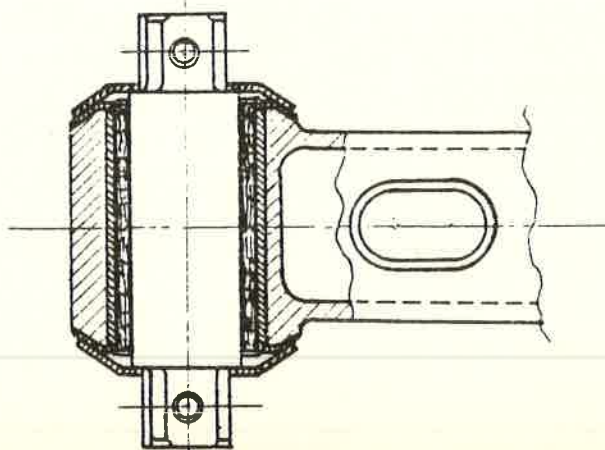


fig. 1506

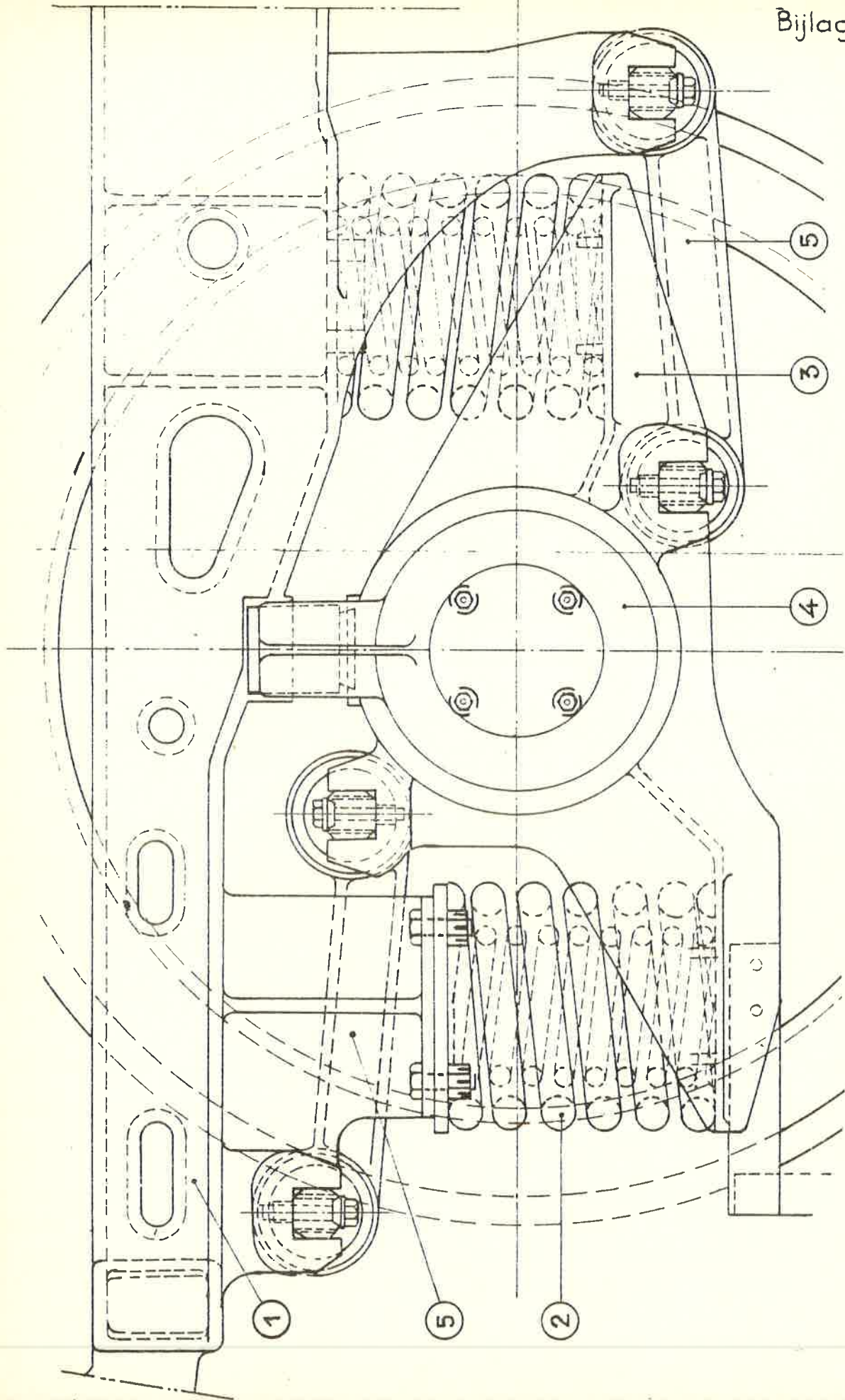
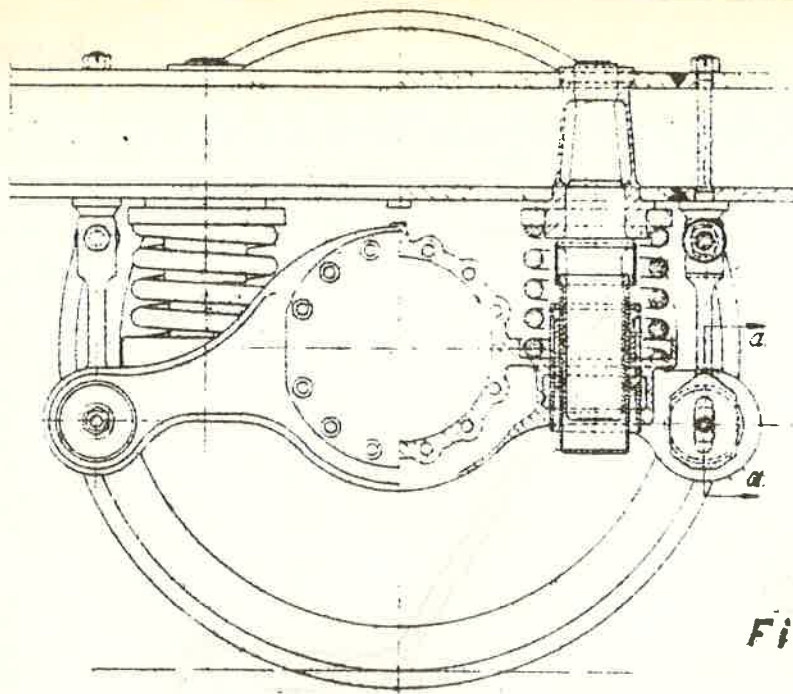


fig 15.05



Doorsnede. aa.

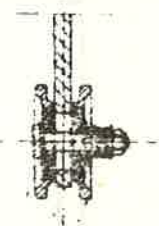


Fig. 1508

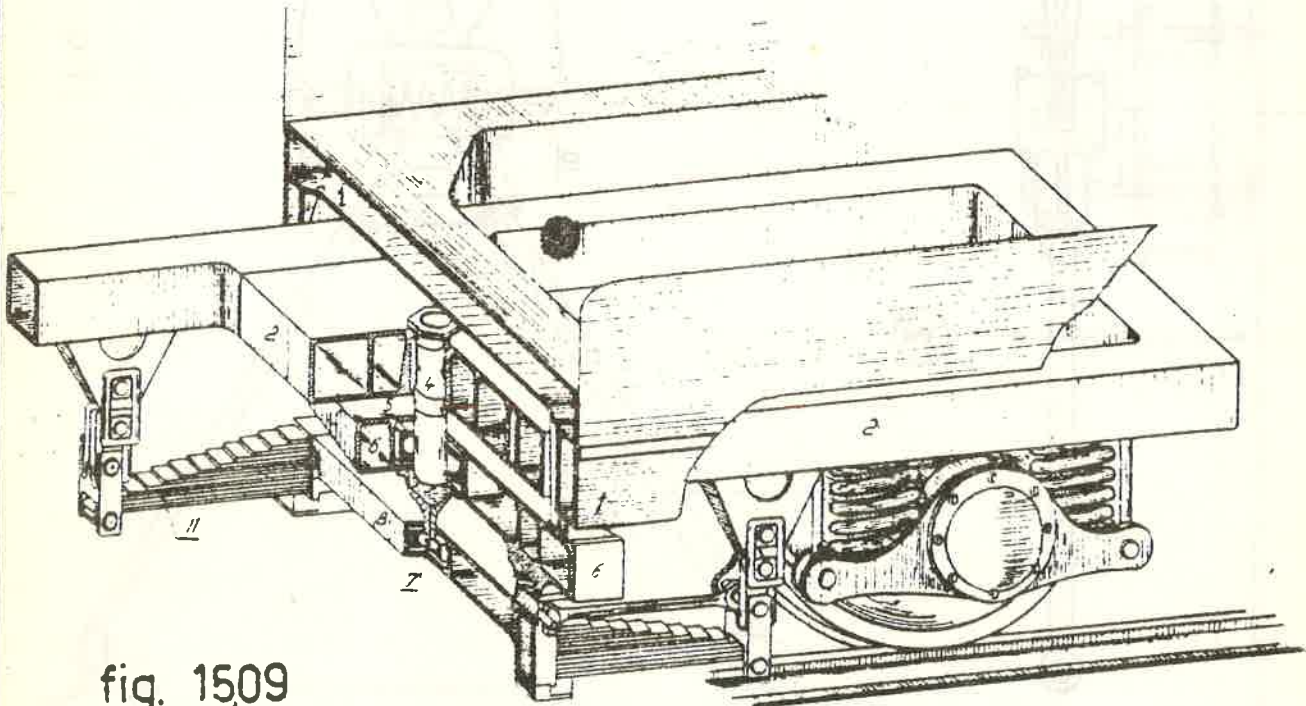
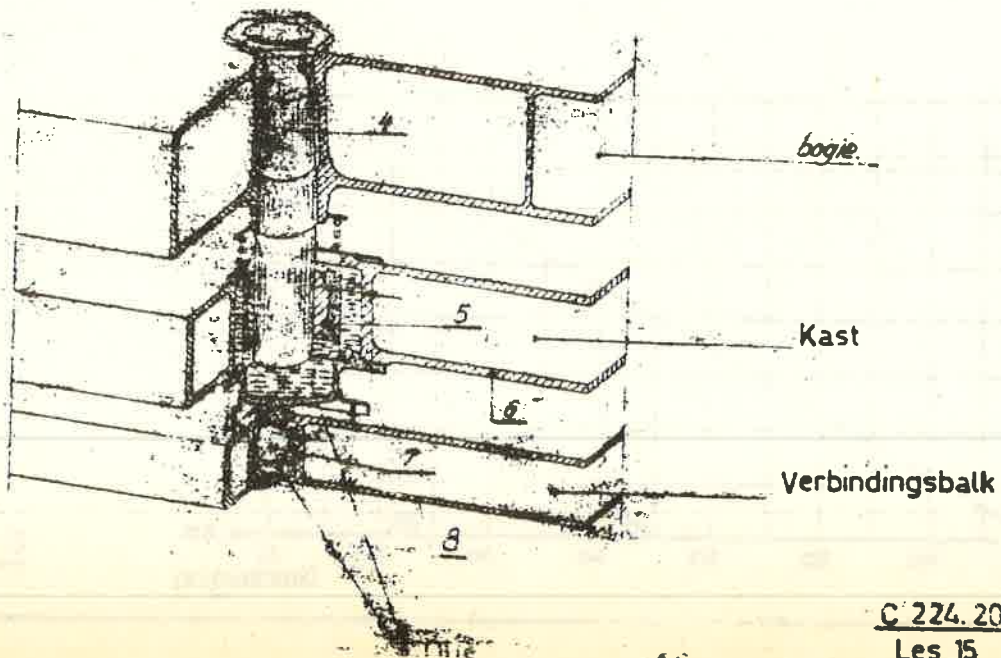
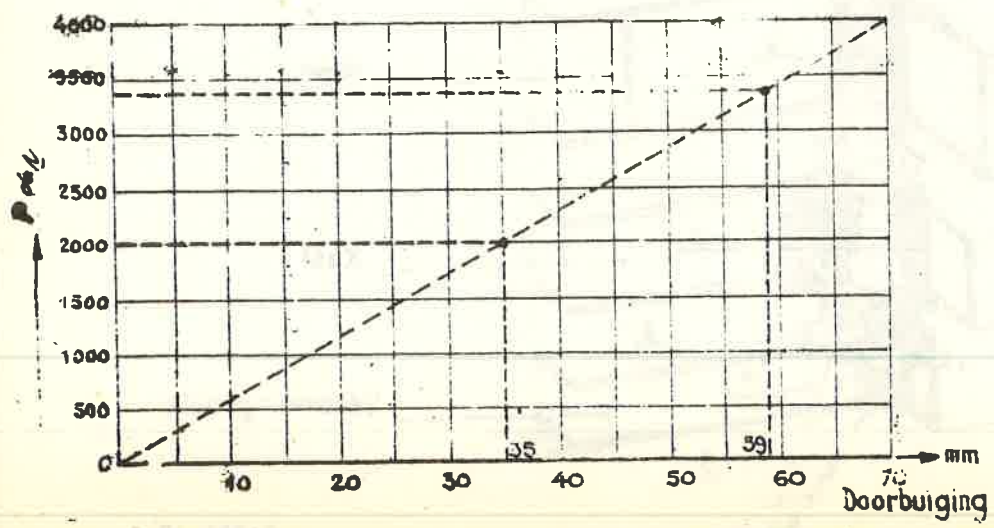
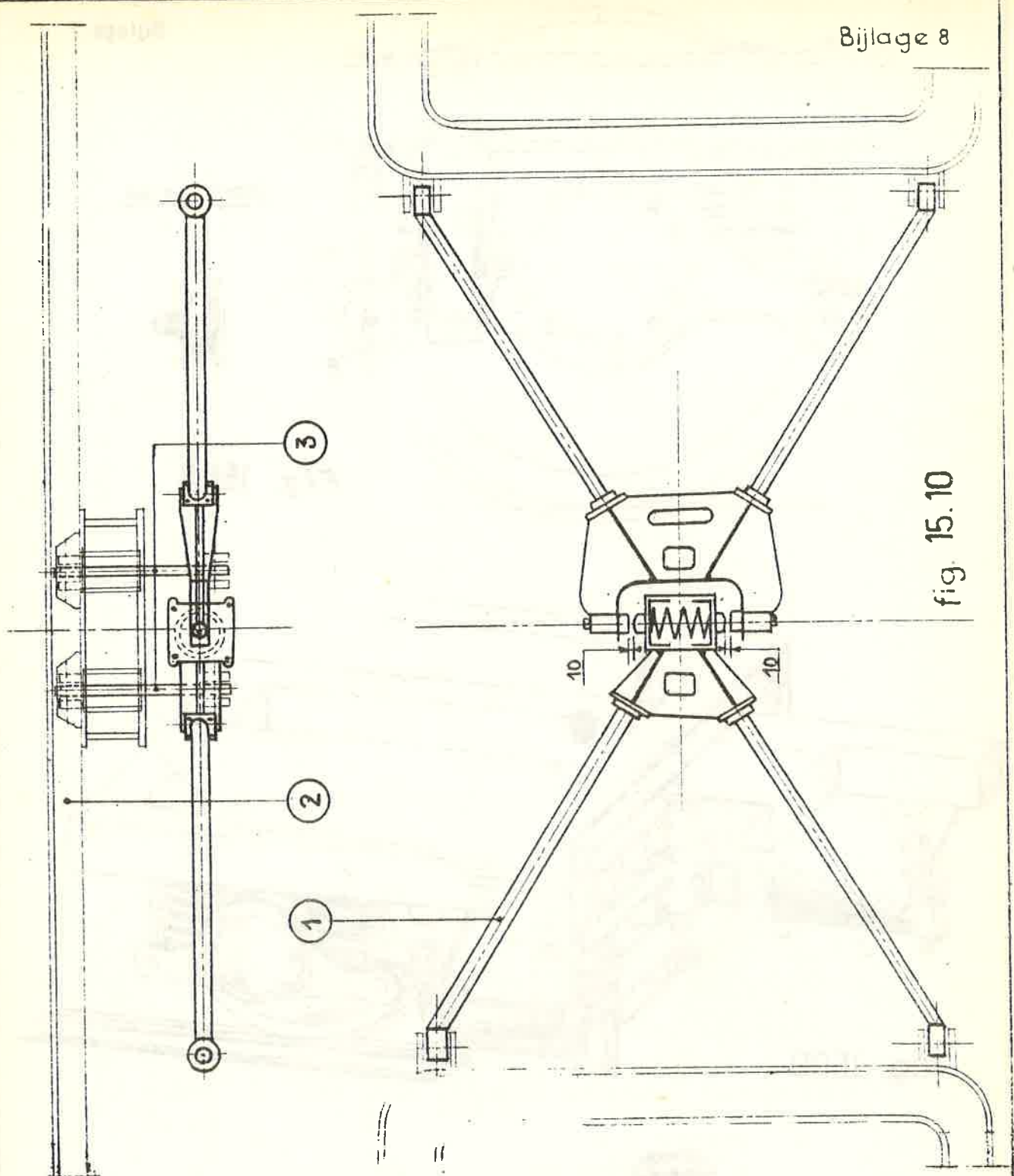


fig. 1509





C 224
Les 15

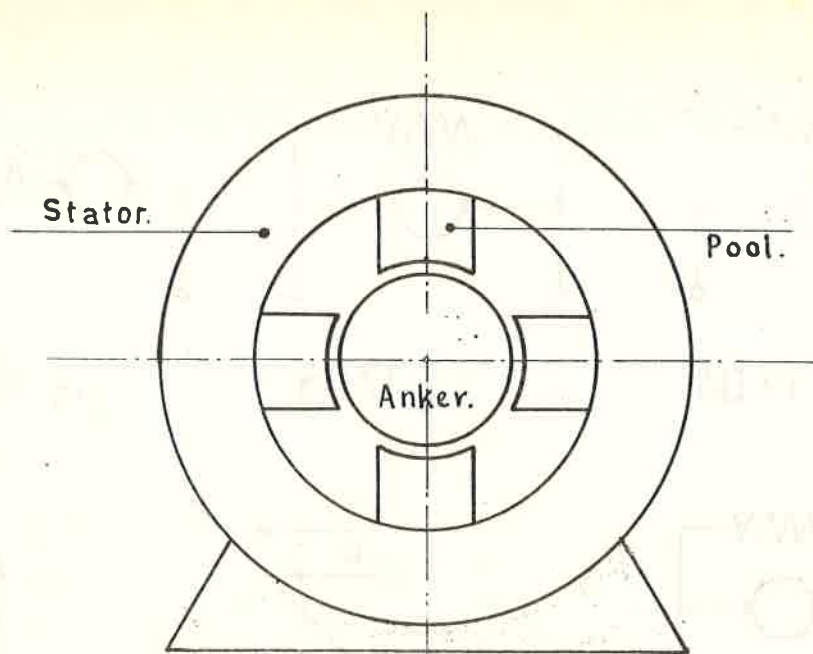


fig. 17.01

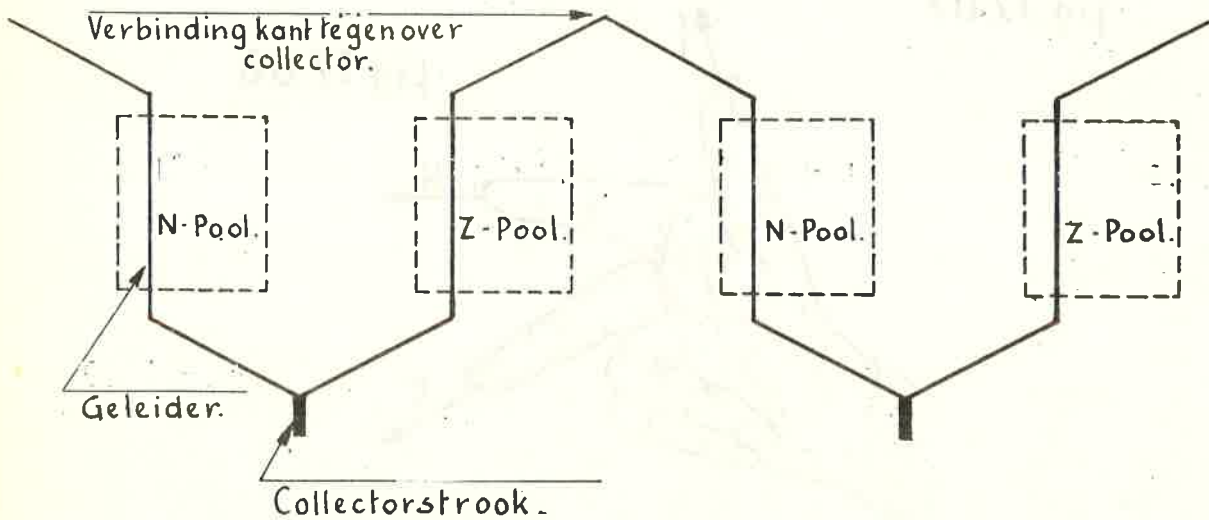


fig. 17.02

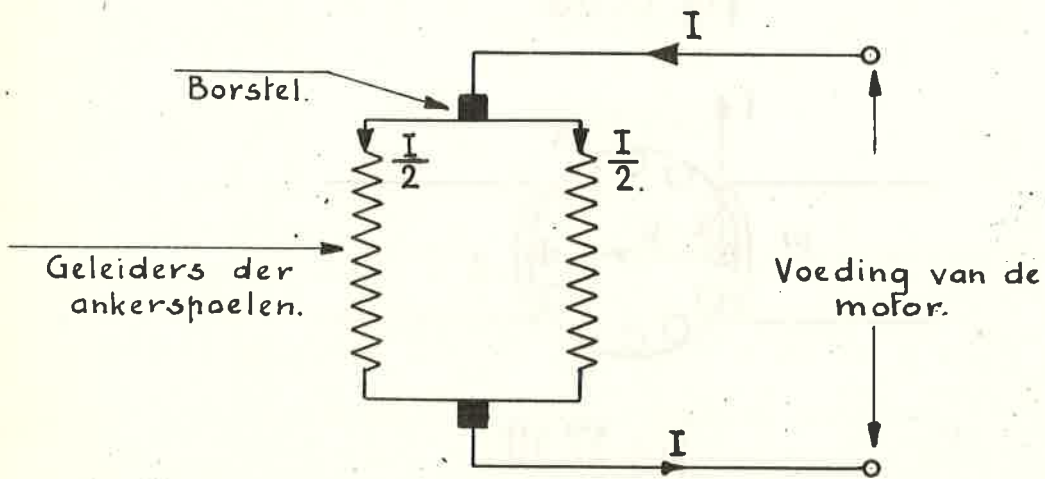


fig. 17.03

fig. 17.10

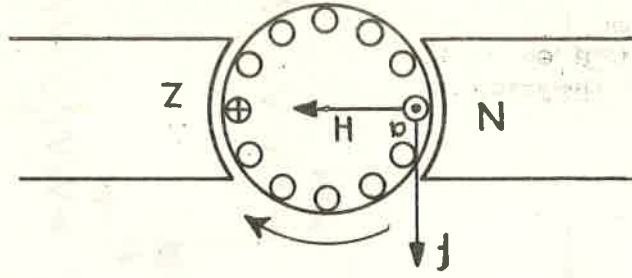


fig. 17.09

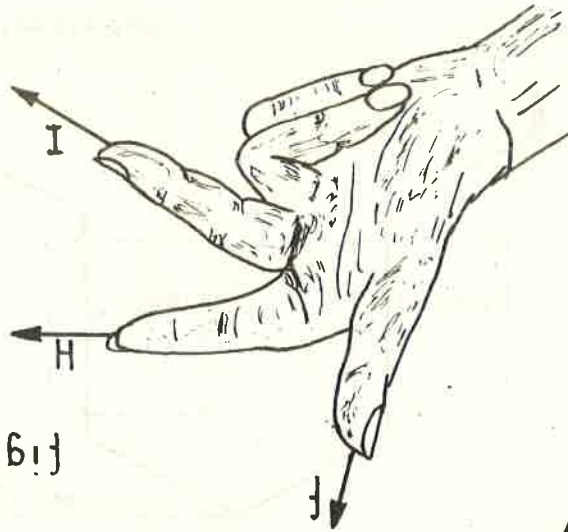


fig. 17.08

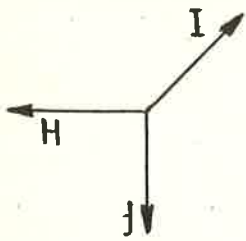


fig. 17.07

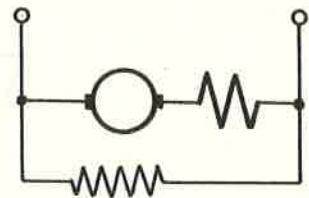


fig. 17.05

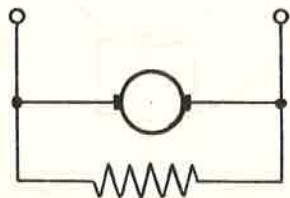


fig. 17.04

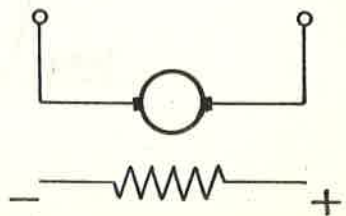
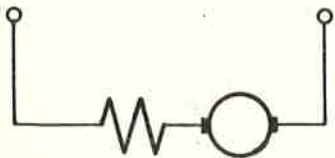


fig. 17.06



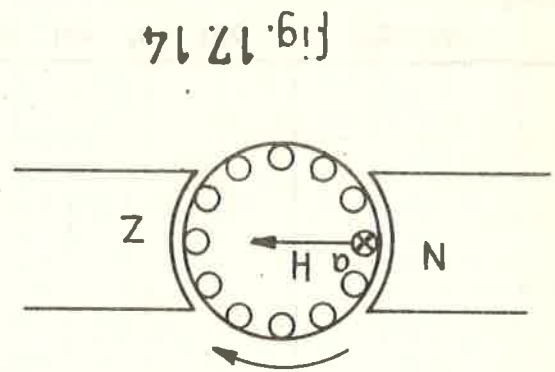


fig. 17.14

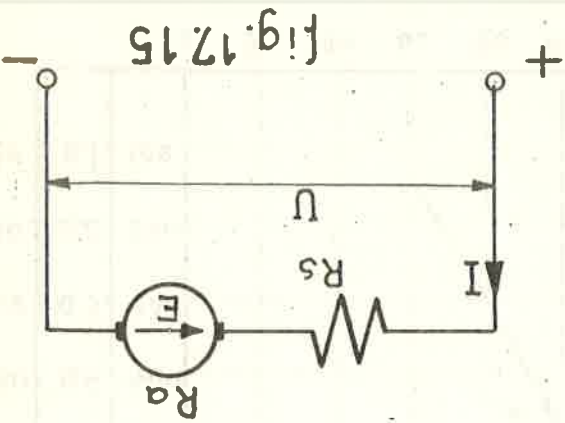


fig. 17.15

fig. 17.12

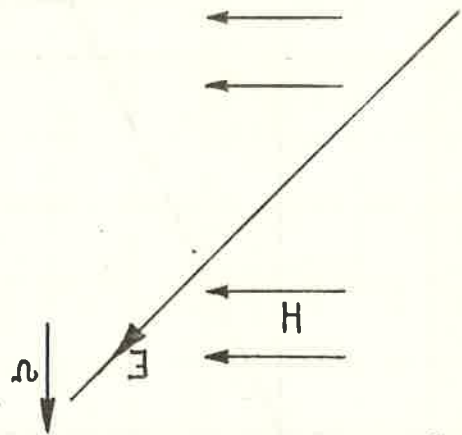


fig. 17.13

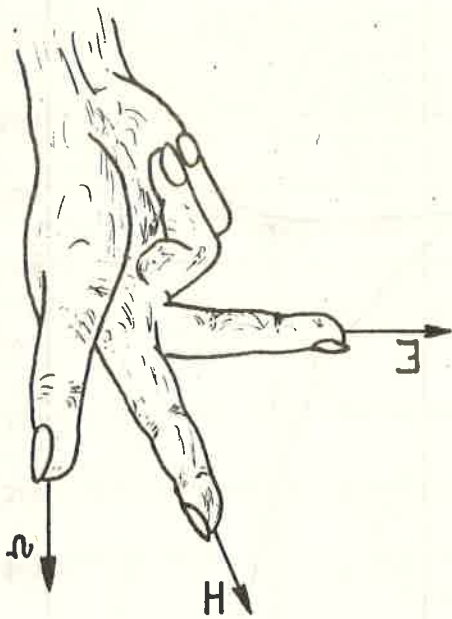
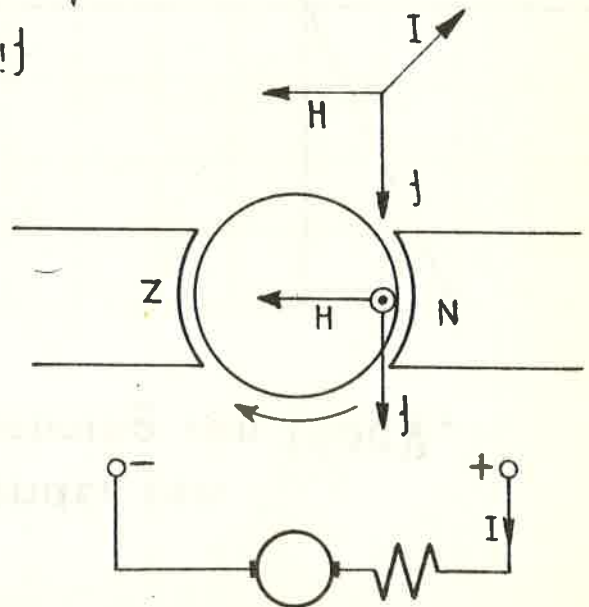
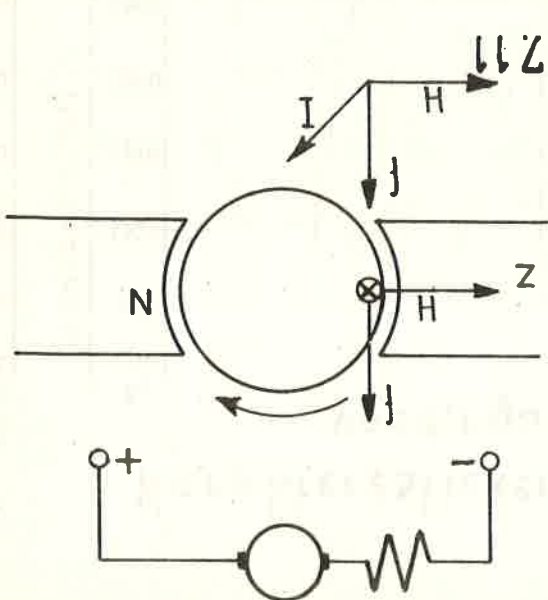


fig. 17.11



Karakterestieken onder een voedingsspanning van 1.500 V.

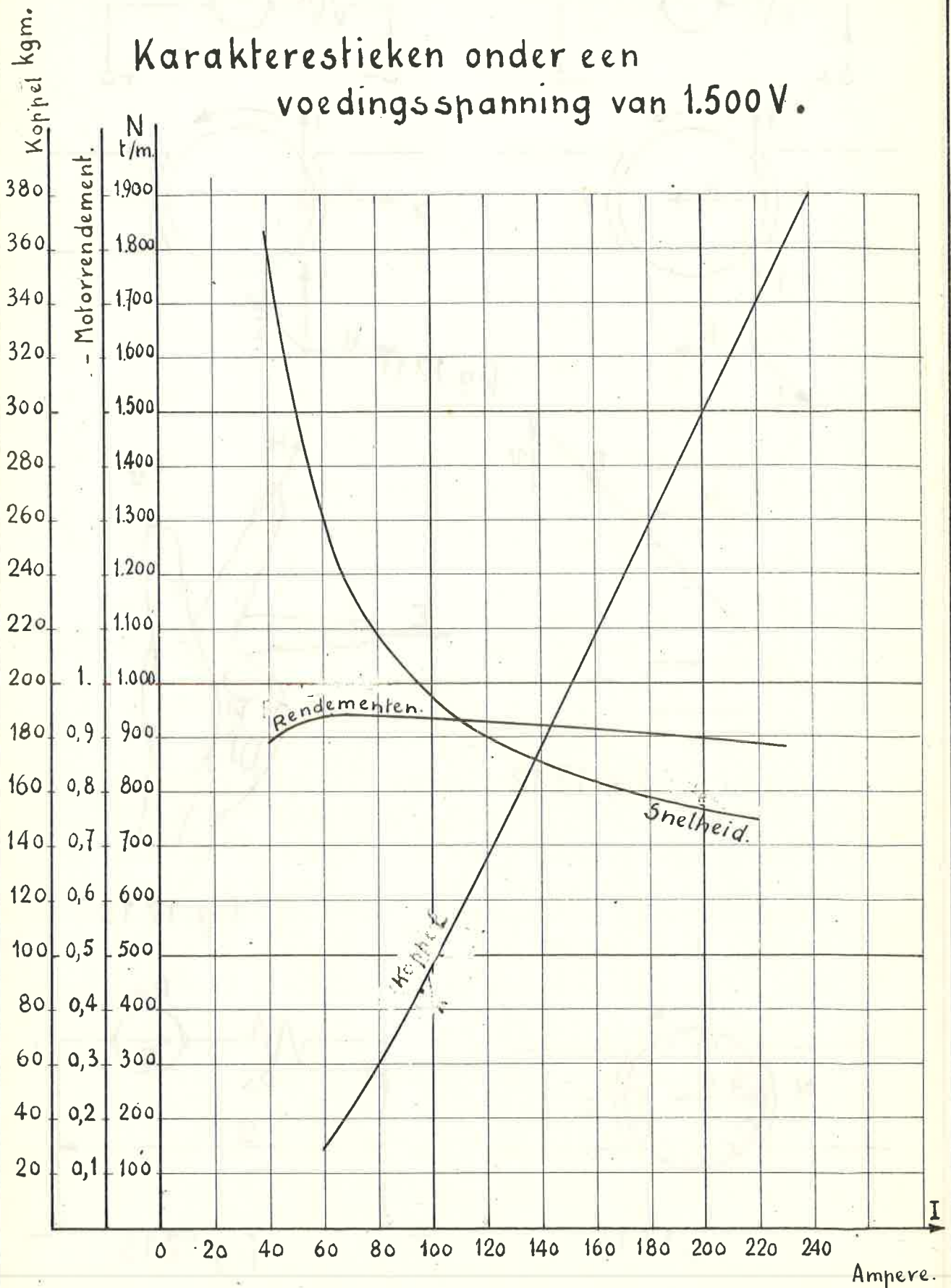


fig. 17. 16

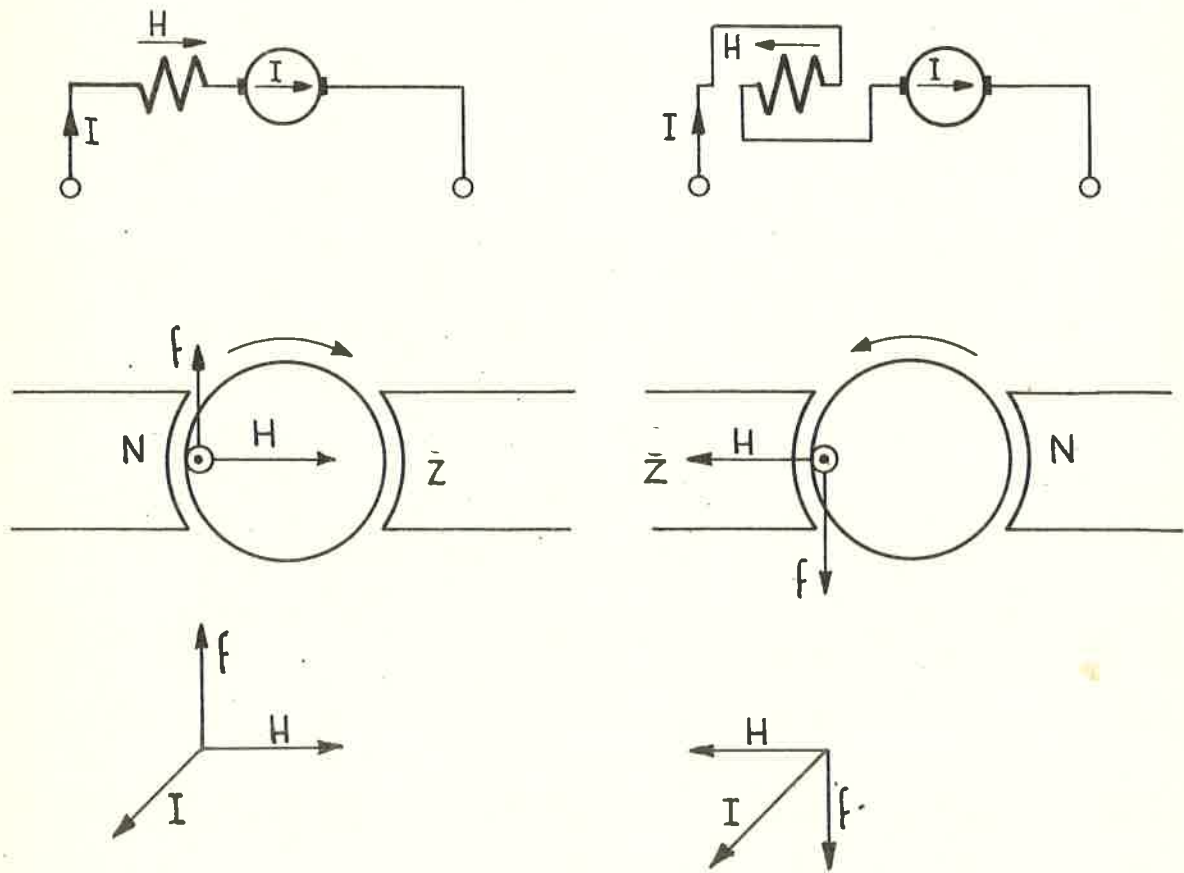


Fig. 17.17.

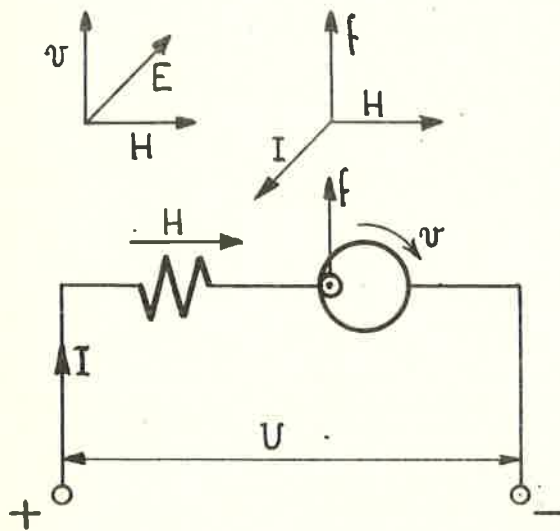


Fig. 17.18



Fig. 17.19

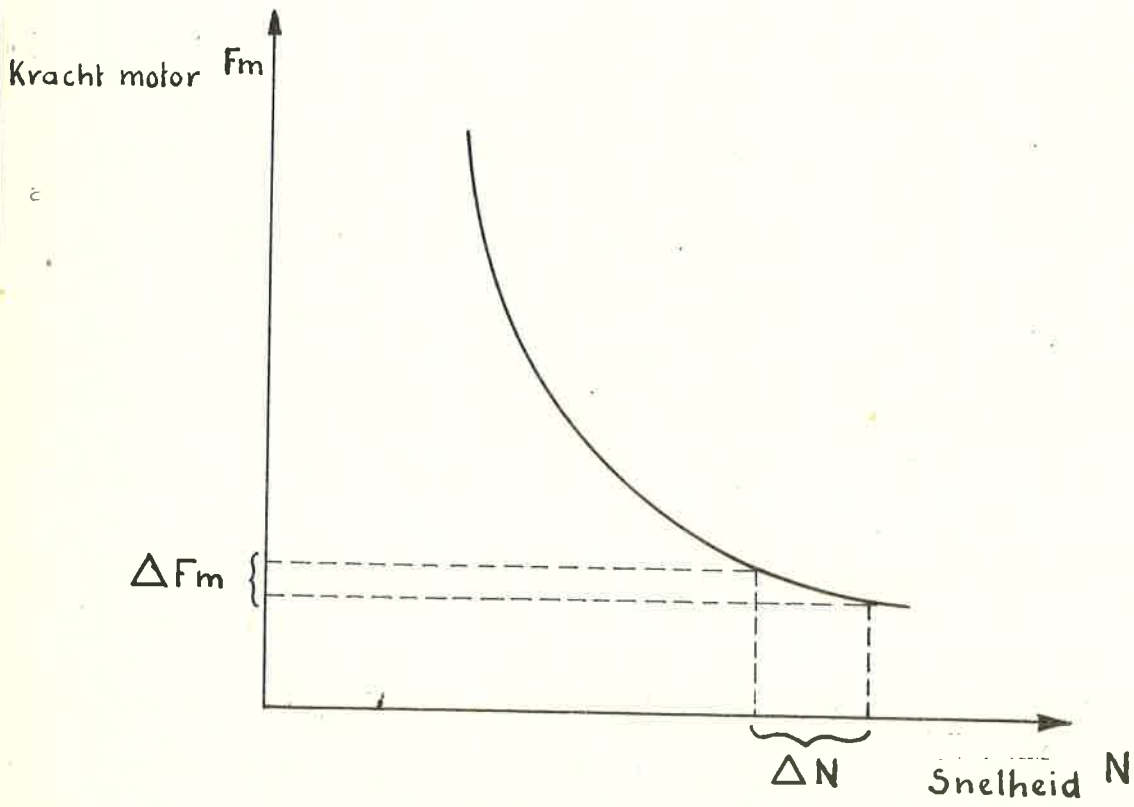


Fig. 18.01

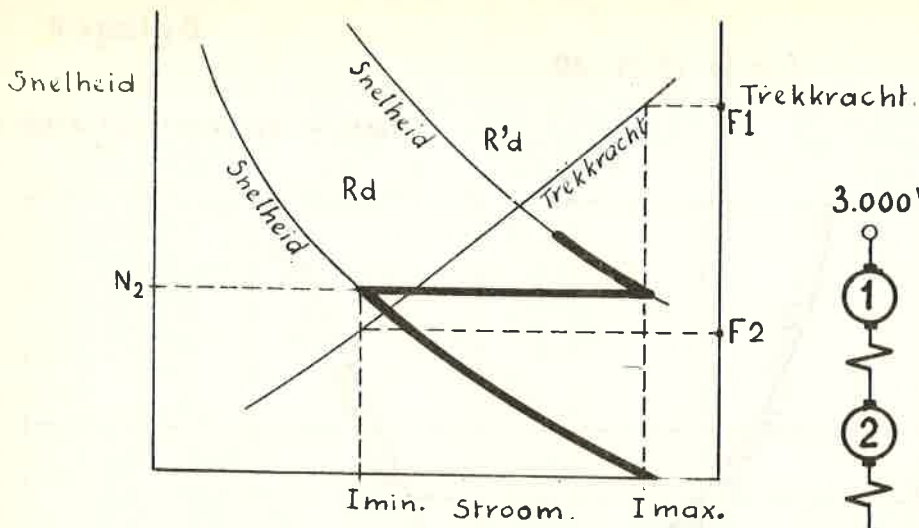


fig. 19.01

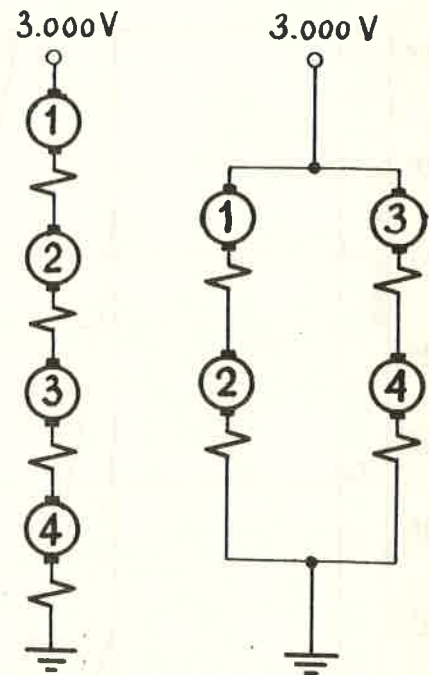


fig. 19.03

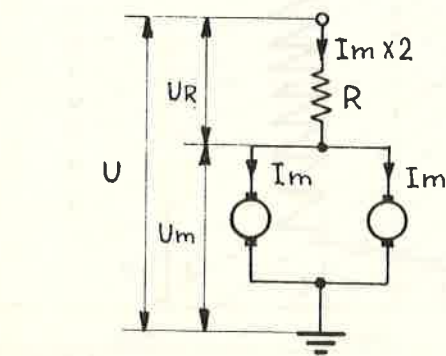
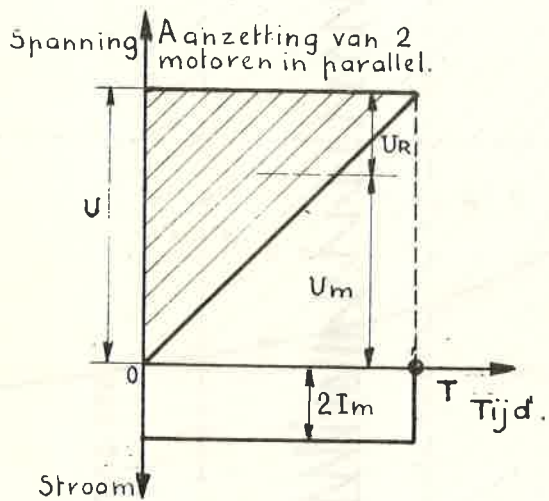


fig. 19.04

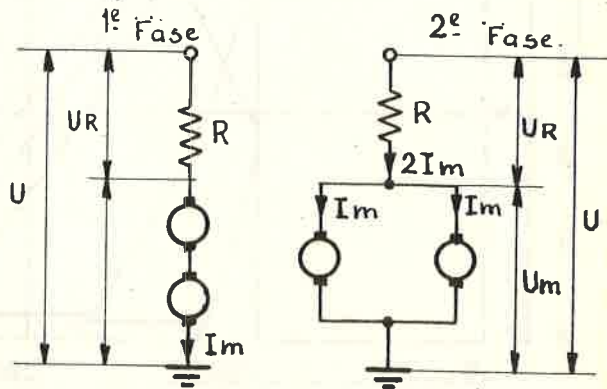
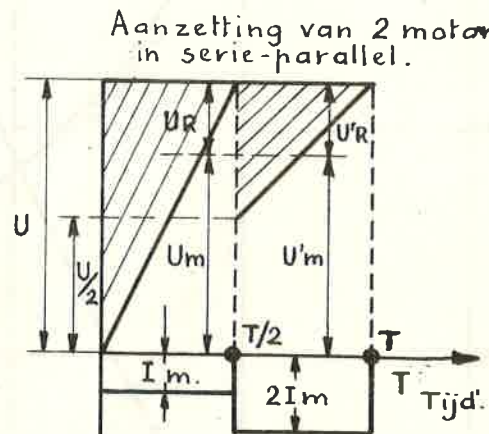


fig. 19.05

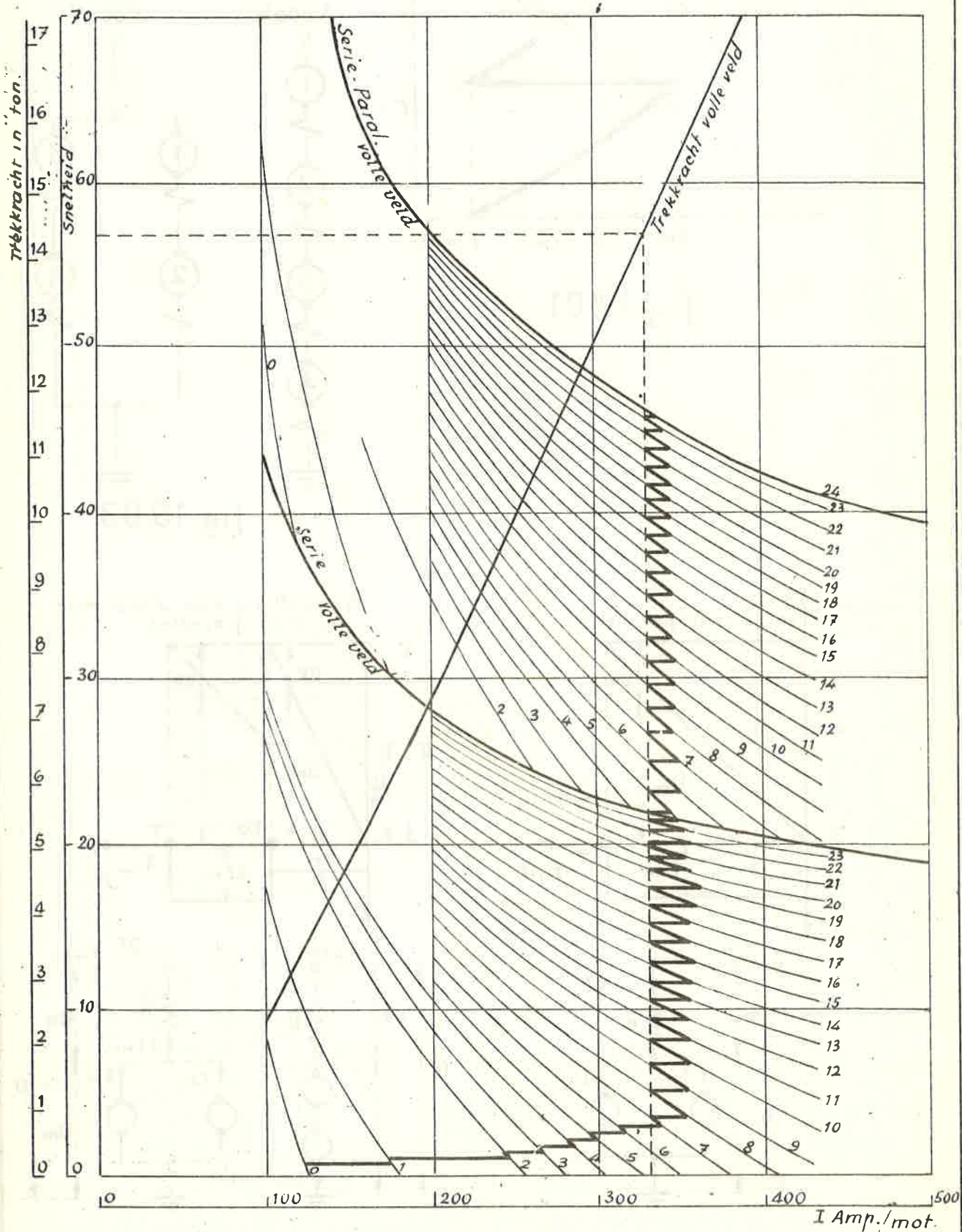


fig. 19.02

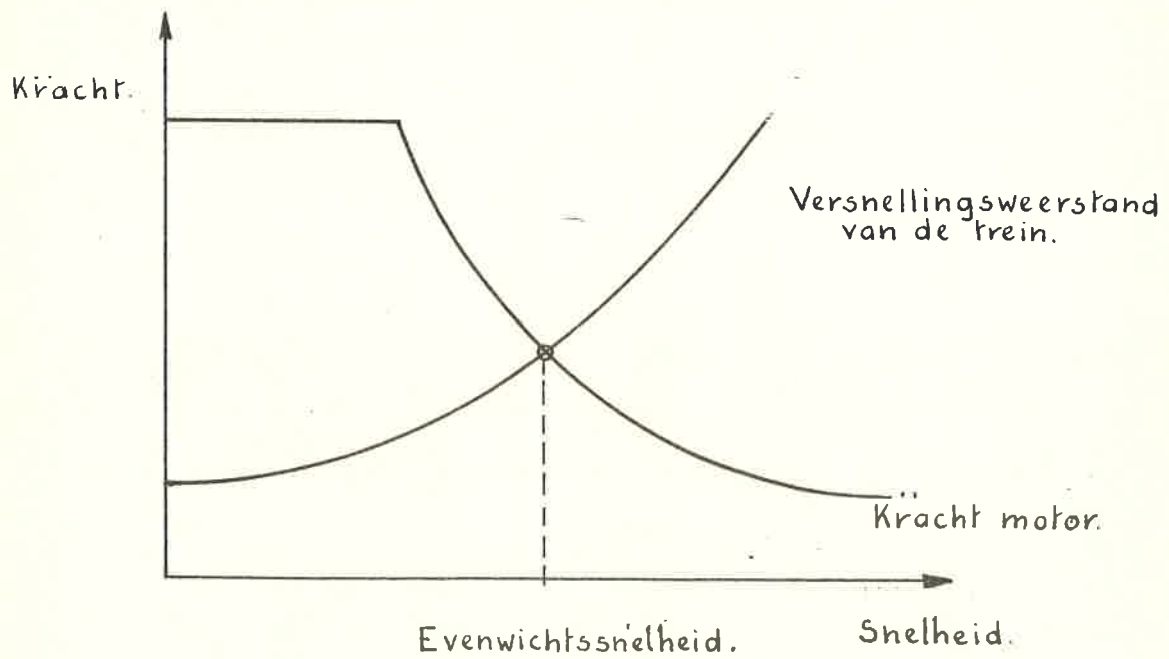


fig. 19.06

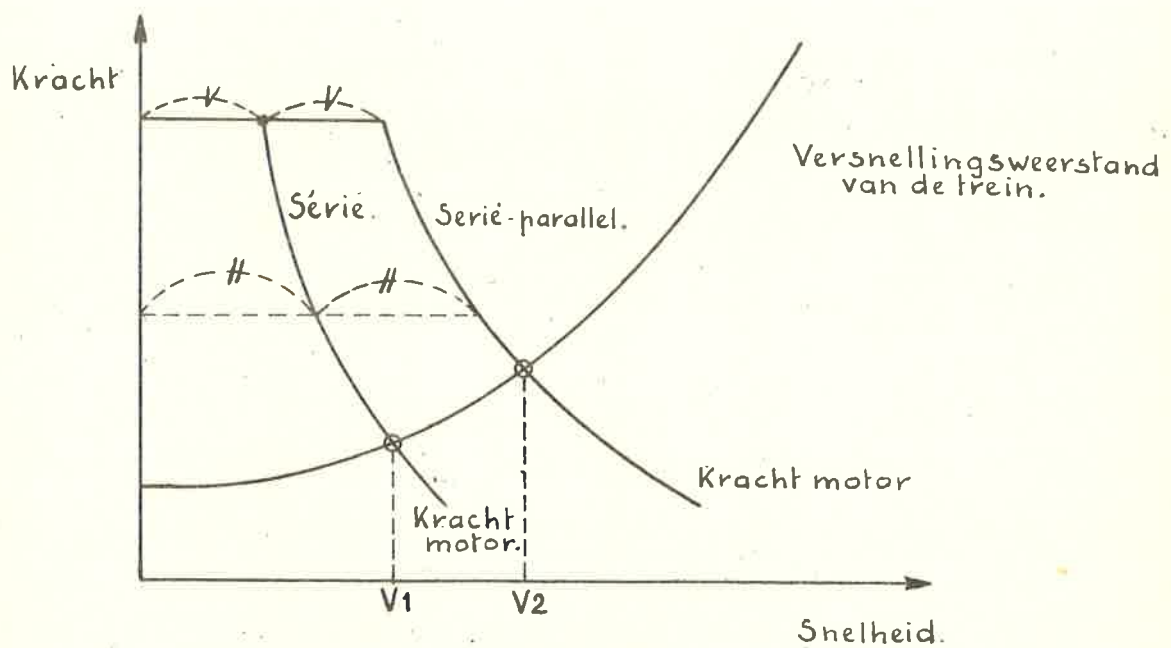


fig. 19.07

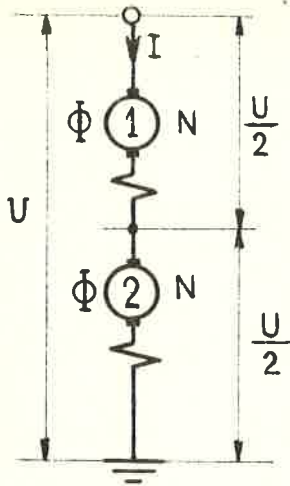


fig. 21.01

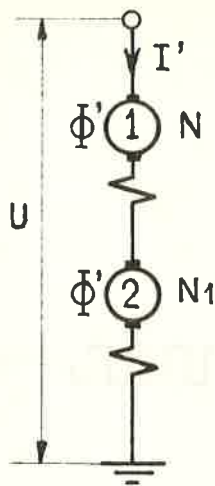


fig. 21.02

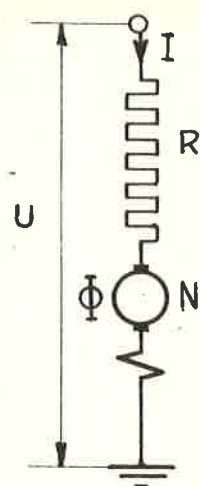


fig. 21.03

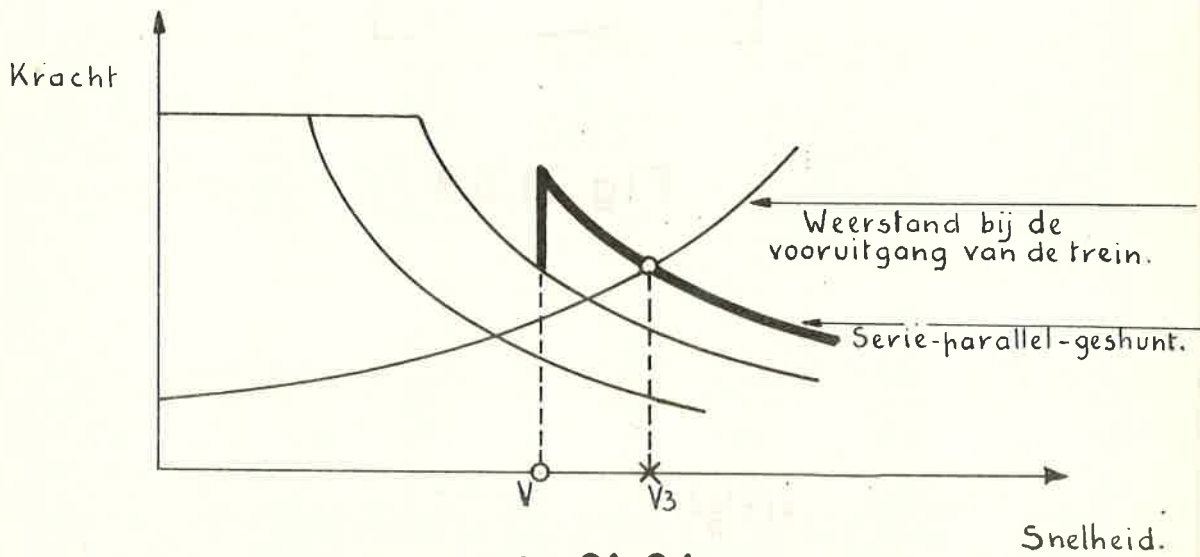


fig. 21.04

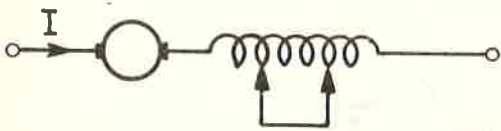


fig. 21.05

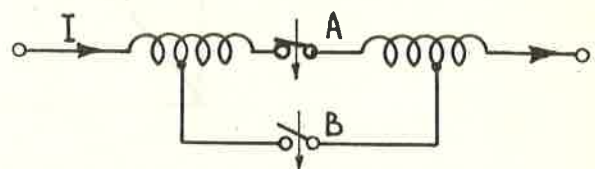


fig. 21.06

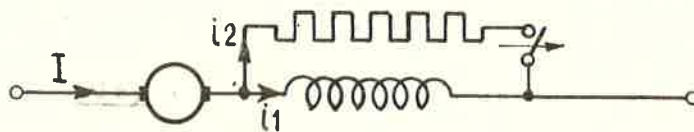


fig. 21.07

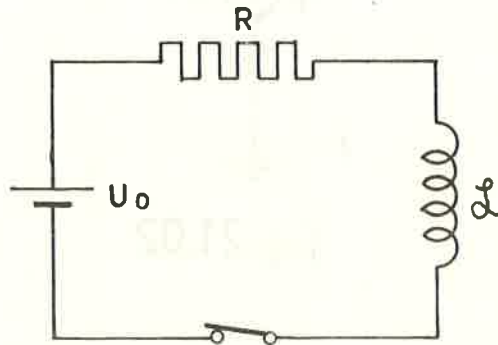


Fig. 21.08

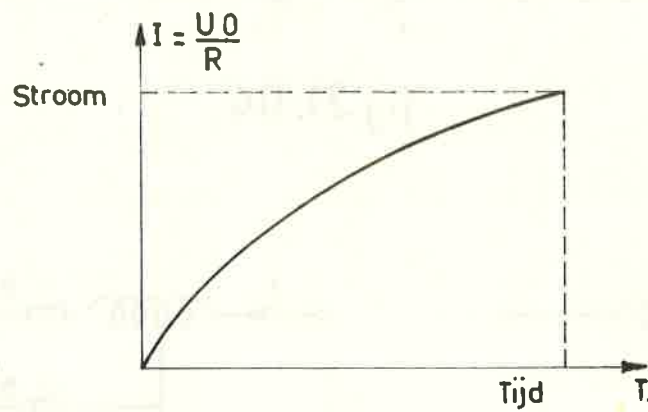
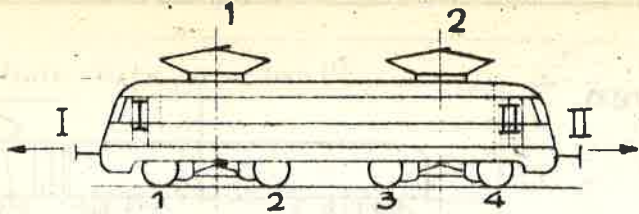
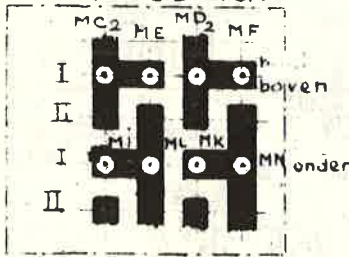


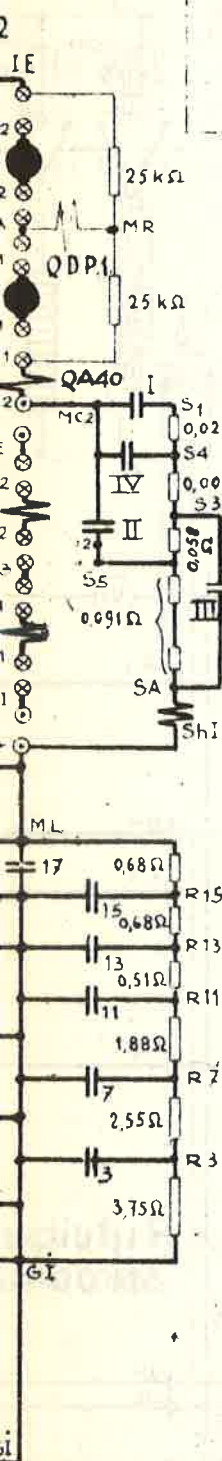
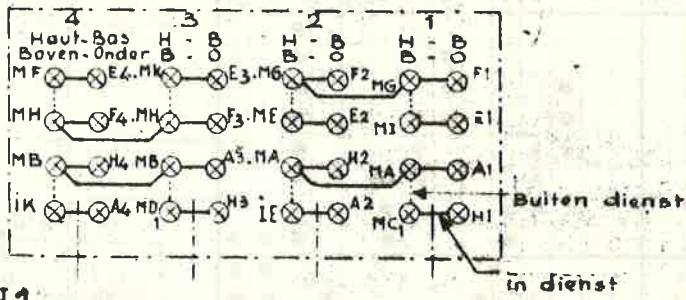
Fig. 21.09



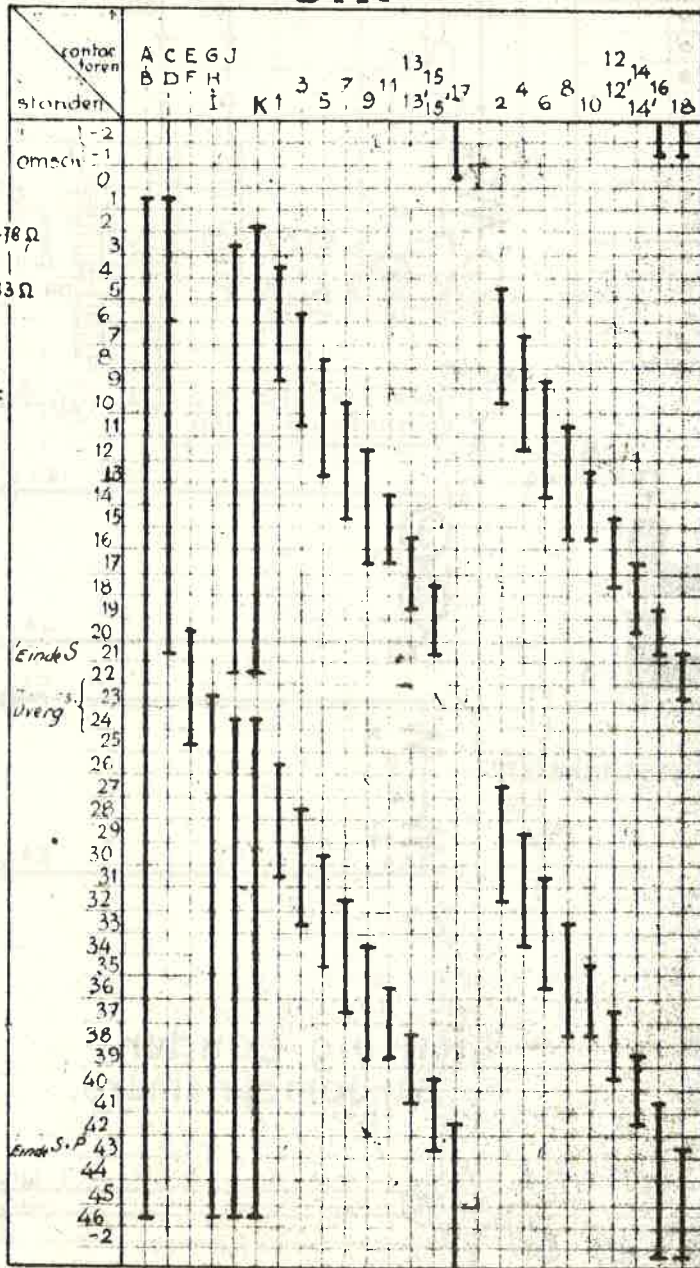
Ritwisselaar



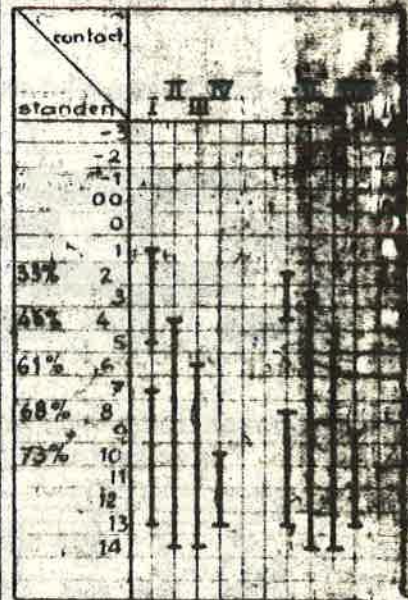
Uitschakelmessen



JH1



JH2



W.L. 41/68
Neder 241.9.21012 (10-11-68)

omotief type 22.

Kracht en hulpsfroomketens 3000 v.

22/A.00.01.01*

C. 224.20

Les 22

Shuntingsstanden der contact.

Standen	- Contactoren.							
	Sh I	Sh II	Sh III	Sh IV	Sh I'	Sh II'	Sh III'	Sh IV'
1	•							
2	•				•			
3	•				•	•		
4	•	•			•	•	•	
5	•	•			•	•	•	
6	•	•	•		•	•	•	
7	•	•	•		•	•	•	
8	•	•	•	•	•	•	•	
9	•	•	•	•	•	•	•	•
10	•	•	•	•	•	•	•	•

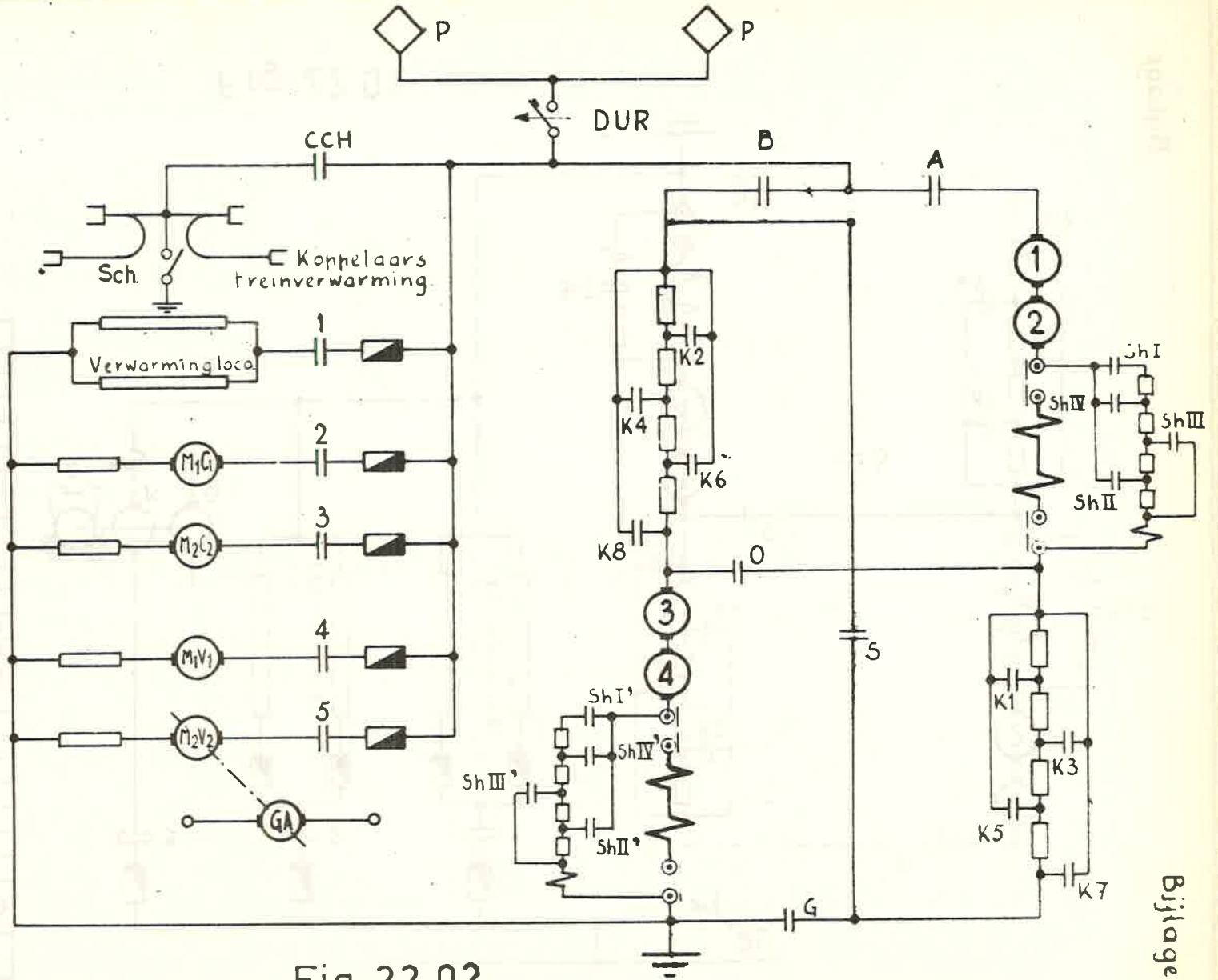


Fig. 22.02

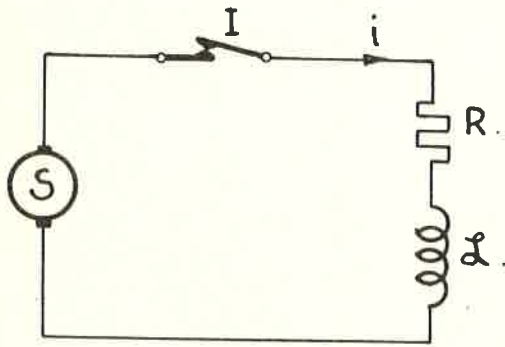


fig. 23.01

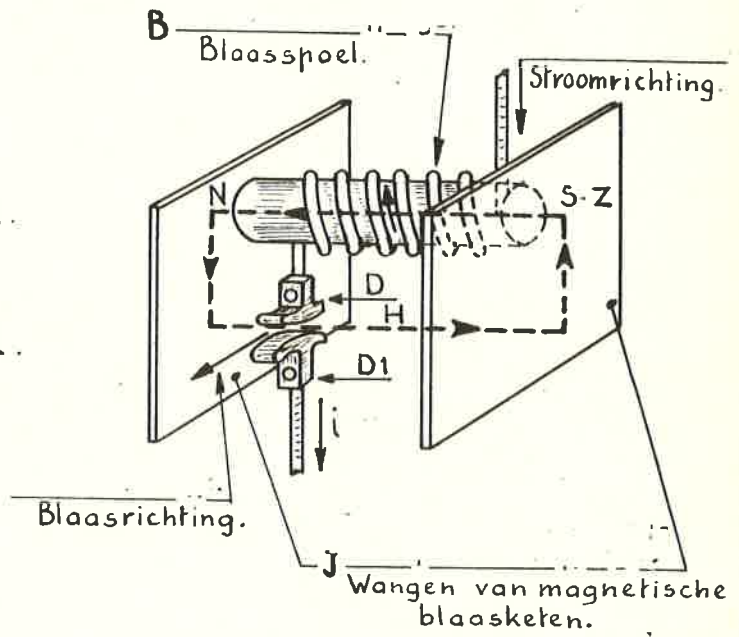


fig. 23.02

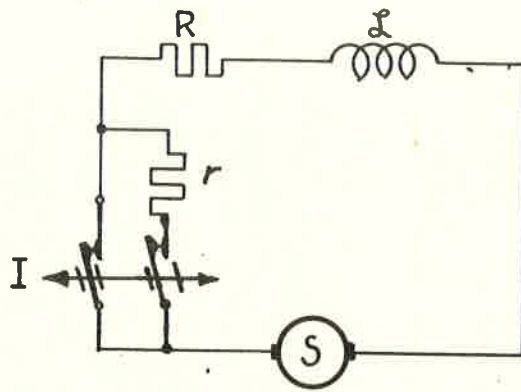


fig. 23.03.

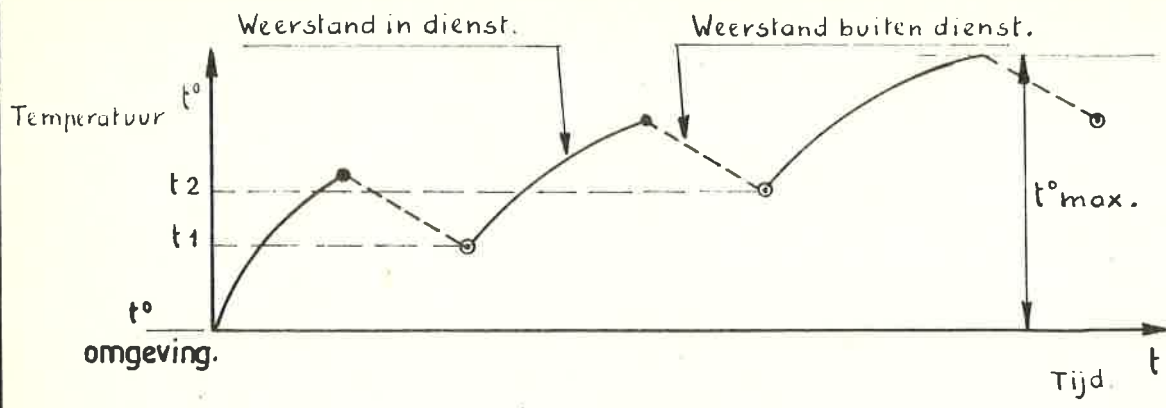


fig. 25.01

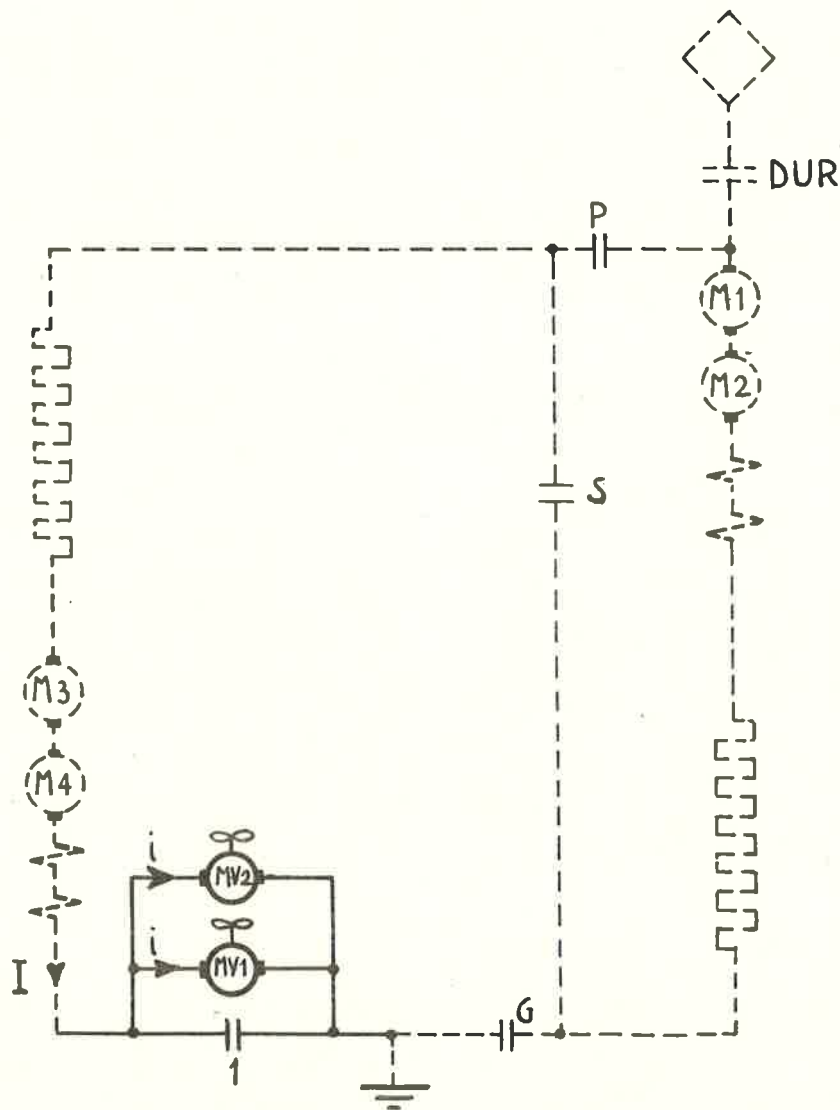
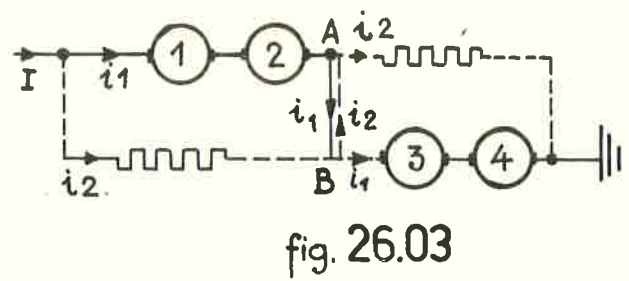
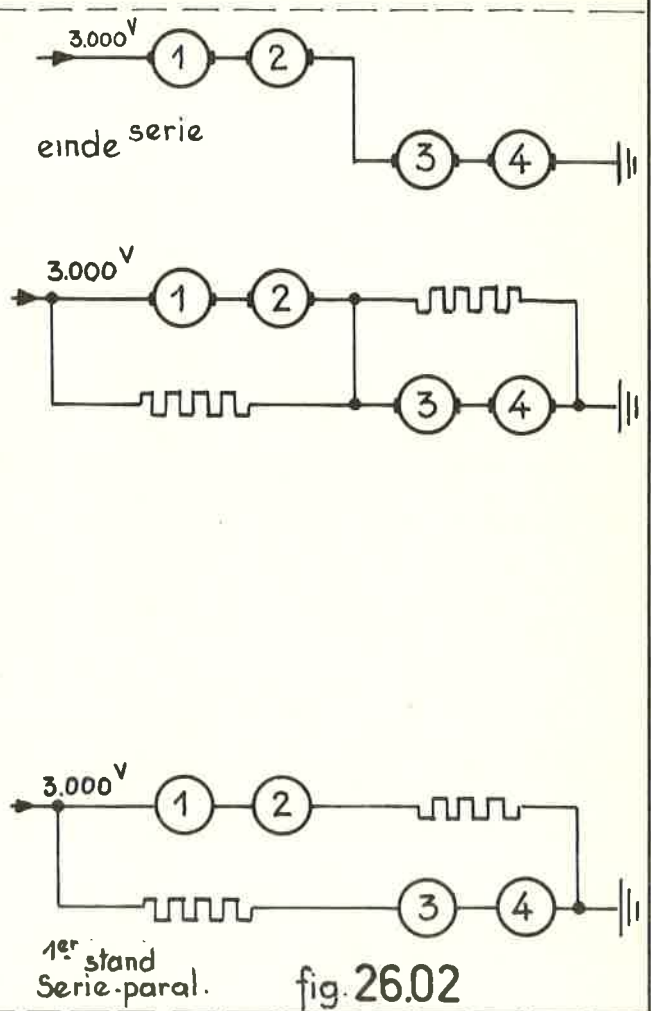
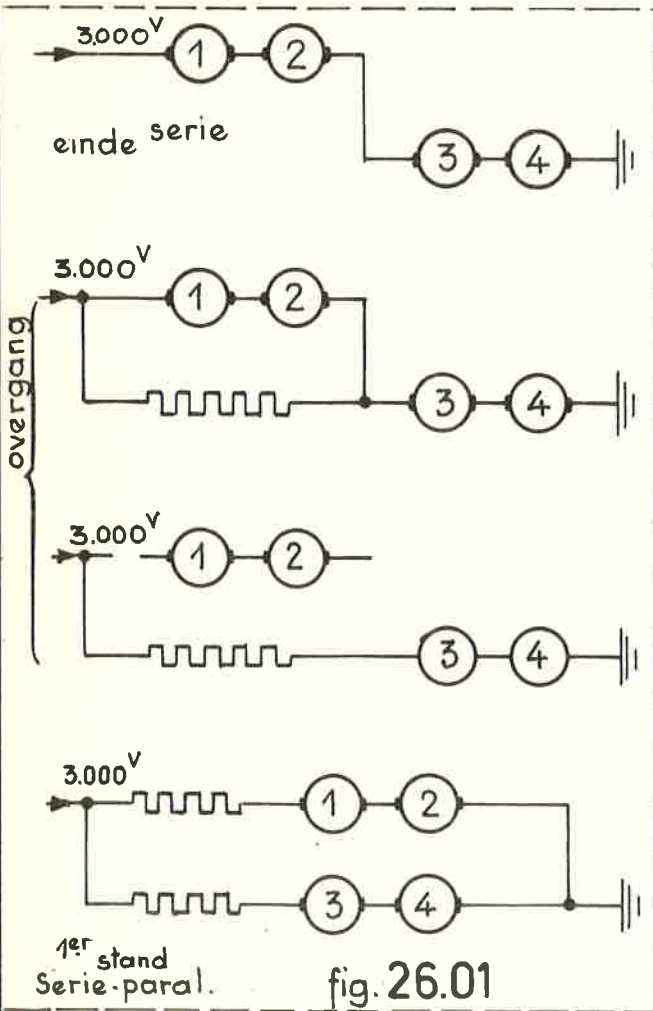
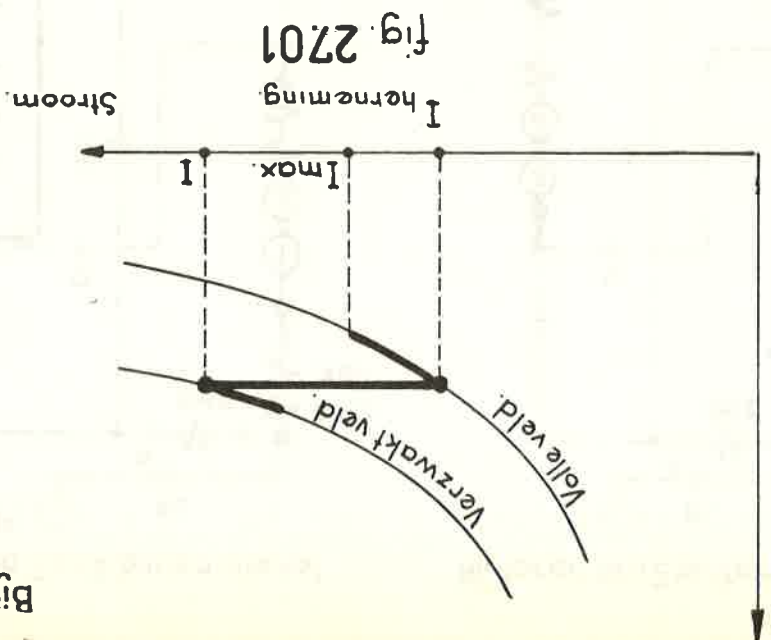
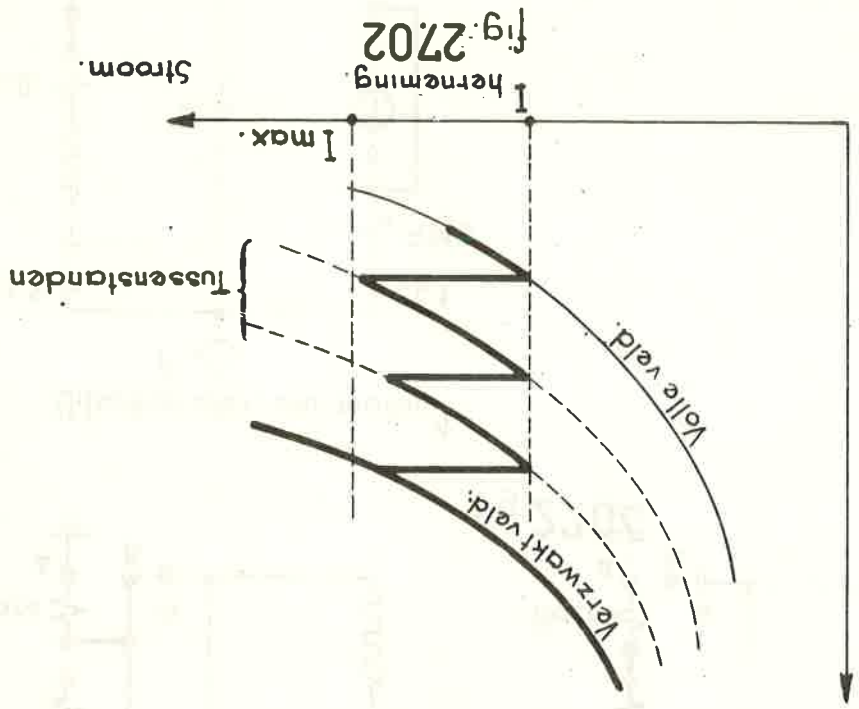
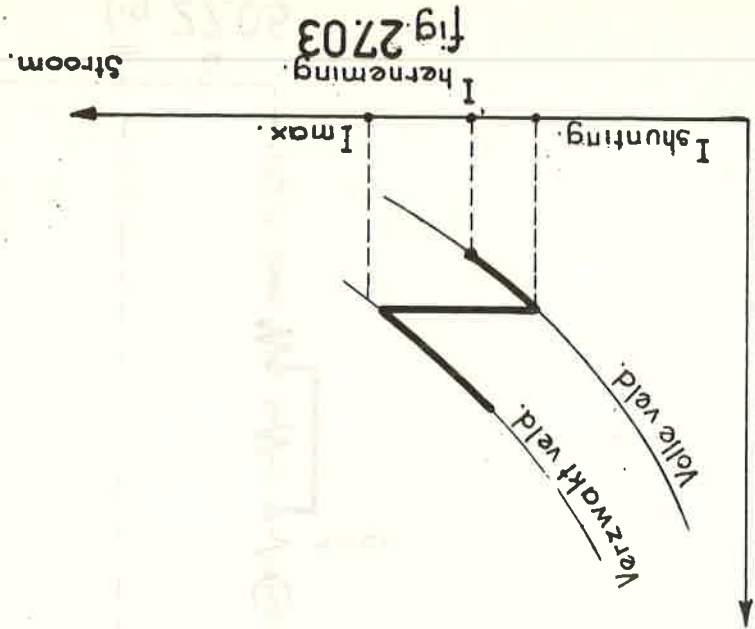


fig. 25.02

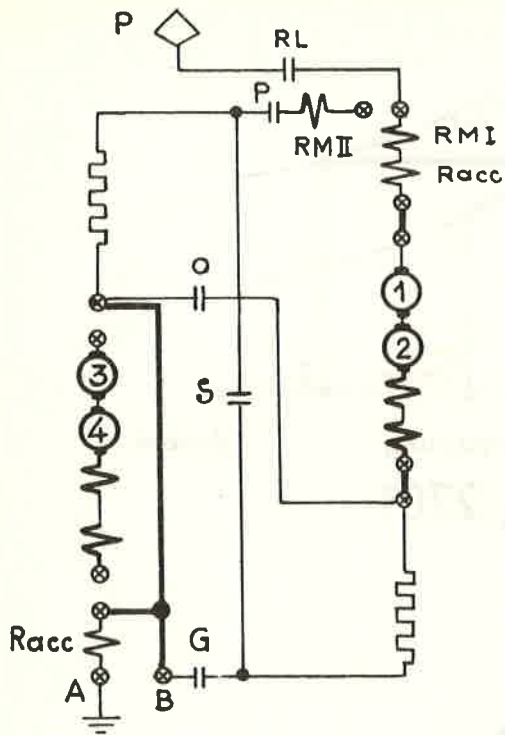




Snelheid

Snelheid

Motoren 3 en 4 buiten dienst



Motoren 1 en 2 buiten dienst

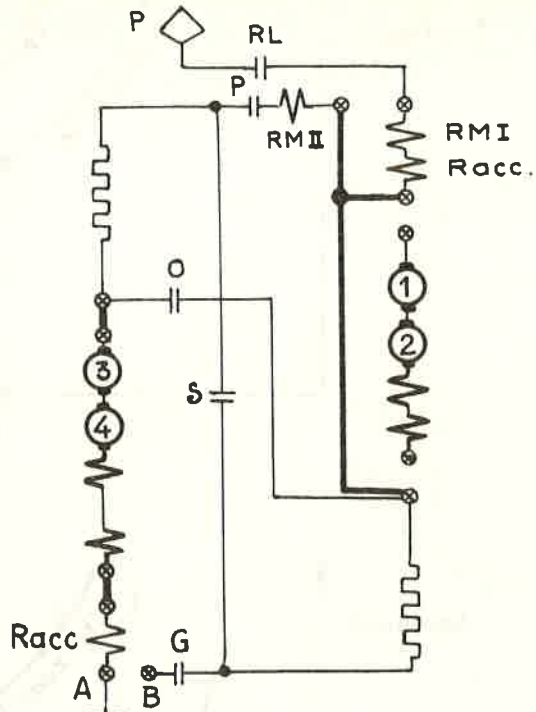


fig. 27.04

Uitschakelen van motor 1

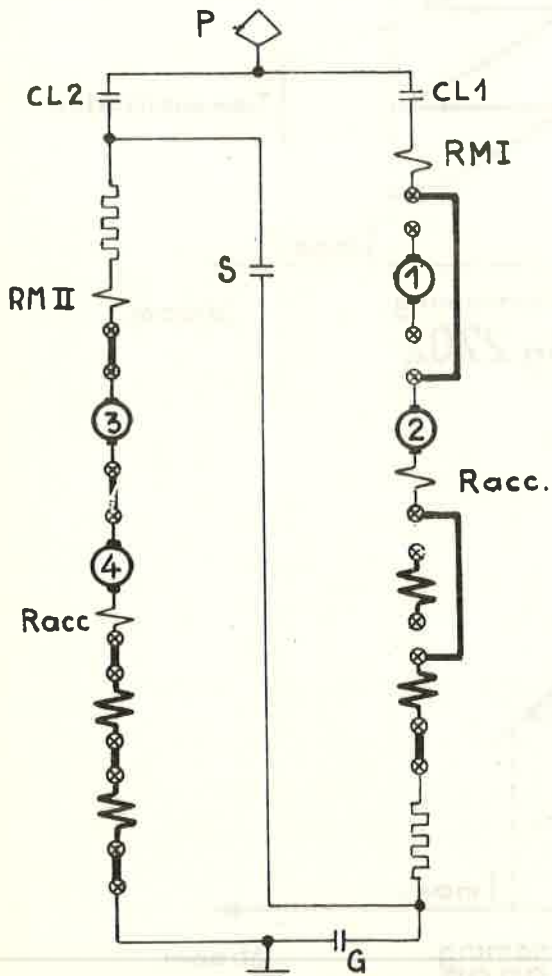


fig. 27.05

* Klemmen van scheidingschakelaars.

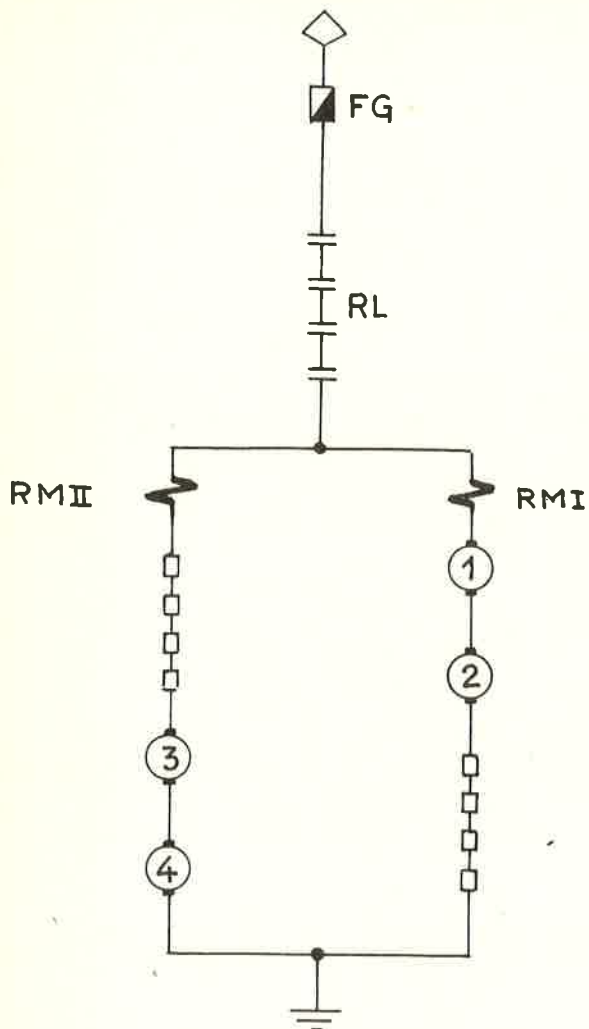


fig. 29.01

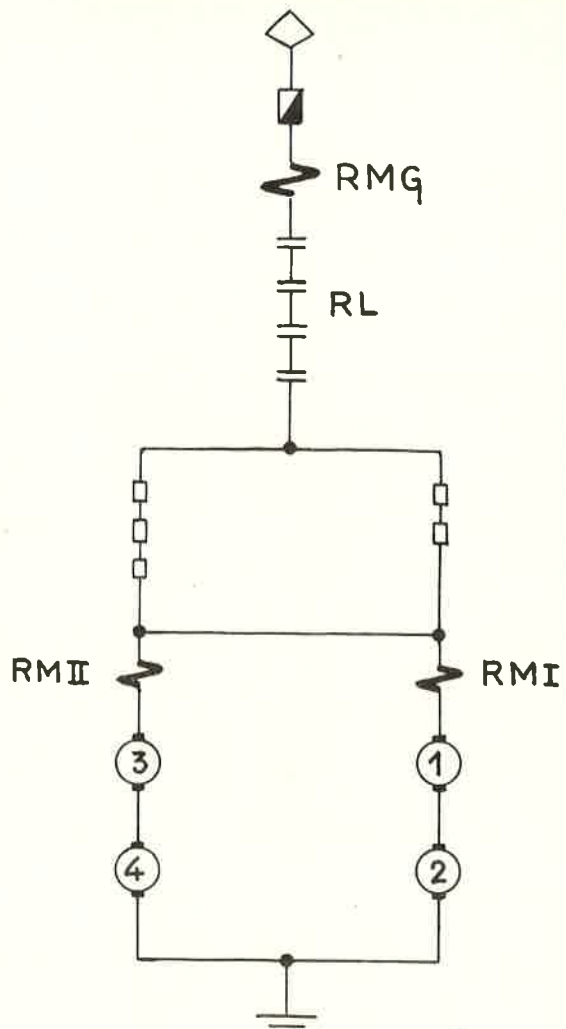


fig. 29.02

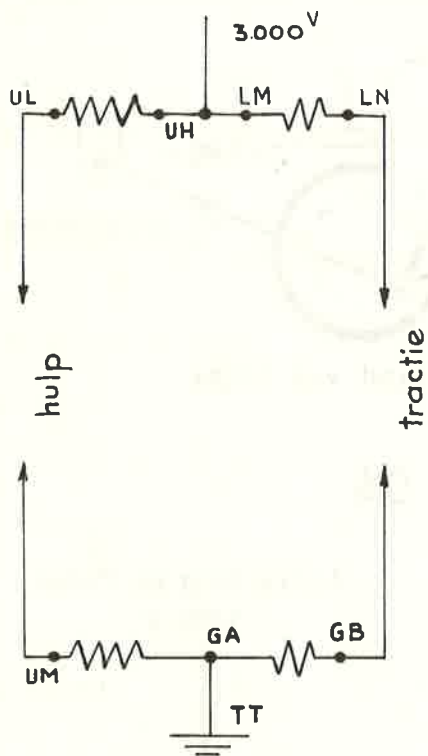


fig. 30.01.

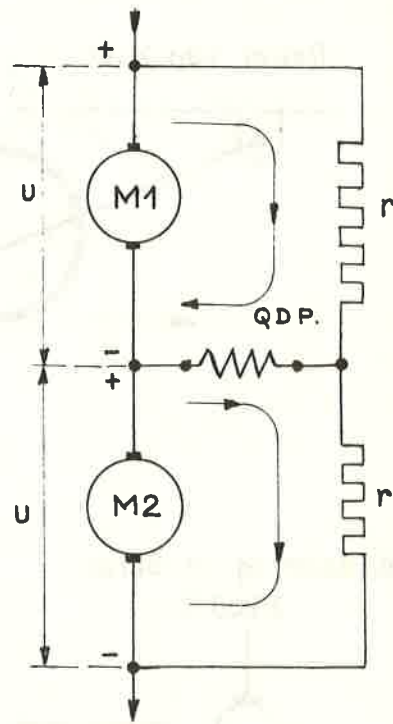


fig 30.02.

Tachymetrische dynamo - statische opnemer.

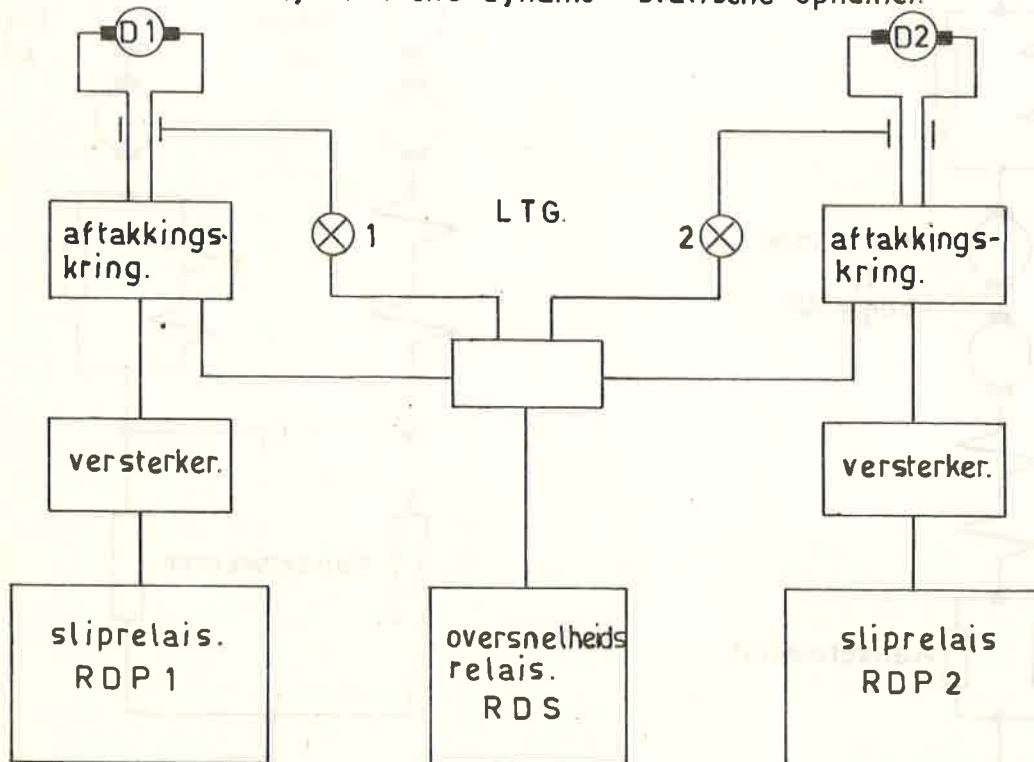


fig. 30.03.

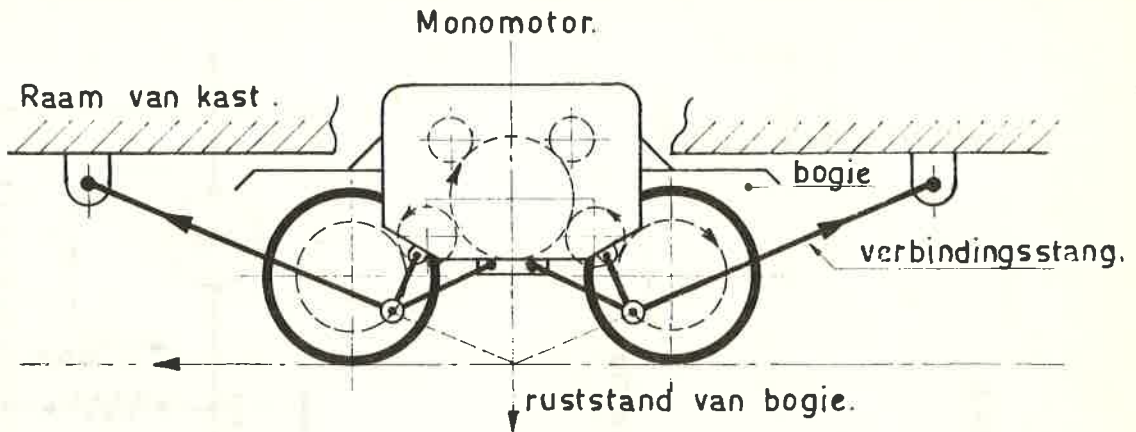
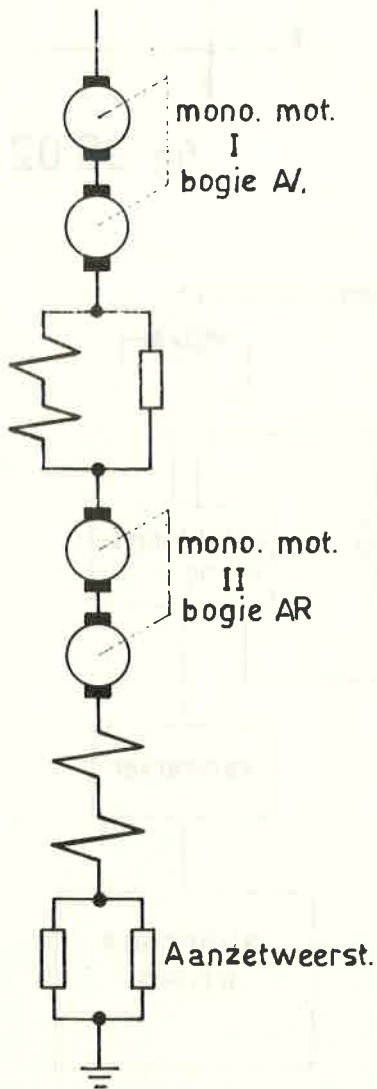


fig. 30.04

Aanzetting in Série.
3.000 V.



Aanzetting in Paralel.
3.000 V.

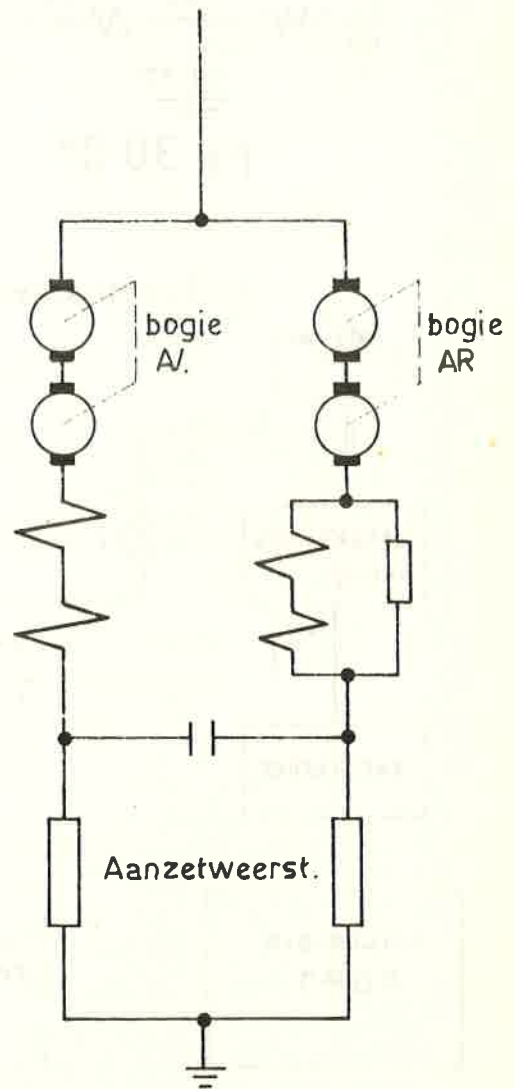


fig. 30.05.

Laagspanning.

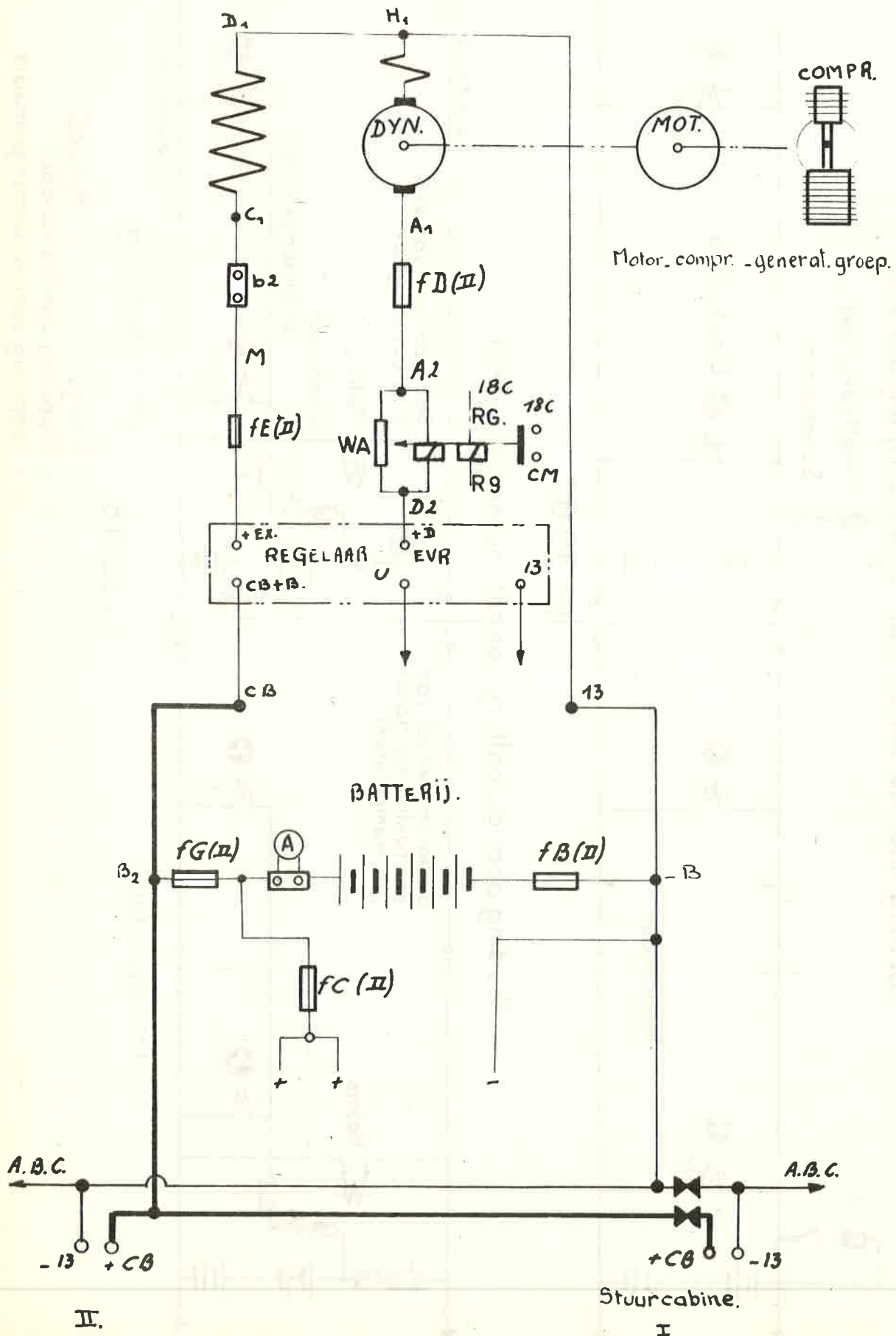
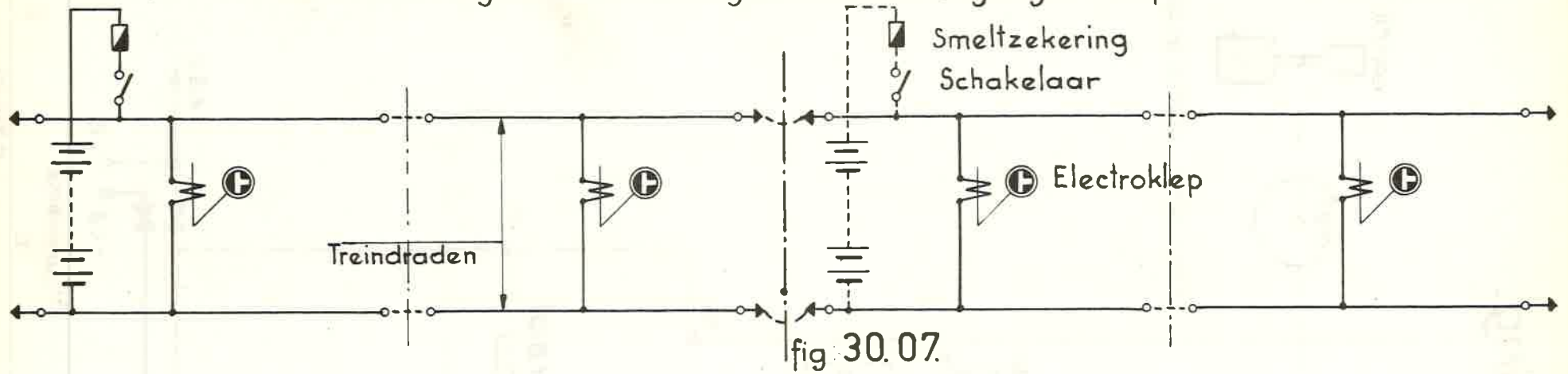
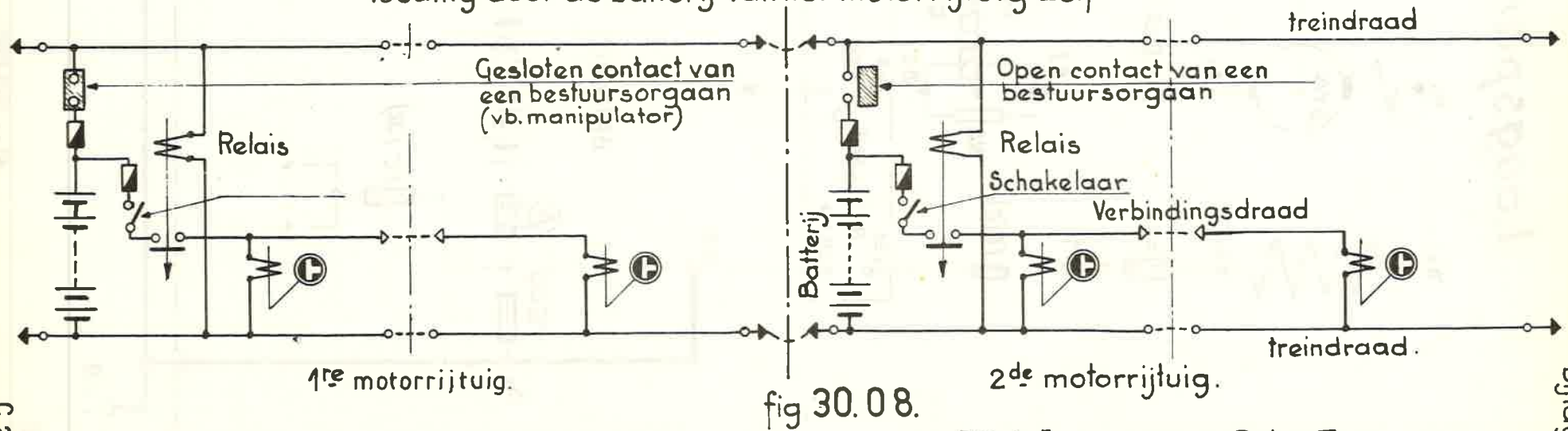


fig. 30.06

Voeding door de batterij van het motorrijtuig aan kop.

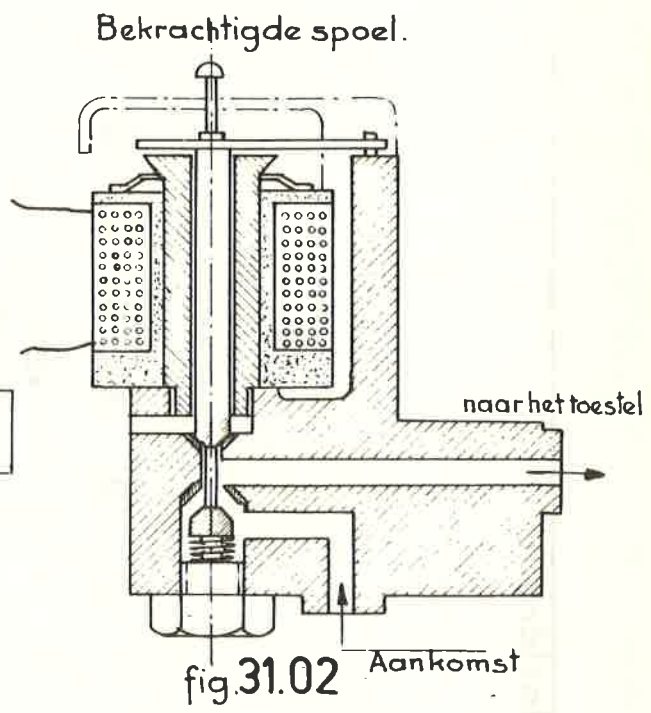
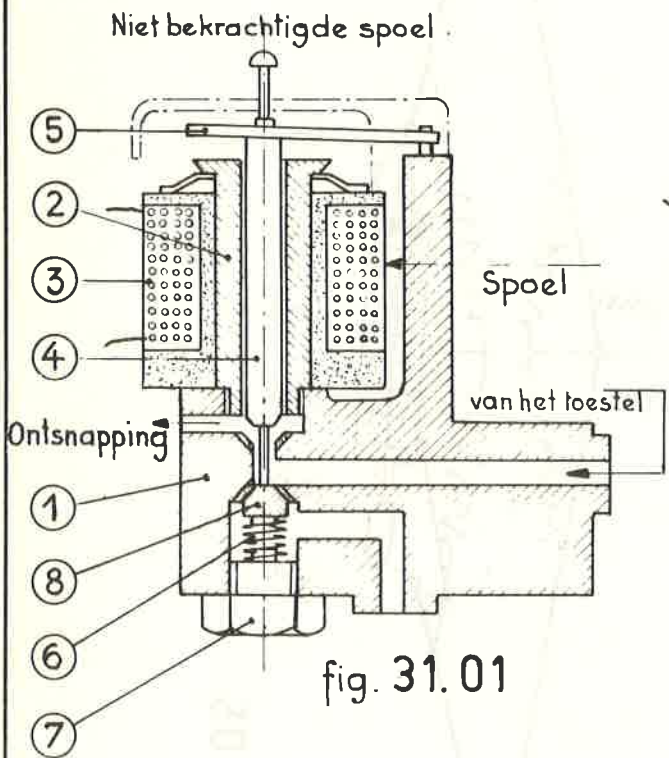


Voeding door de batterij van het motorrijtuig zelf

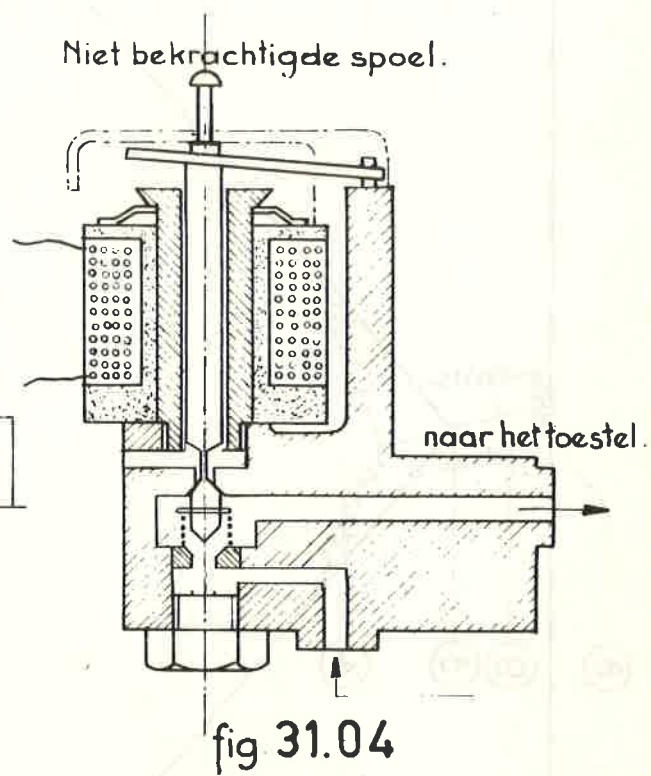
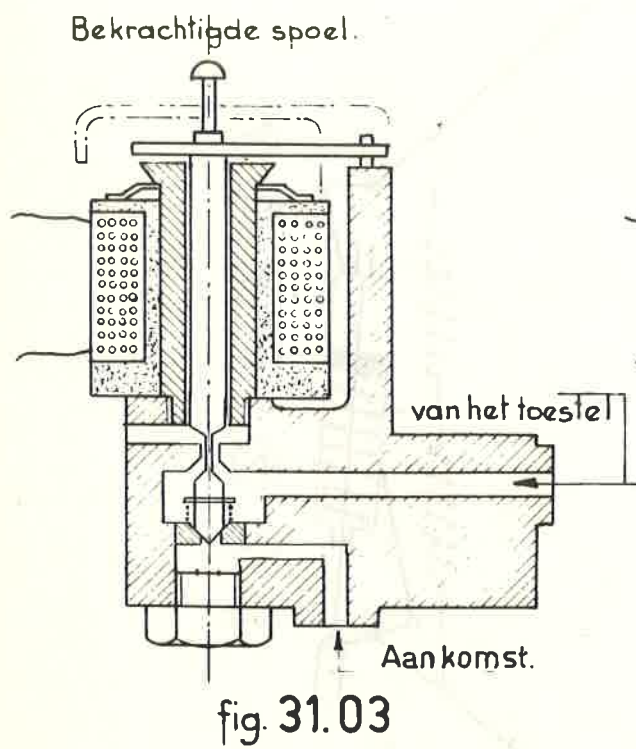


- Rijtuig I Rijtuig II
- → Koppeling voor treindraad
 - → Koppeling voor verbindingsdraad

Electroklep type inlaat.



Electroklep type uitlaat.



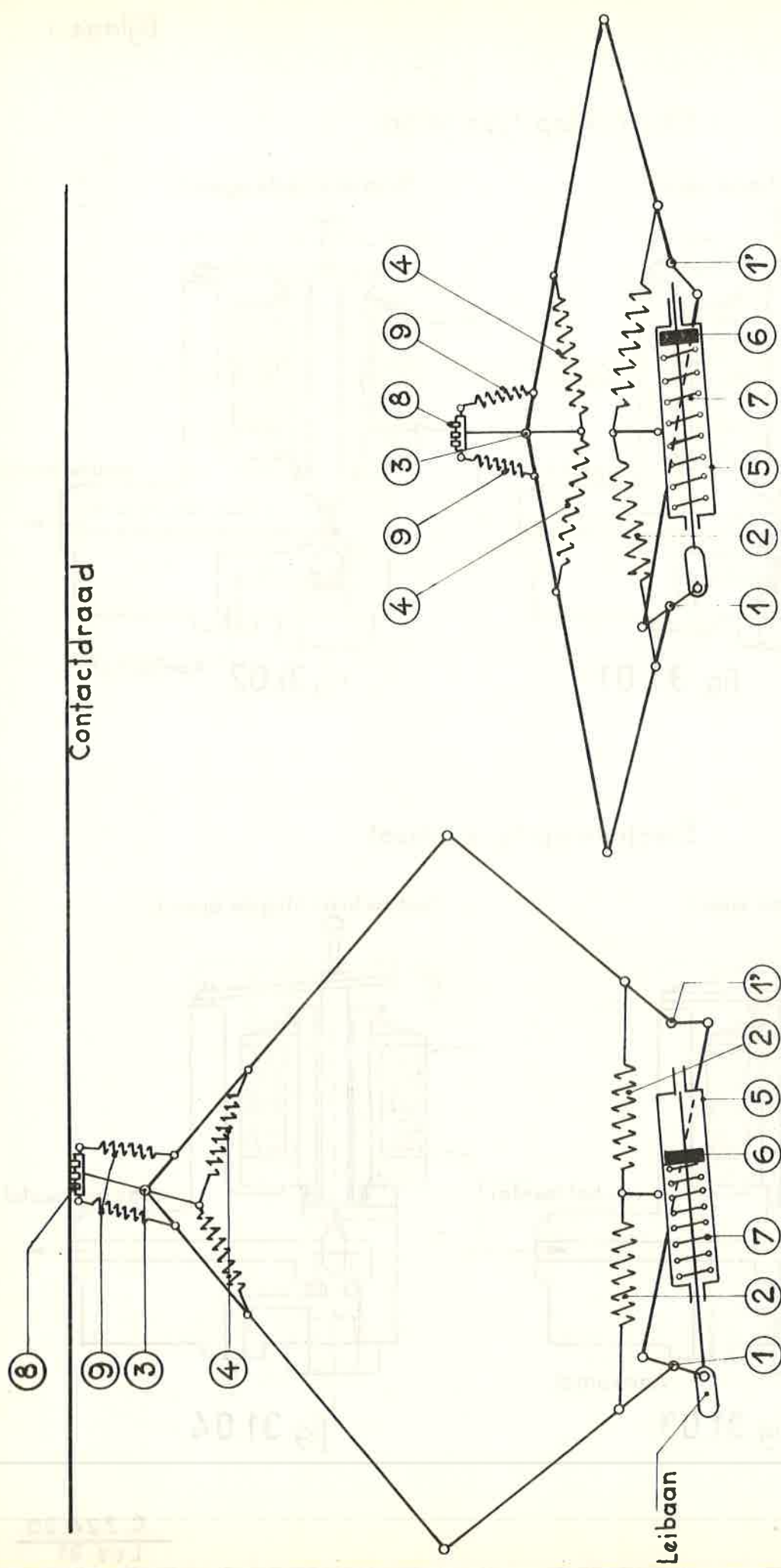


fig. 31.05

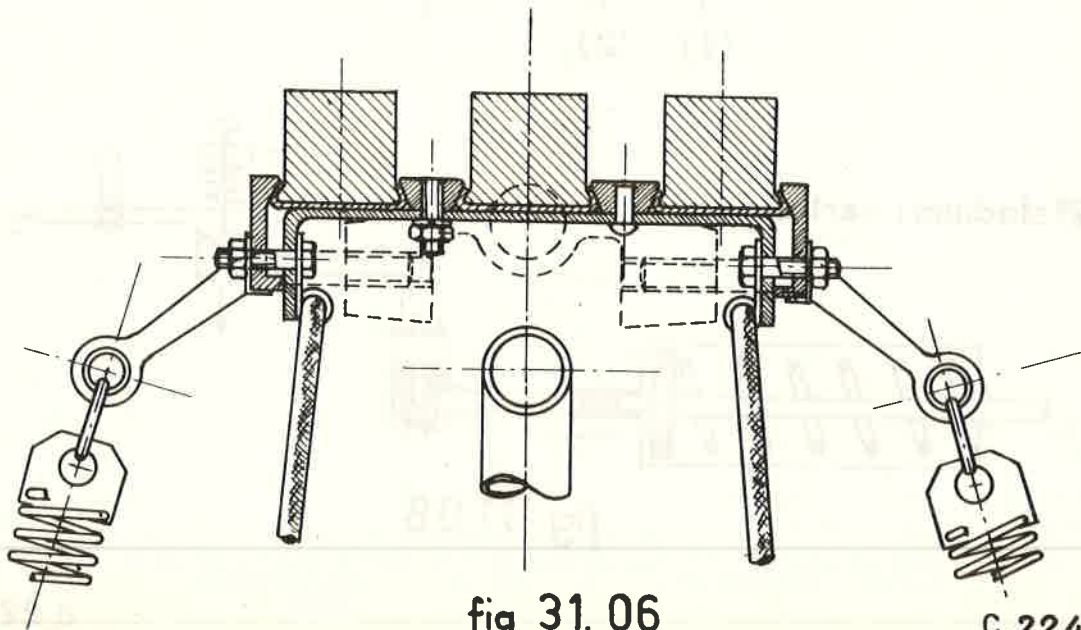
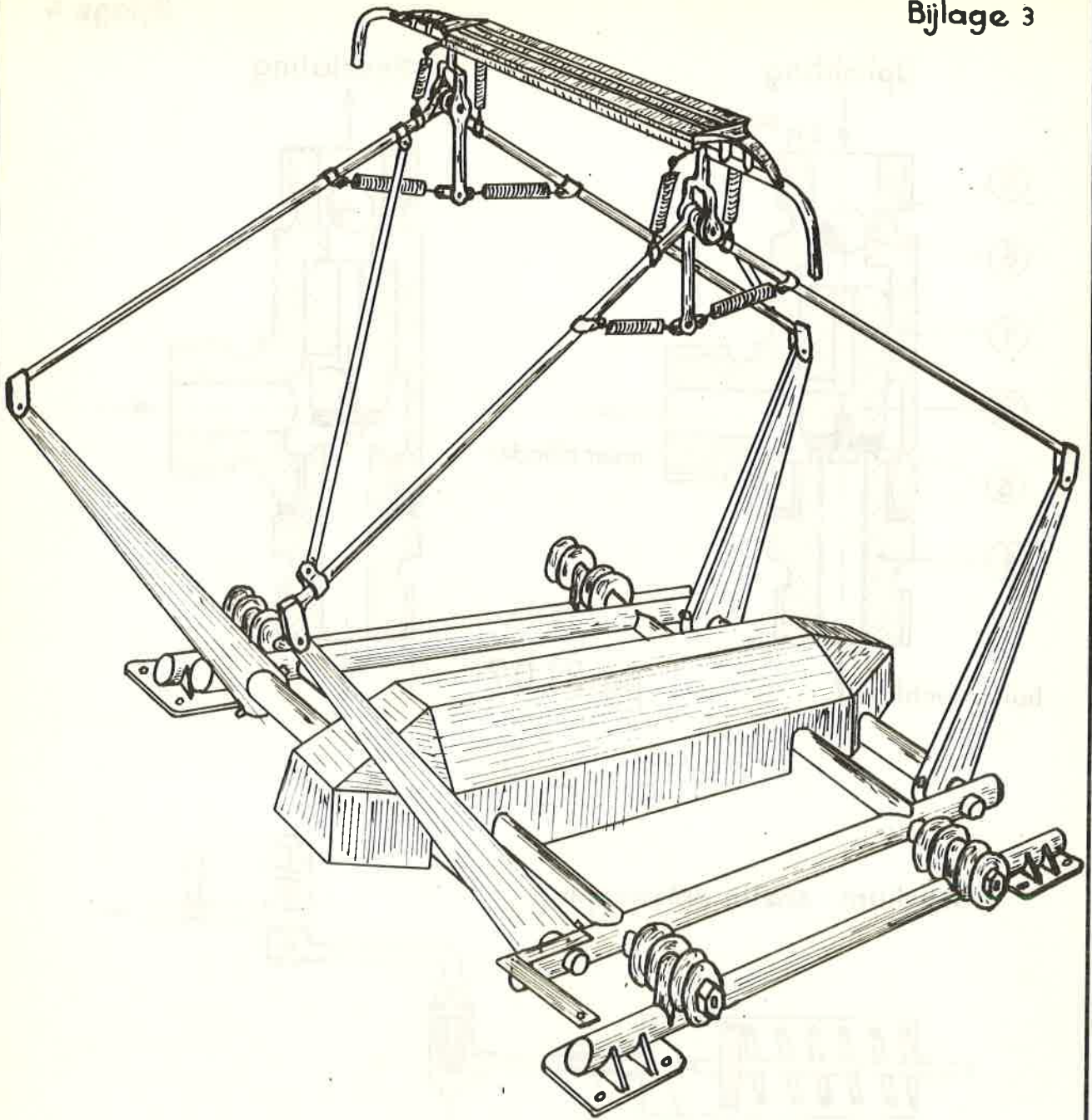
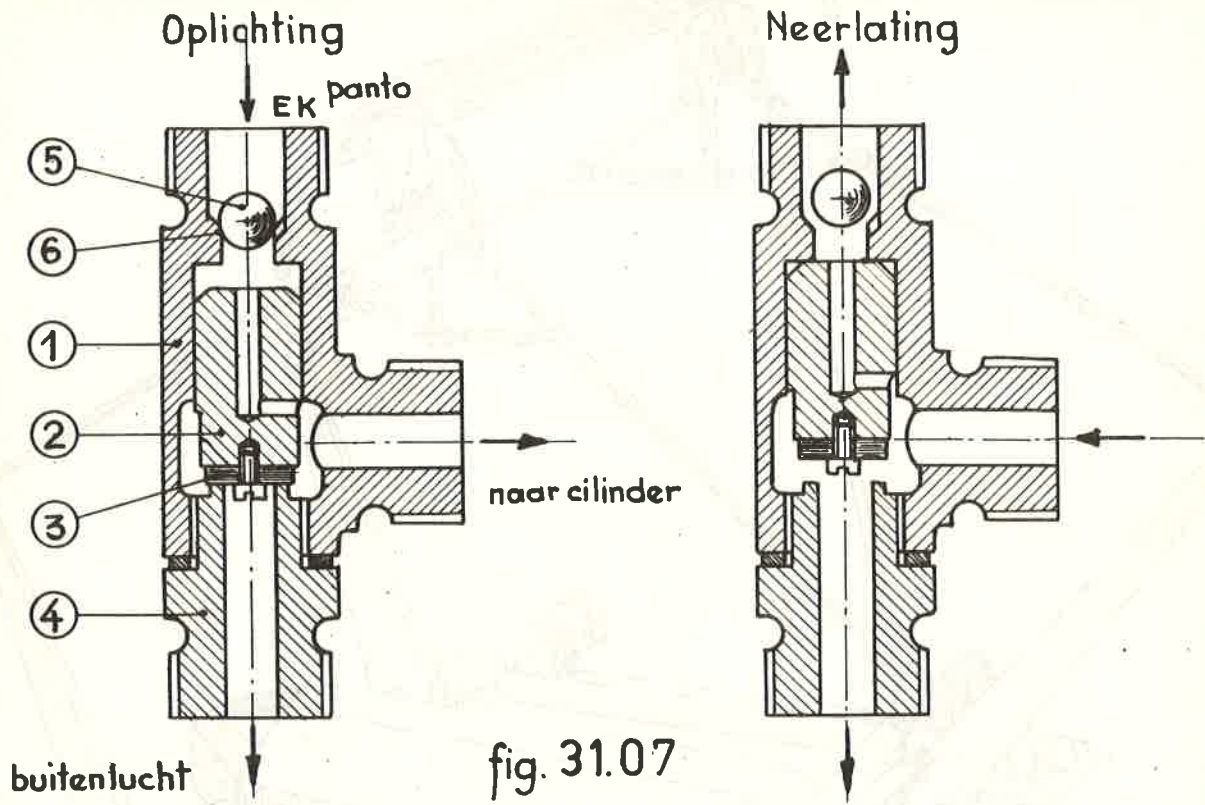
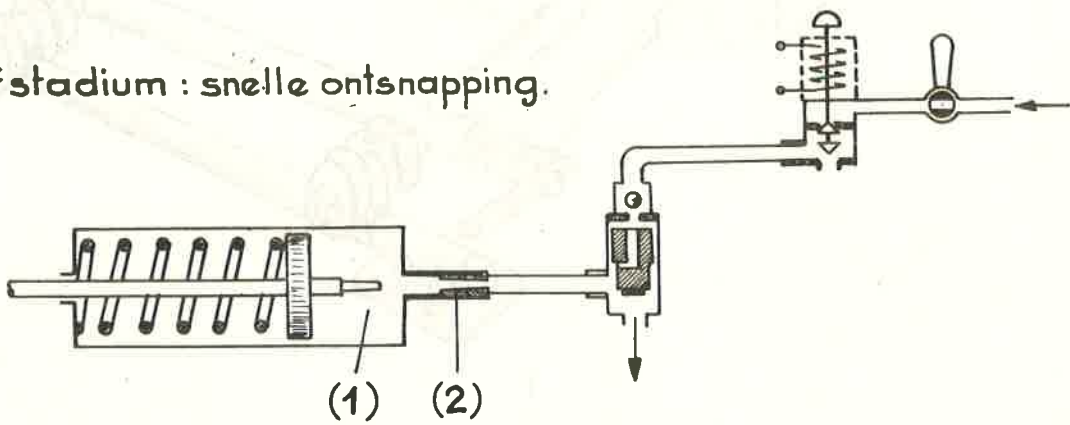


fig 31.06



1^o stadium : snelle ontsnapping.



2^o stadium : vertraging

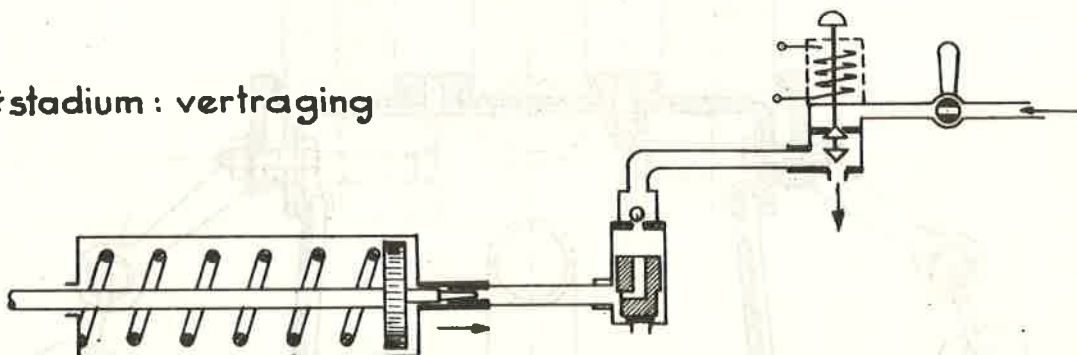


fig. 31.08

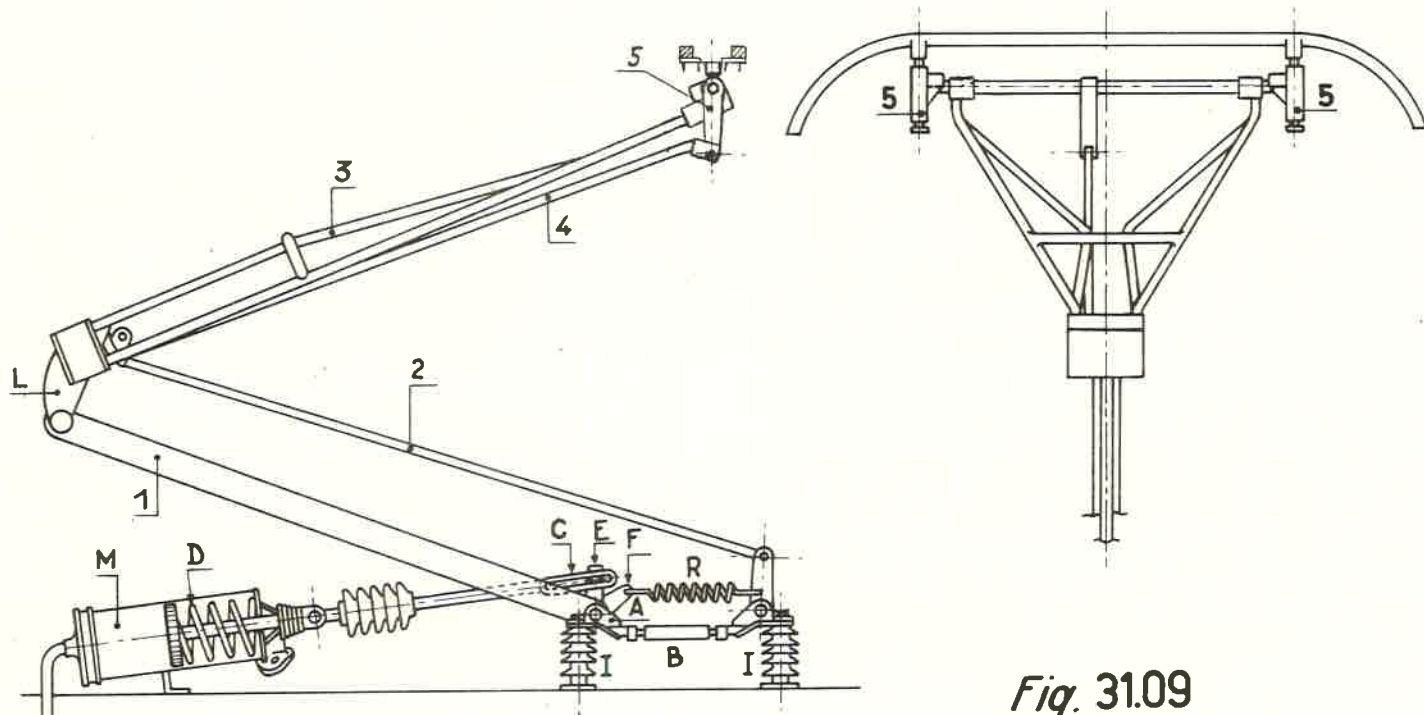


Fig. 31.09

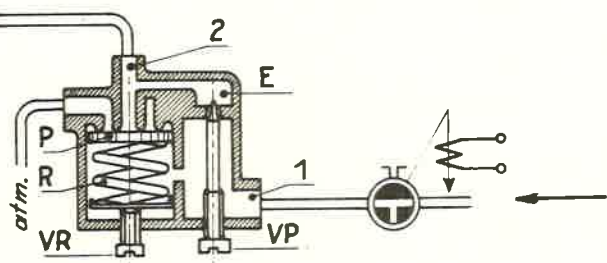


fig.31.10

C.224.20
Les 31

Bijlage 5

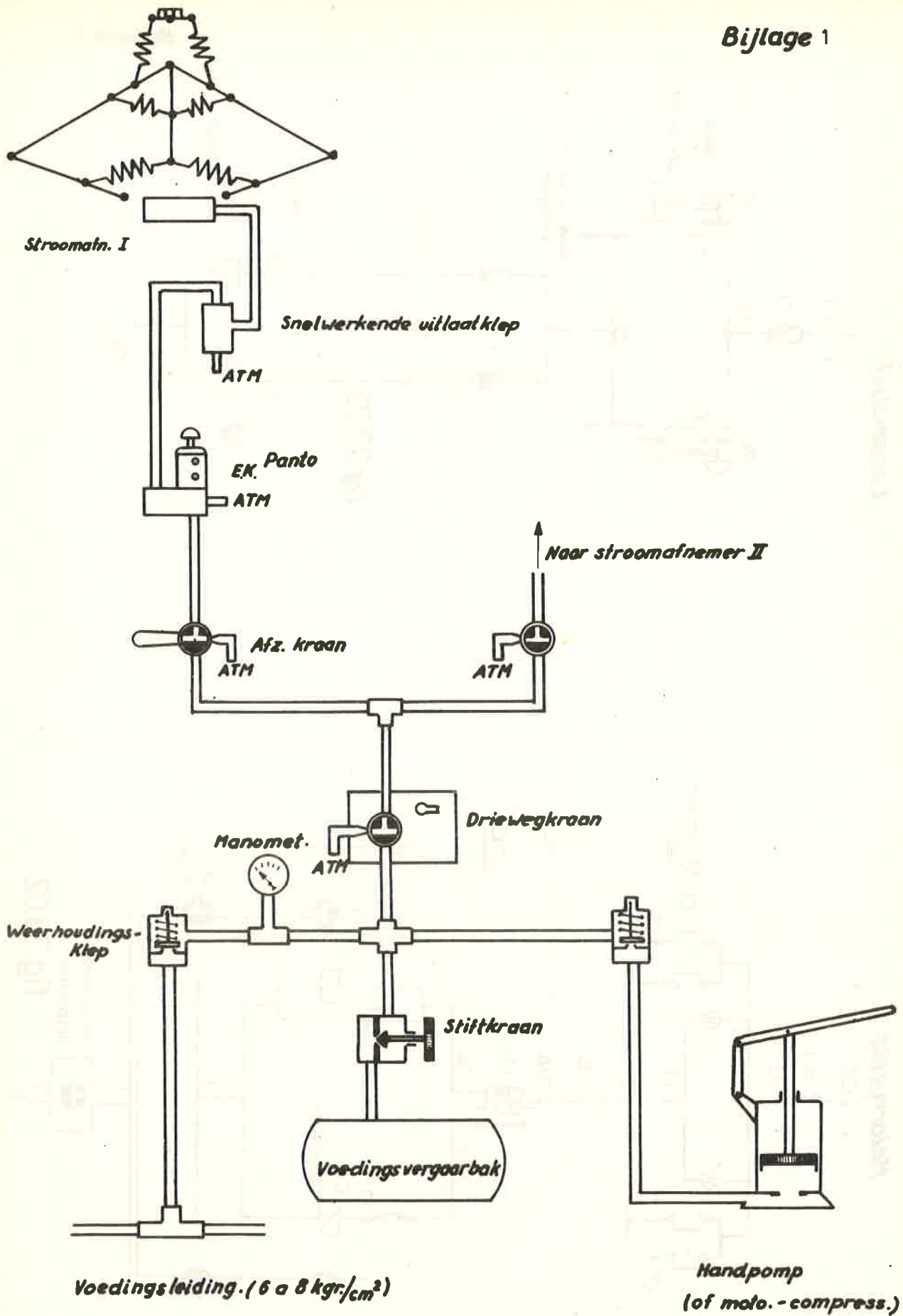


fig. 33.01

Motorrijtuig

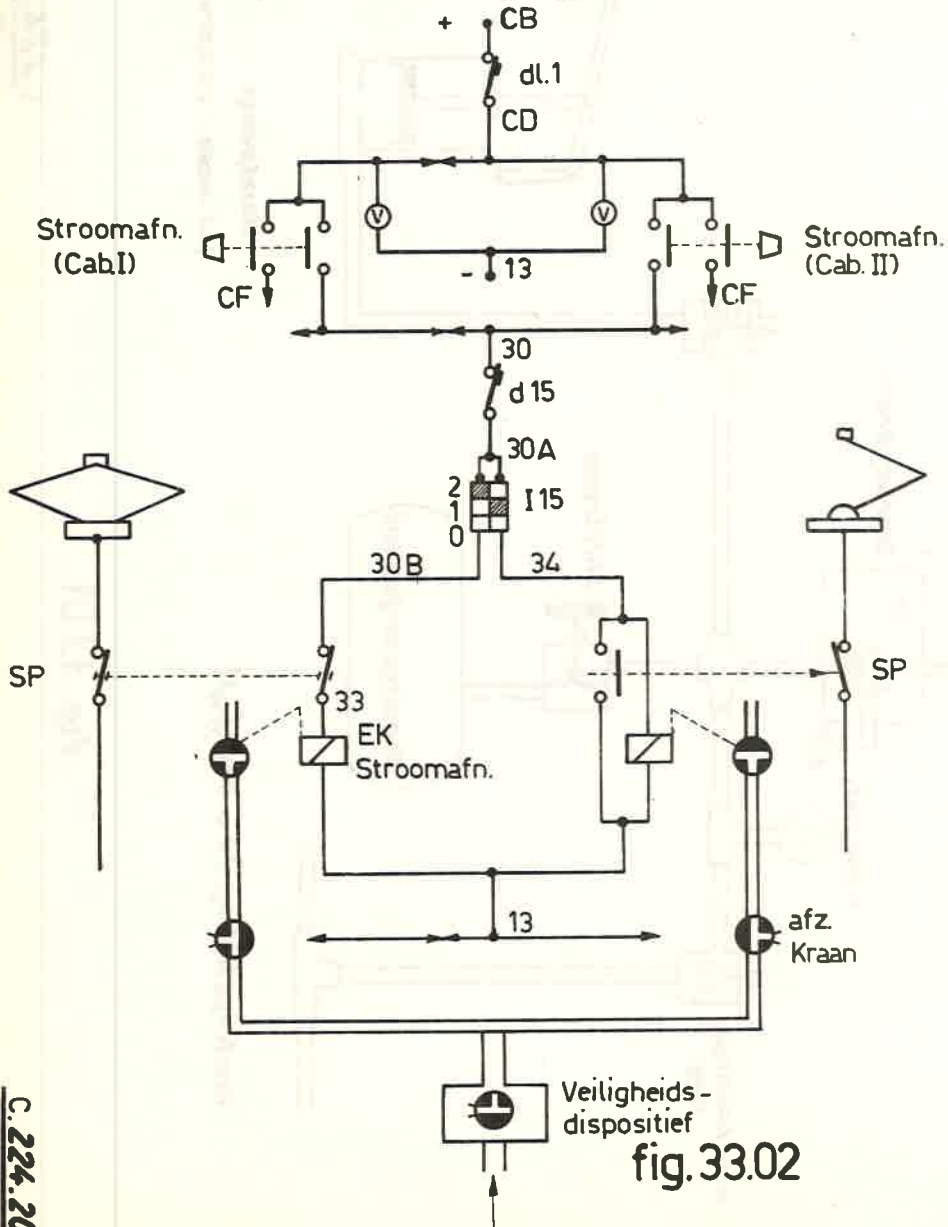


fig. 33.02

Locomotief

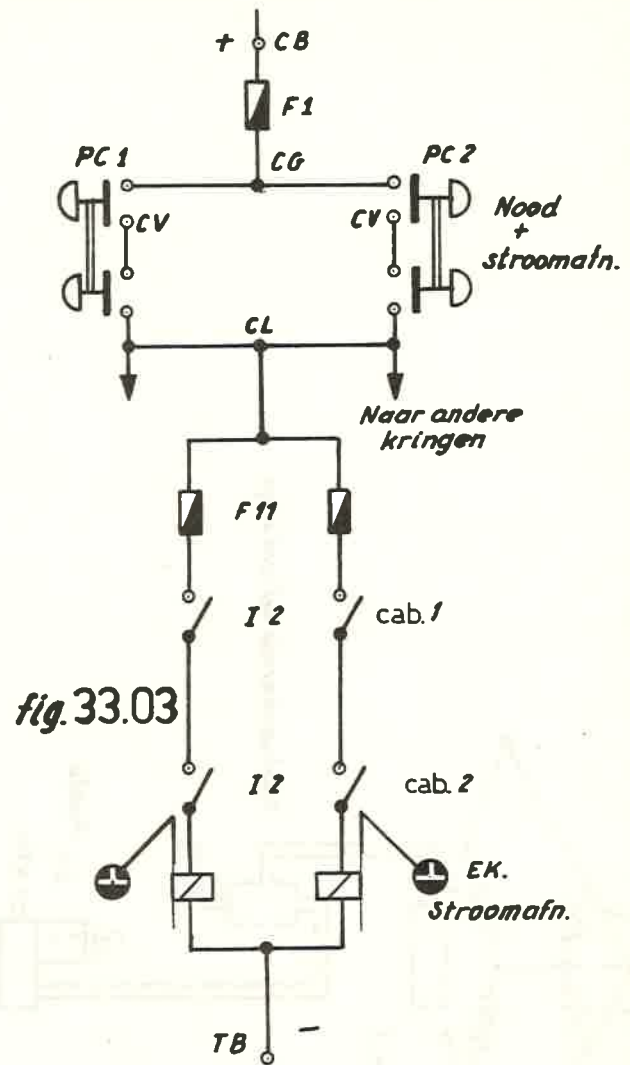
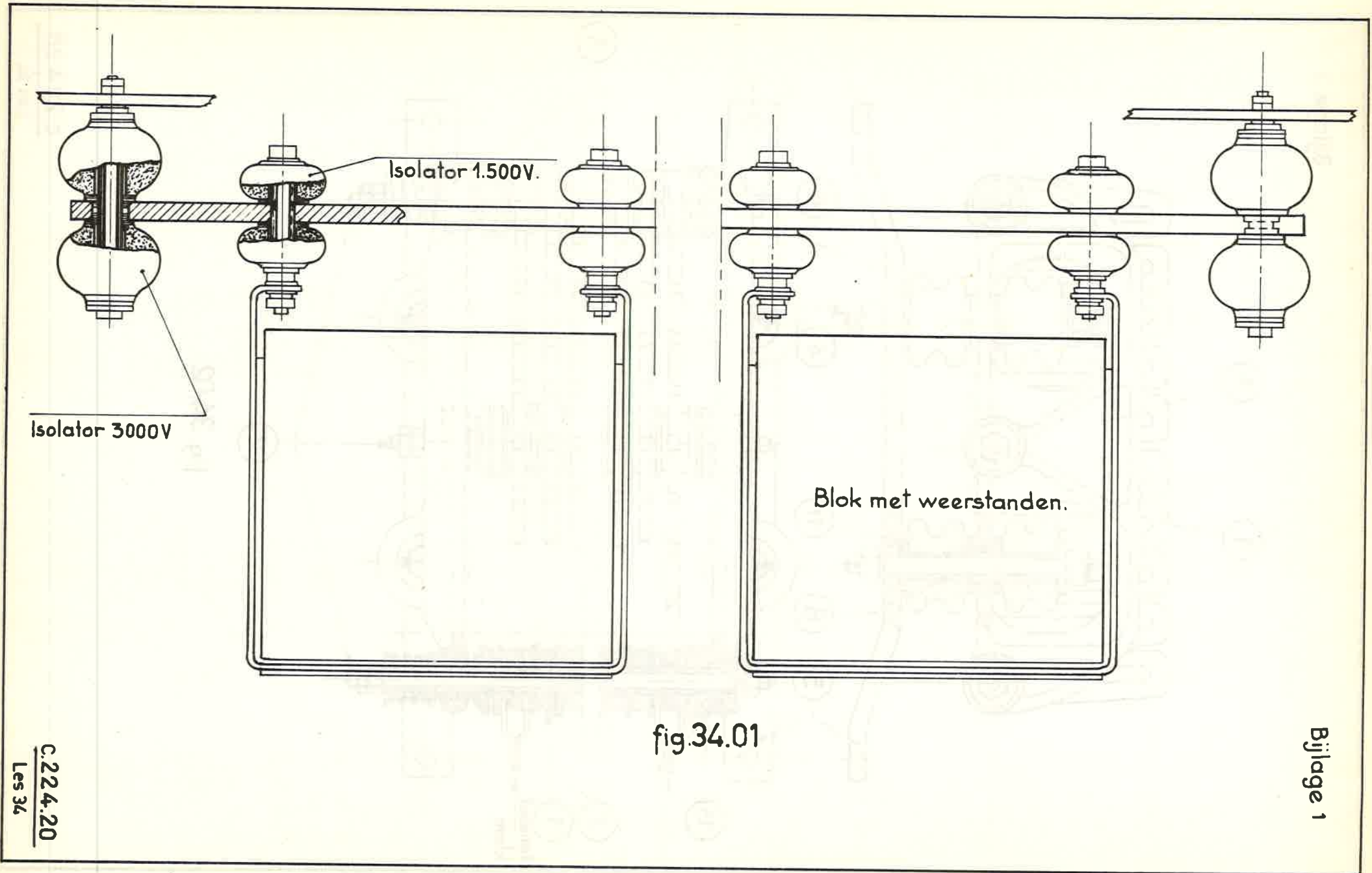


fig. 33.03



Isolator 3000V

Isolator 1500V.

Blok met weerstanden.

fig.34.01

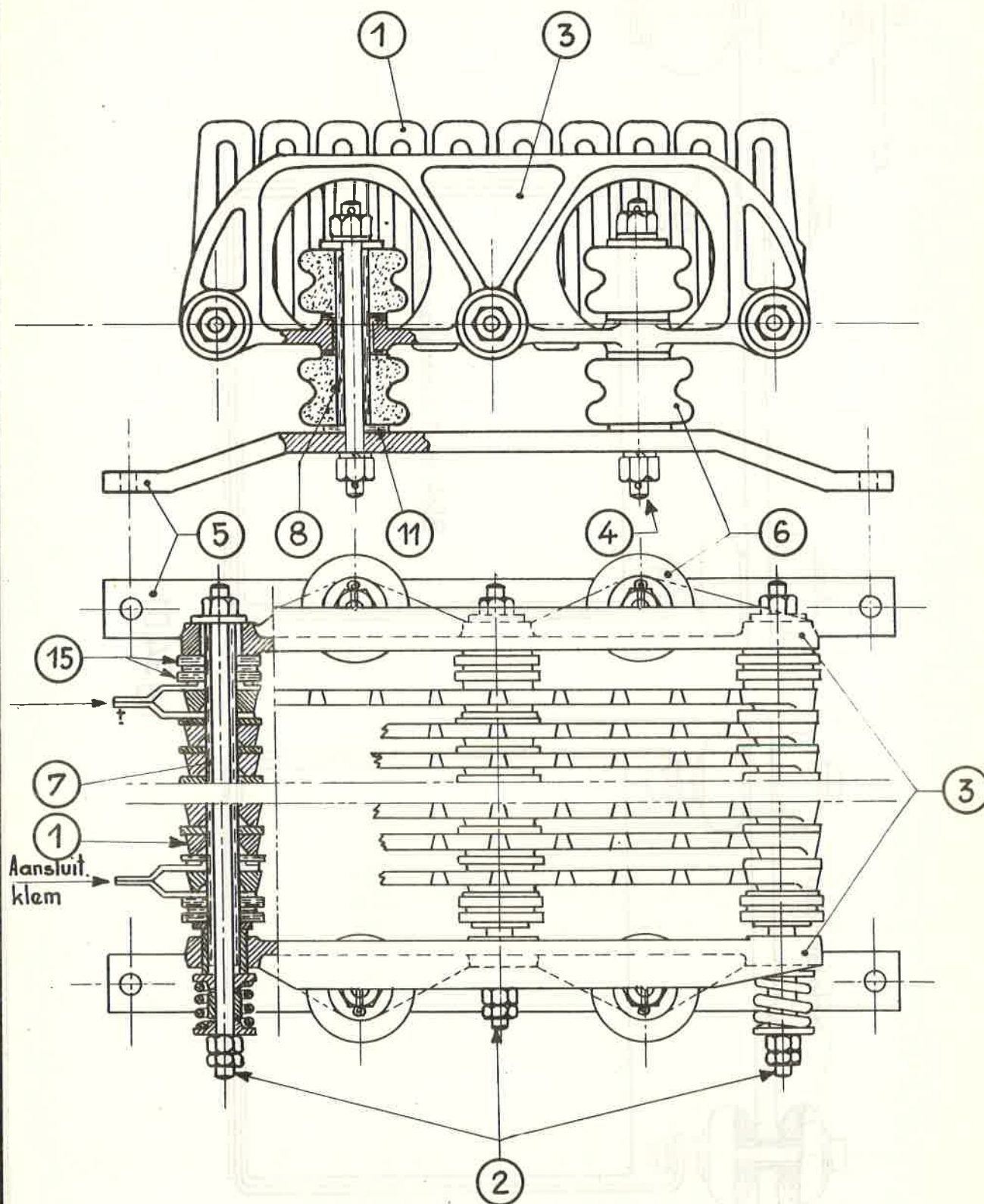


fig. 34.02

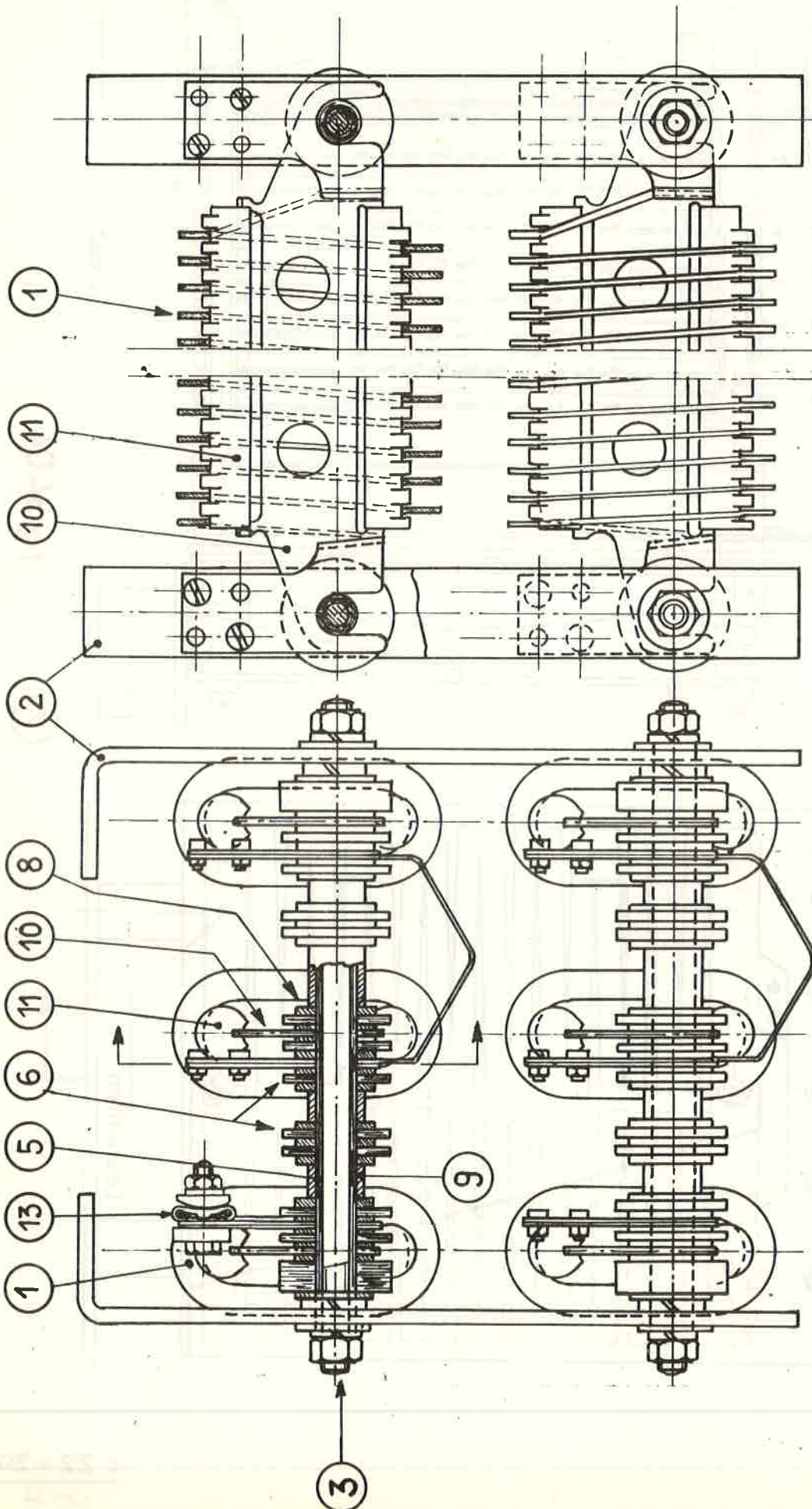


fig.34.03

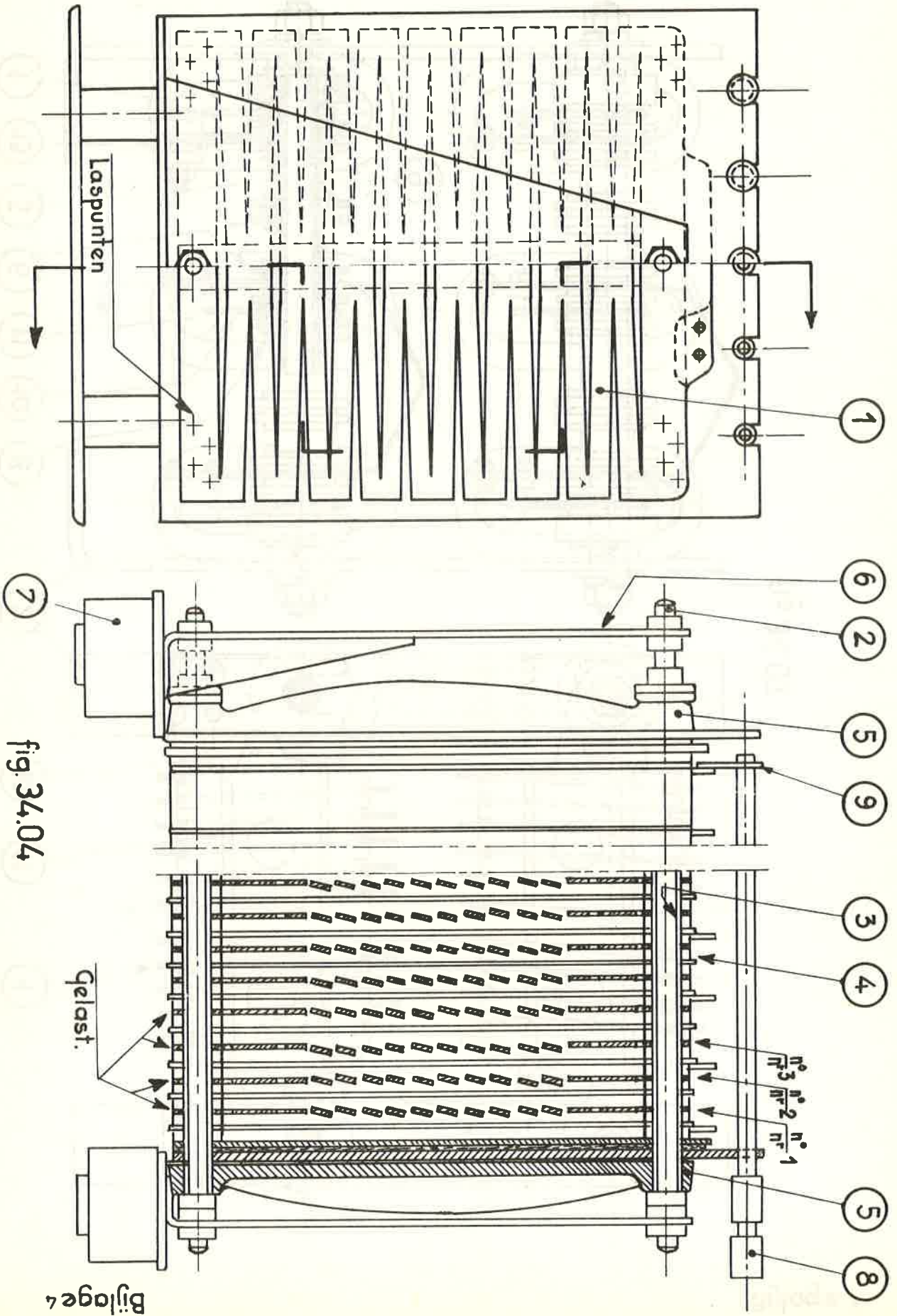


fig. 34.04

Bijlage 4

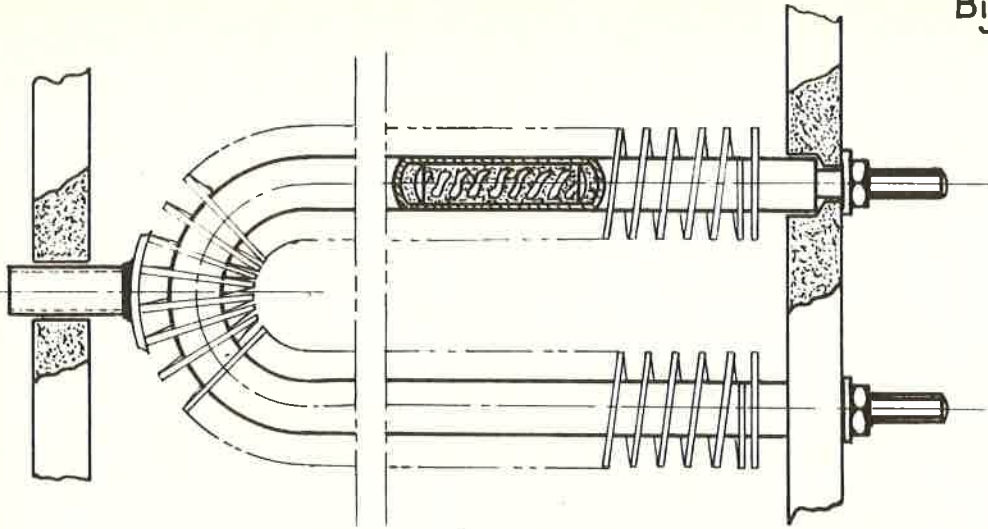


fig 34.05

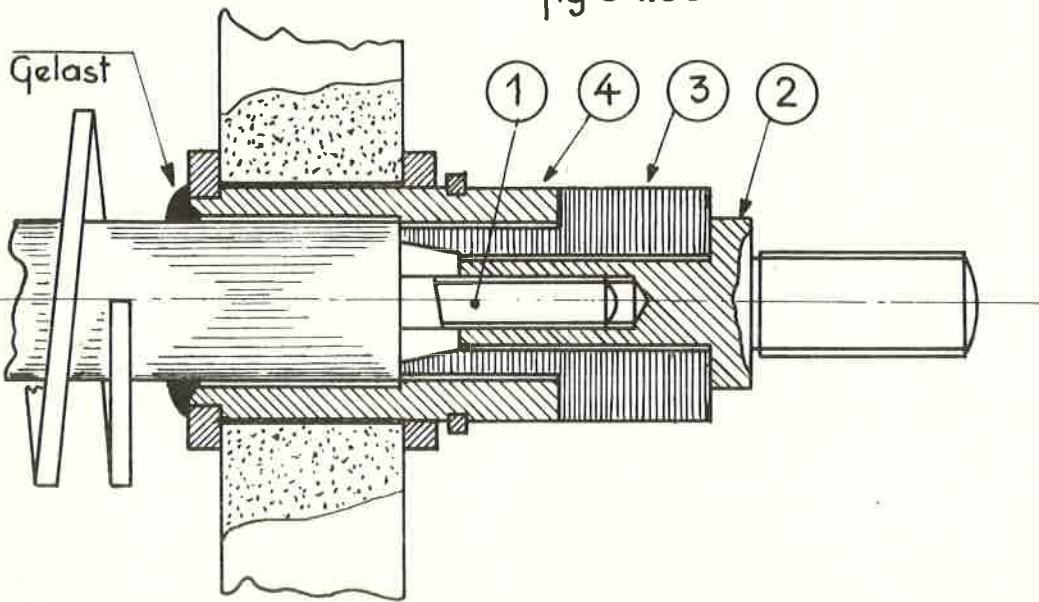


fig 34.06

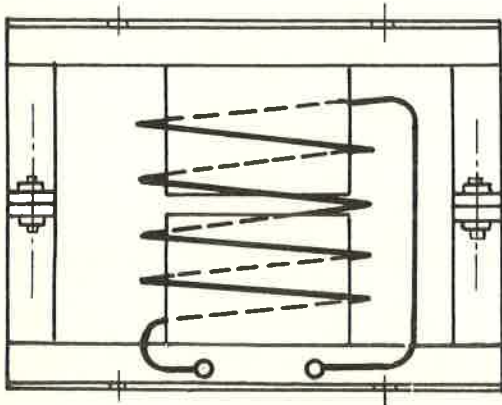


fig. 34.07

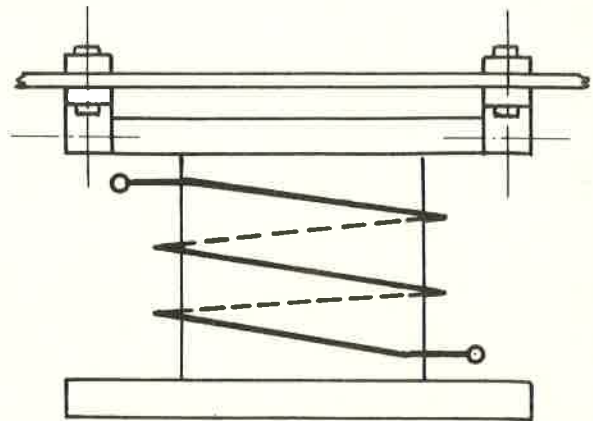


fig. 34.08

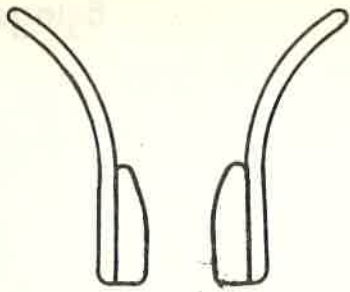


fig. 35.01

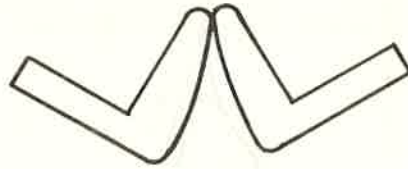


fig. 35.03

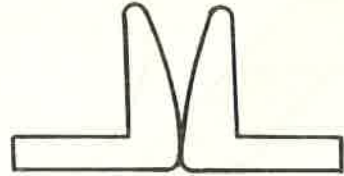


fig. 35.04

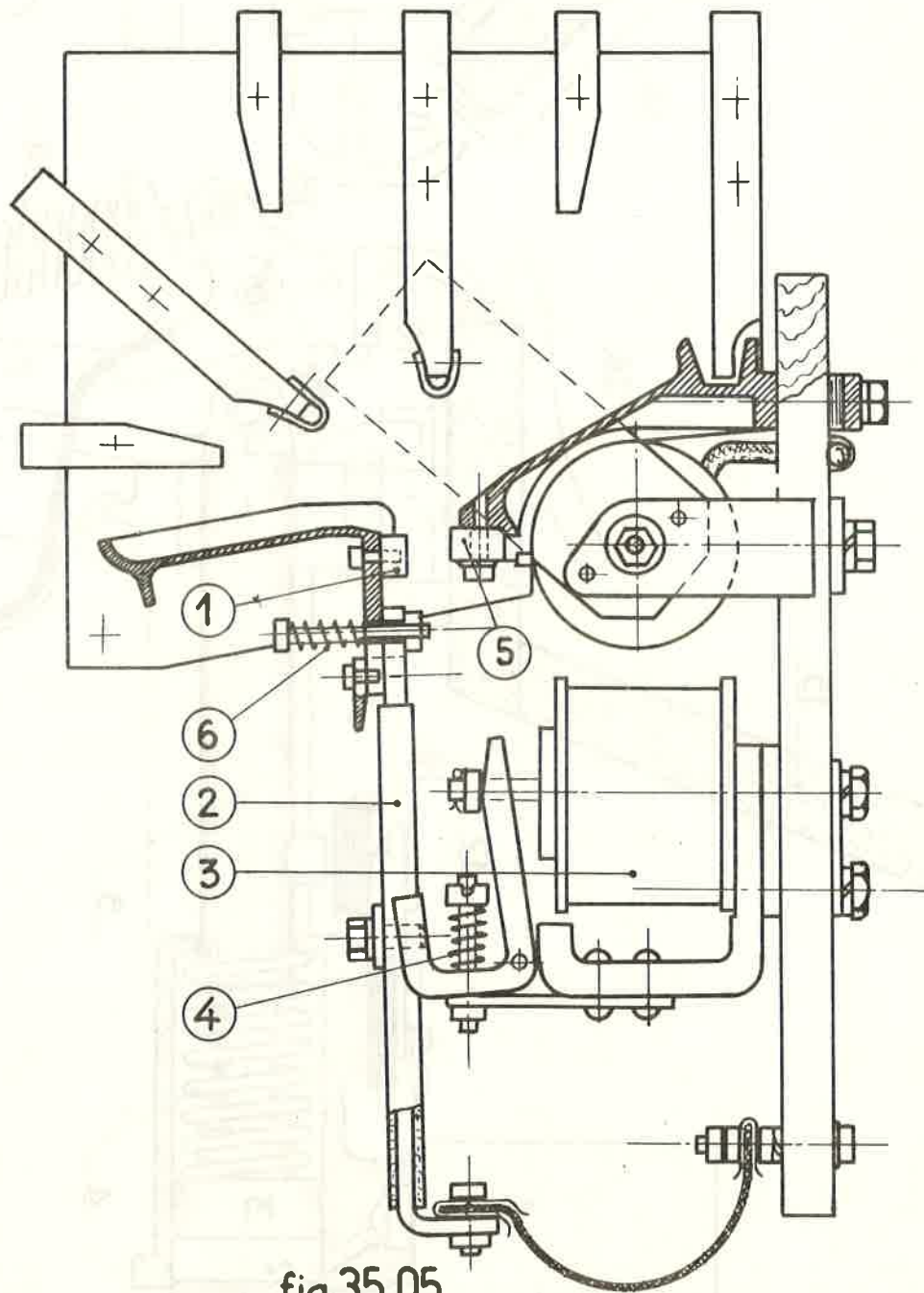


fig. 35.05

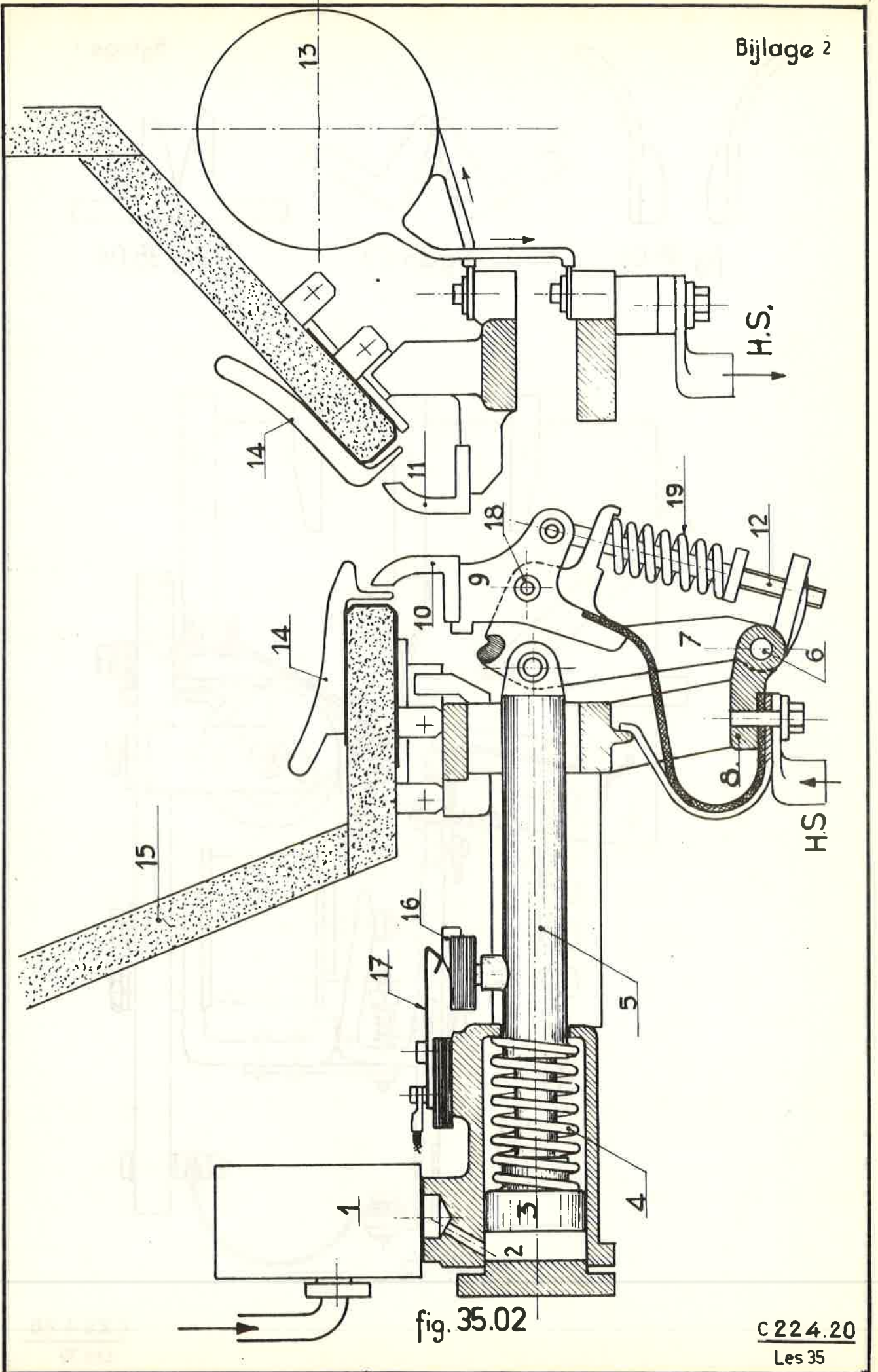


fig. 35.02

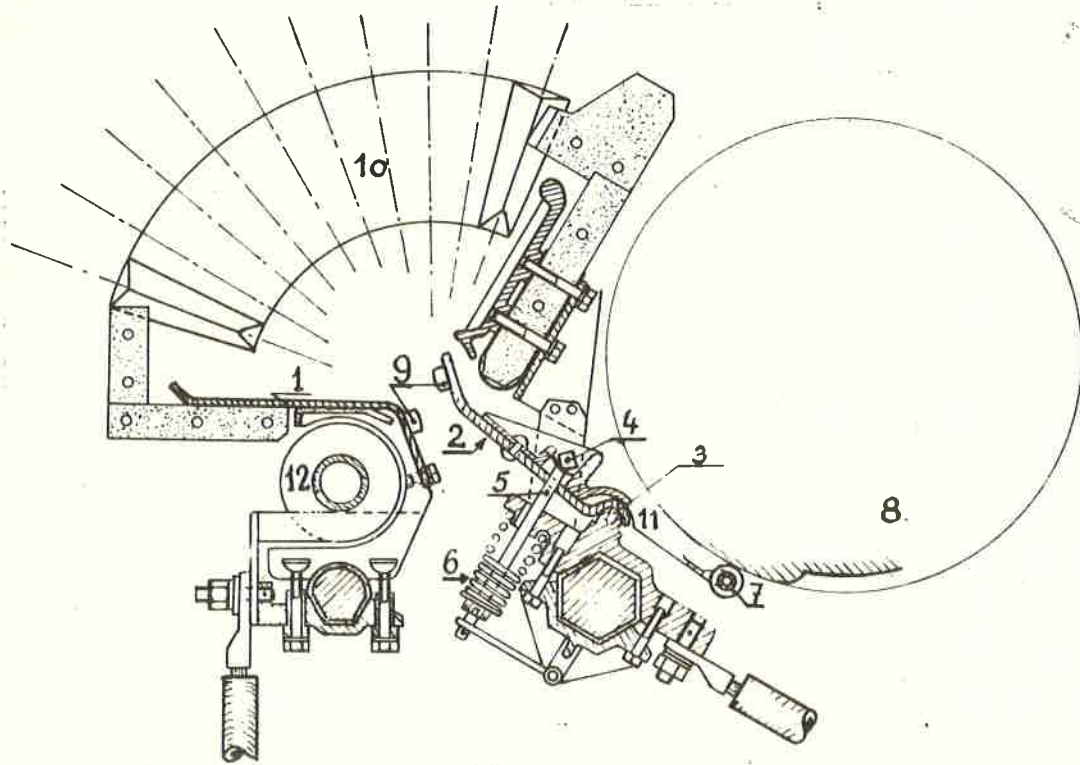


fig. 35.06

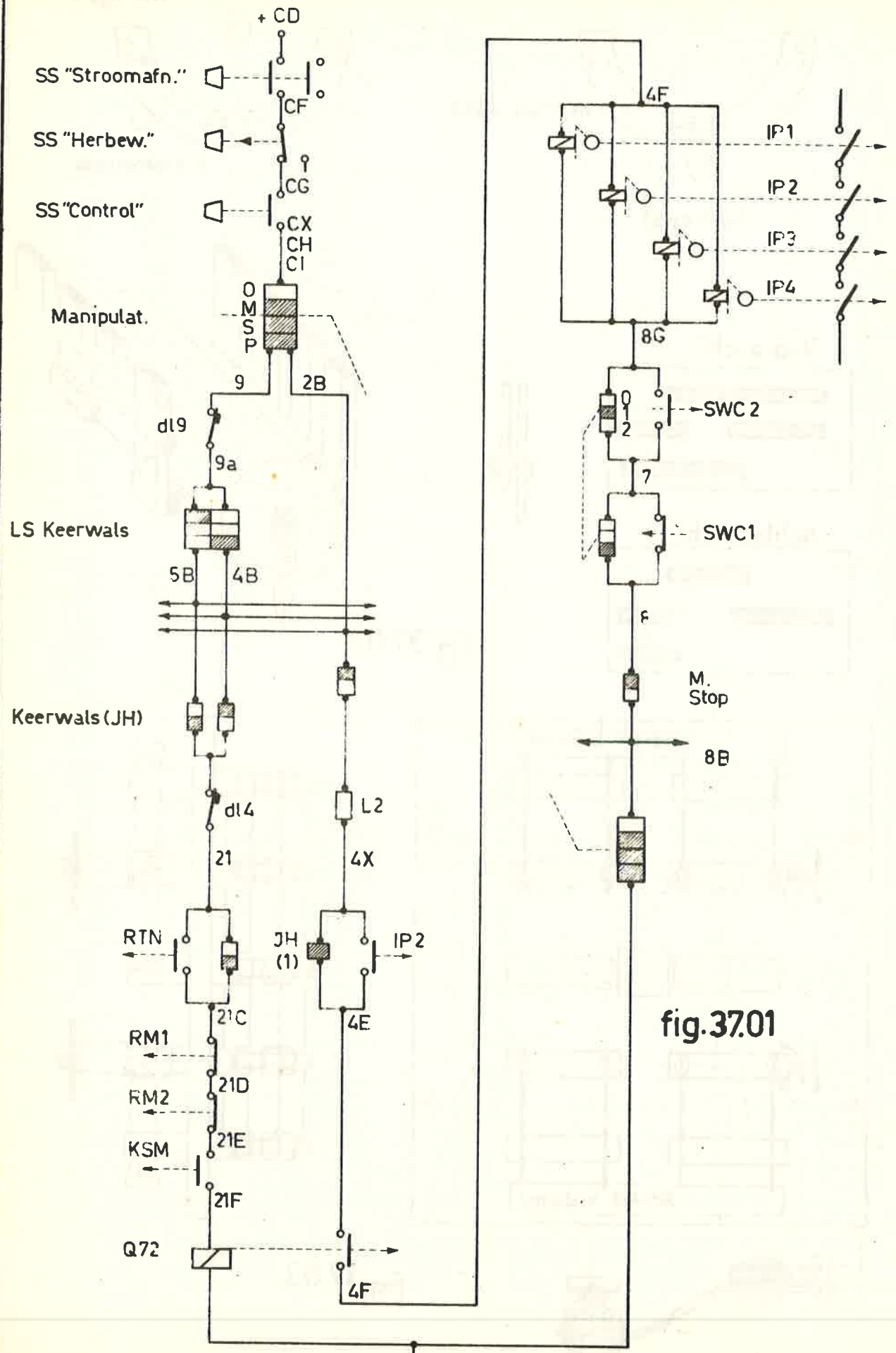
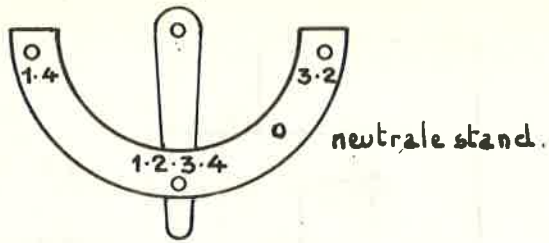
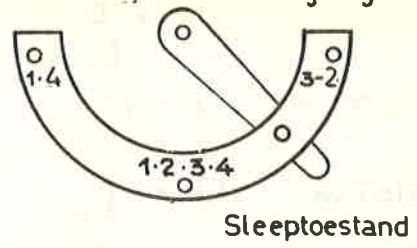


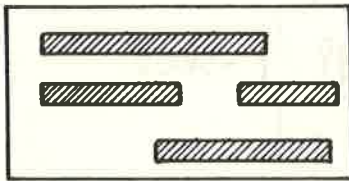
fig.37.01



In dienst



Voorzicht



Achterzicht

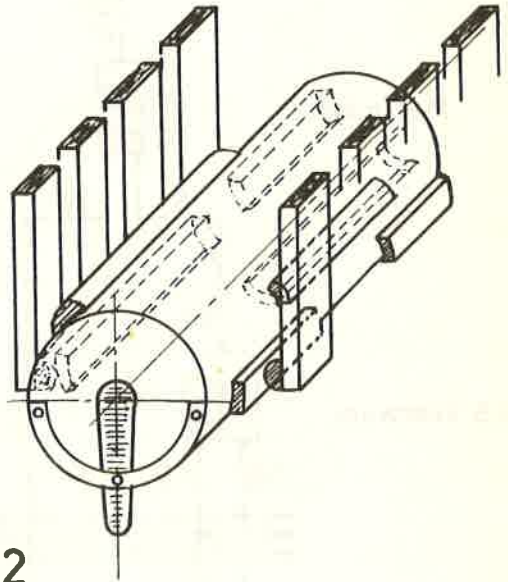
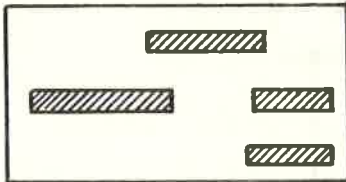


fig. 37.02

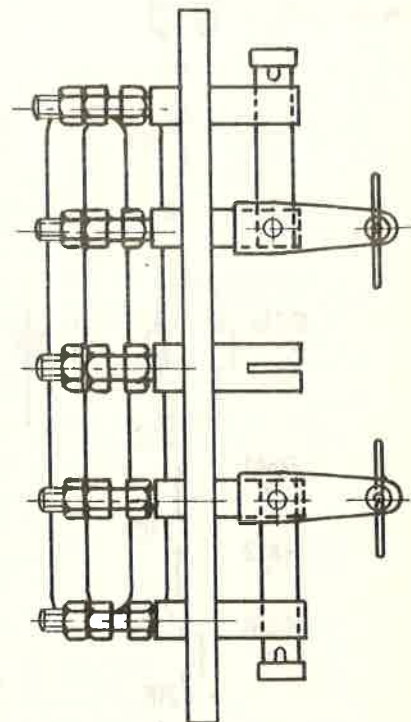
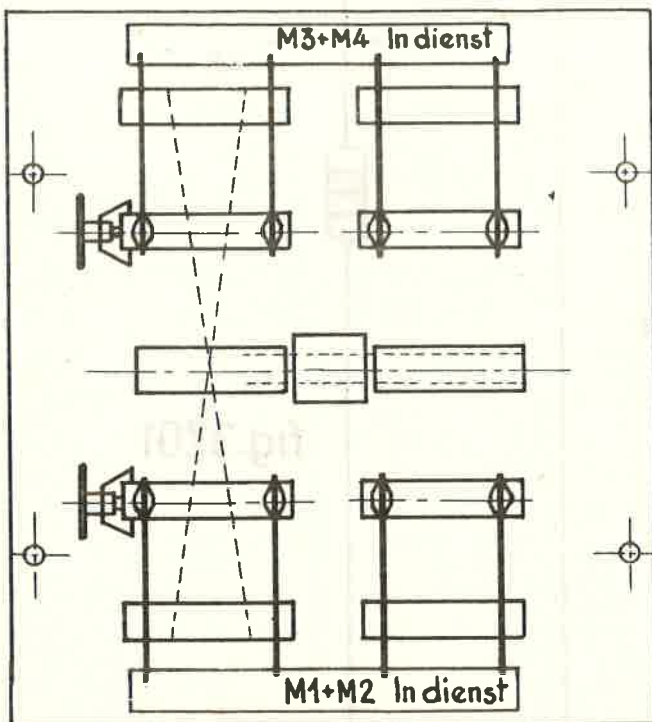
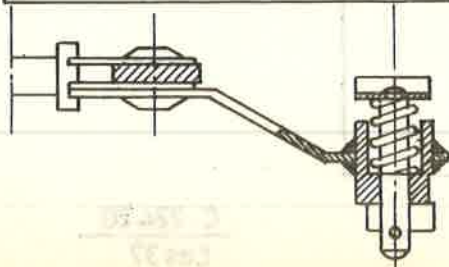


fig. 37.03



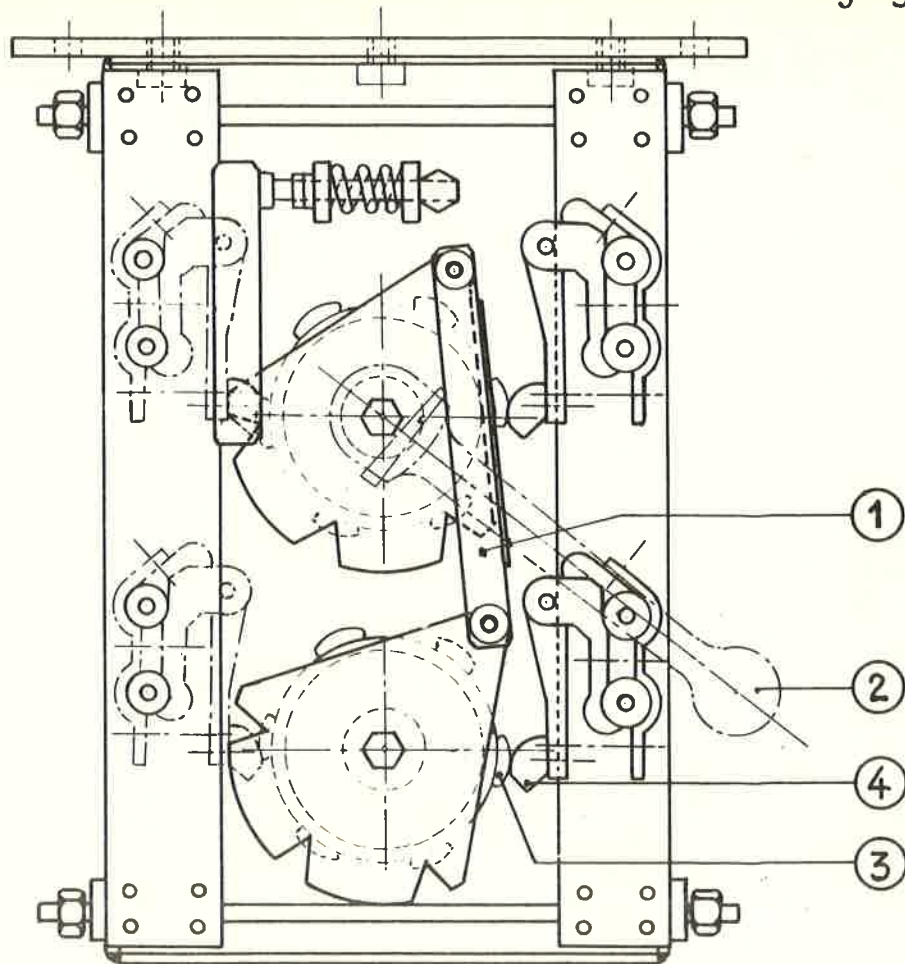


fig.37.04

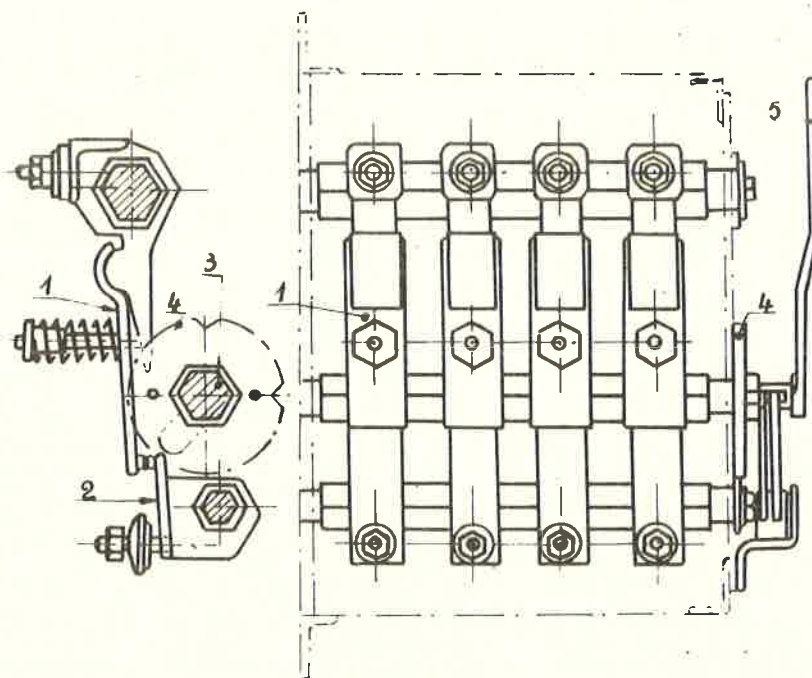
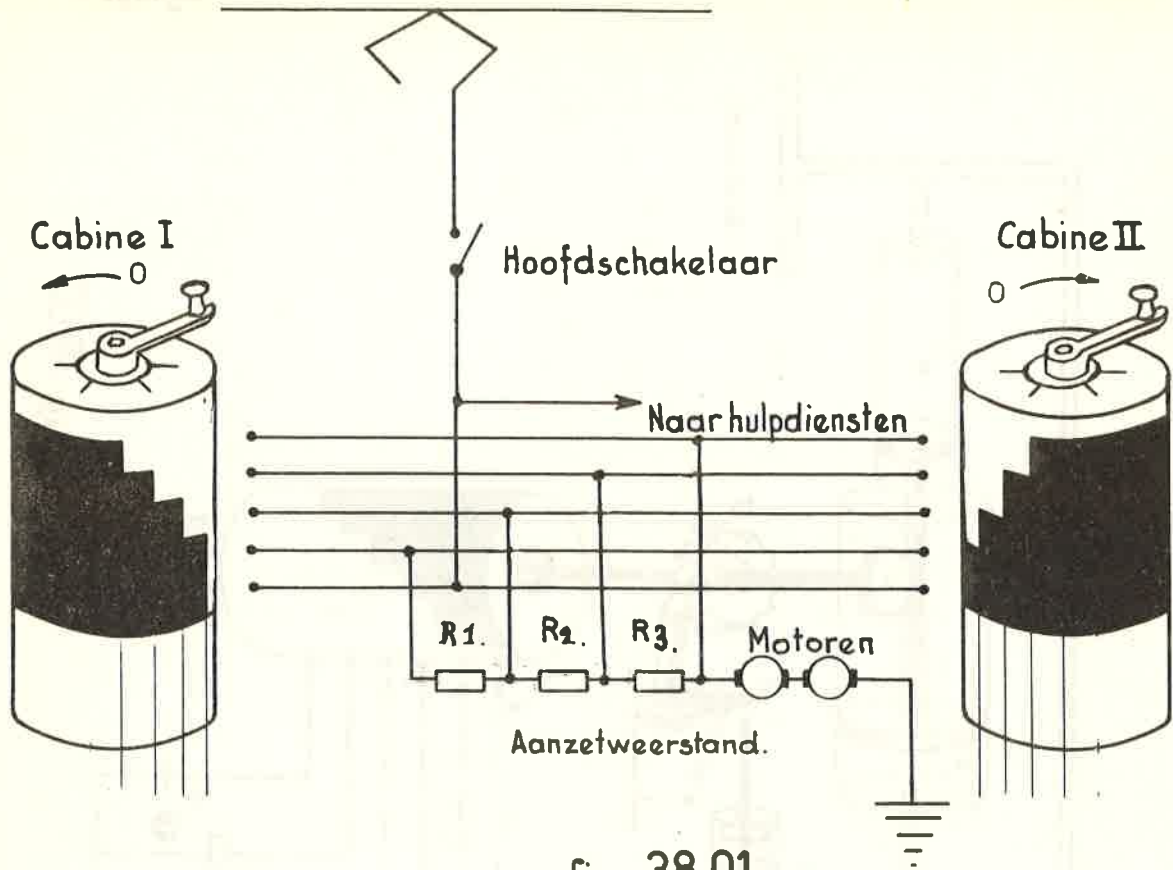


fig.37.05



Controller HT.

fig. 38.01

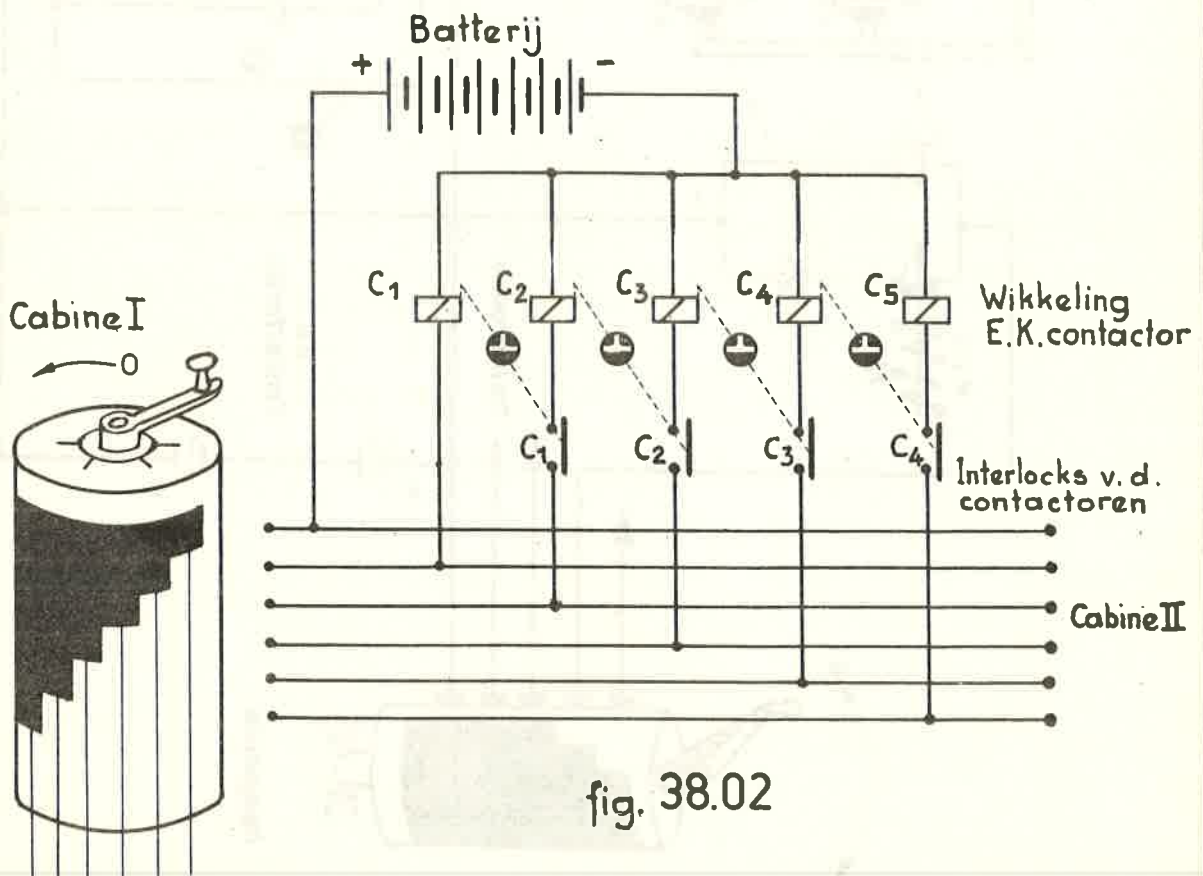


fig. 38.02

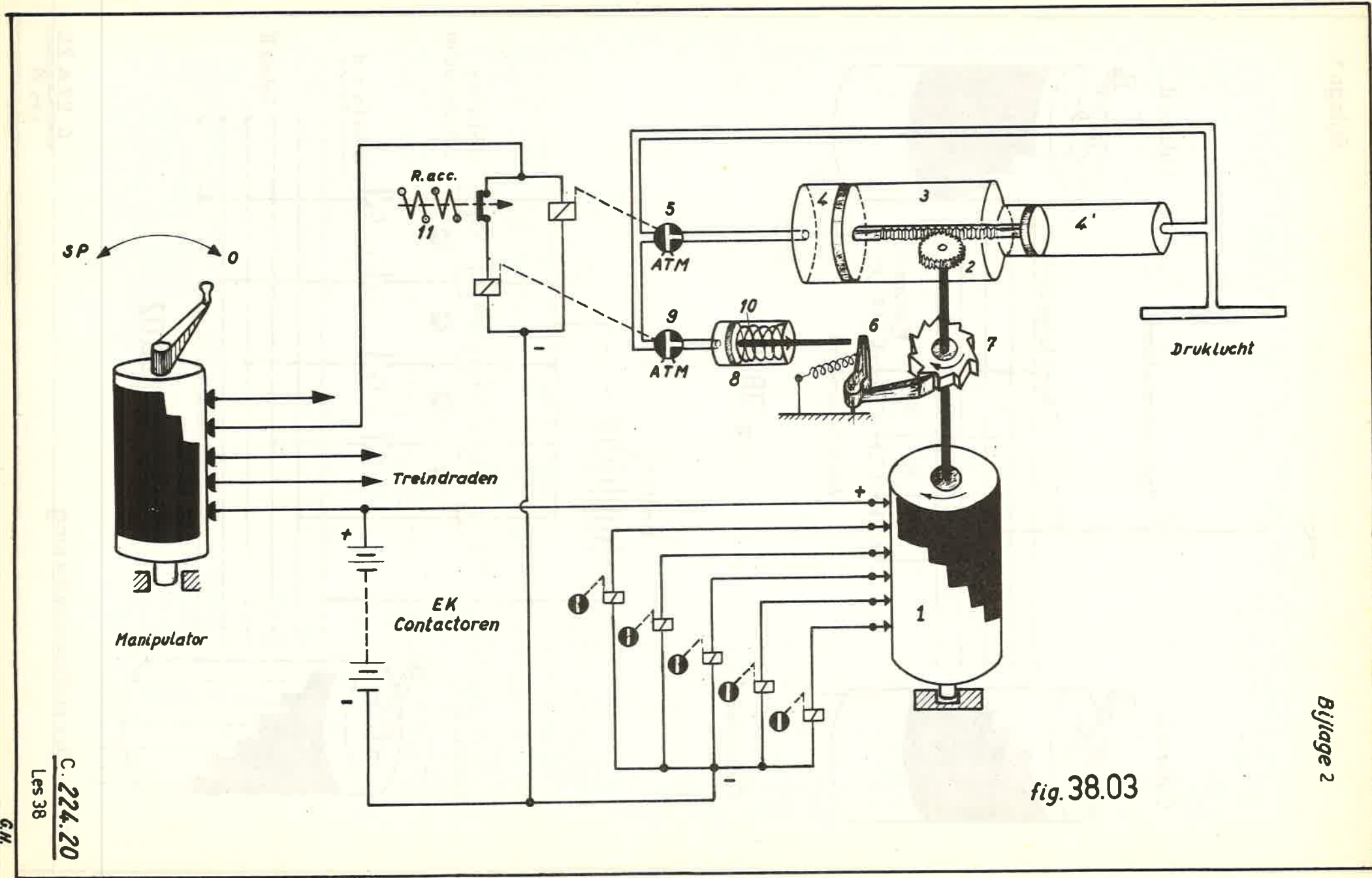


fig. 38.03

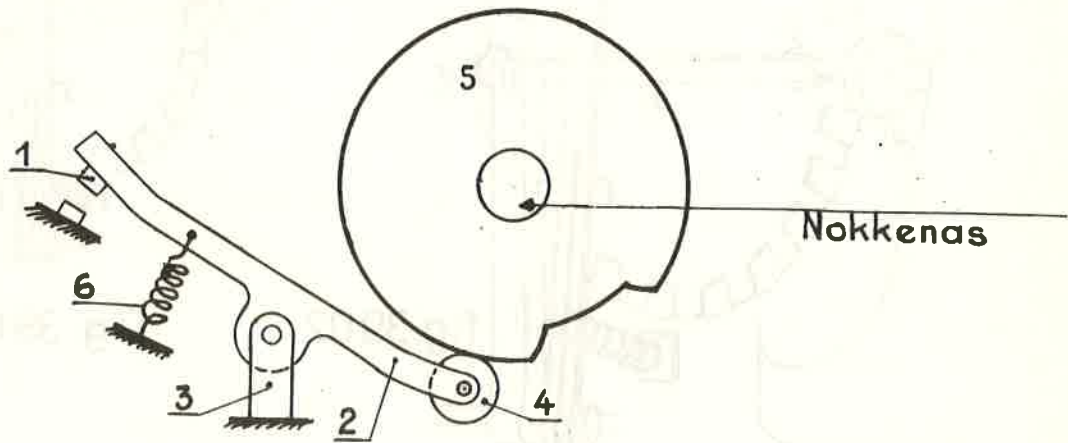


fig. 39.01

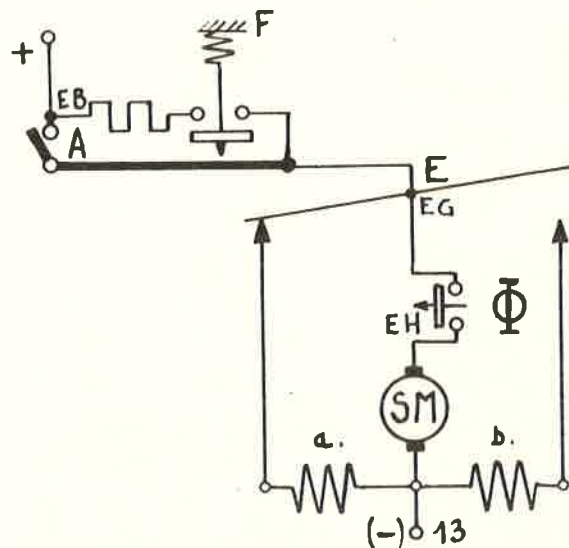
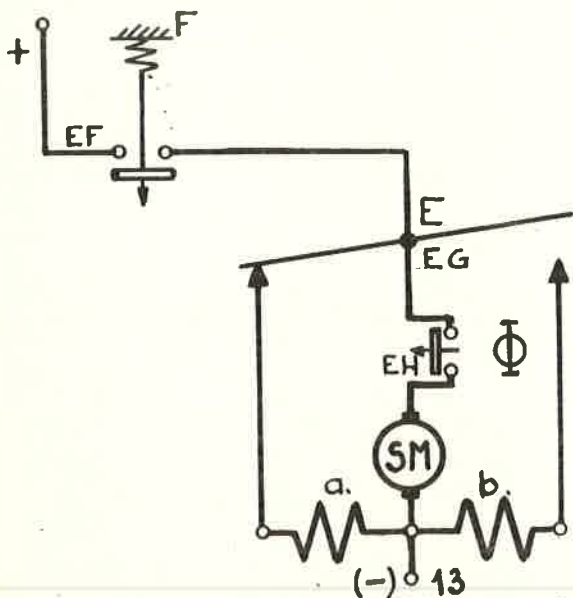
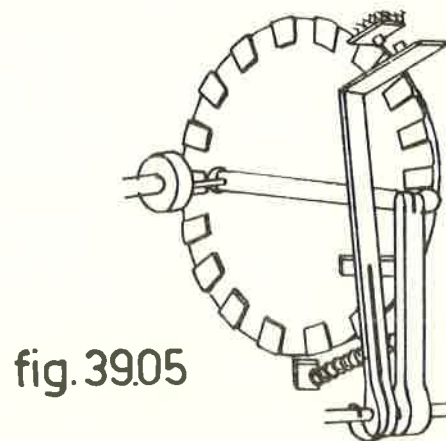
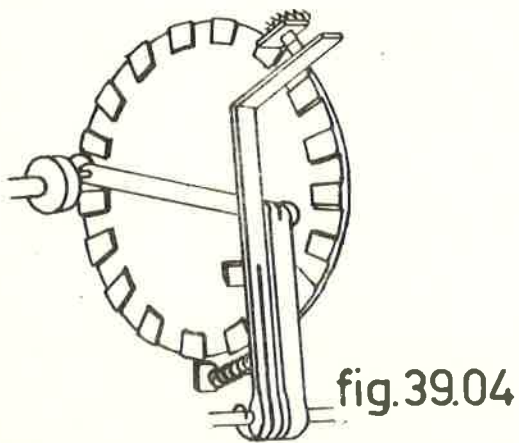
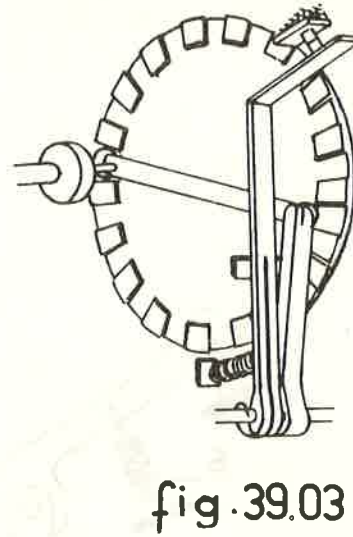
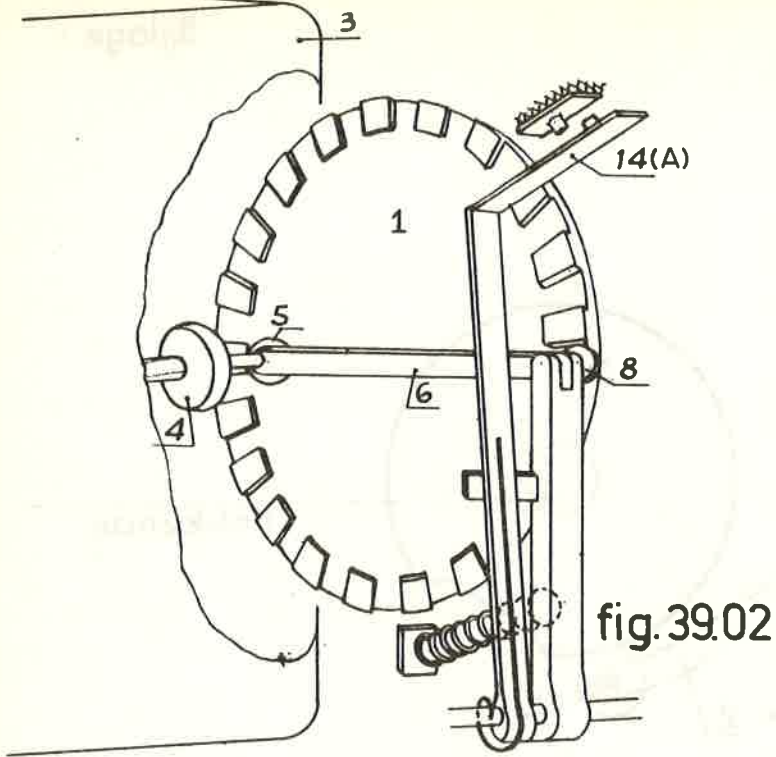
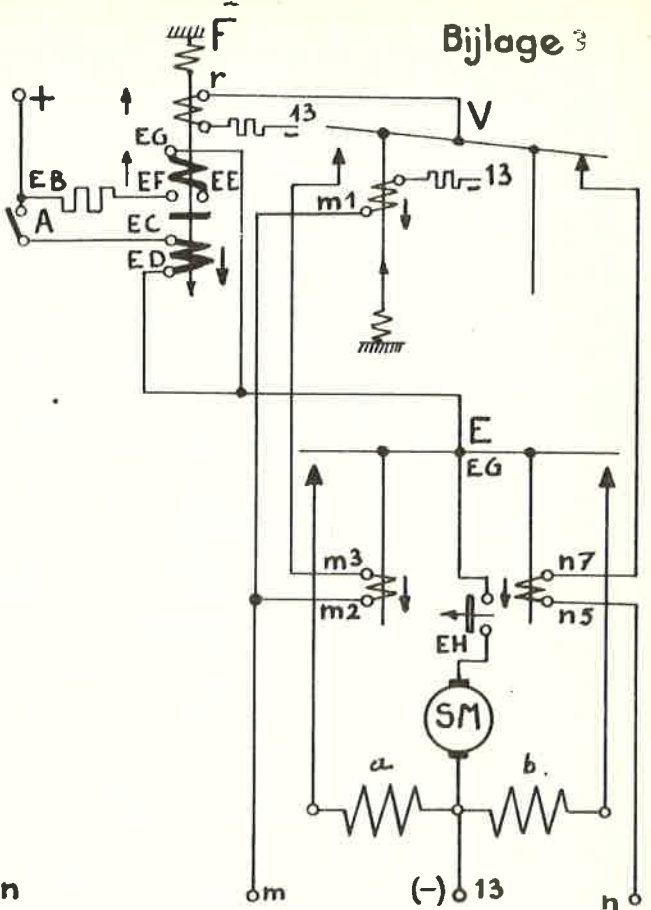
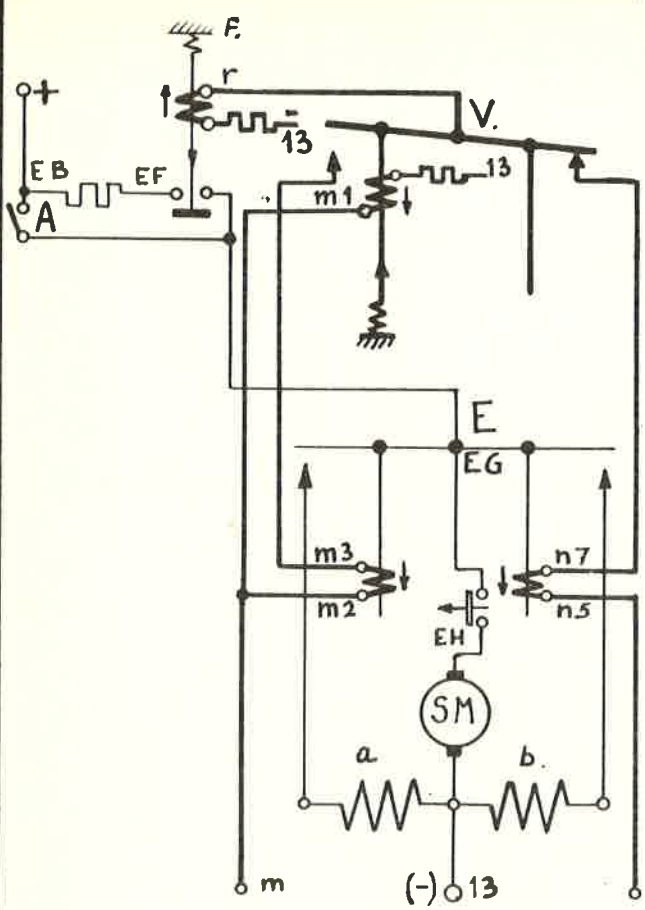


fig. 39.06

fig. 39.07



Vooruitloop fig 39.08 Terugloop

fig. 39.09

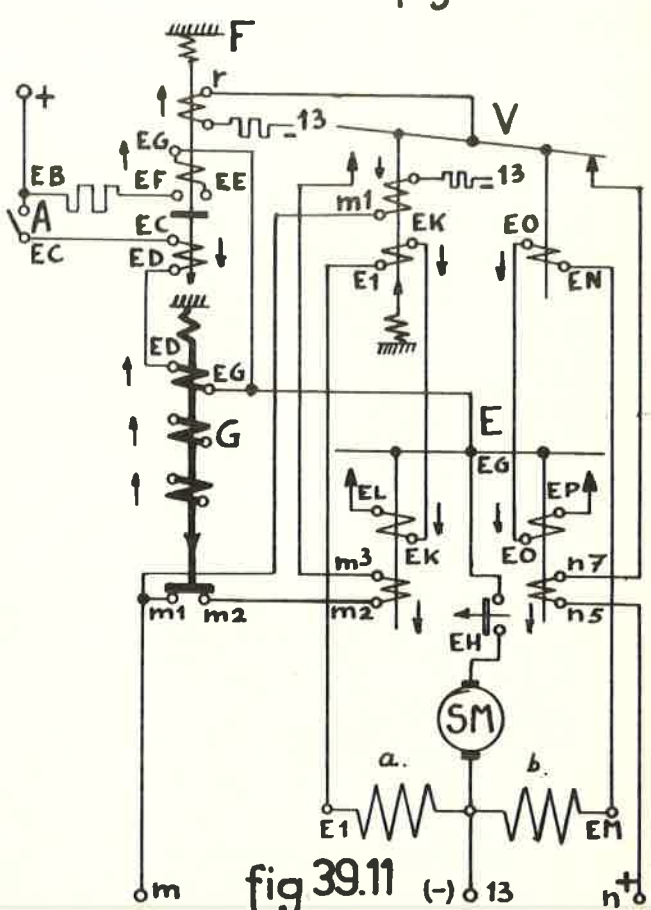
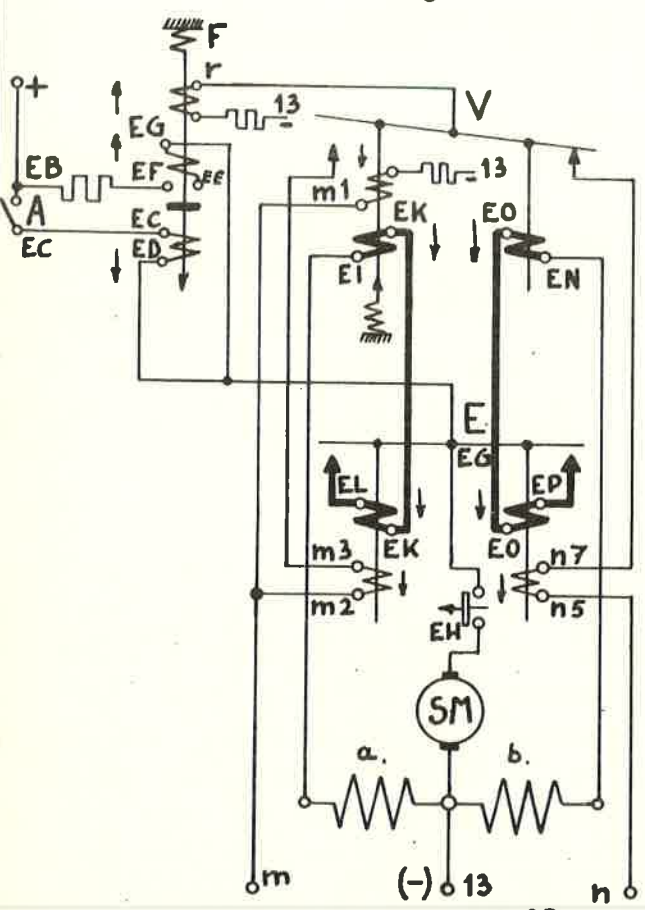


fig. 39.10

fig 39.11

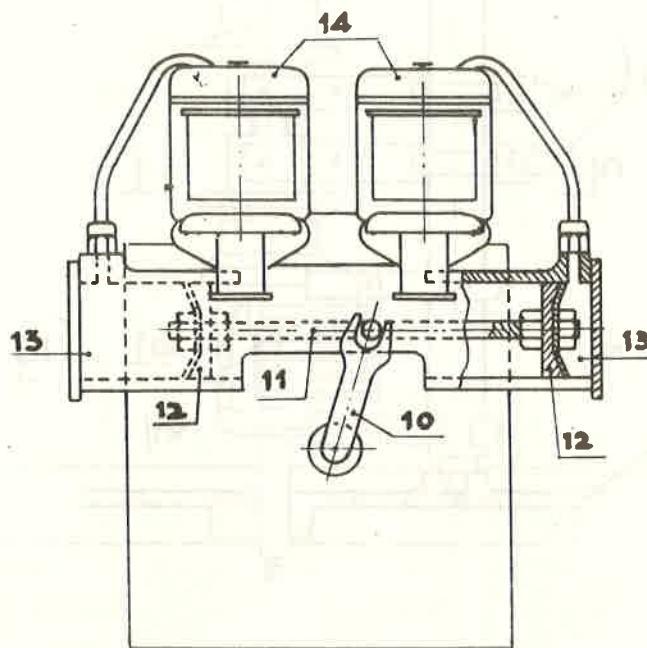
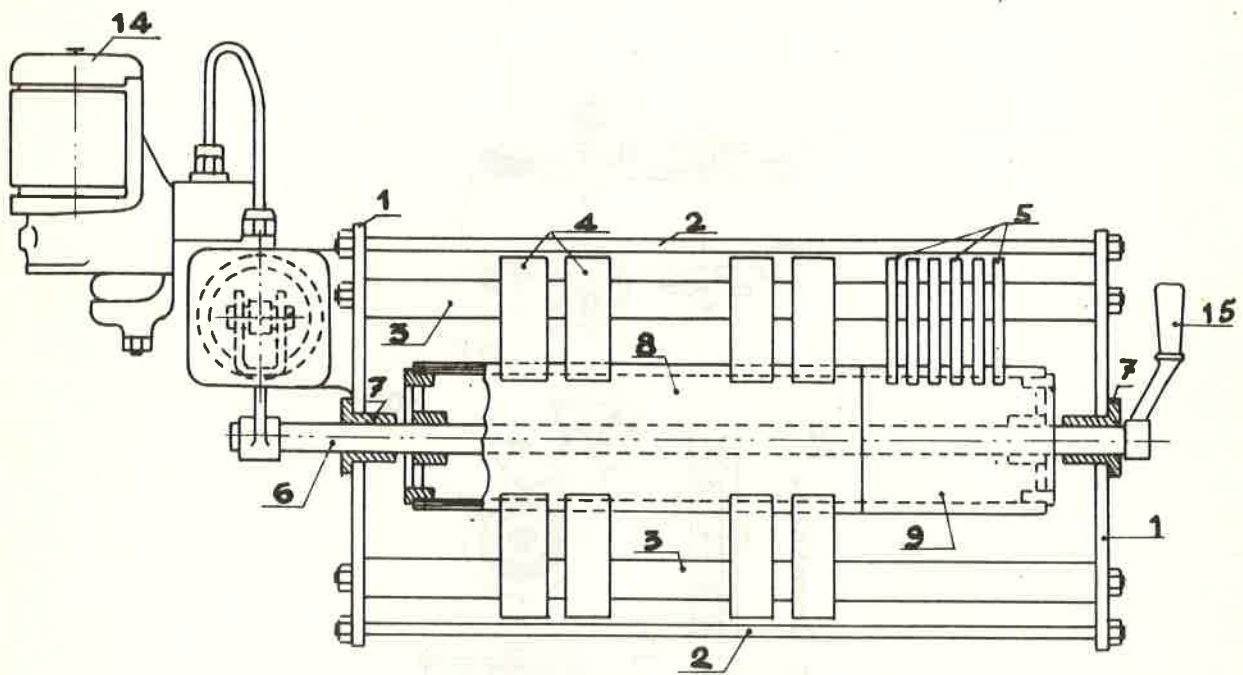


fig.41.01

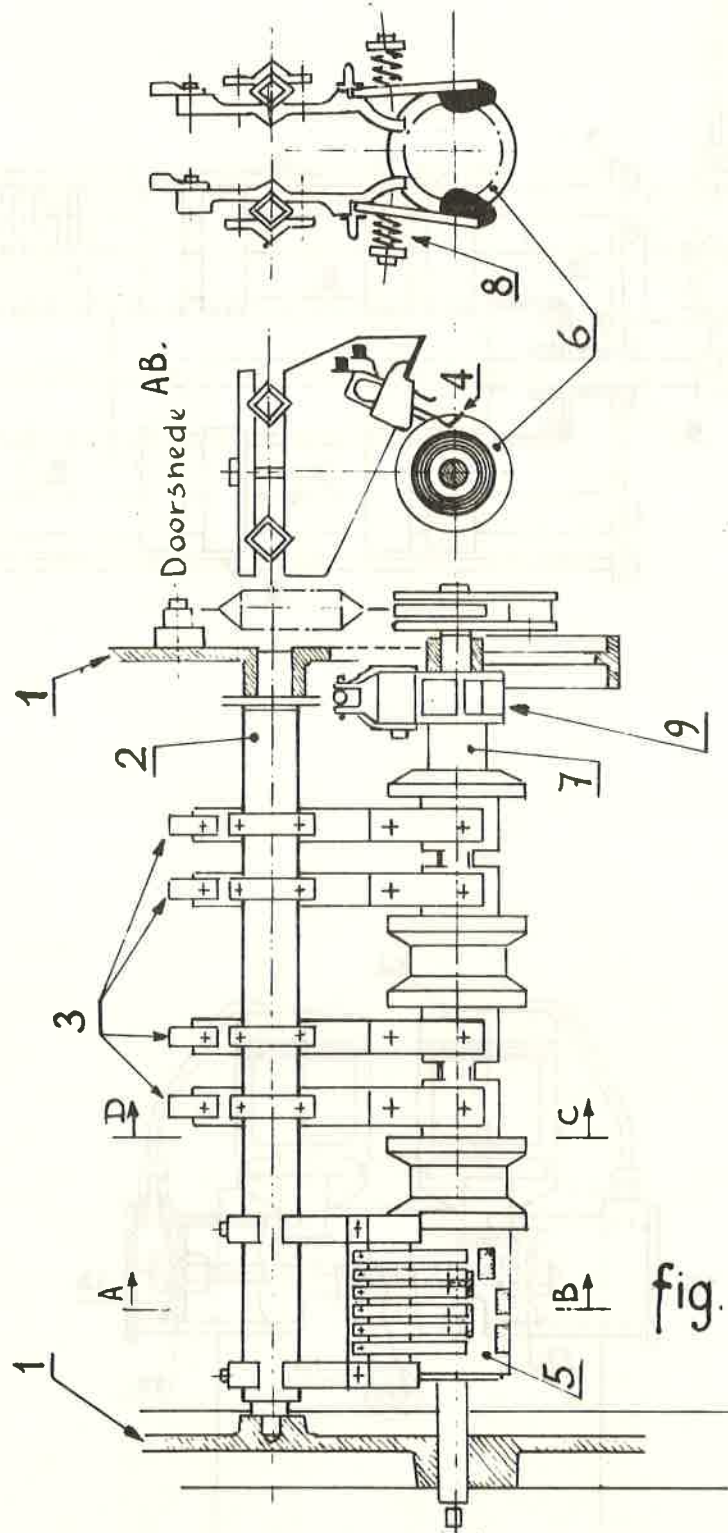


fig. 41.02

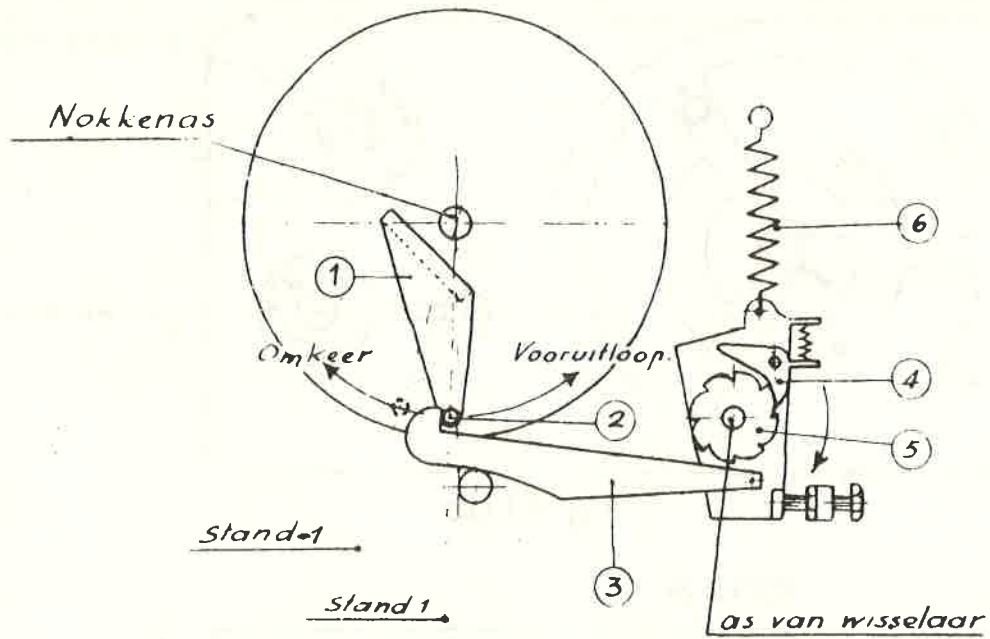


fig.41.03

Mechanisch samenstel van wisselaar

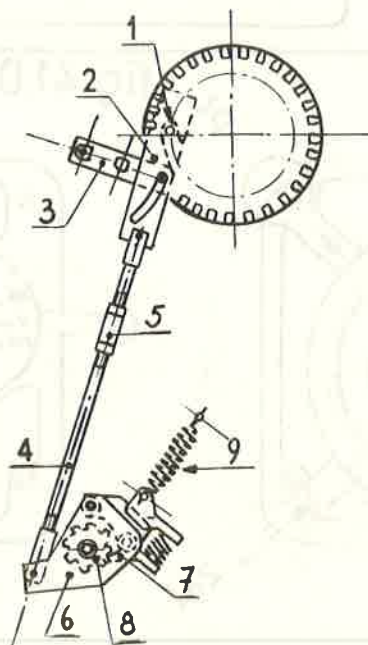


fig.41.04

Drukknop voor snelle heraanzetting

Drukknop voor het overschryden van de seriestand.

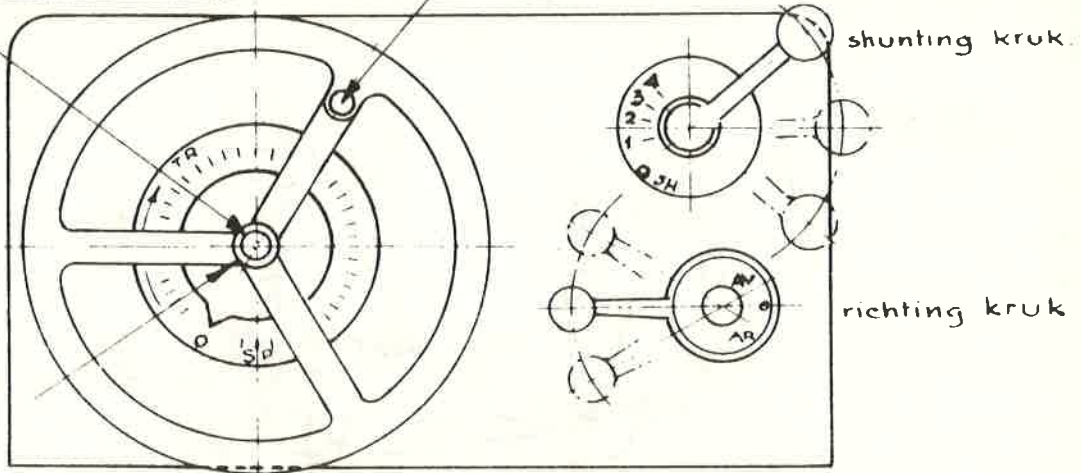


fig. 41.05

REEKS 26

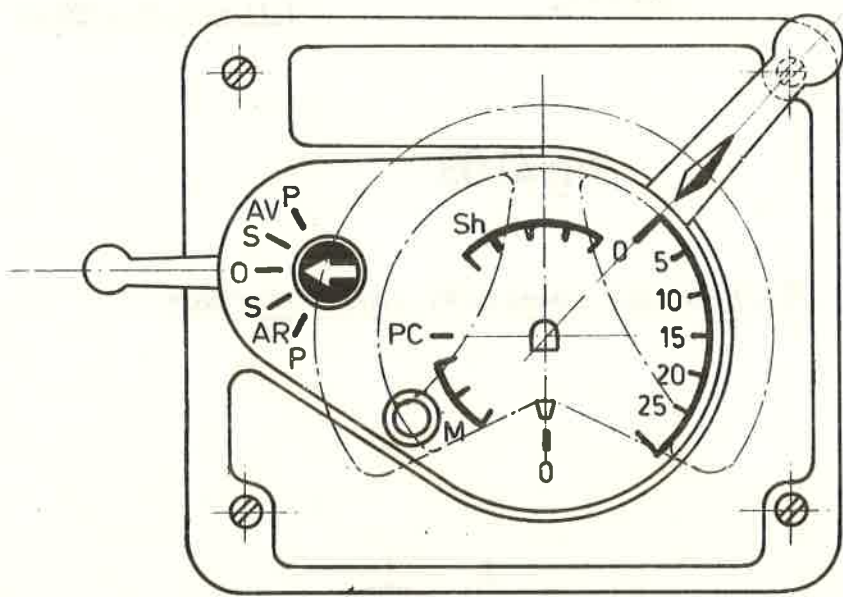
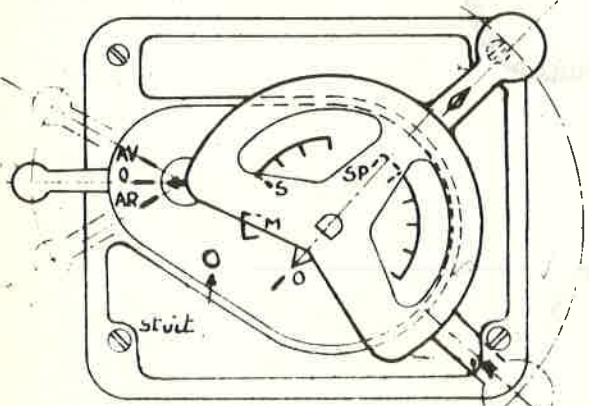
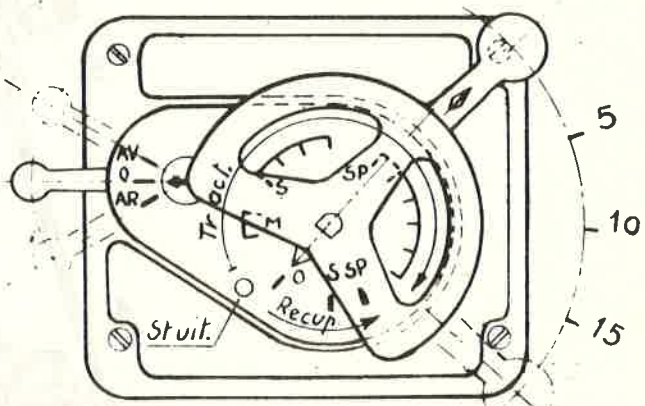


fig. 41.07

REEKS 22



REEKS 23



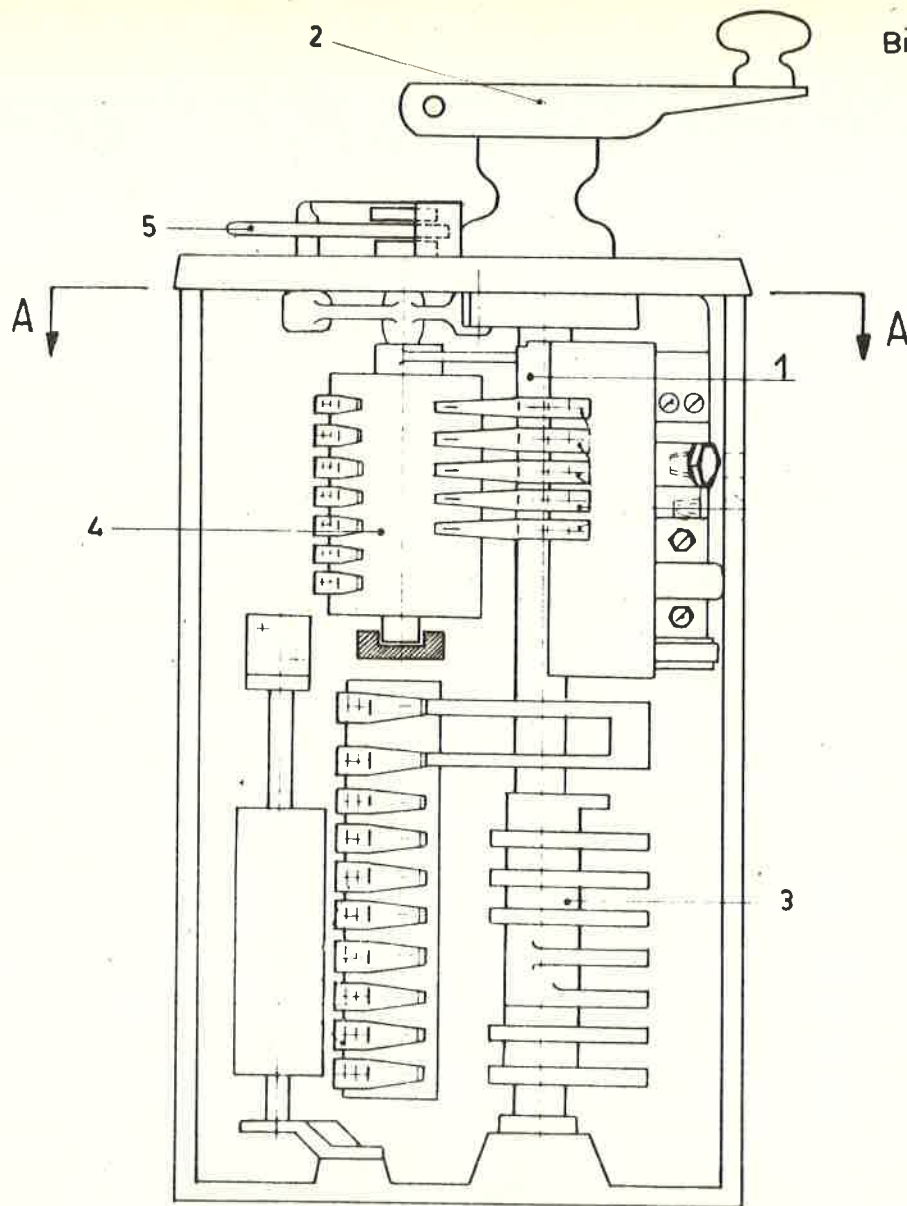
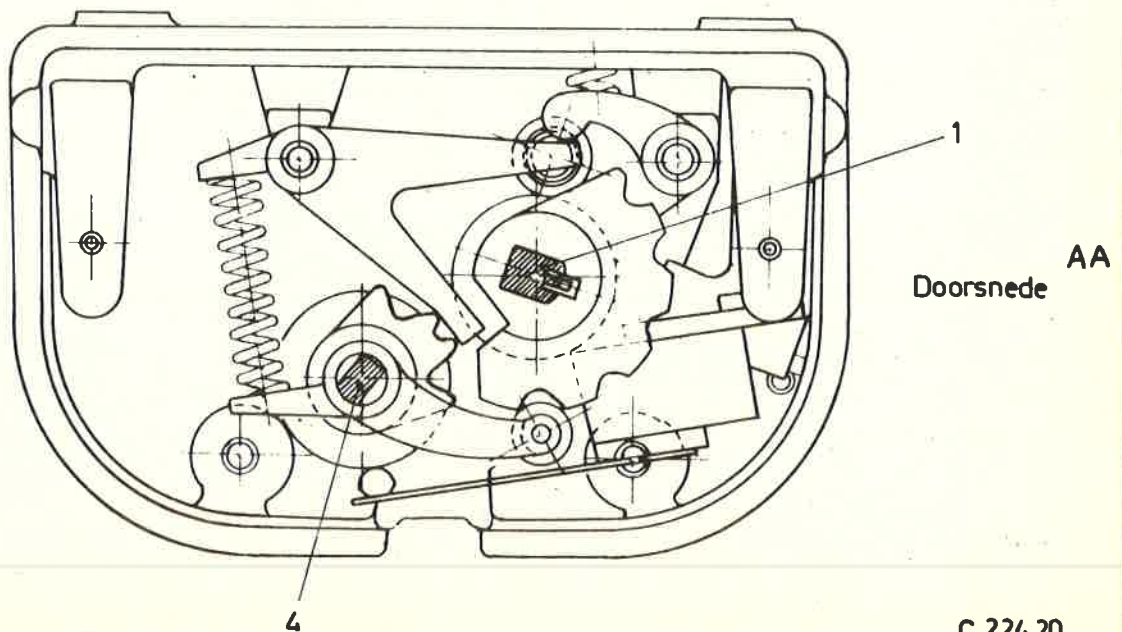


fig. 41.06 .



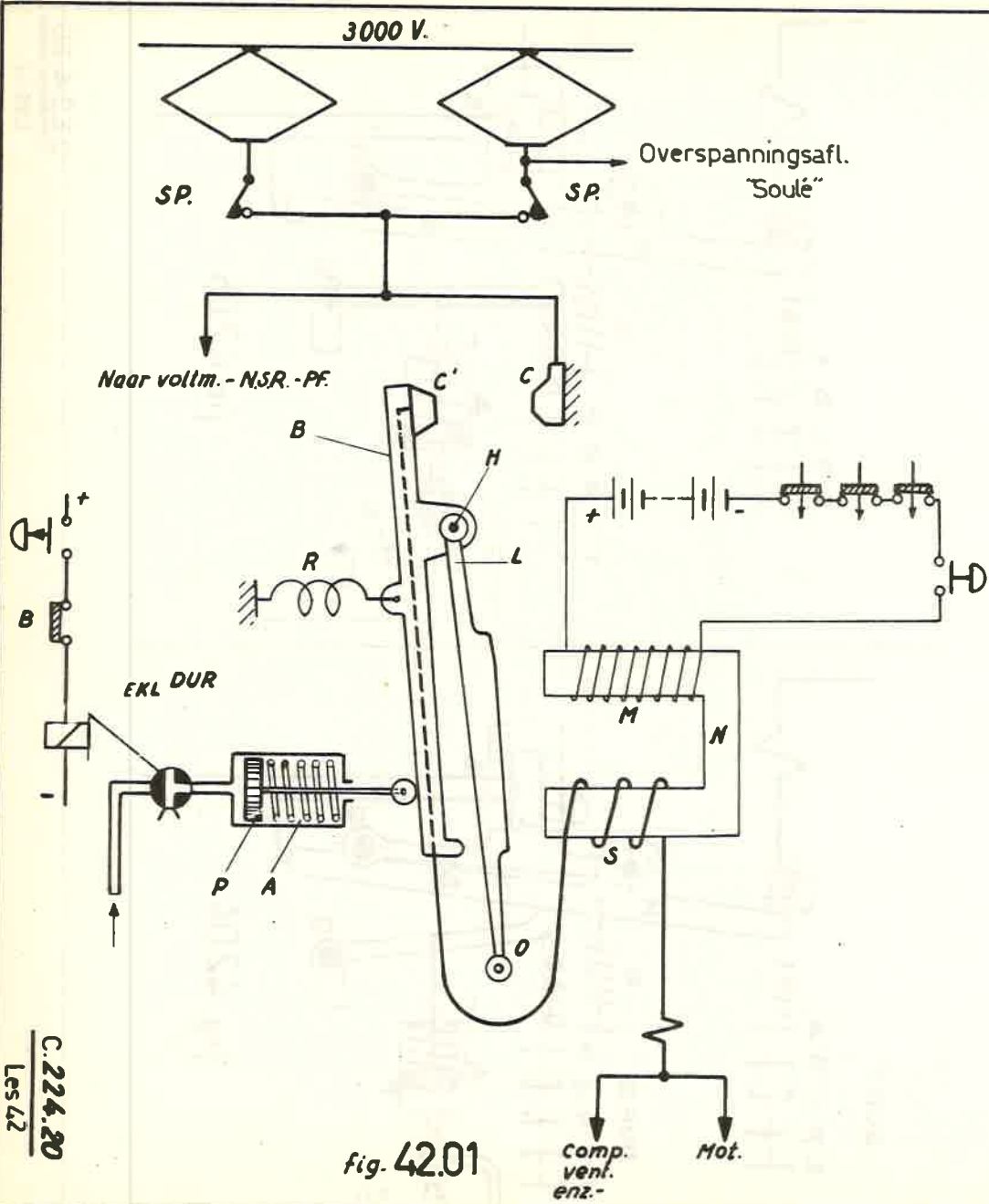


fig. 42.01

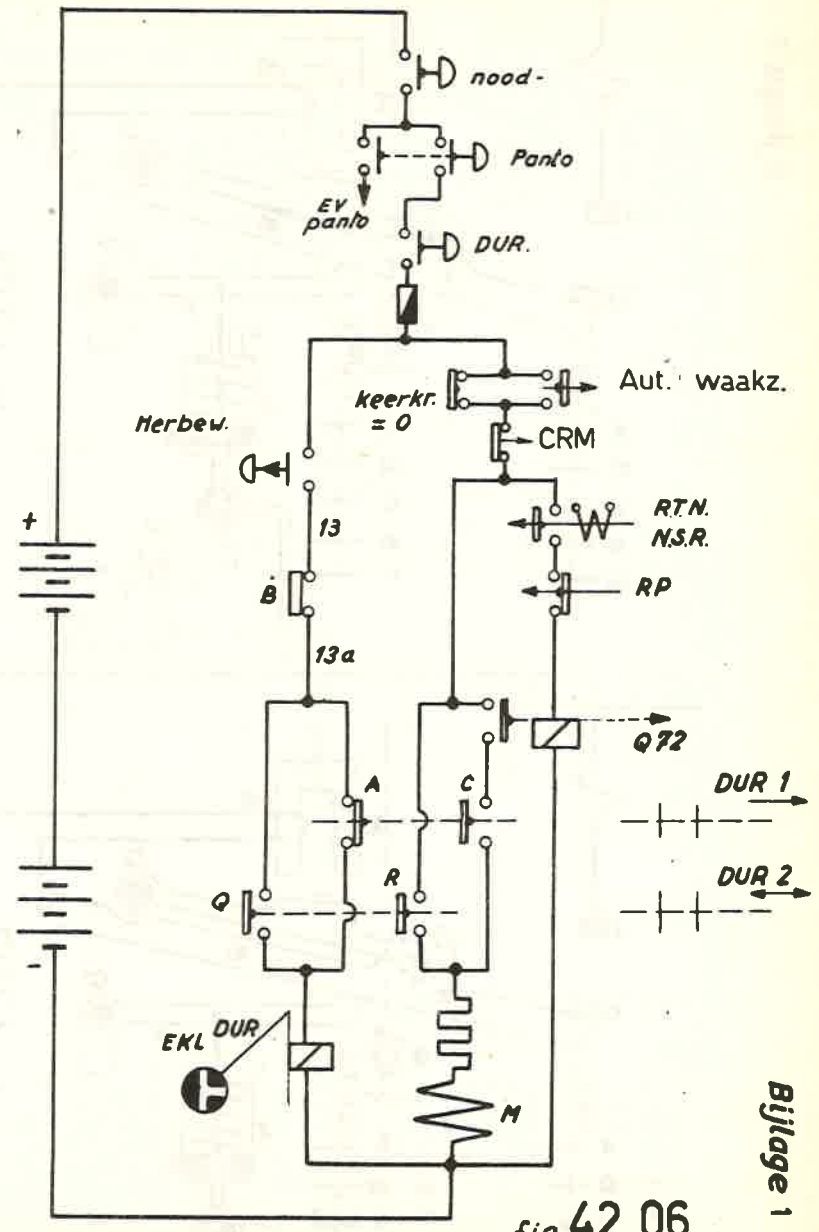


fig. 42.06

Bijlage 1

C.224.20
Les 12
G.H.

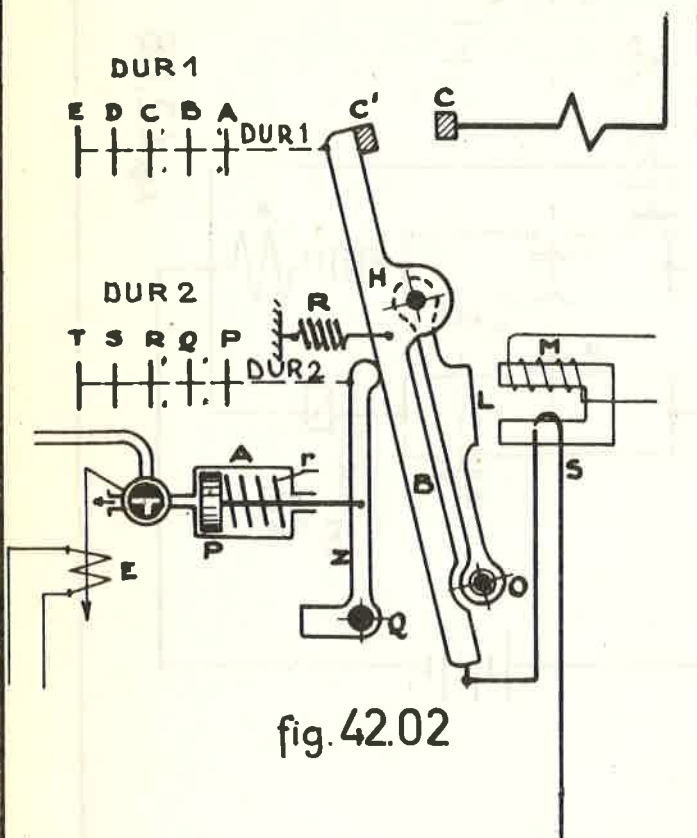


fig. 42.02

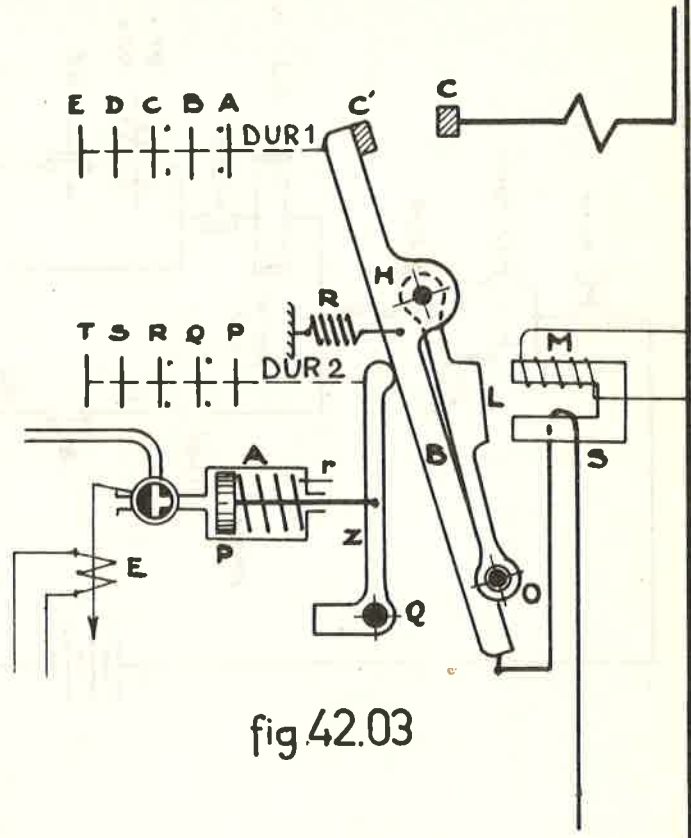


fig. 42.03

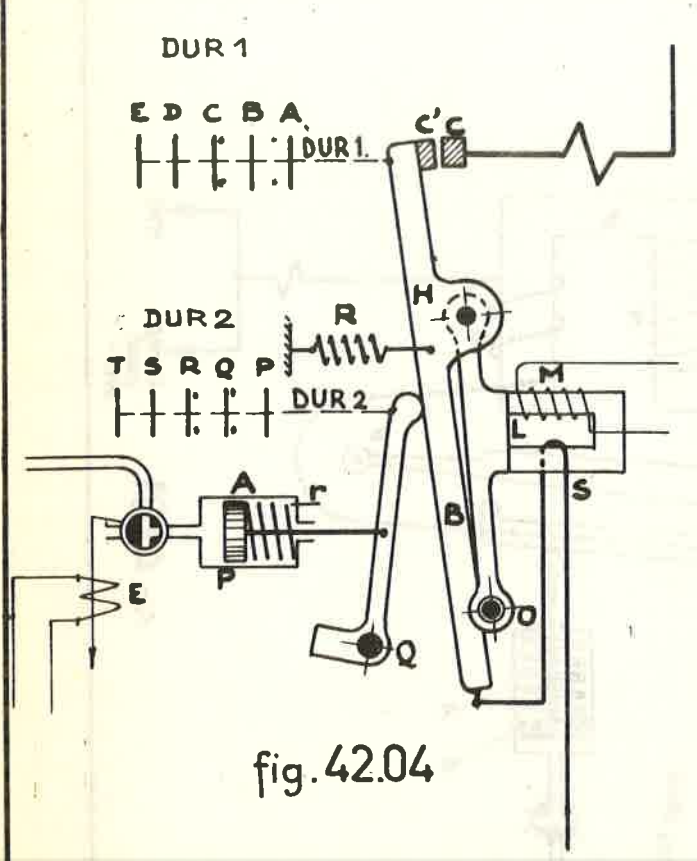


fig. 42.04

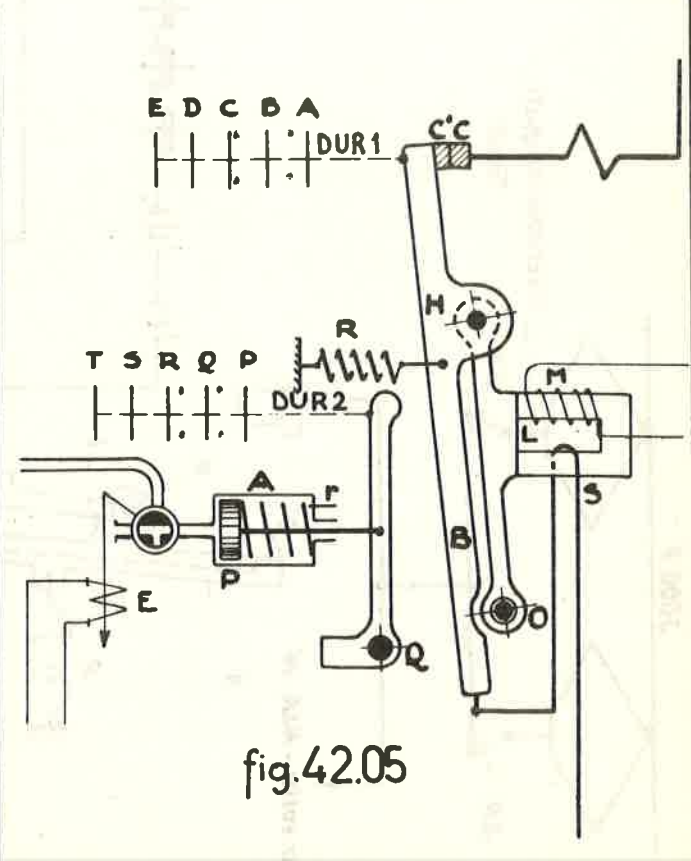


fig. 42.05

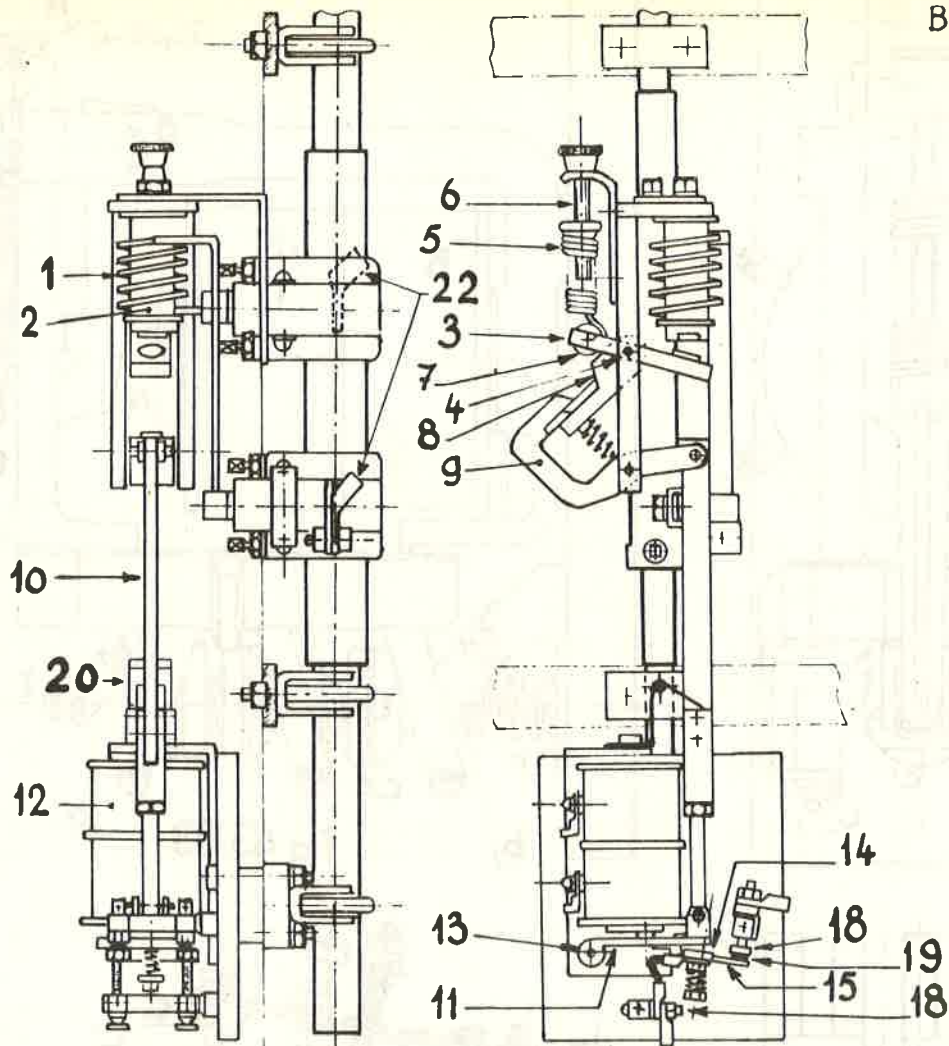


fig.43.01

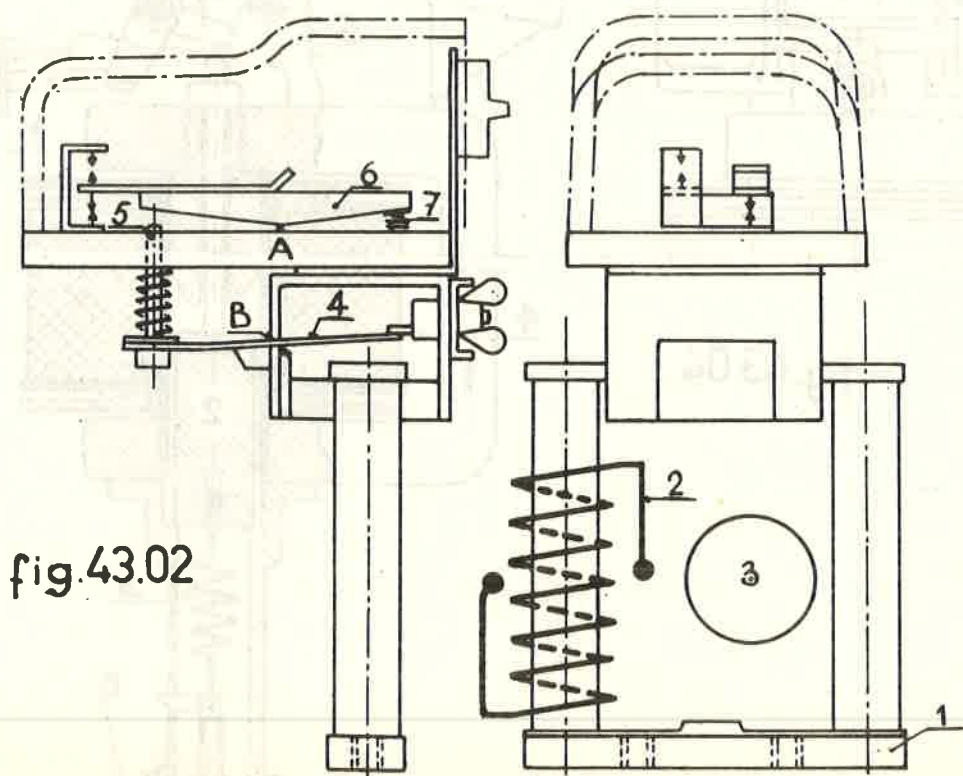


fig.43.02

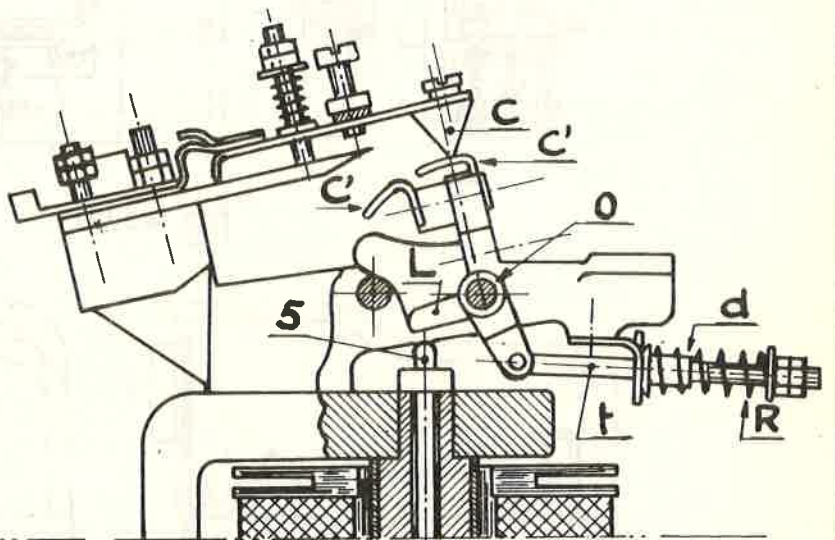
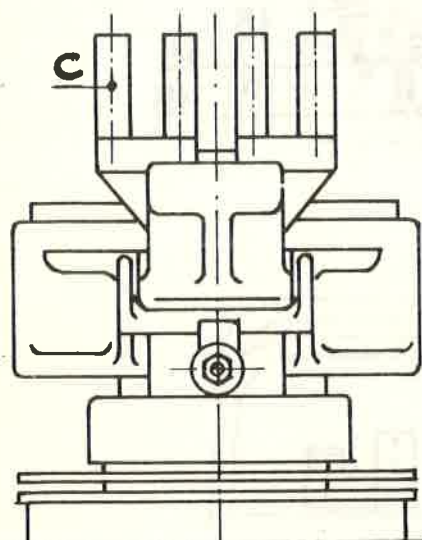
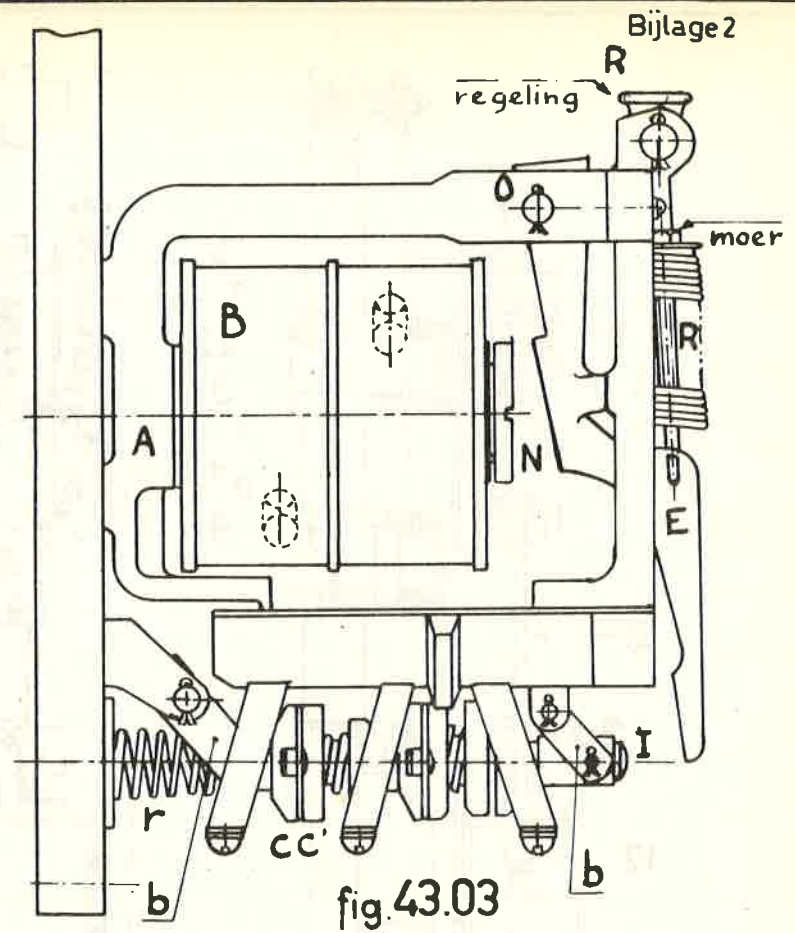
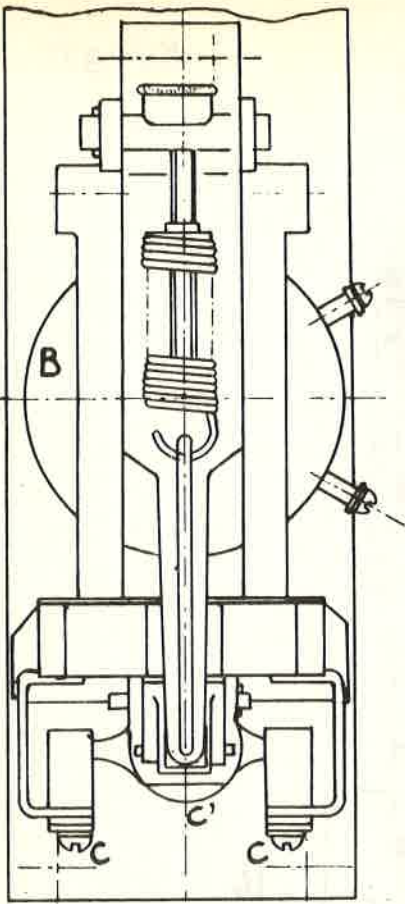
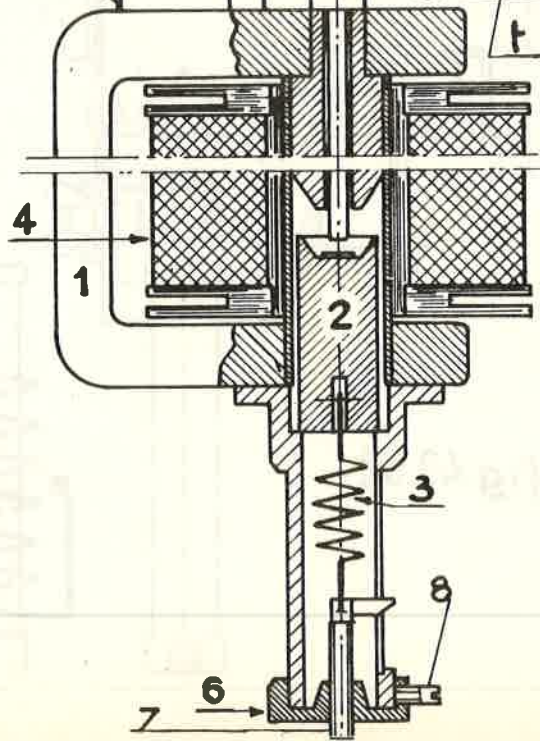


fig.43.04



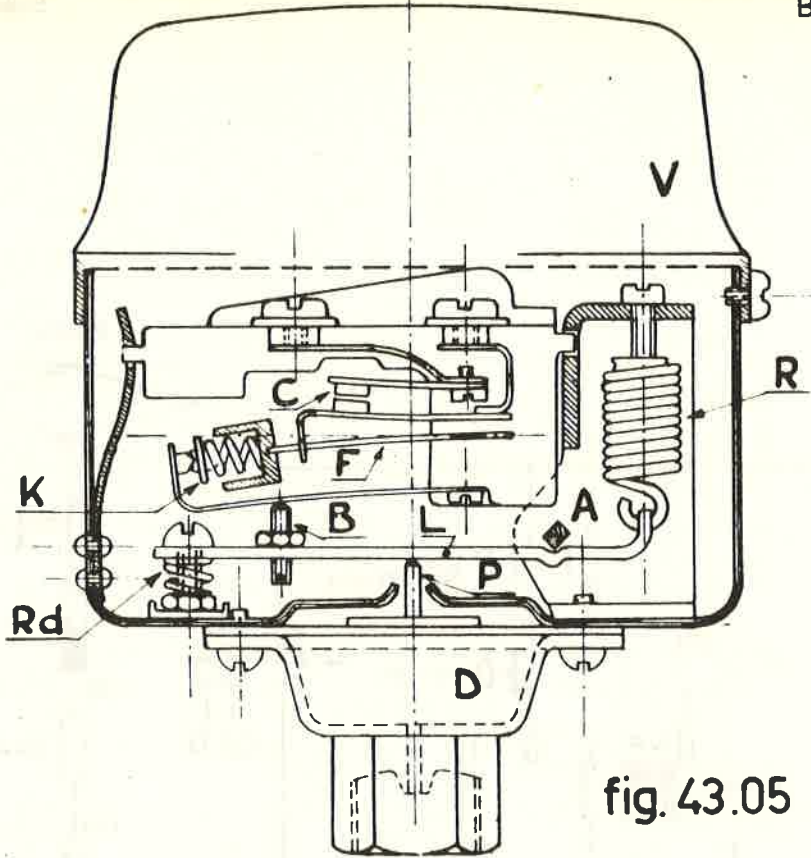


fig. 43.05

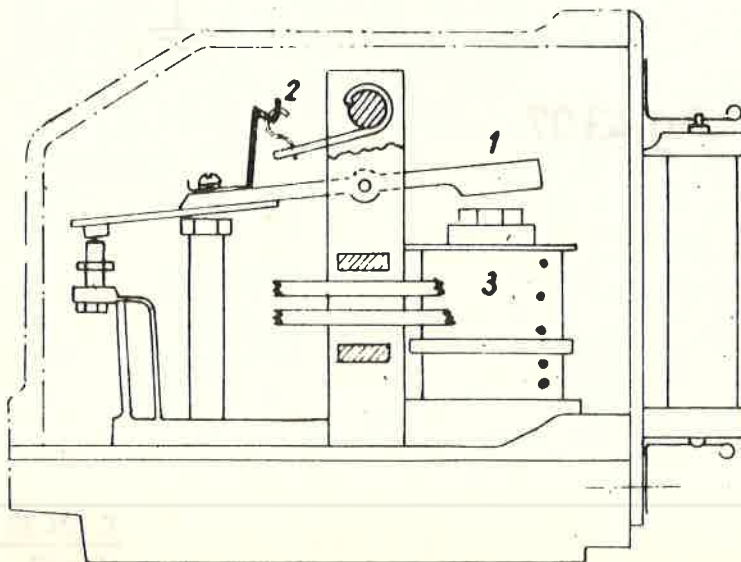


fig. 43.06

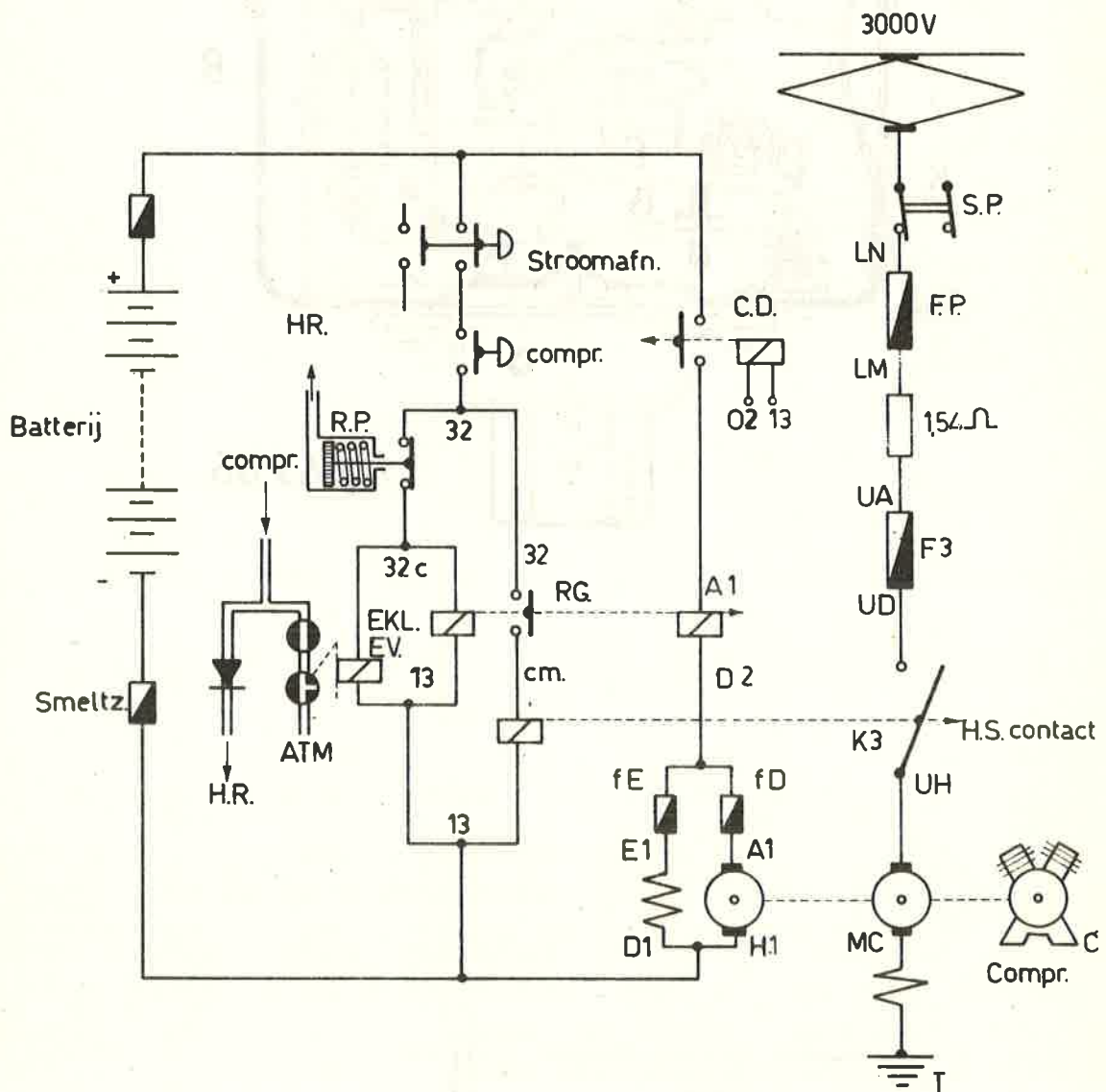


fig. 43.07

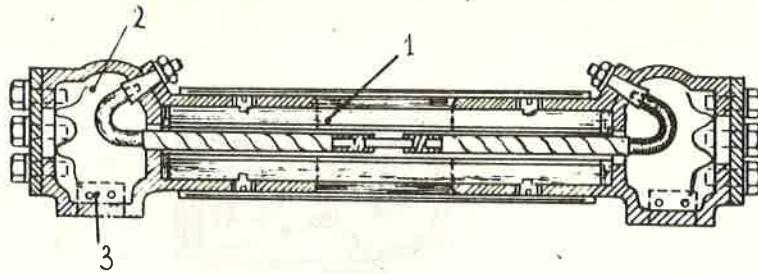


fig. 45.01

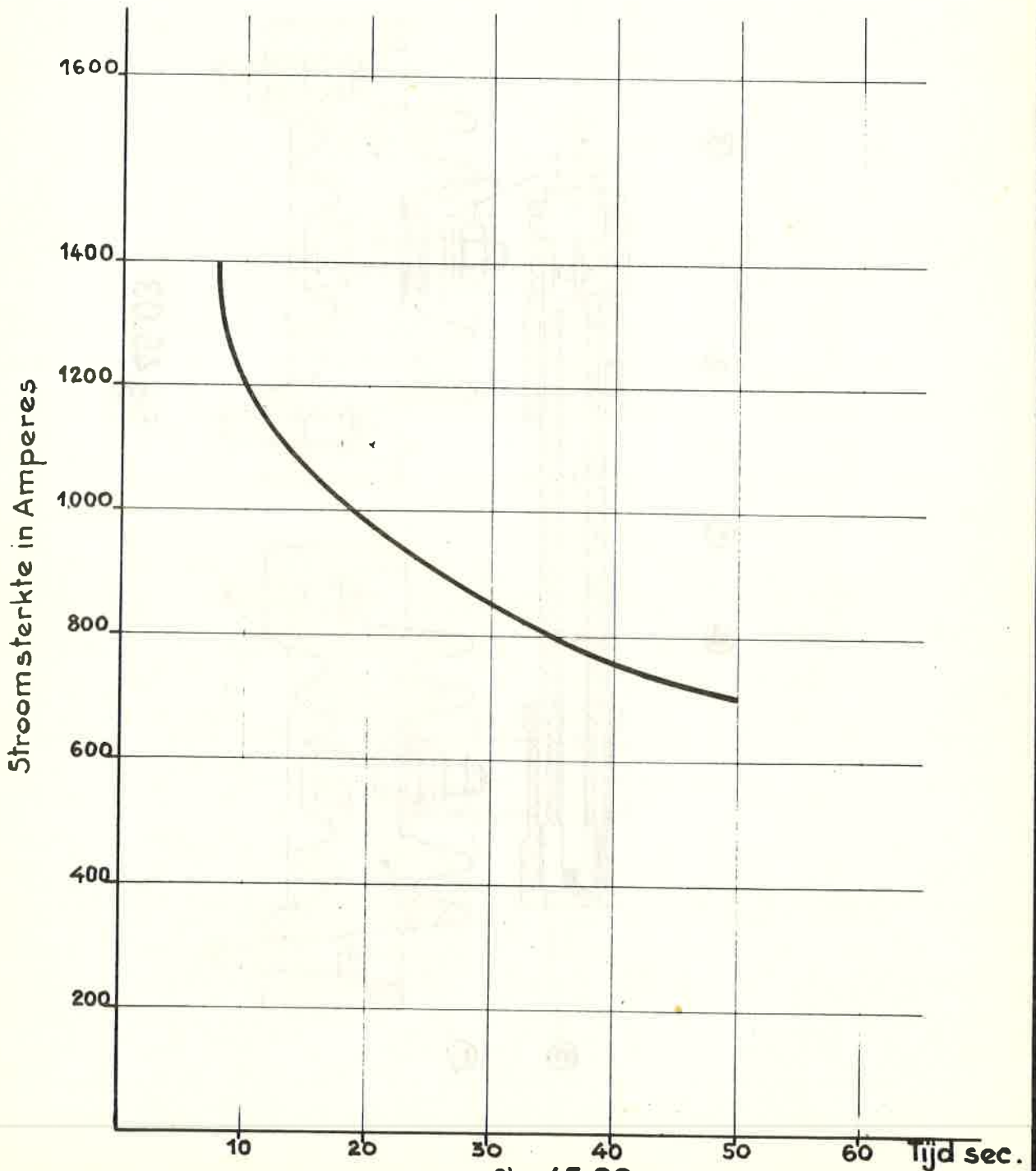


fig. 45.02

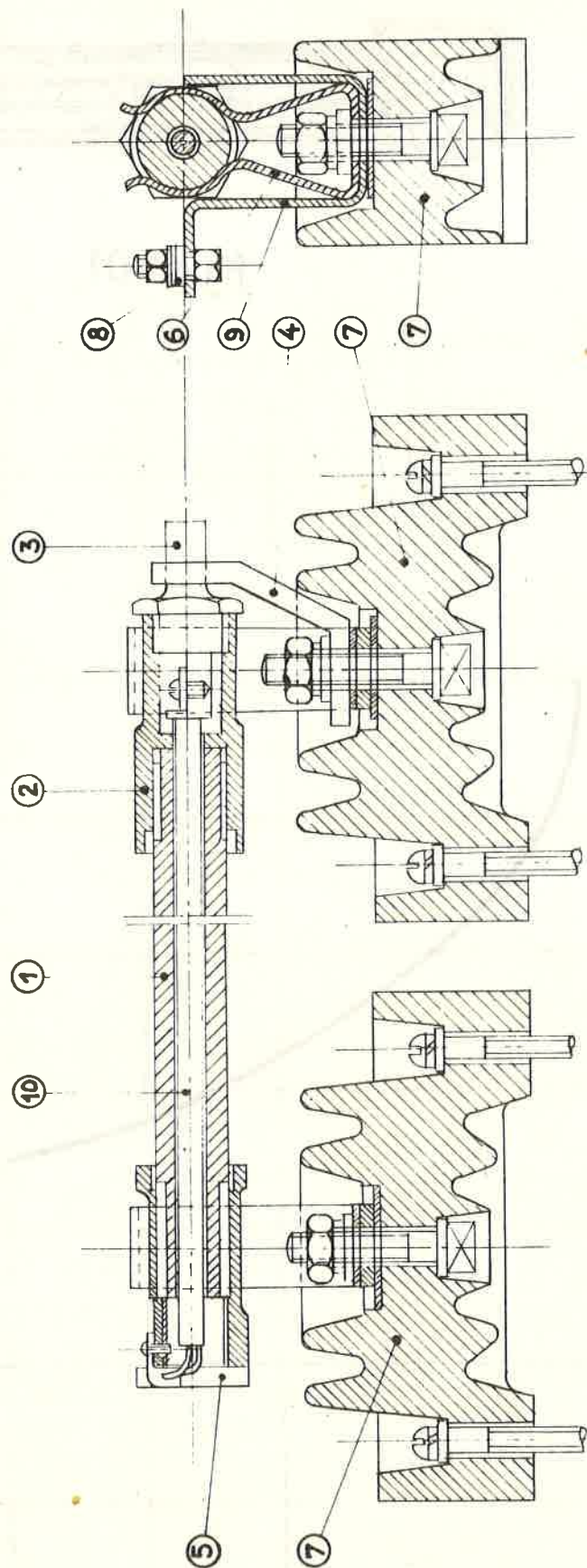


fig. 45.03

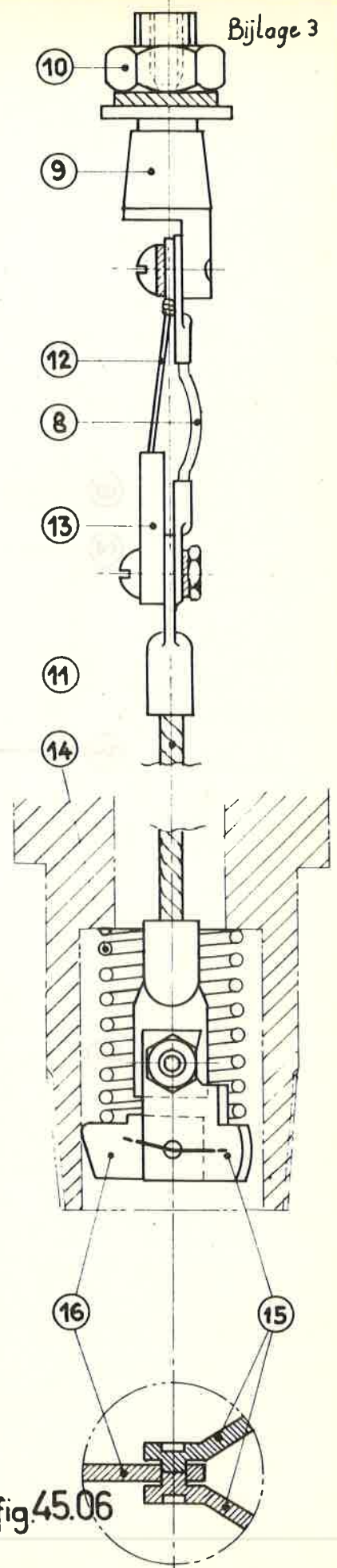
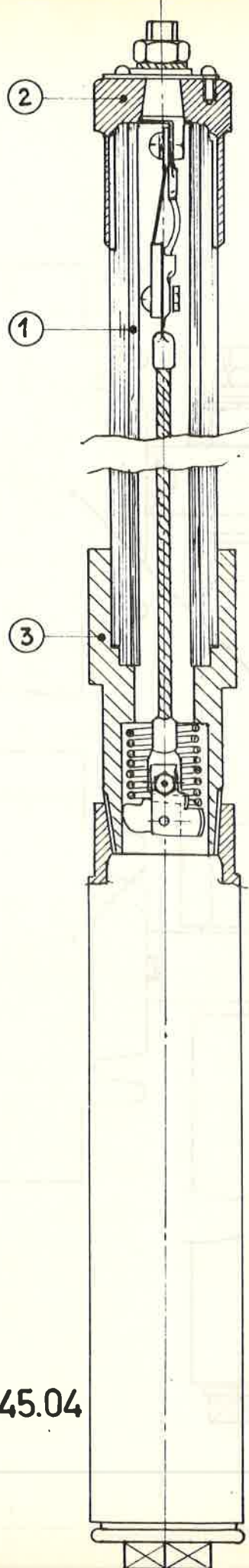
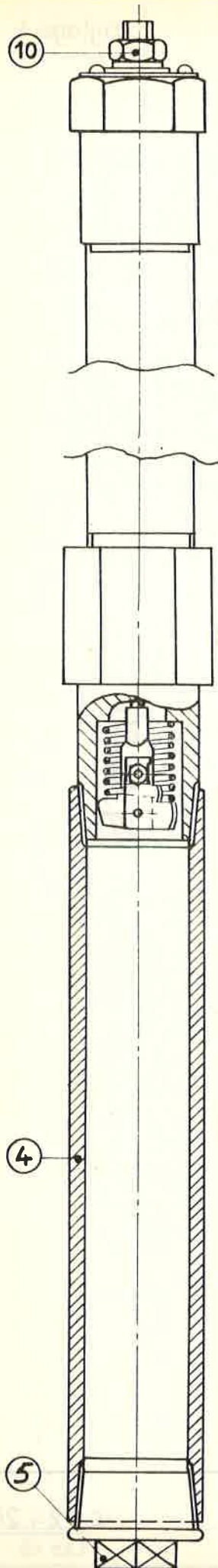


fig.45.04

fig.45.06

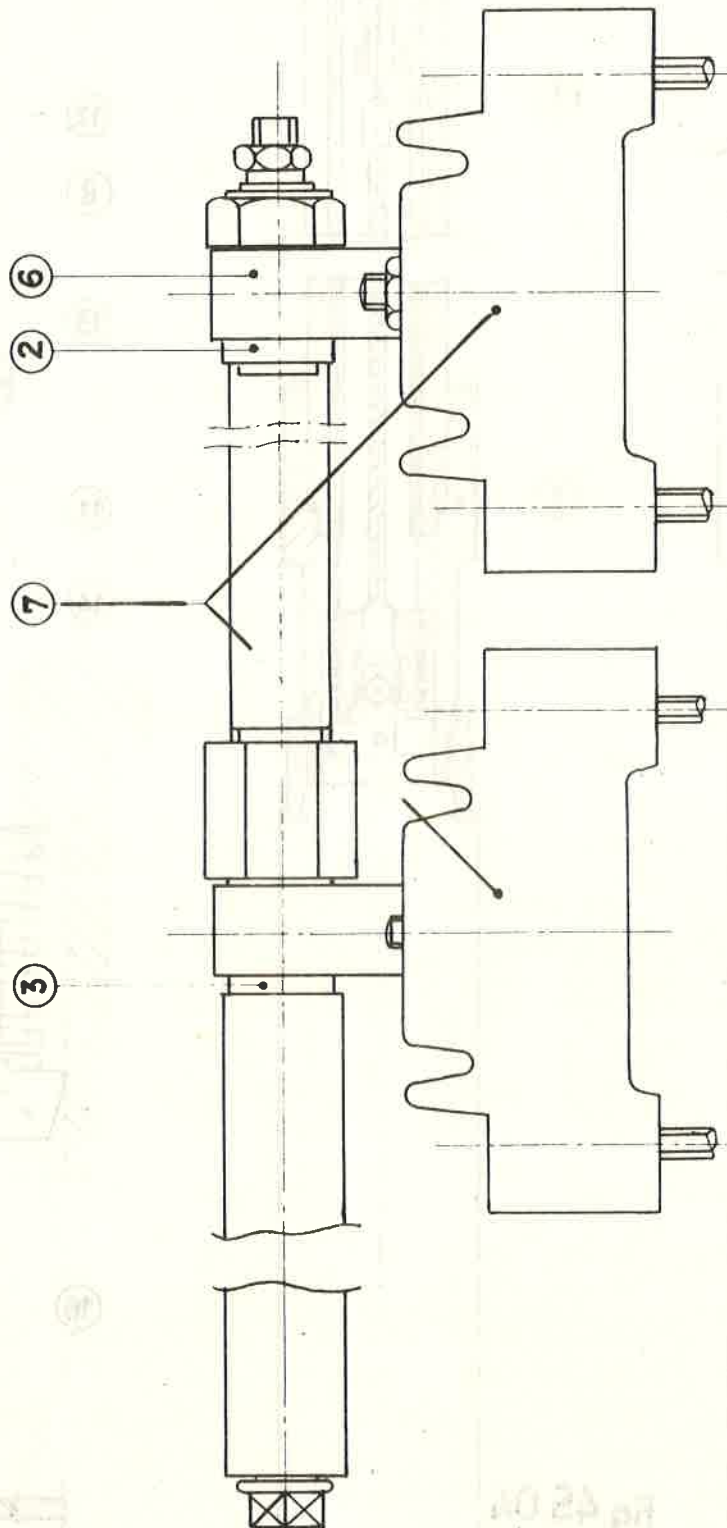
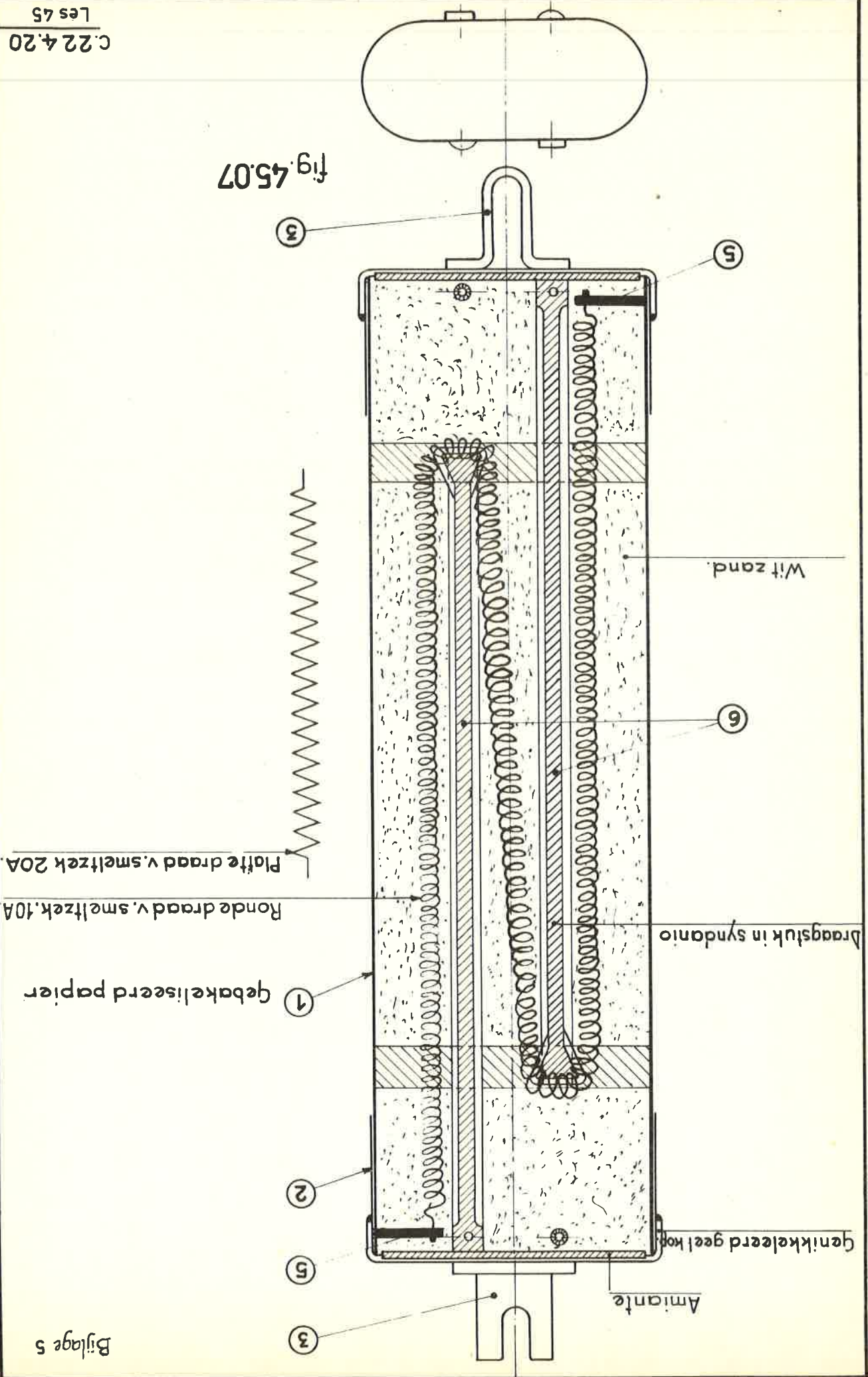


fig. 45.05

fig. 45.07



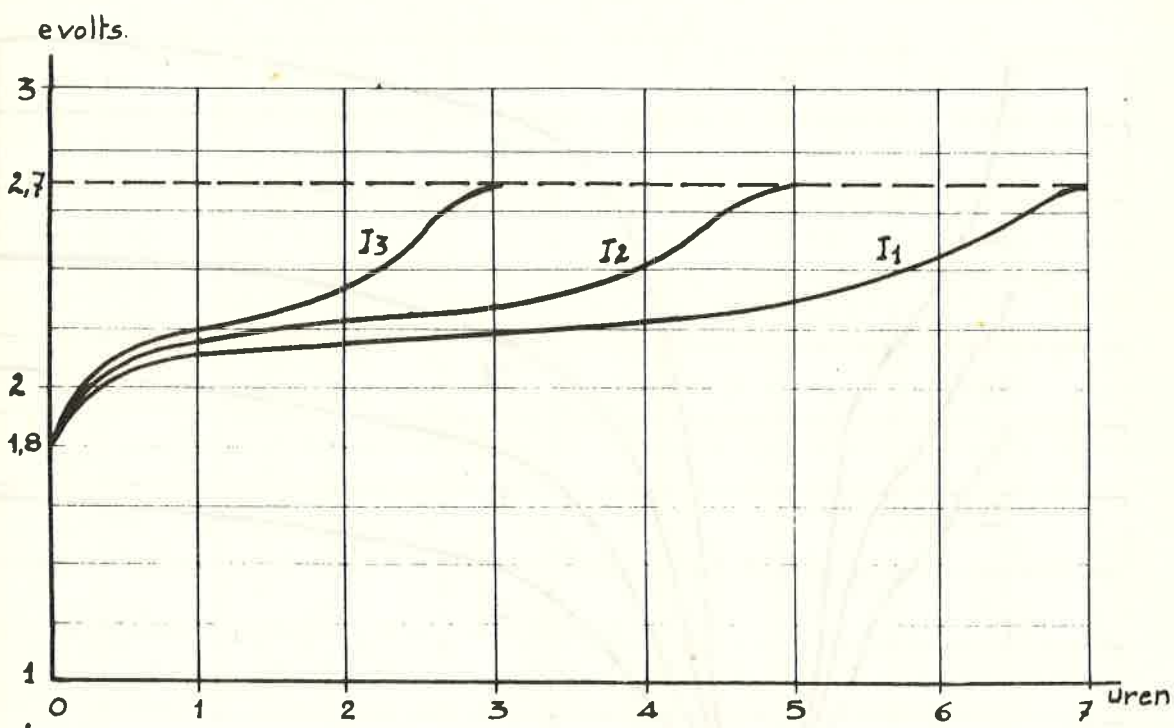


fig. 46.01

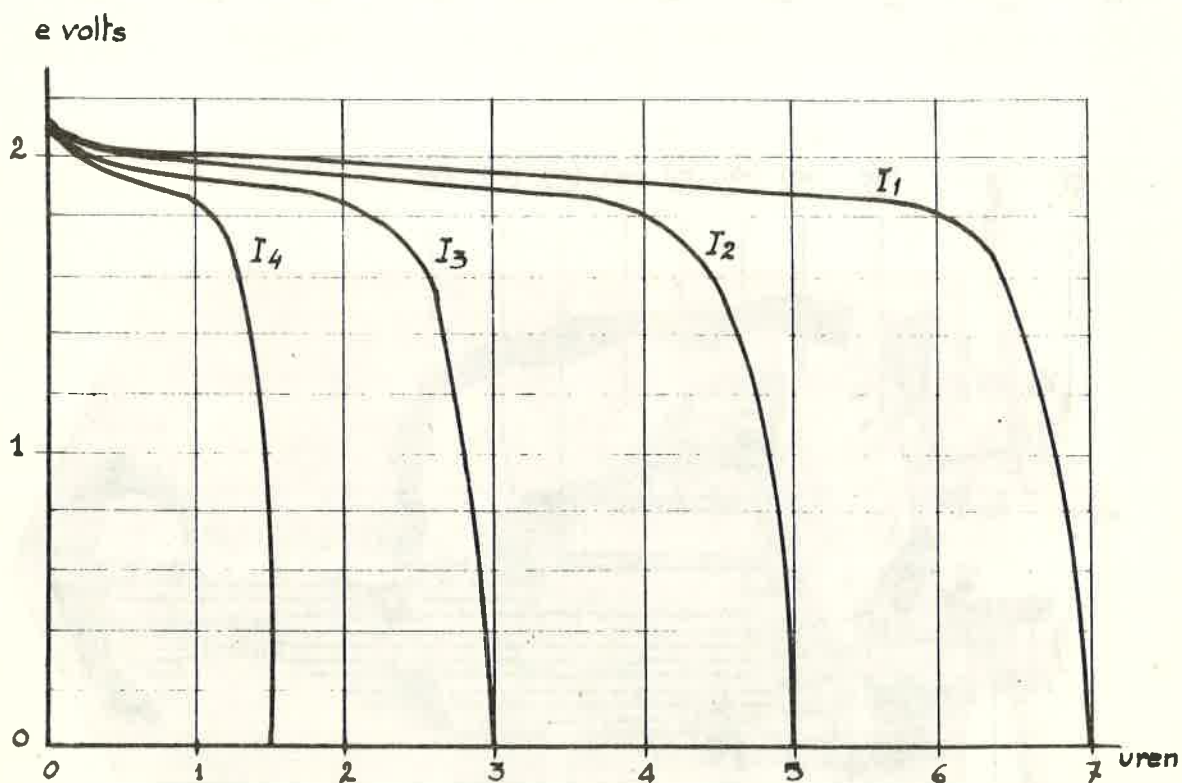


Fig. 46.02

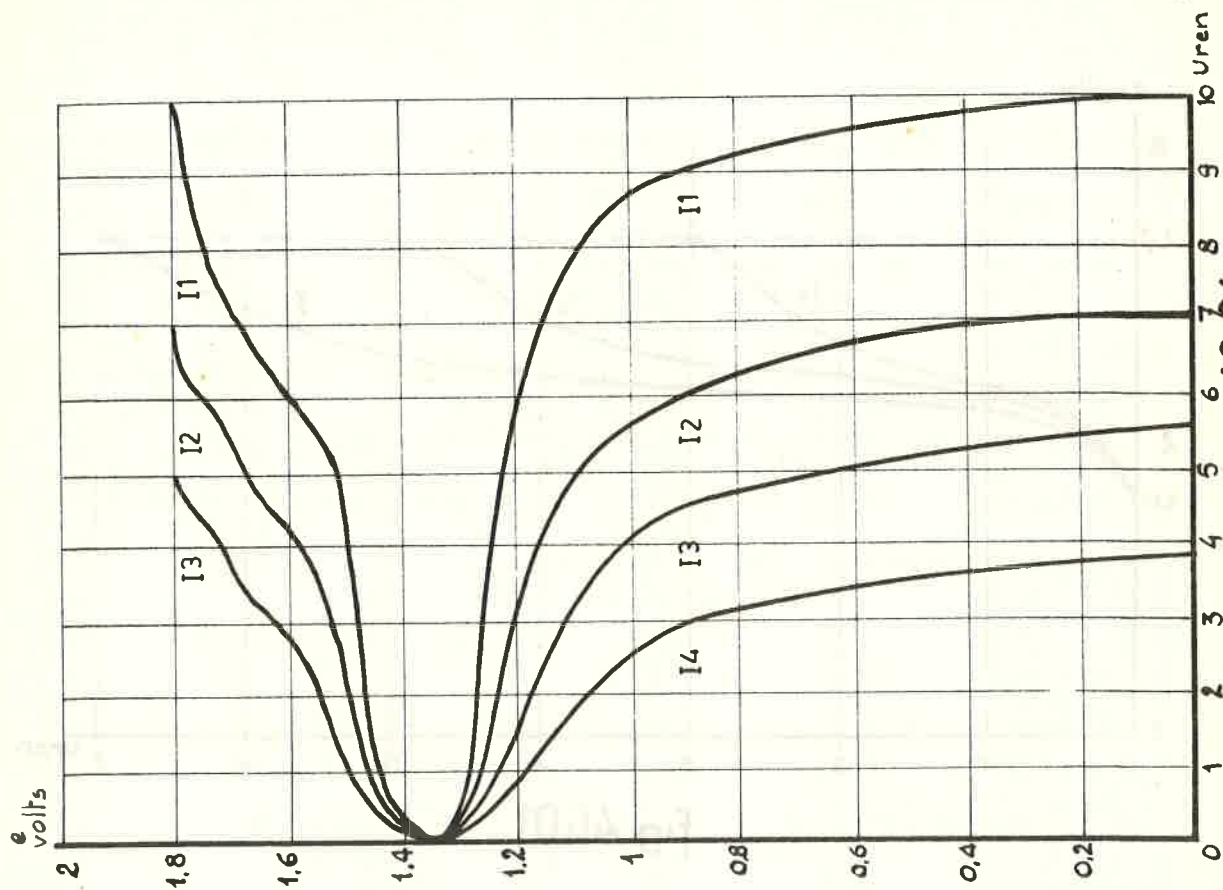


Fig. 46.04

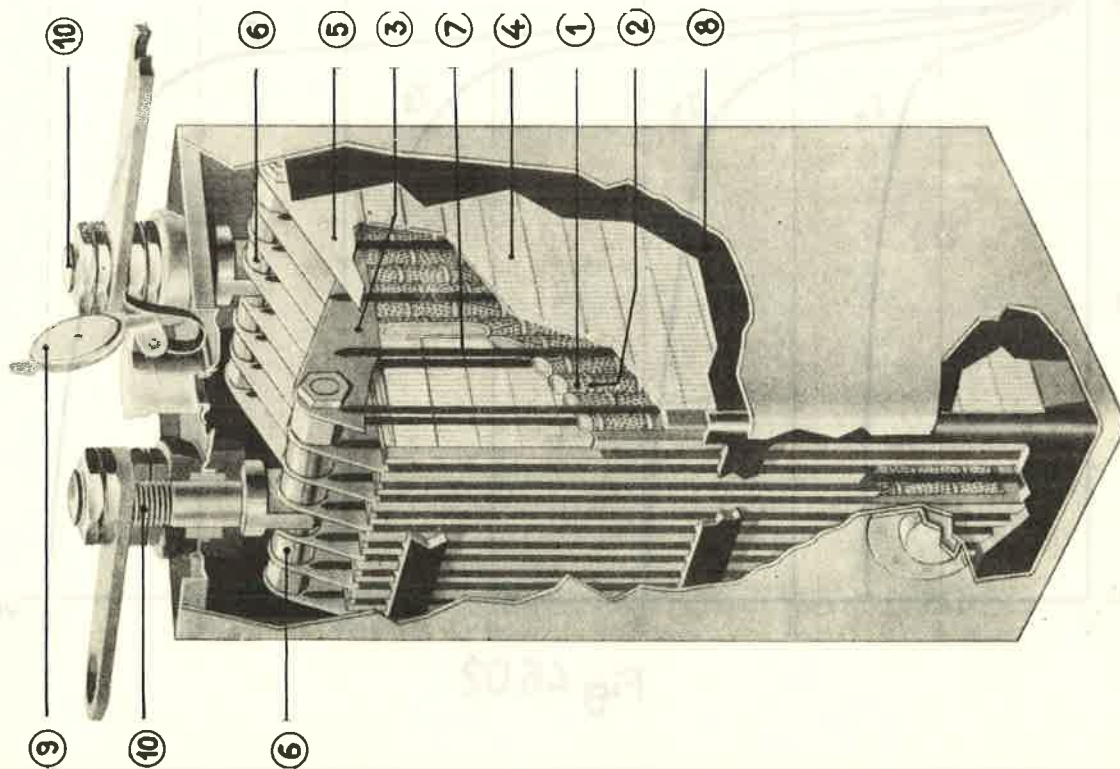


fig. 46.03

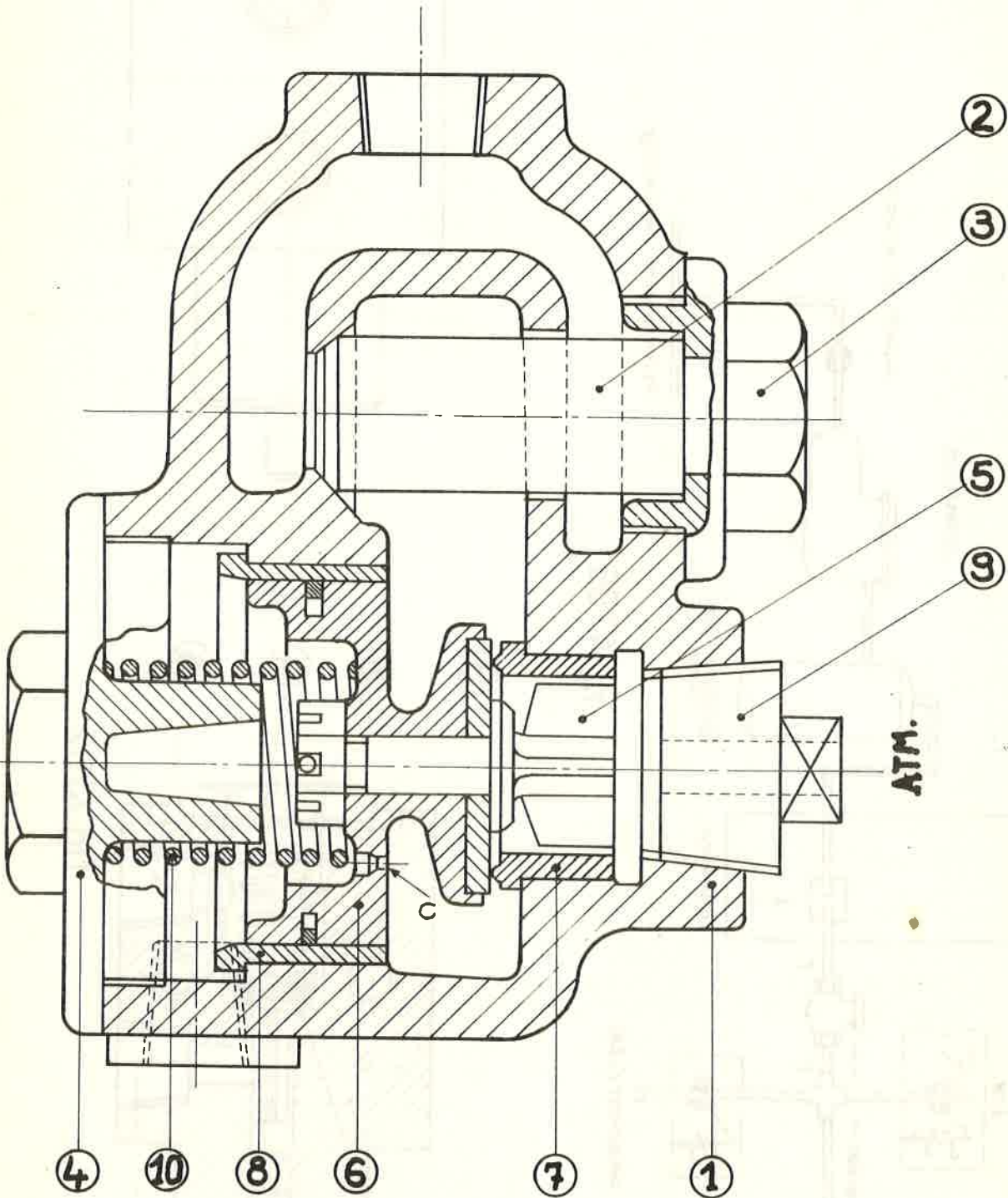


fig.47.01

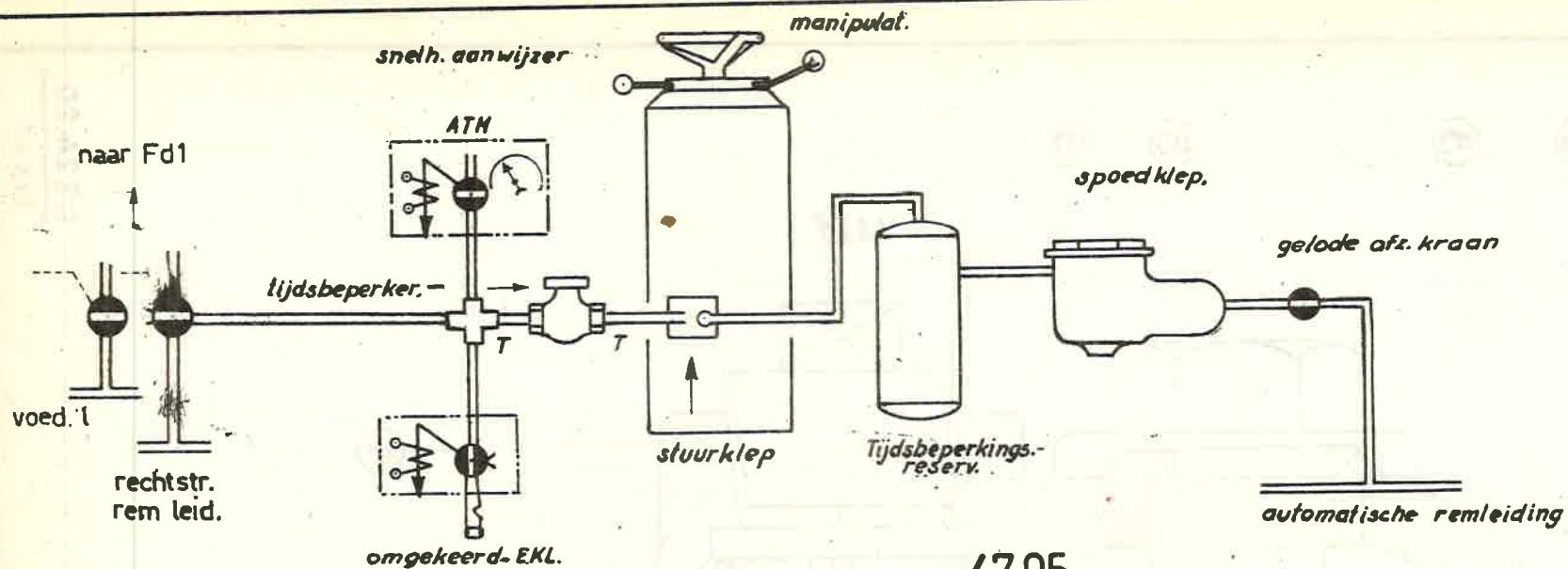


fig. 47.05

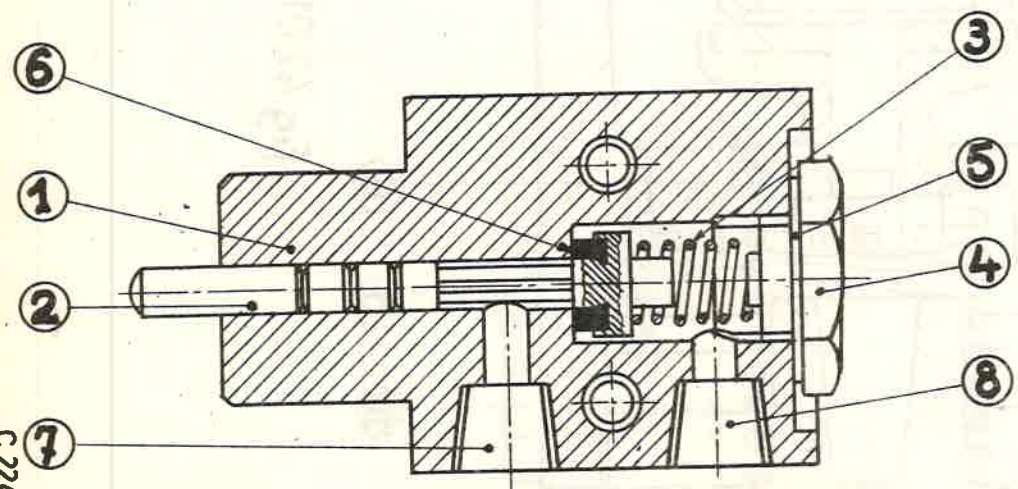
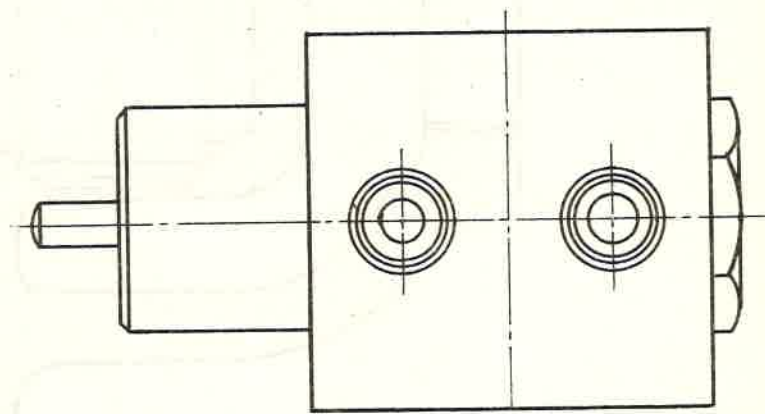


fig. 47.02



C.224.20
 Les 47

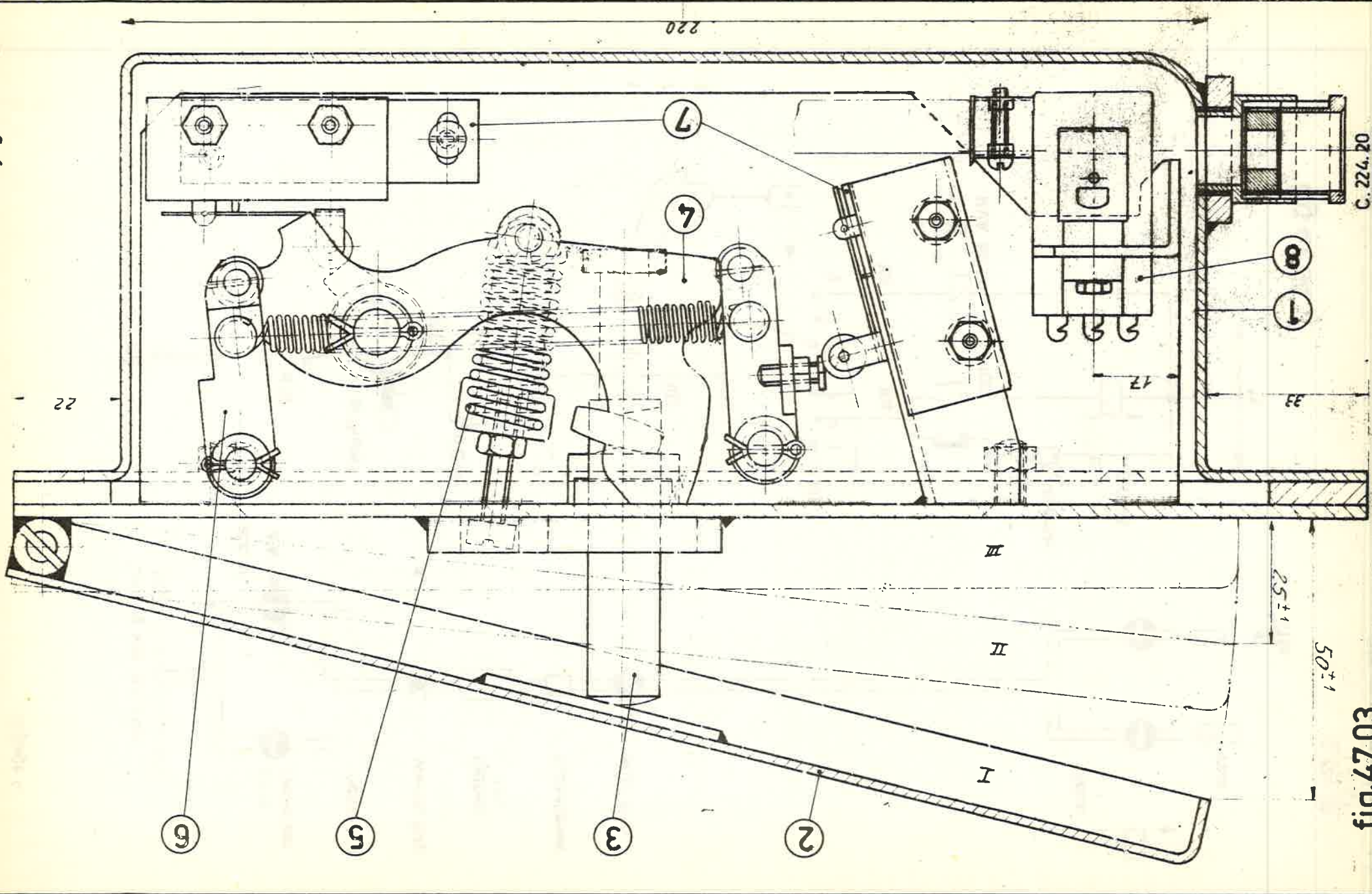


fig.47.03

C. 224.20
Les 47

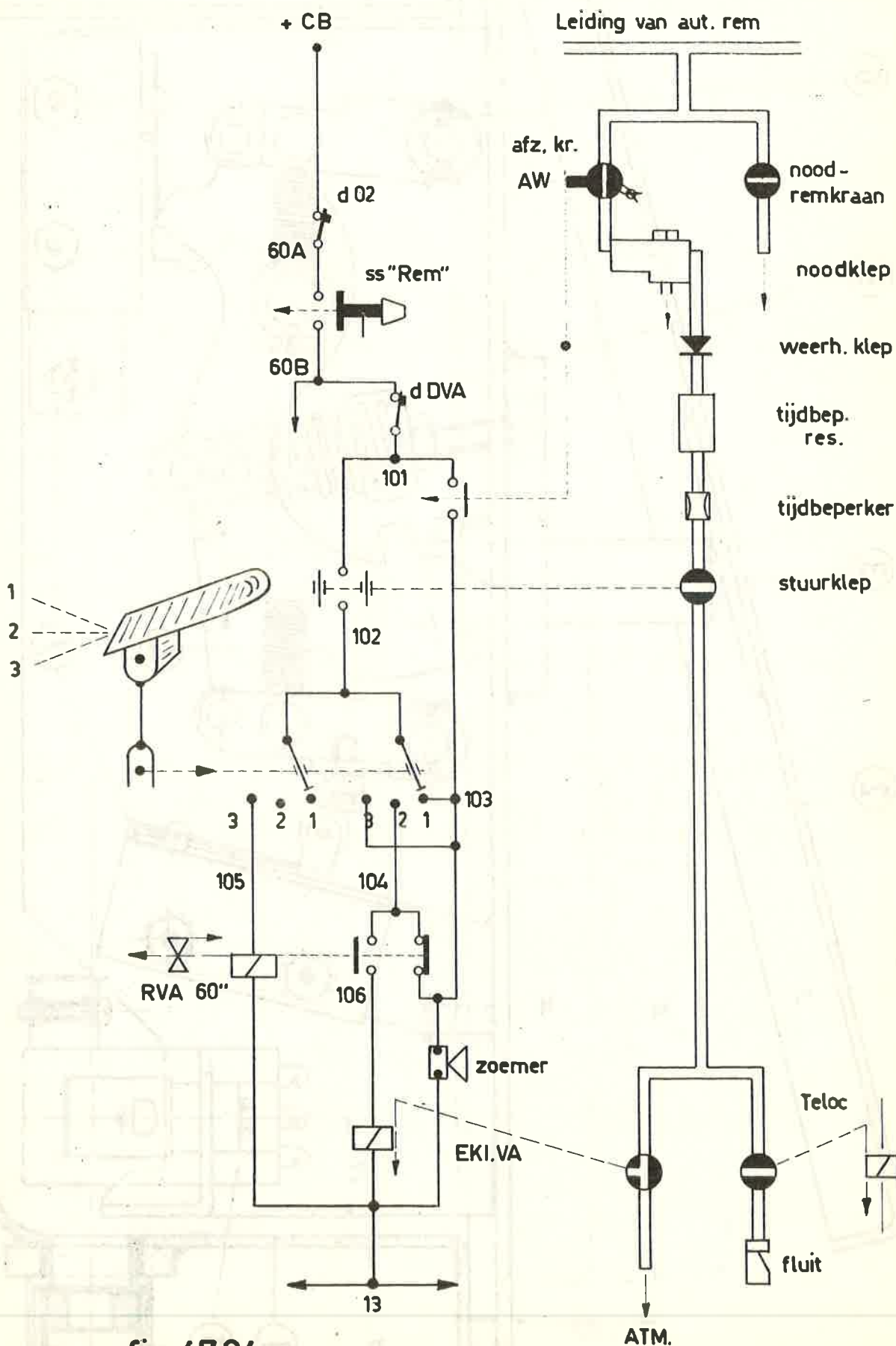
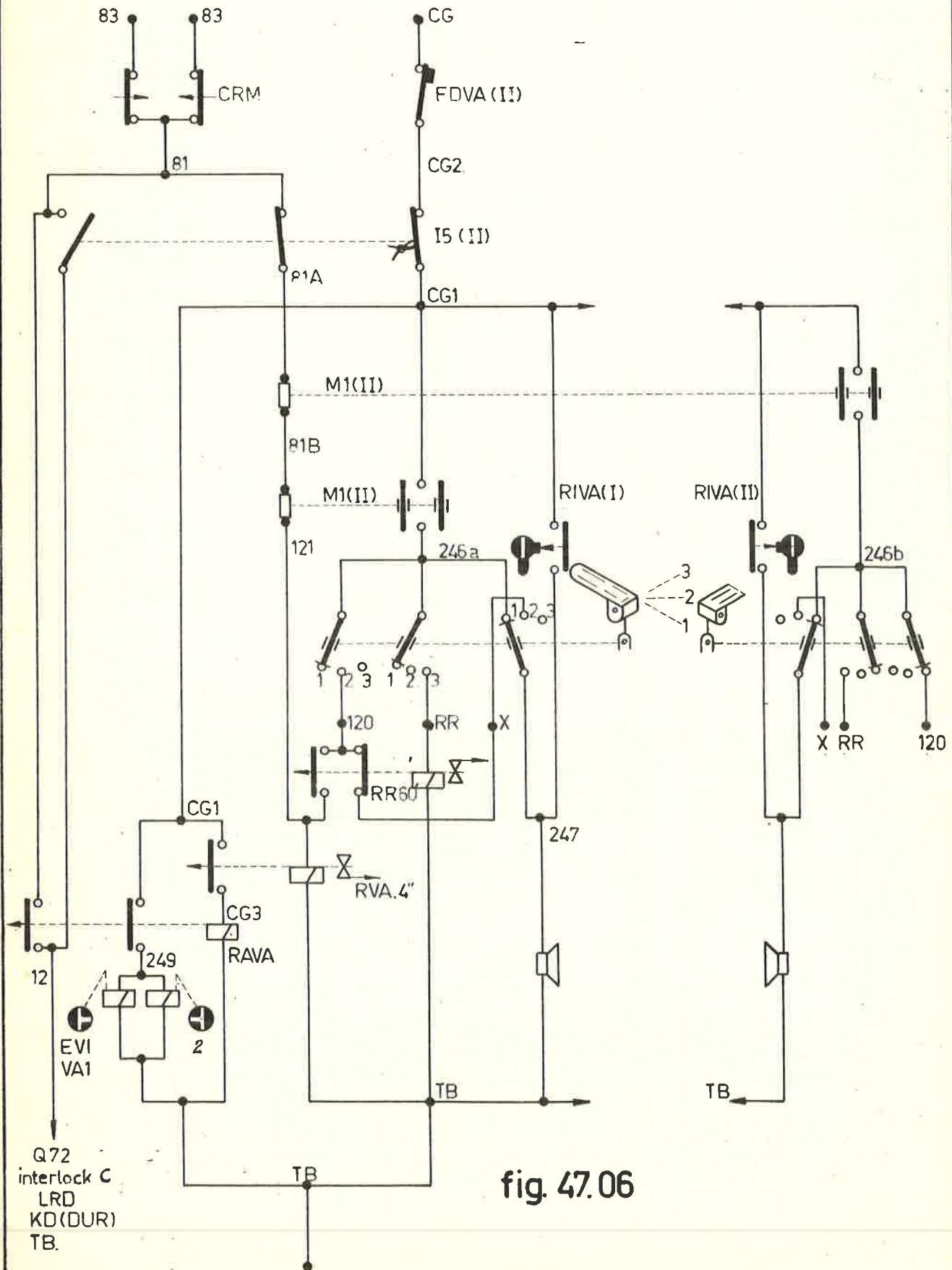


fig.47.04



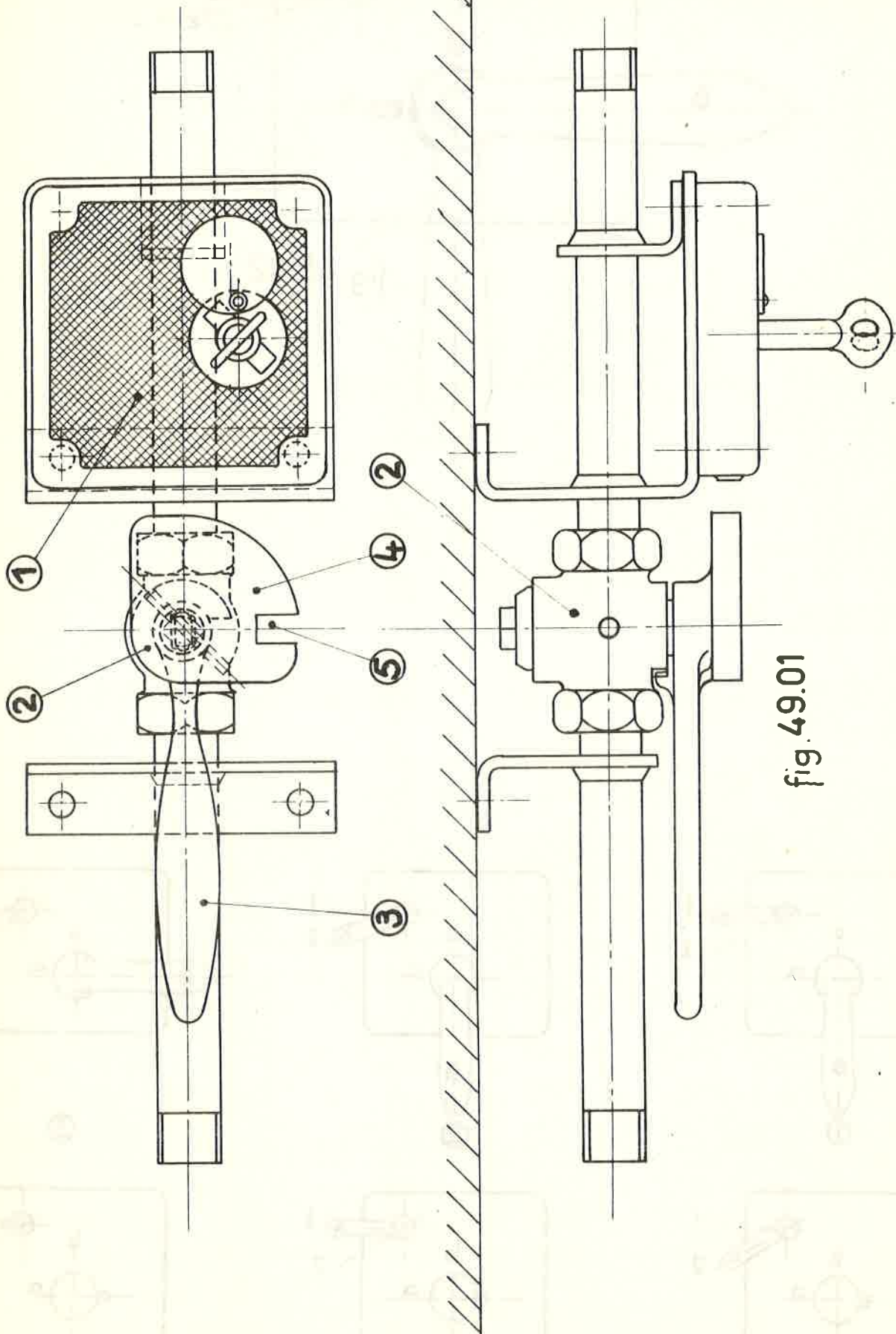


fig. 49.01

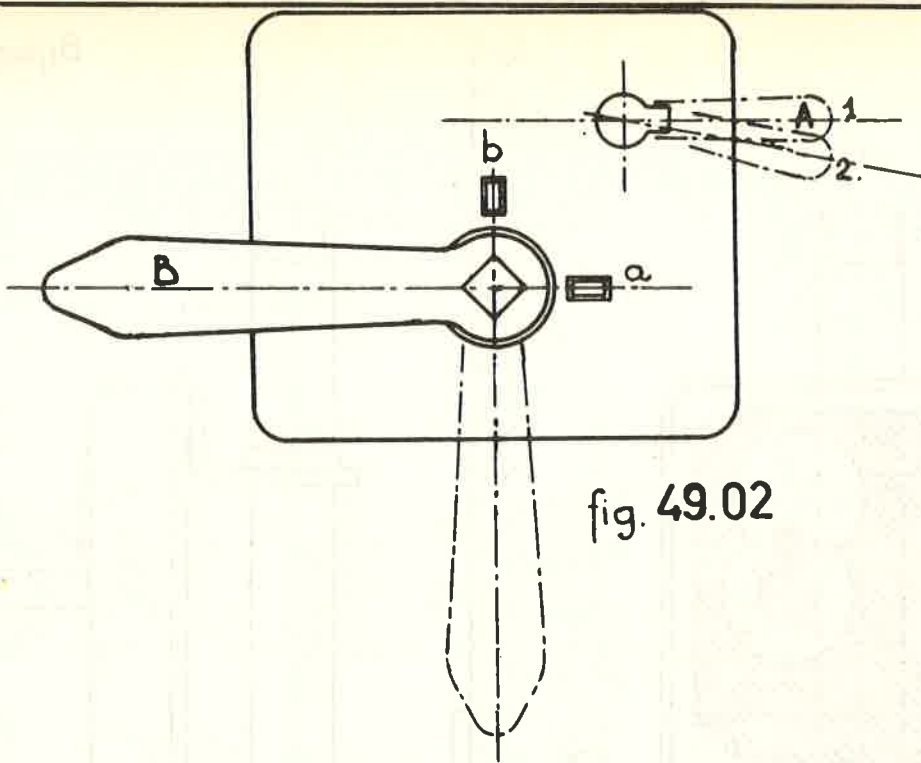


fig. 49.02

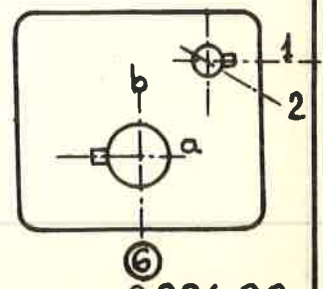
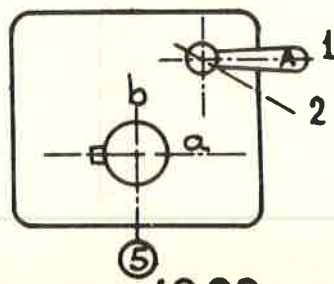
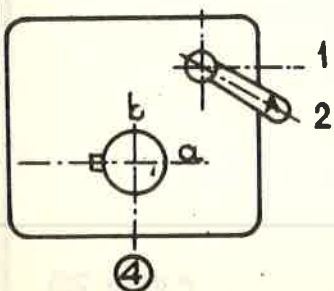
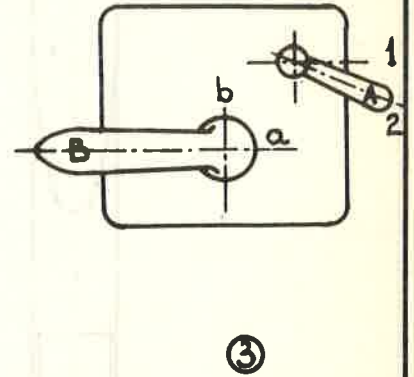
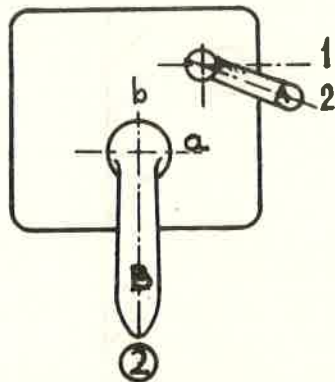
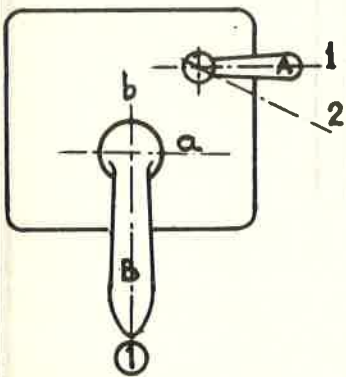


fig. 49.03

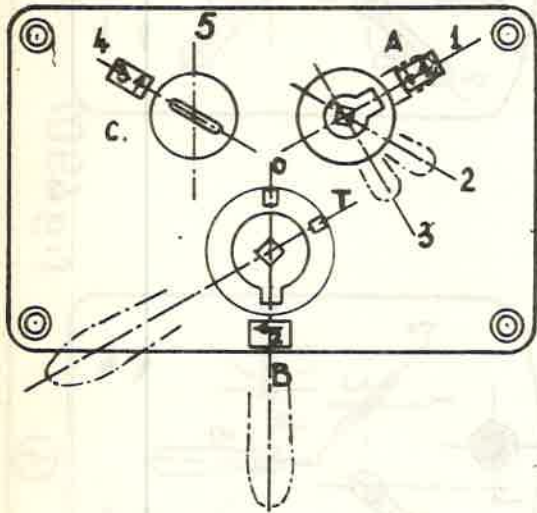


fig.49.04

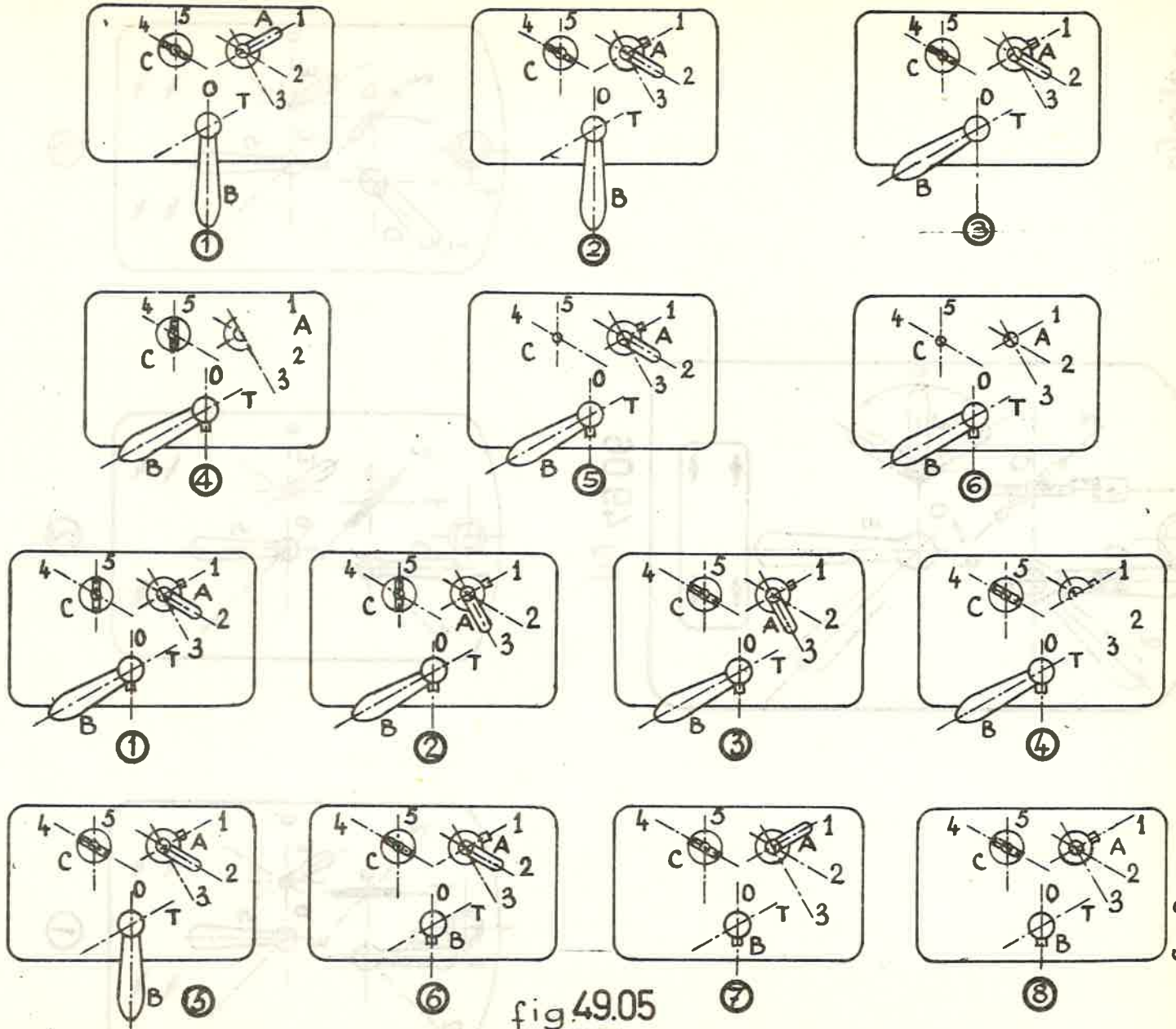


fig.49.05

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Bilages 3

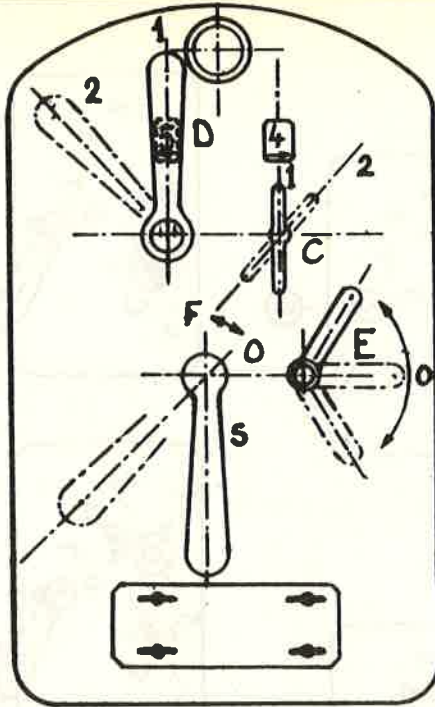
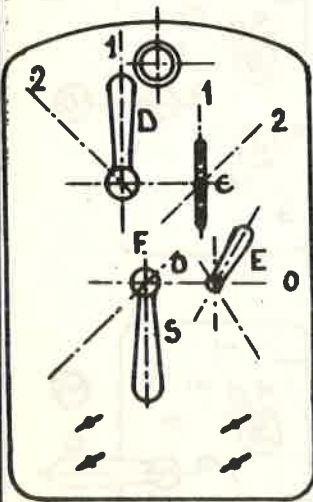
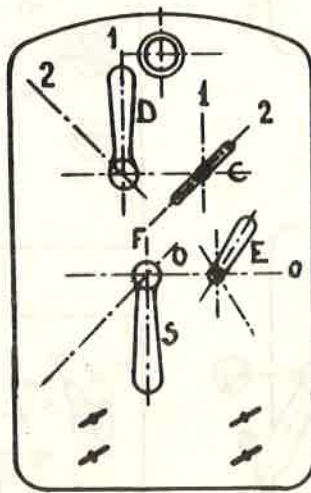


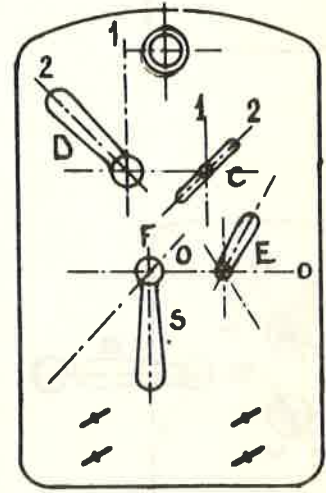
fig. 49.06



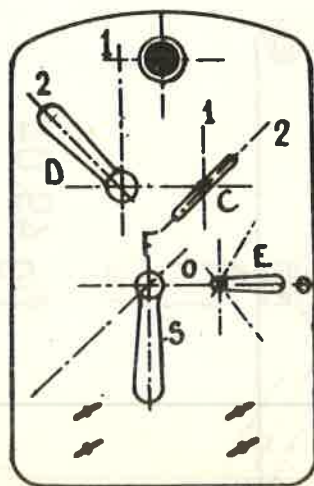
①



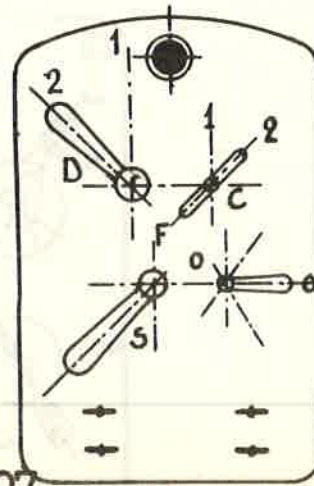
②



③



④



⑤

fig 49.07

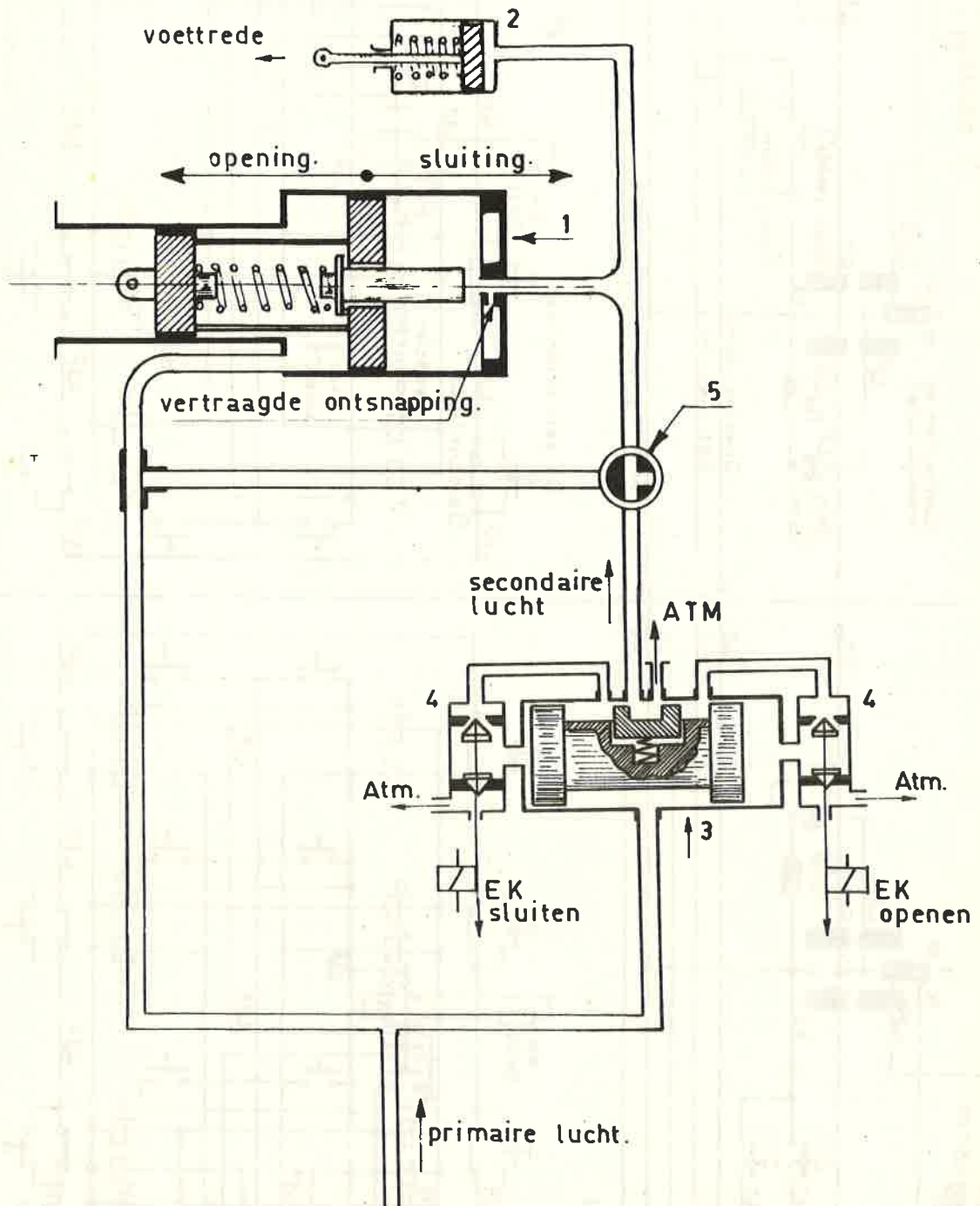


fig. 50.01

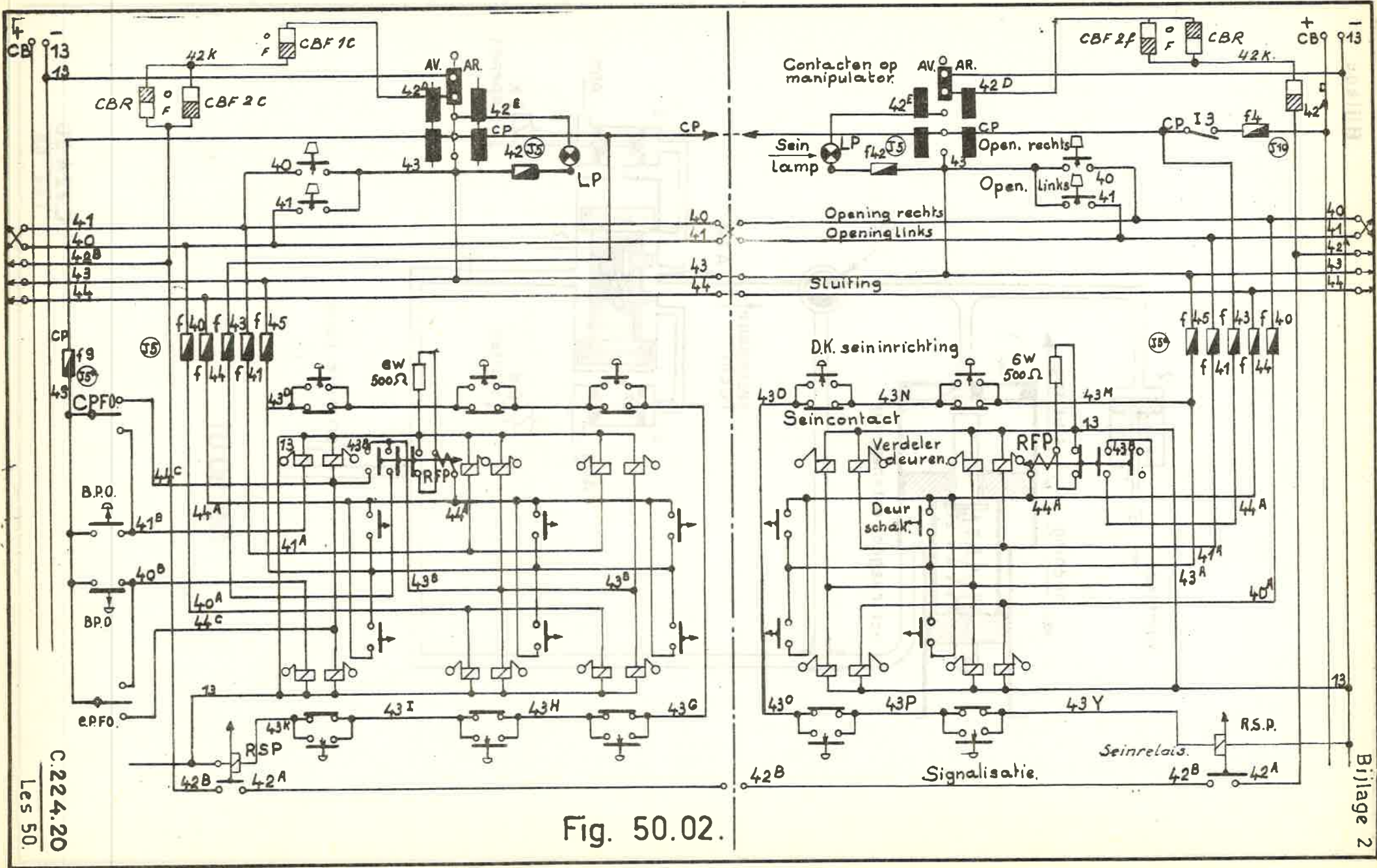


Fig. 50.02.

C.224.20
Les 50.

Bijlage 2

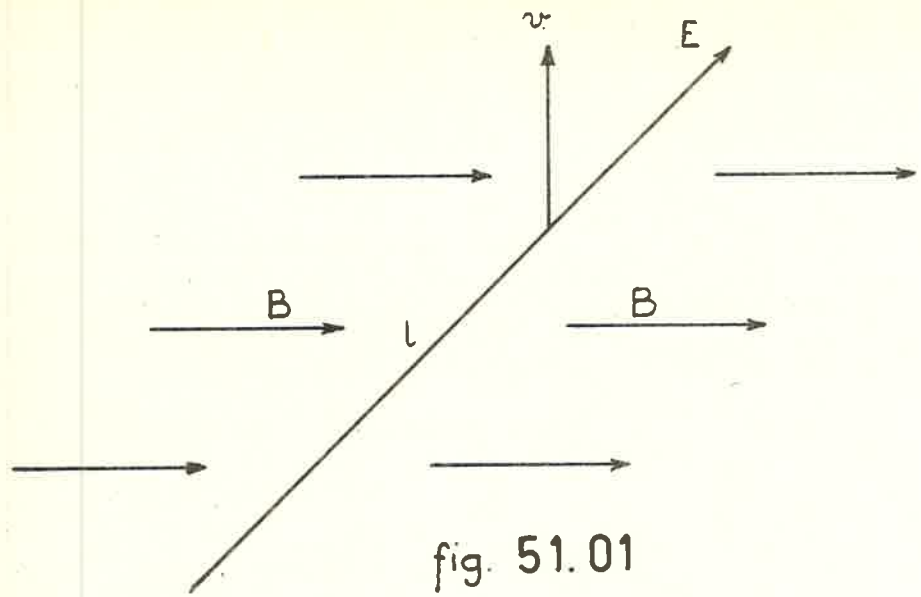


fig. 51.01

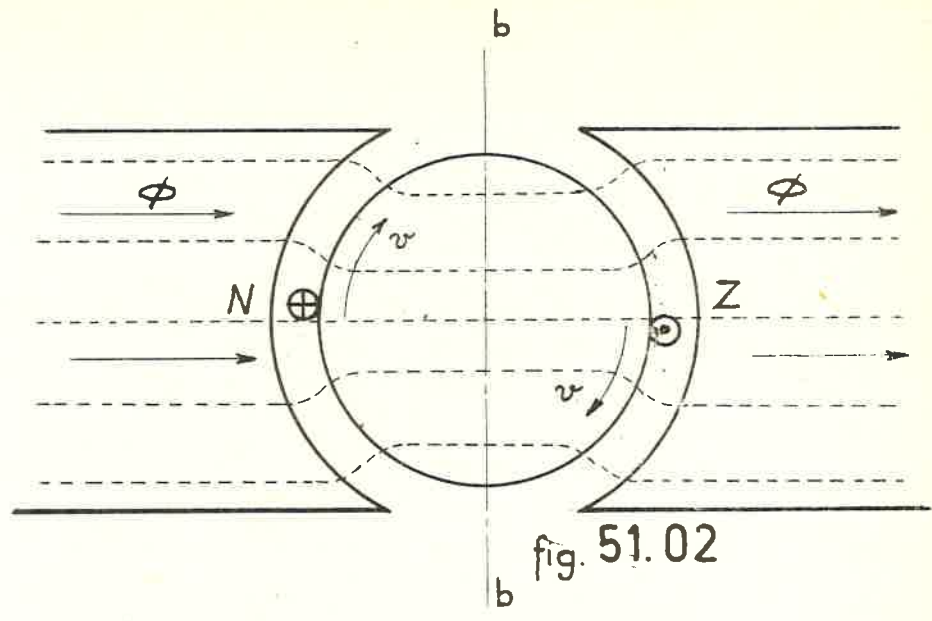


fig. 51.02

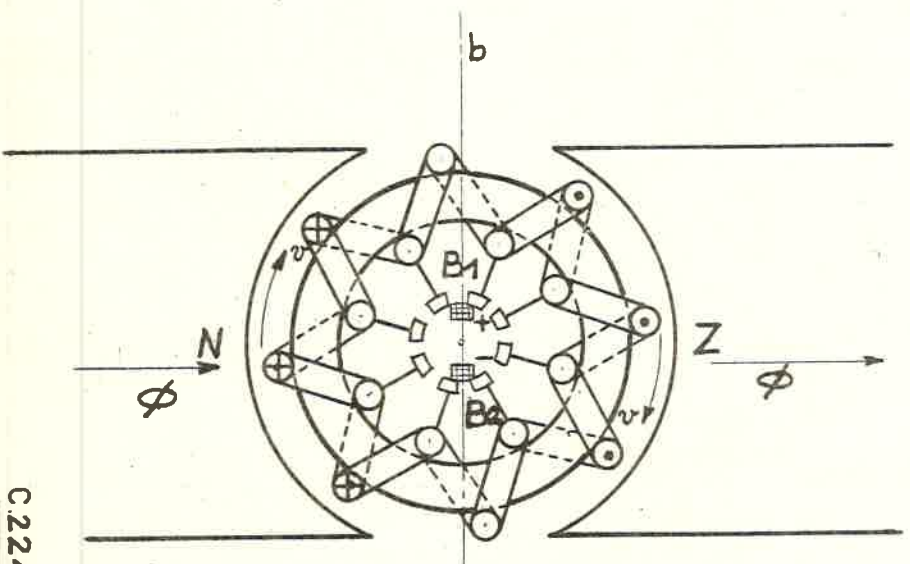


fig. 51.03

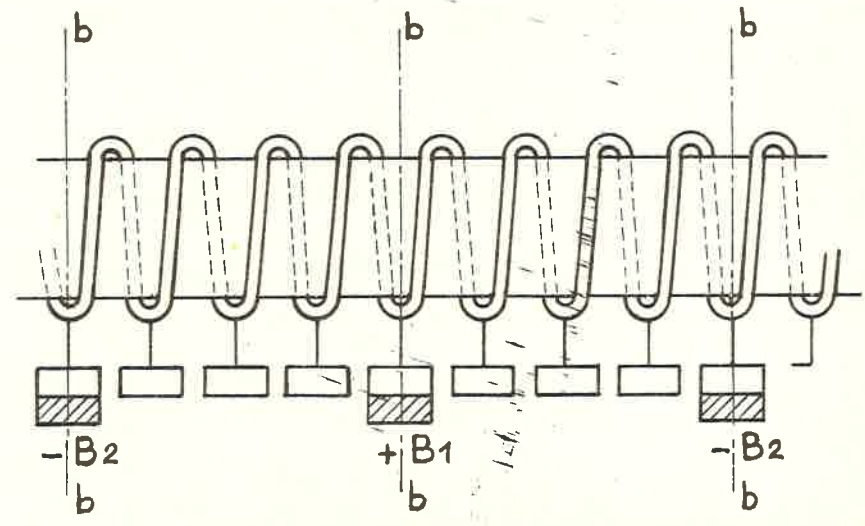


fig. 51.04

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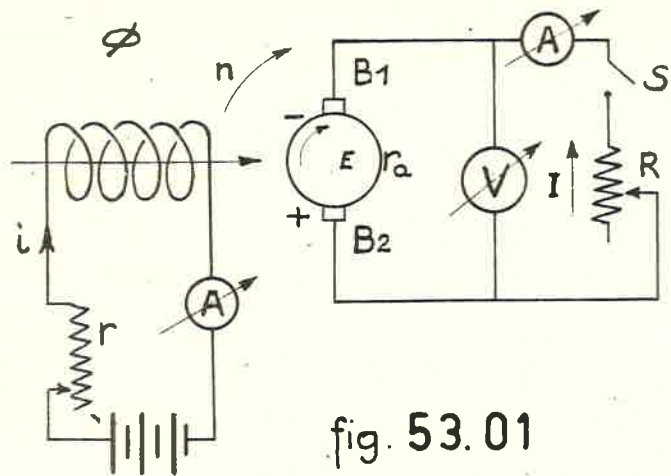


fig. 53.01

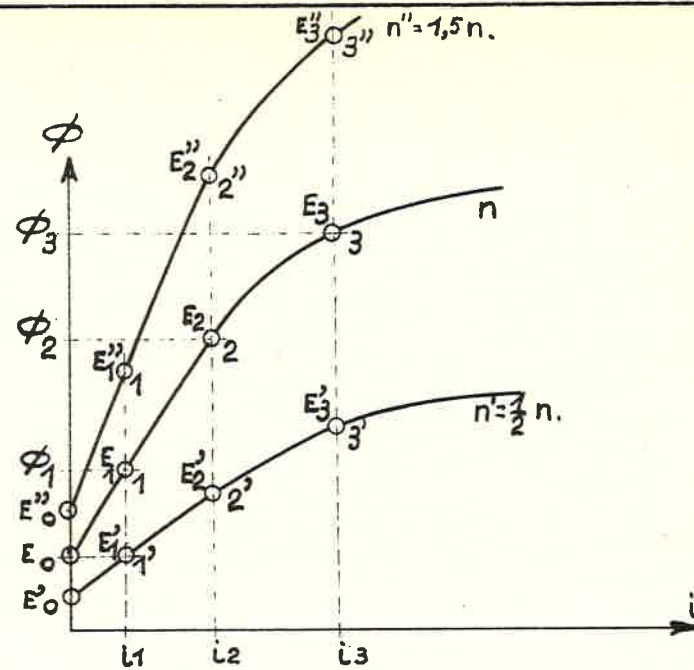


fig 53.02

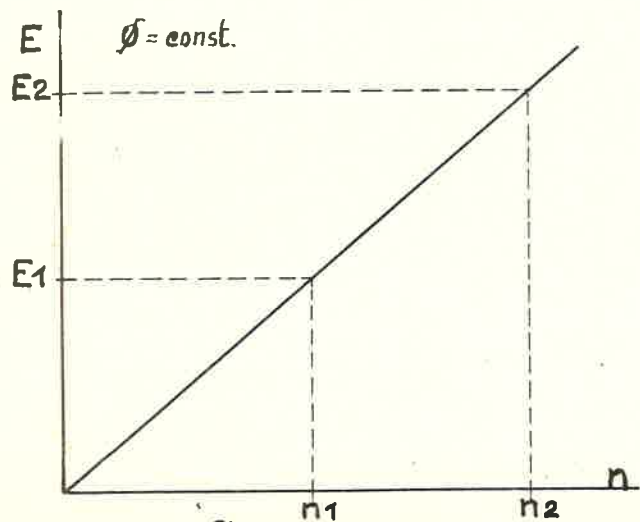


fig. 53.03

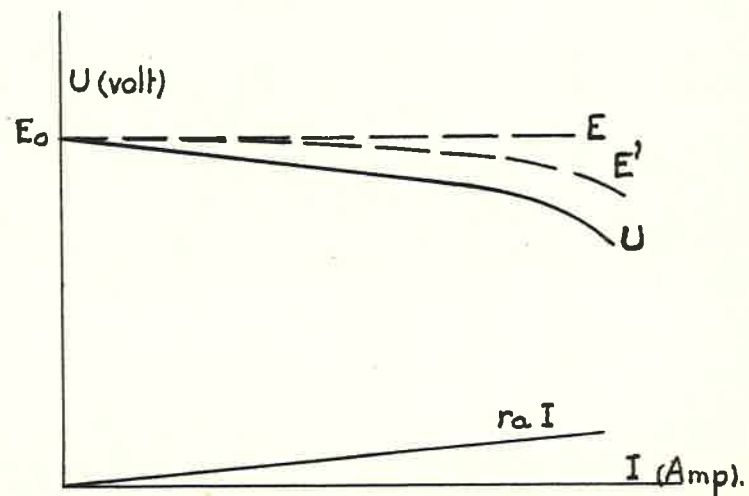
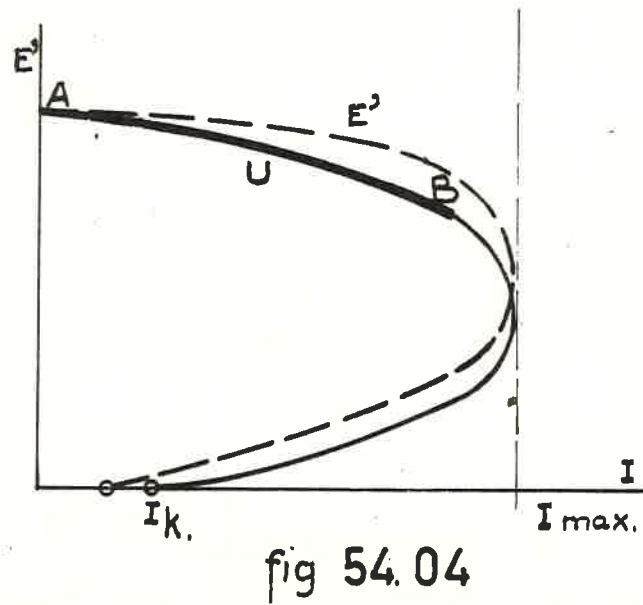
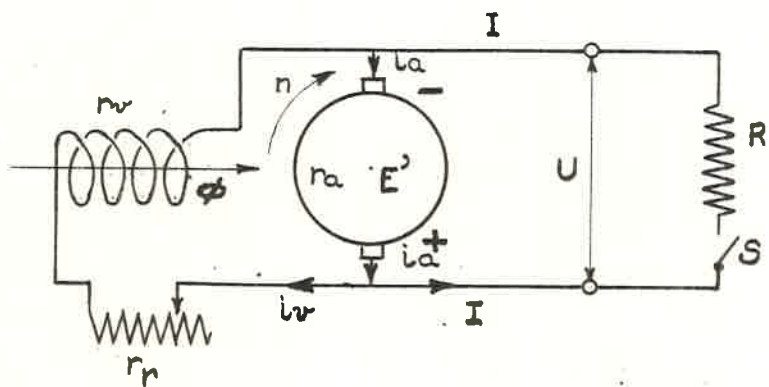
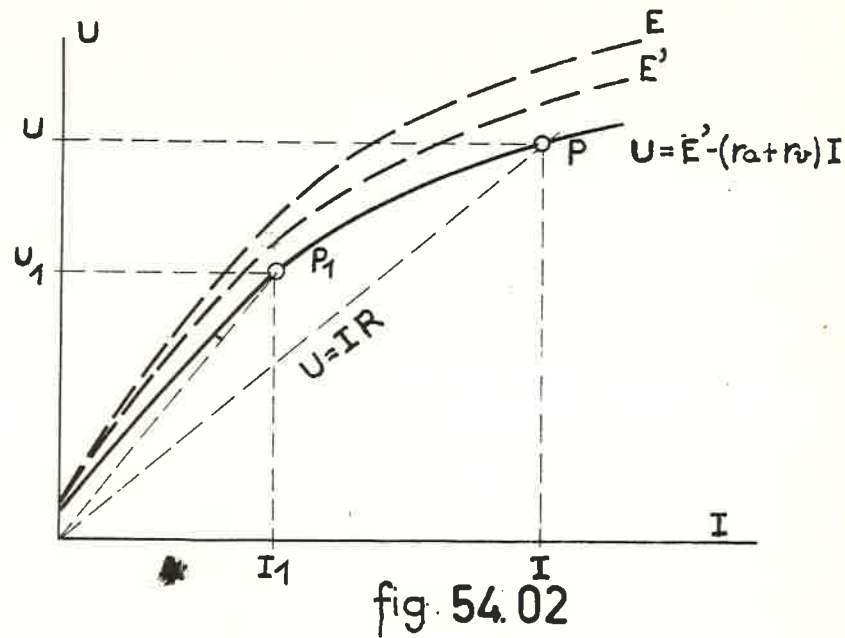
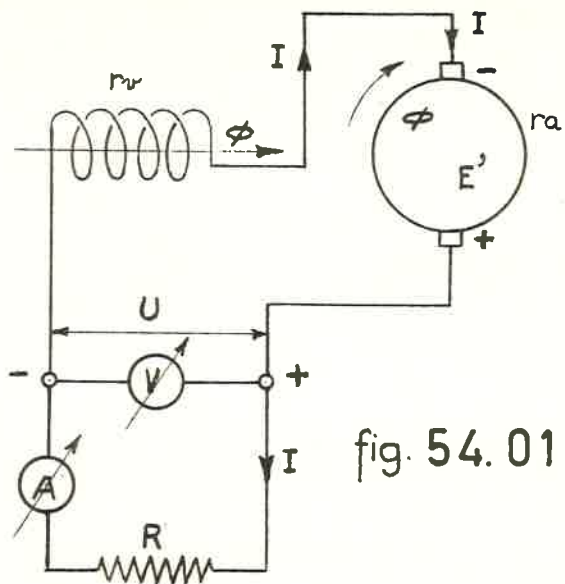


fig 53.04



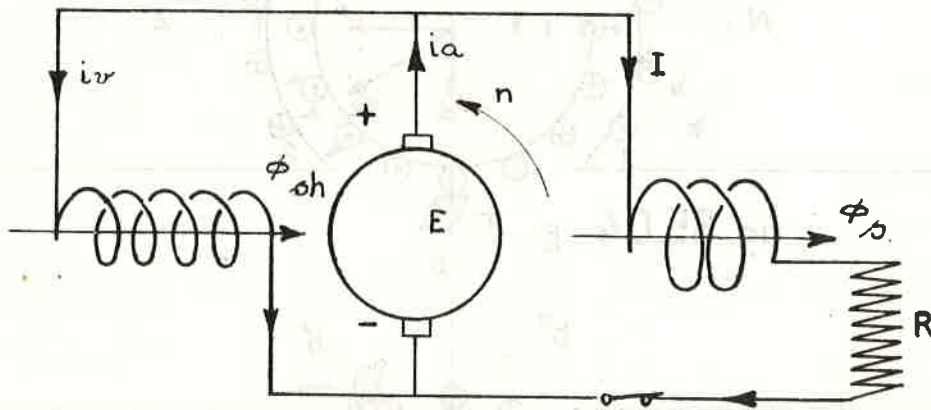


fig. 55.01

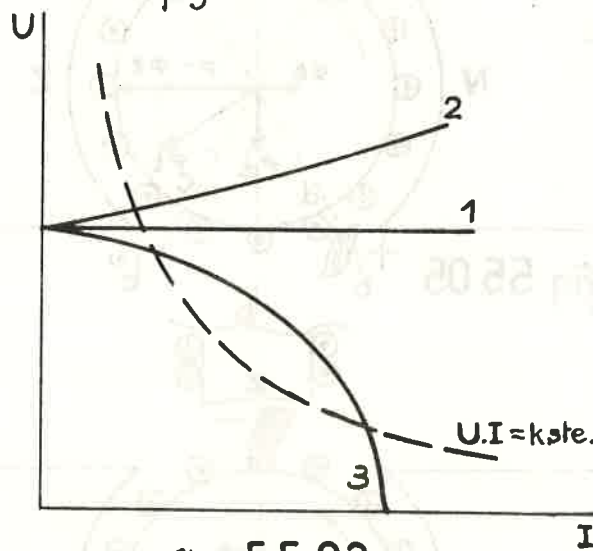


fig. 55.02

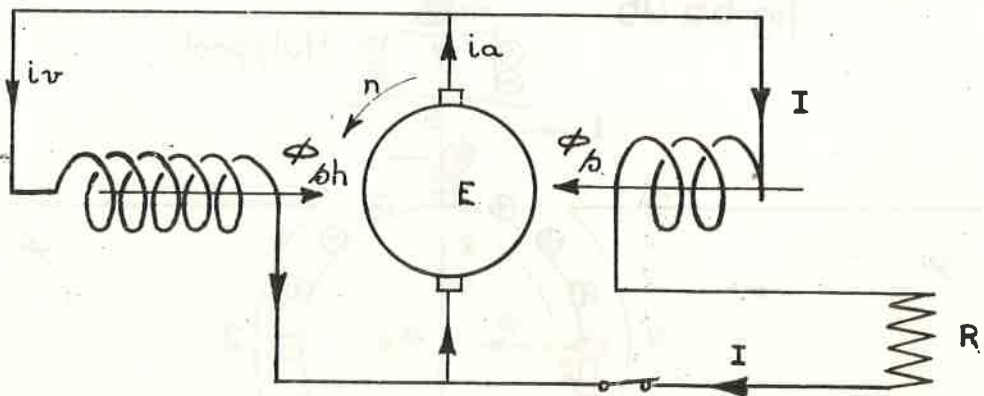


fig. 55.03

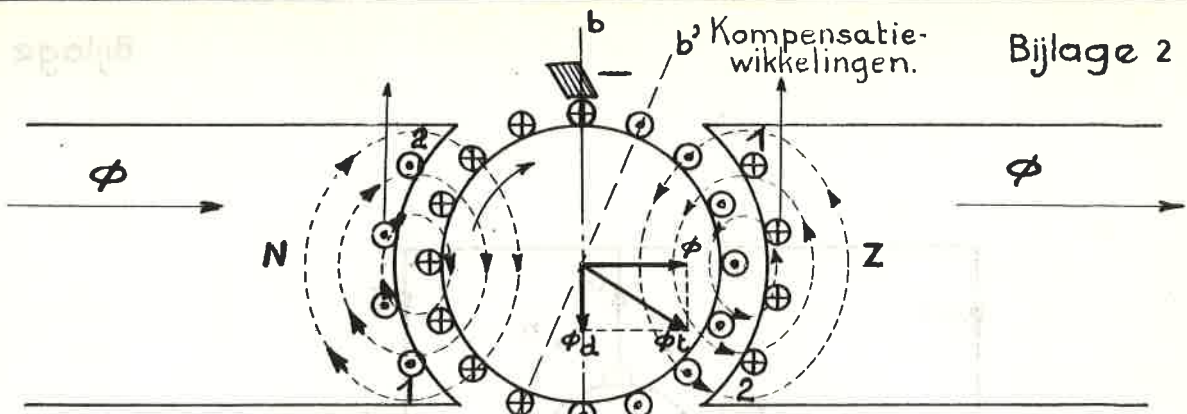


fig. 55.04

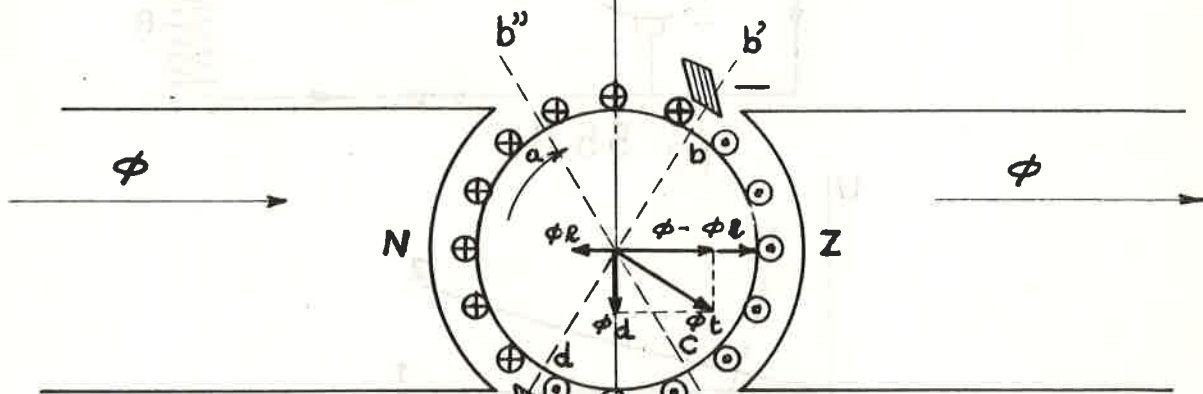


fig. 55.05

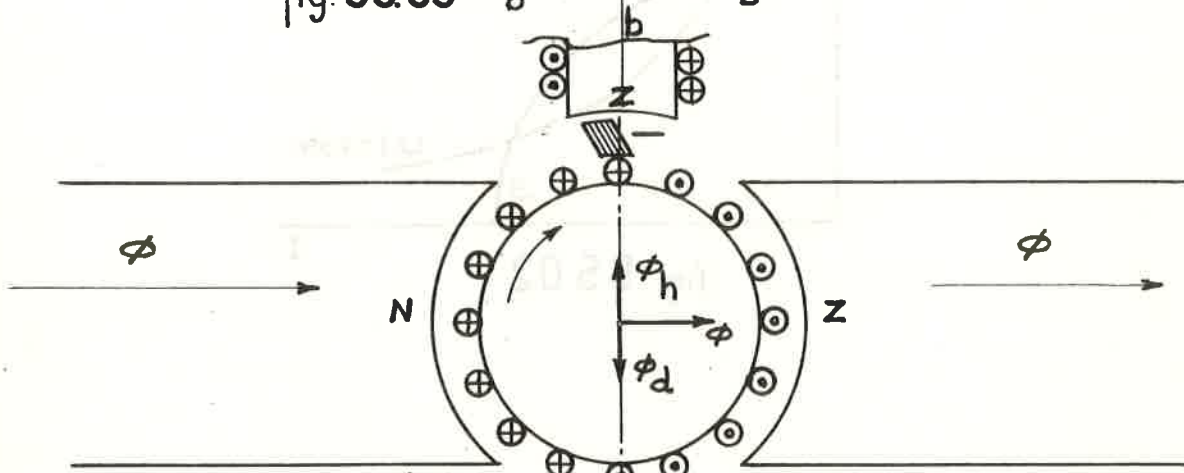


fig. 55.06

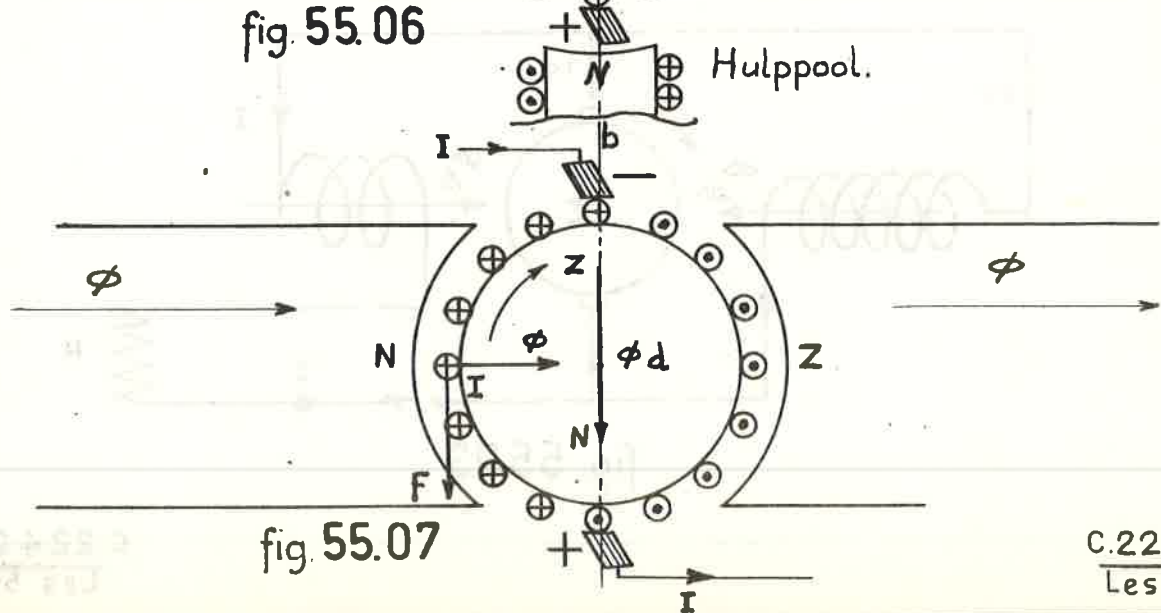


fig. 55.07

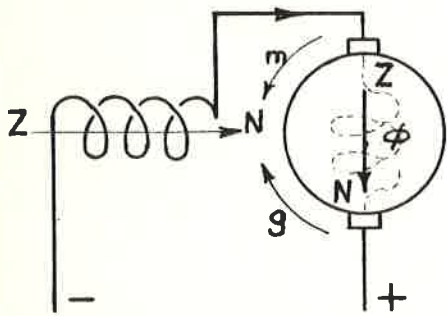


fig. 55.08

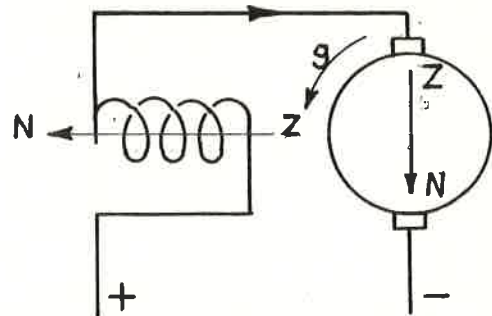


fig. 55.09

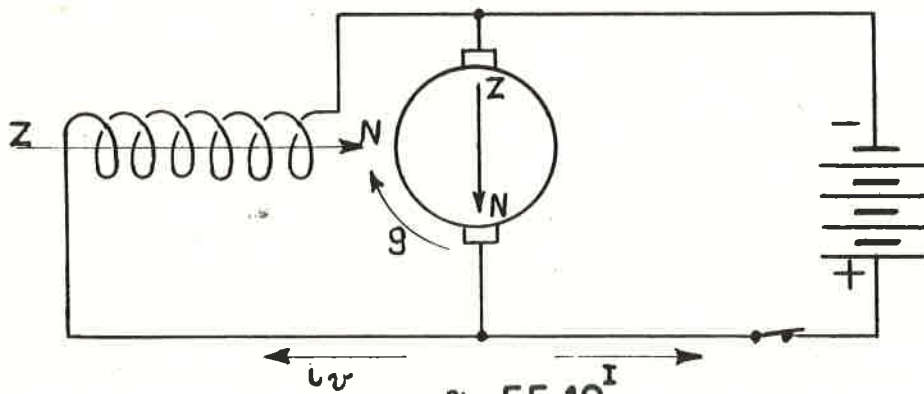


fig. 55.10^I

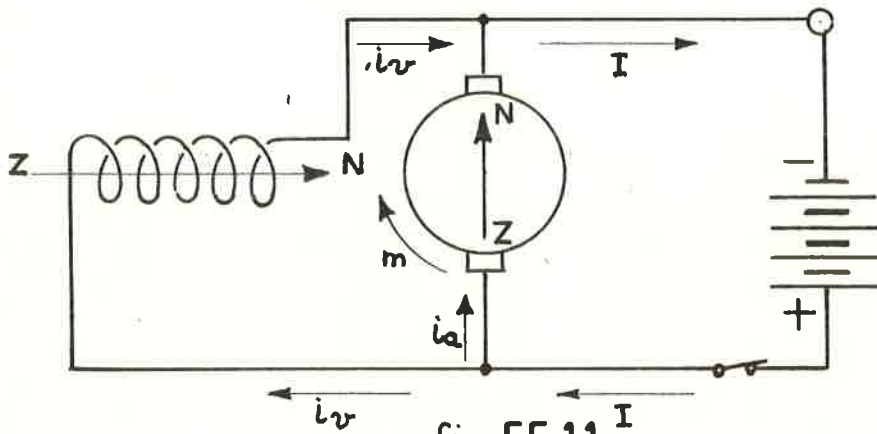


fig. 55.11^I

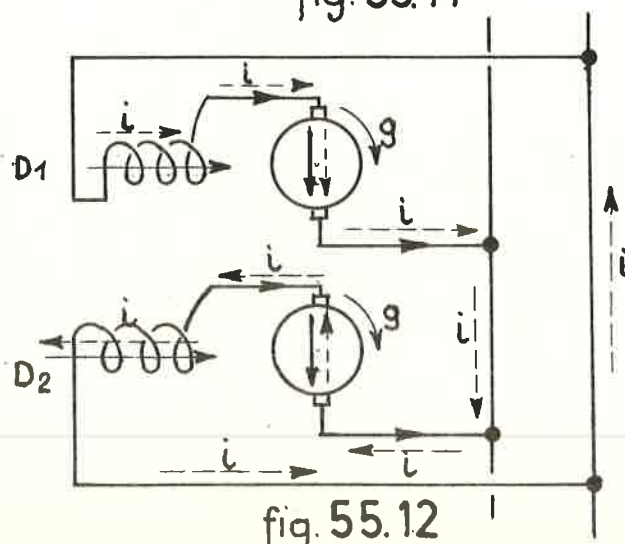


fig. 55.12

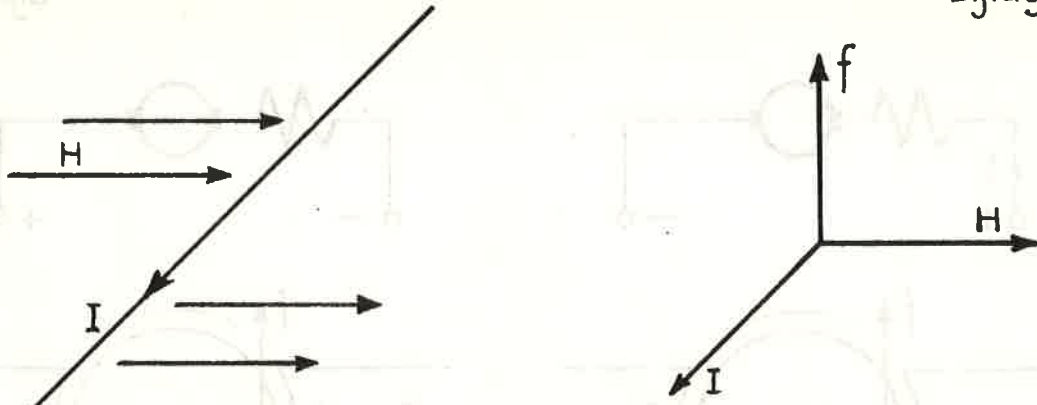


fig. 57.01

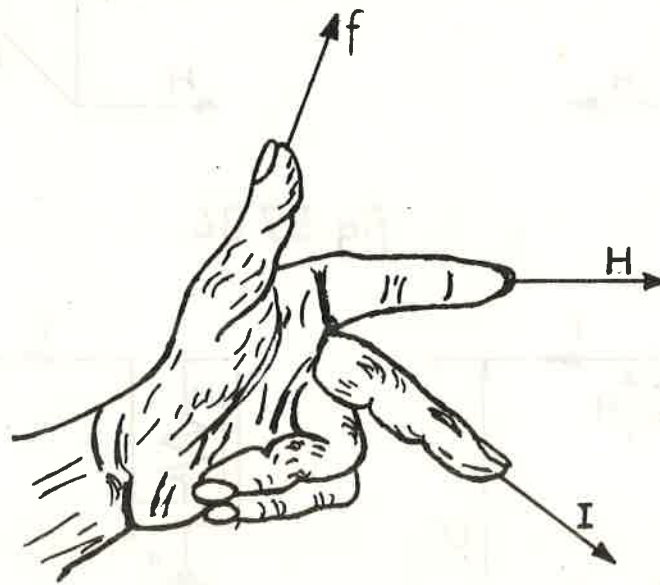


fig. 57.02

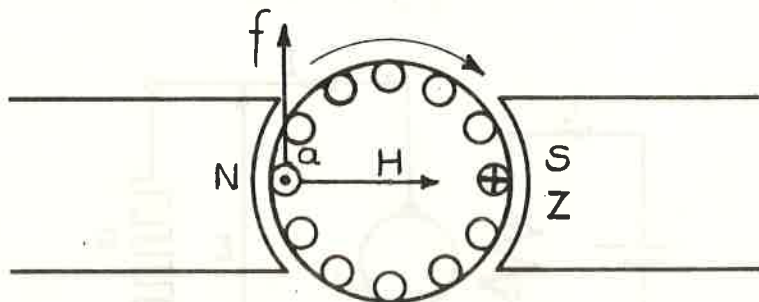


fig. 57.03

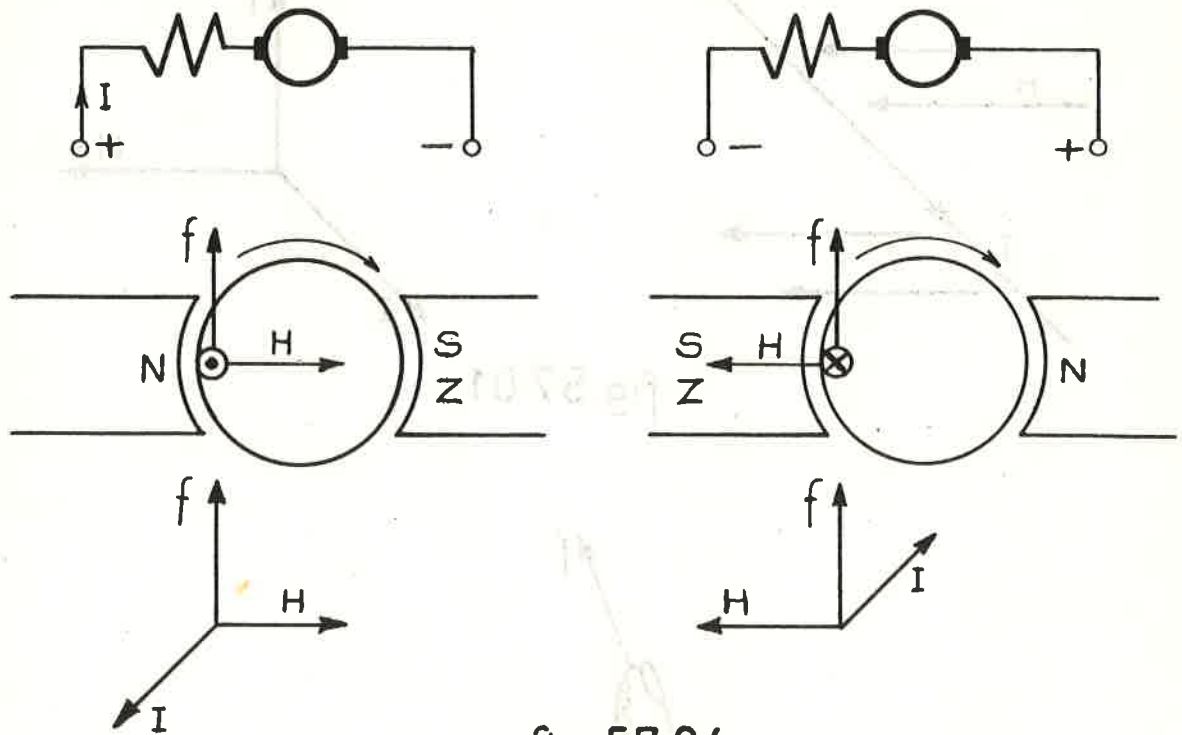


fig. 57.04

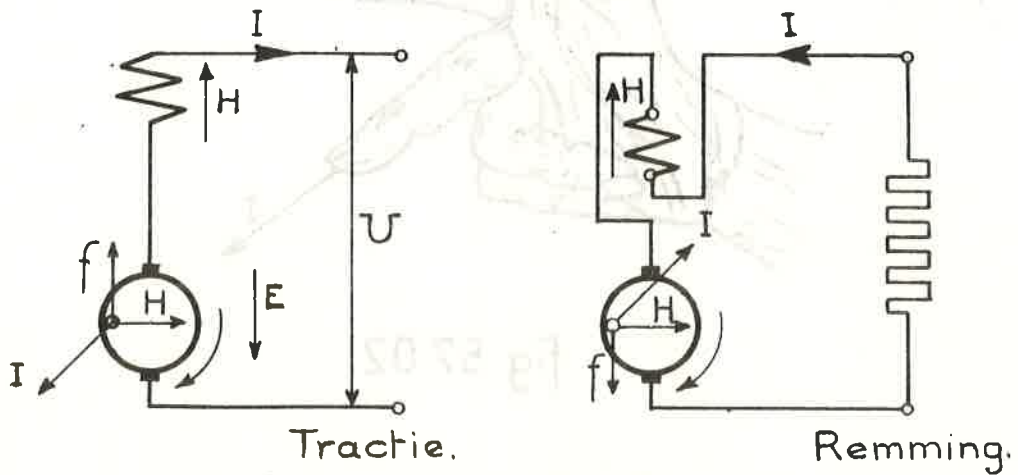


fig 57.05

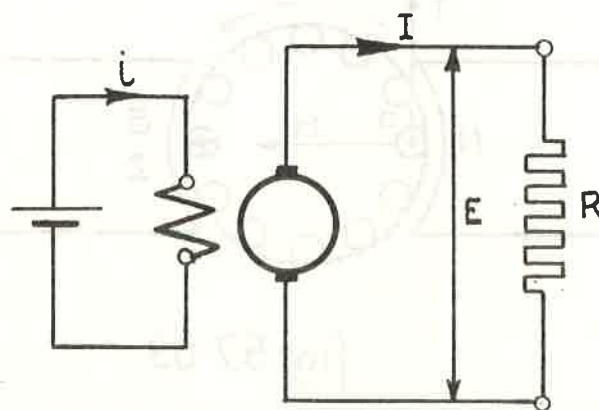


fig. 57.06

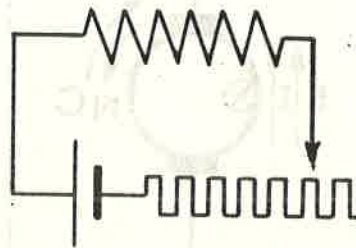
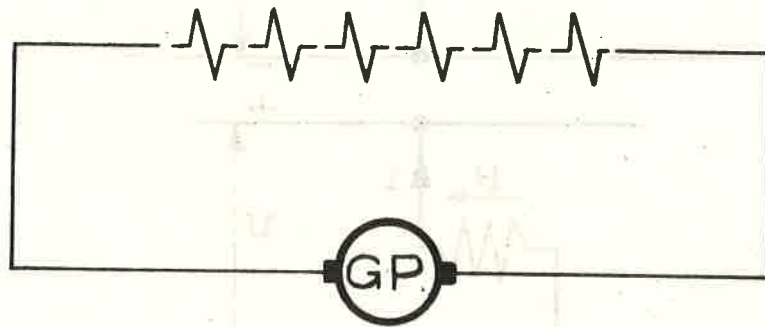
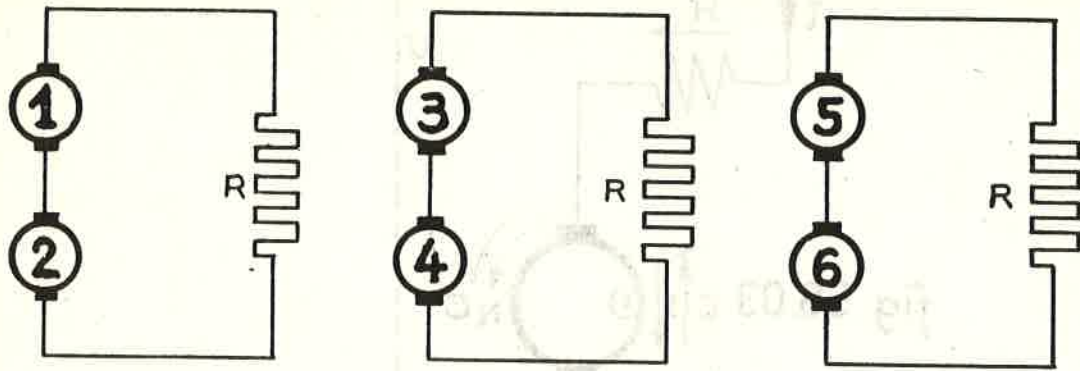


fig. 58.01.

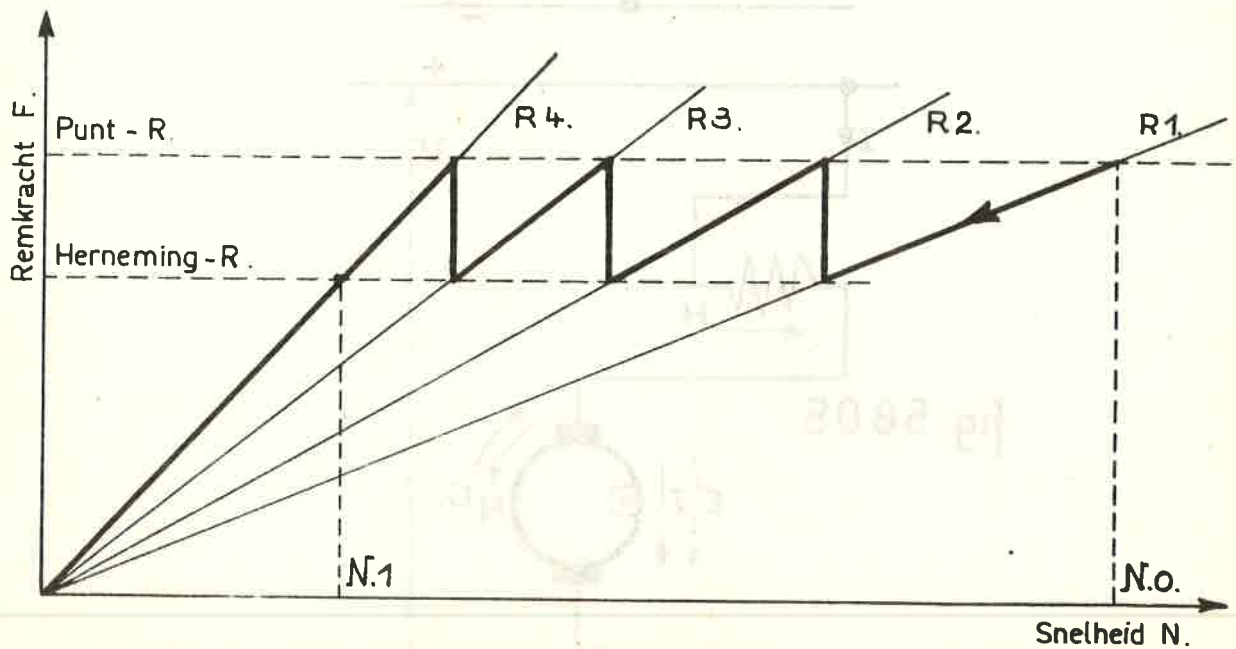


fig. 58.02.

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fig. 58.03

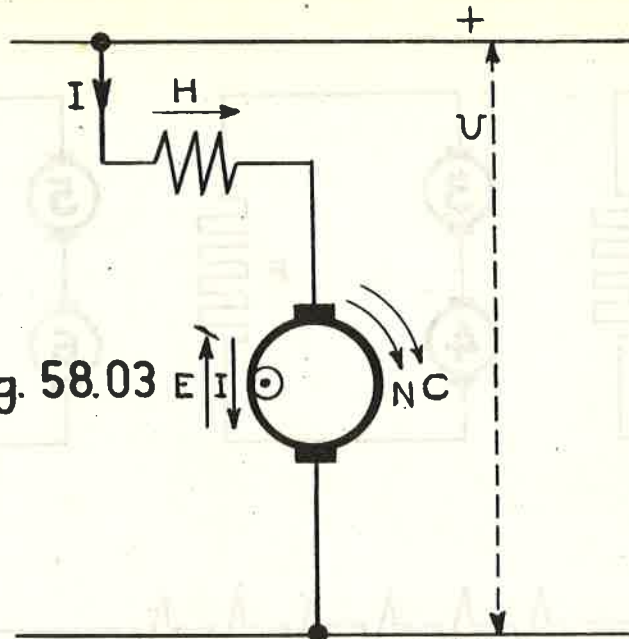


fig. 58.04

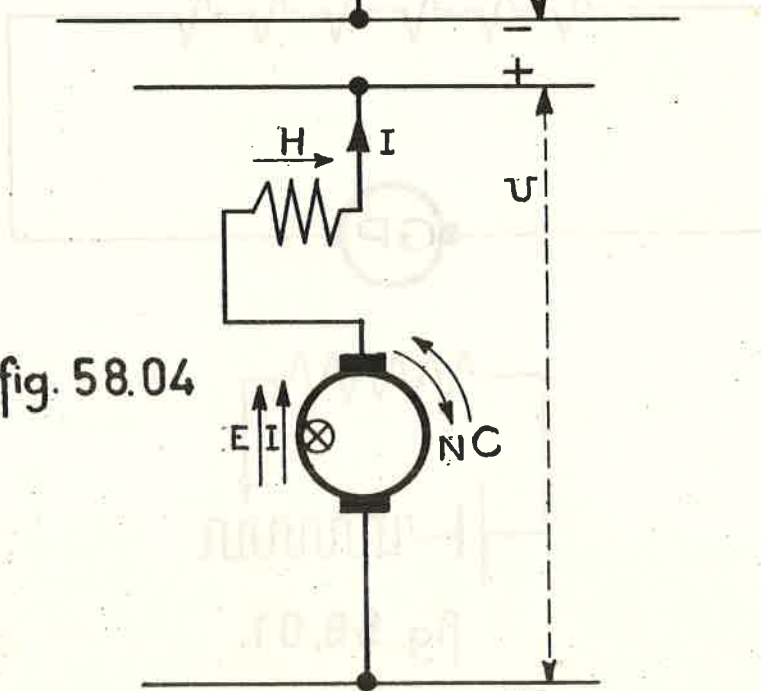
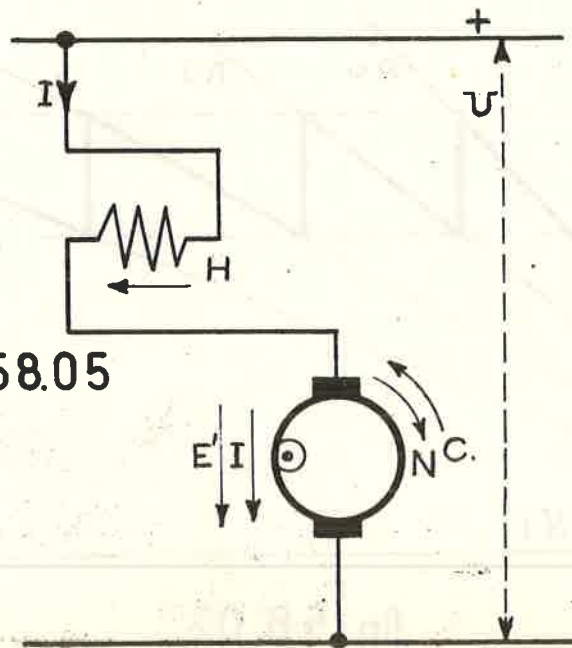


fig. 58.05



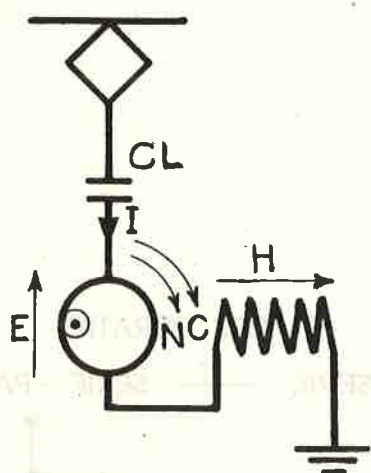


fig. 59.01

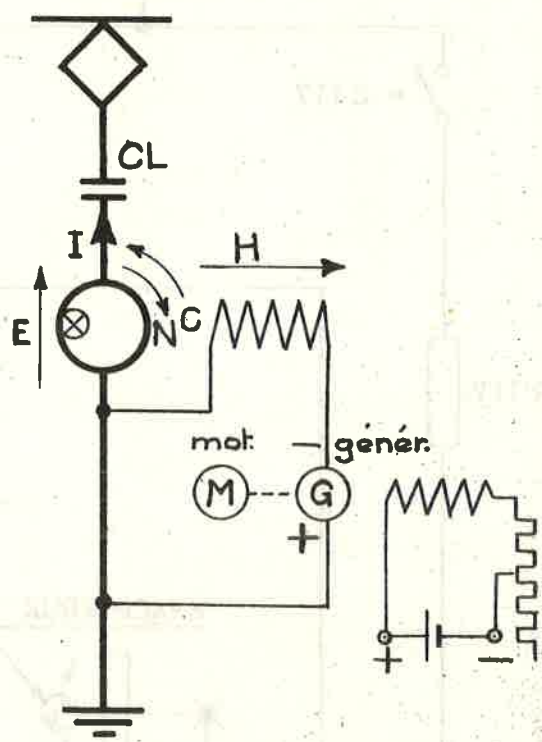


fig. 59.02

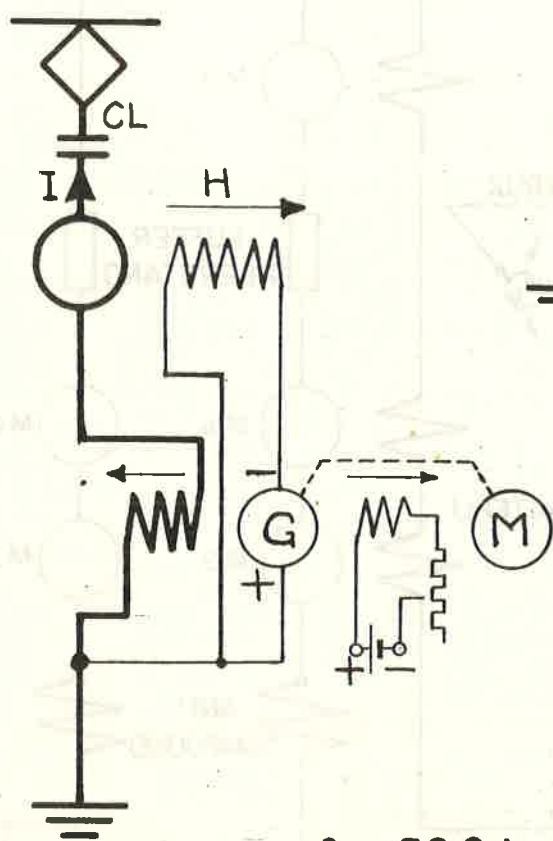


fig. 59.04

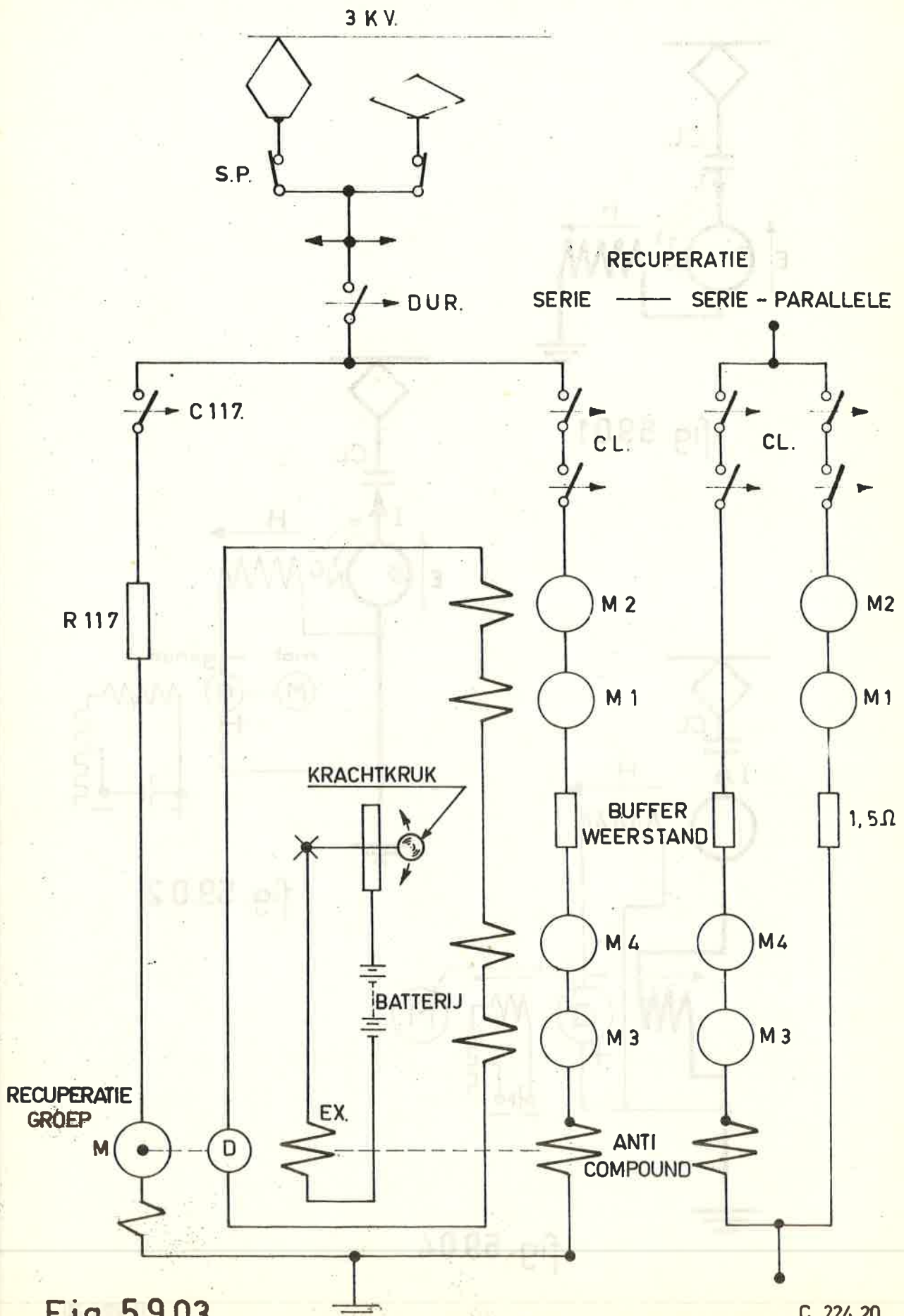


Fig. 59.03.

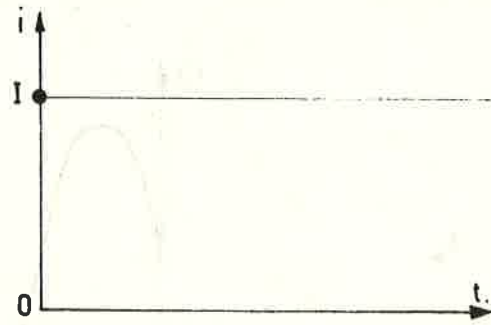


Fig. 61.01.a

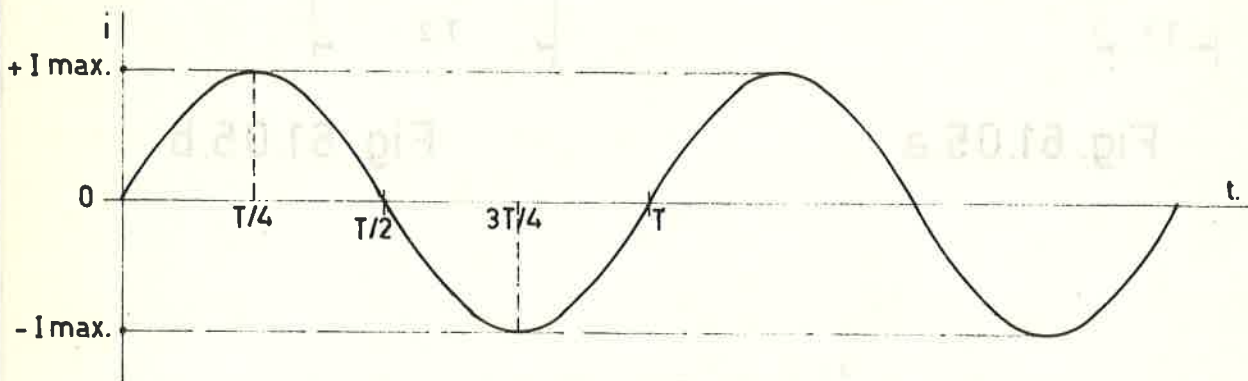


Fig. 61.01.b

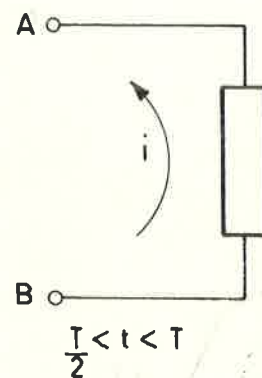
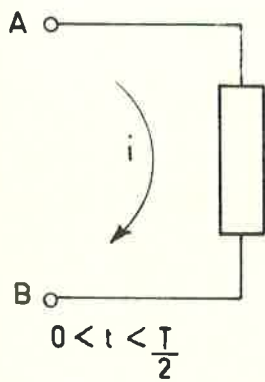


Fig. 61.02.

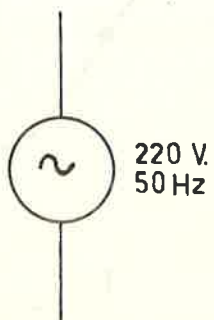


Fig. 61.03.

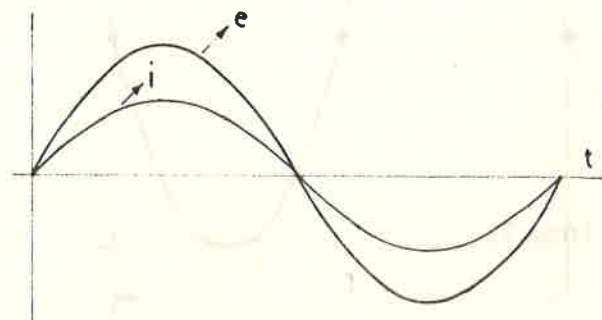


Fig. 61.04.

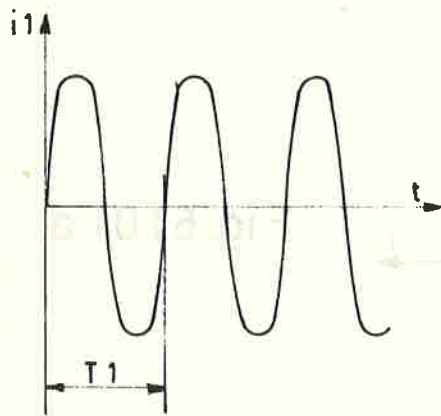


Fig. 61.05.a

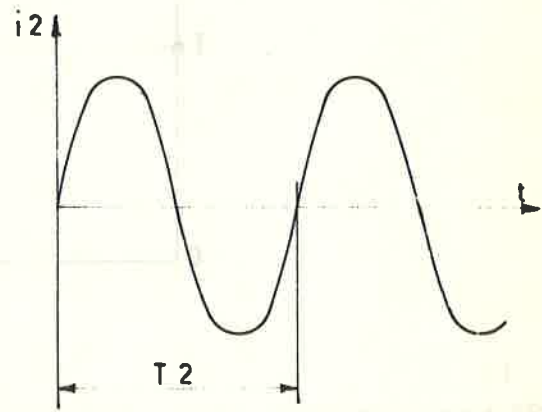


Fig. 61.05.b

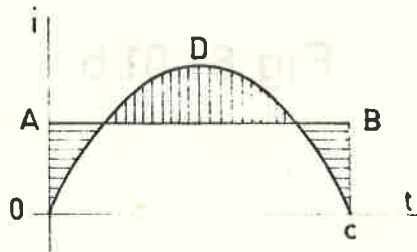


Fig. 61.06.

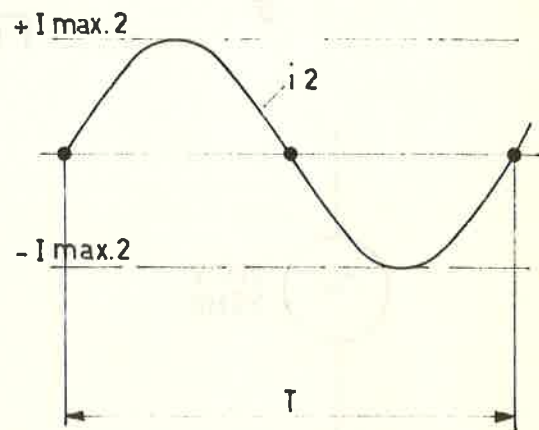
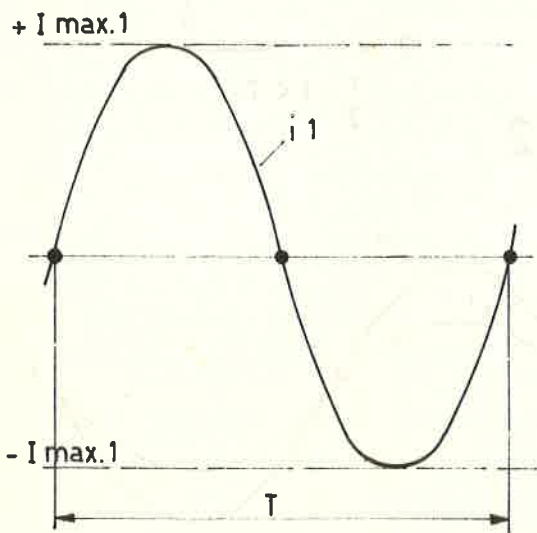


Fig. 61.07.

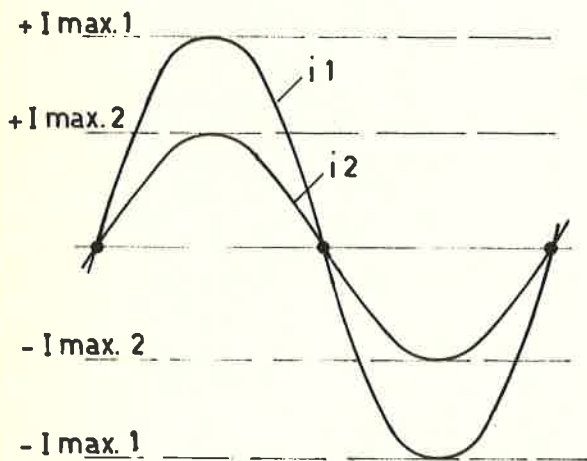


Fig.61.08. a.

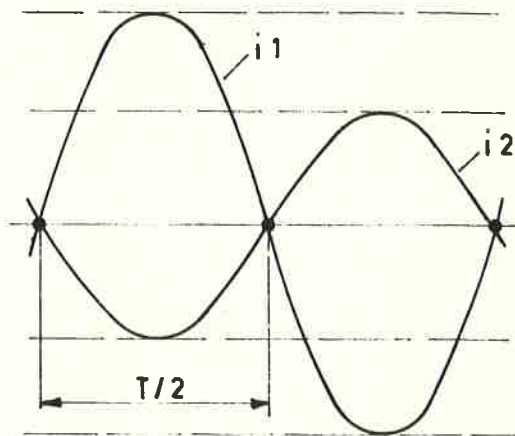


Fig.61.08. b.

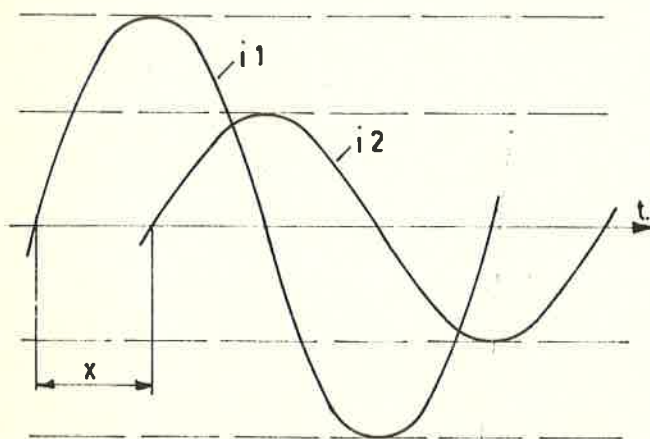


Fig.61.08. c.

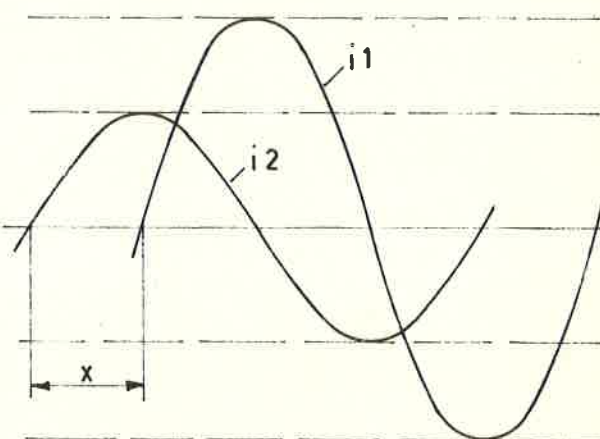


Fig.61.08. d.

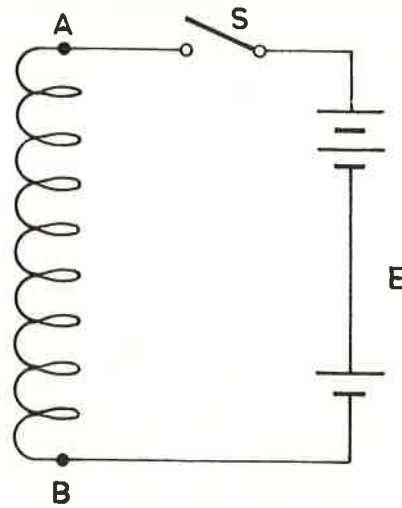


Fig. 62.01.

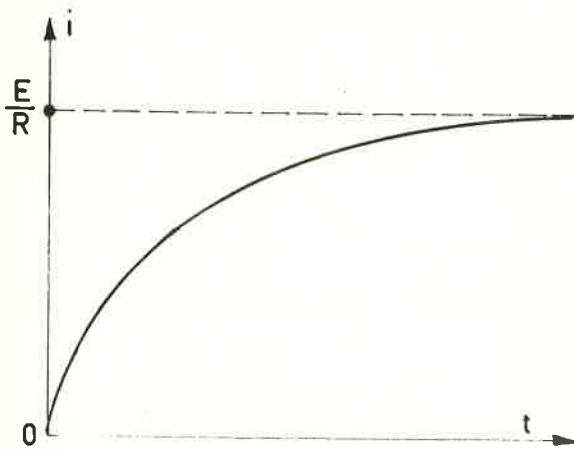


Fig. 62.02

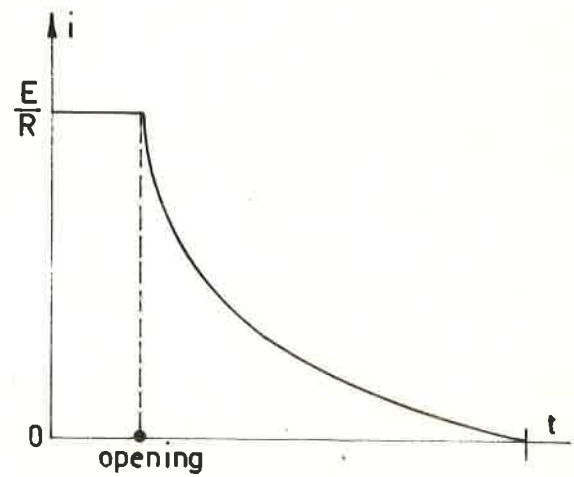


Fig. 62.03.

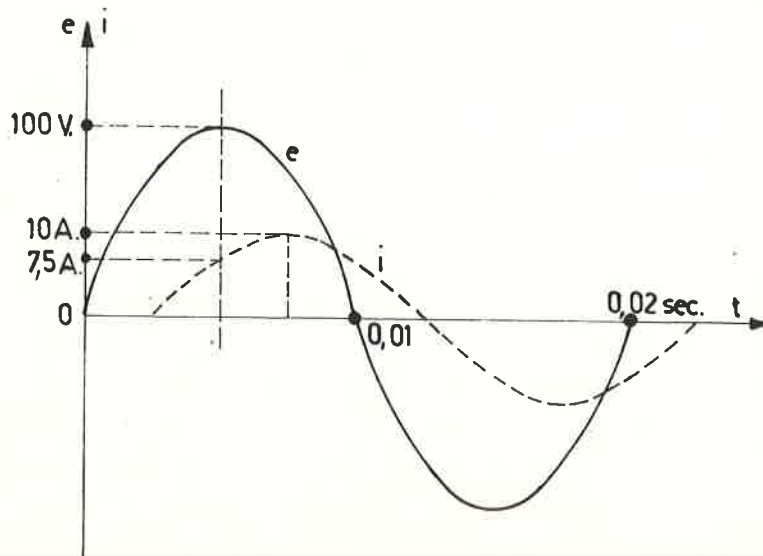


Fig. 62.04.

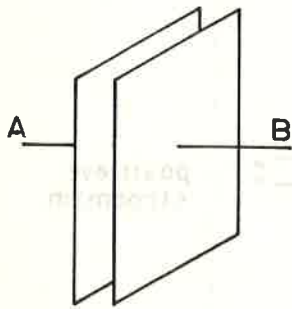


Fig. 63.01.

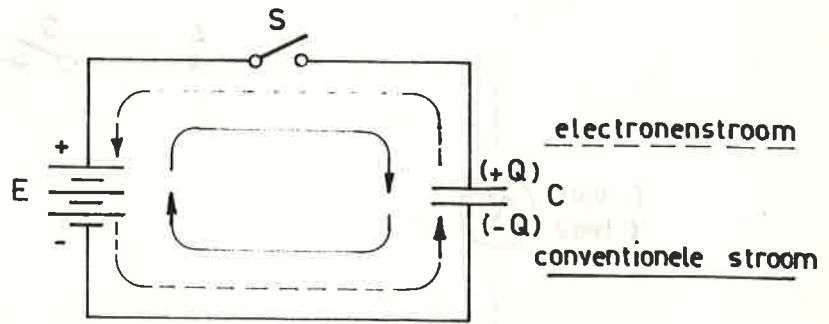


Fig. 63.02.

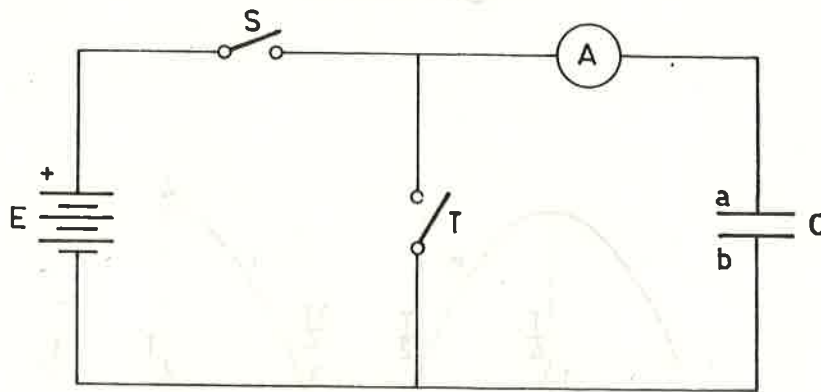


Fig. 63.03.

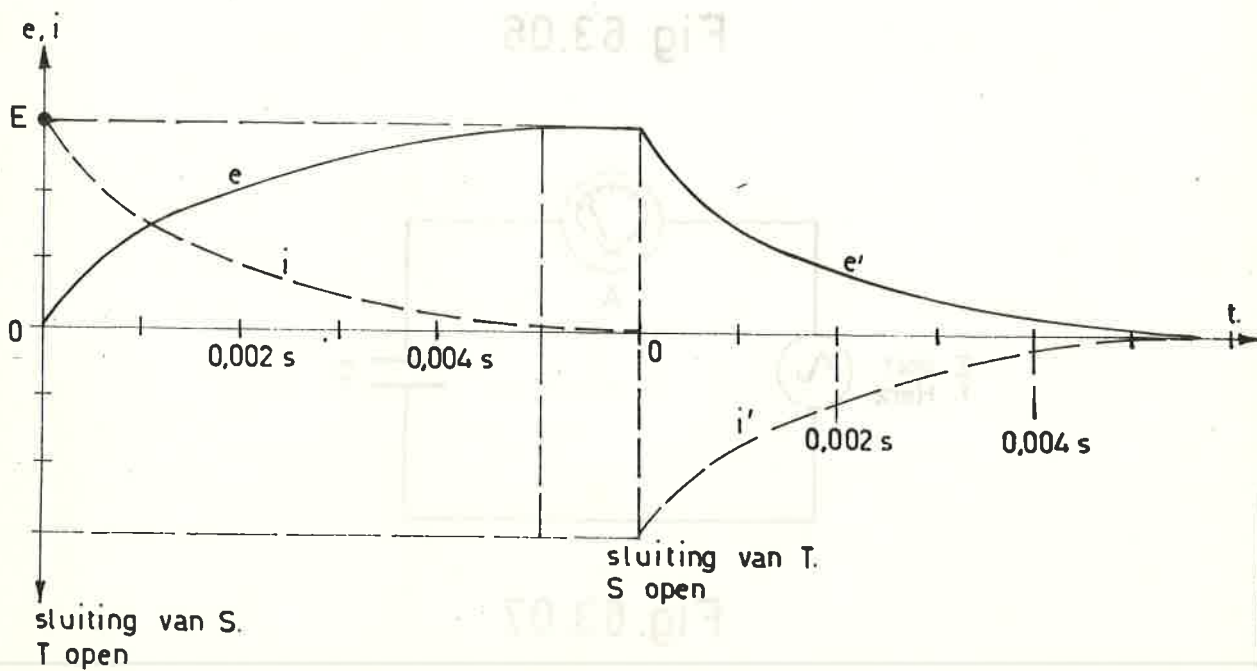


Fig. 63.04.

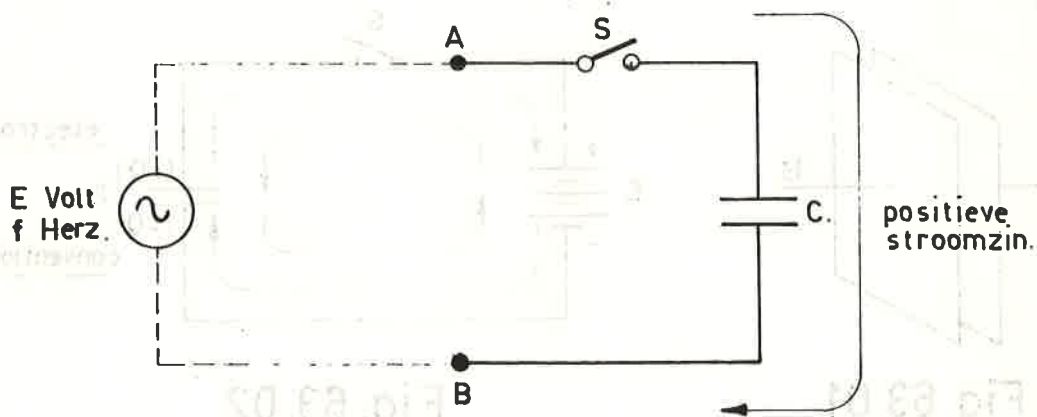


Fig. 63.05.

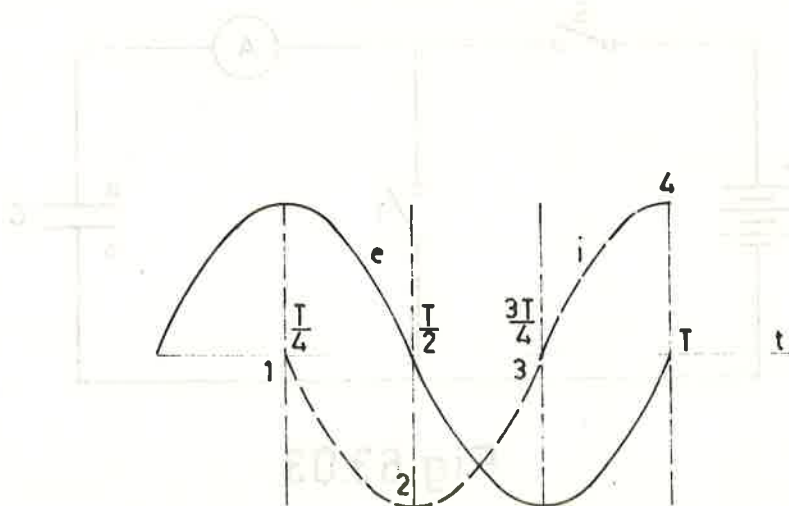


Fig. 63.06.

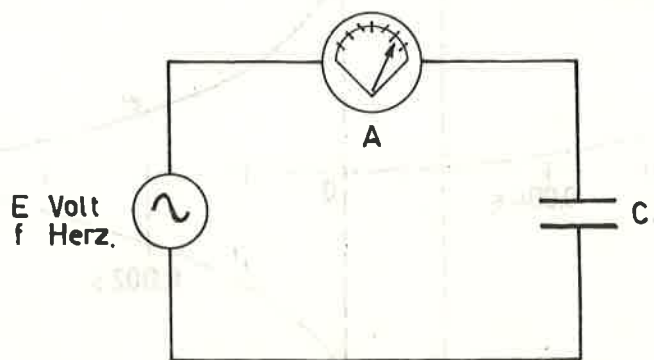
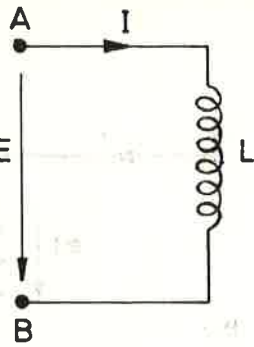
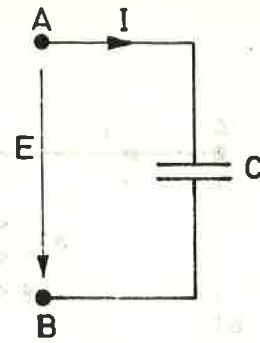


Fig. 63.07.



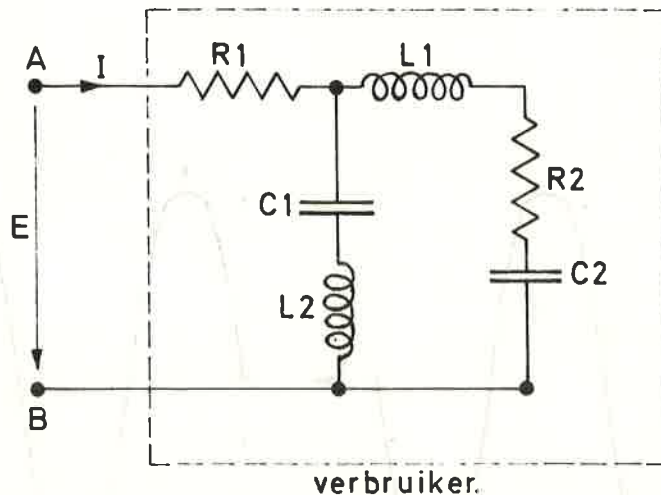
$$X = \frac{E}{I} = 2\pi fL$$

Fig. 65.01.a.



$$X = \frac{E}{I} = \frac{1}{2\pi fC}$$

Fig. 65.01.b.



verbruiker.

$$Z = \frac{E}{I}$$

Fig. 65.01.c.

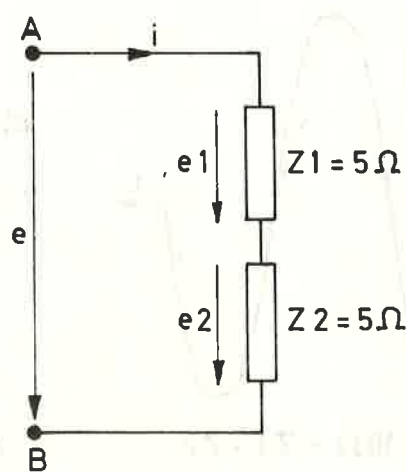
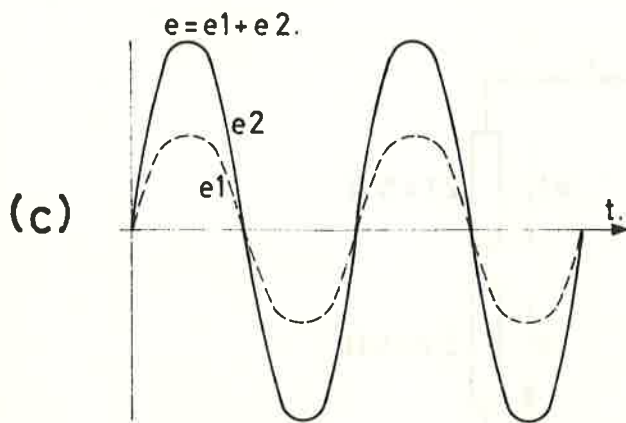
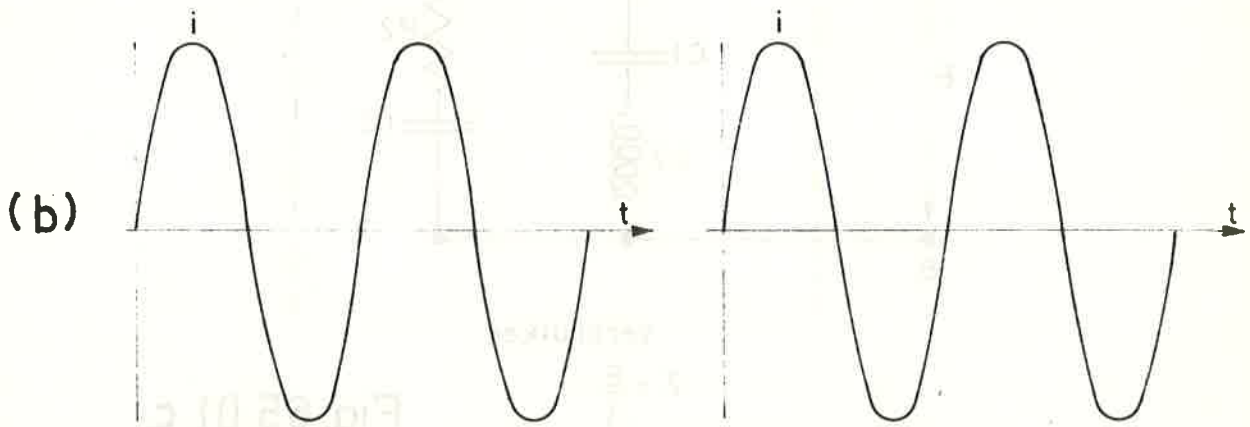
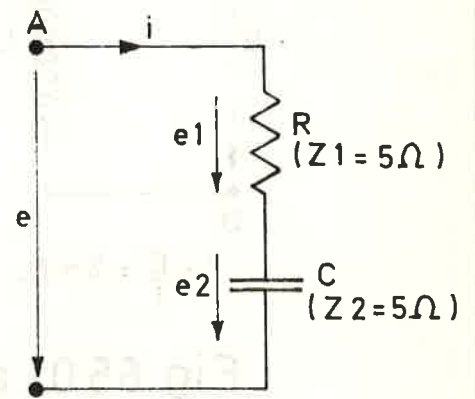
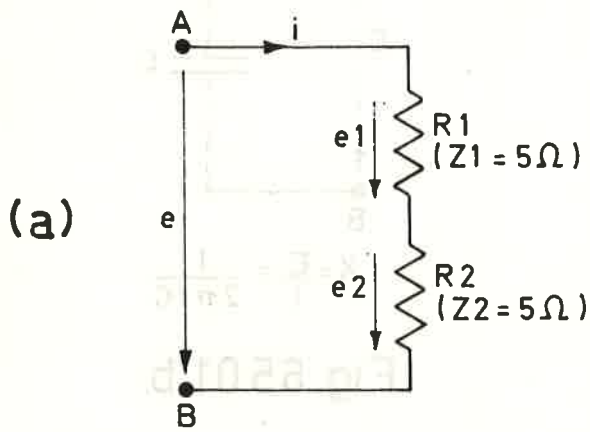
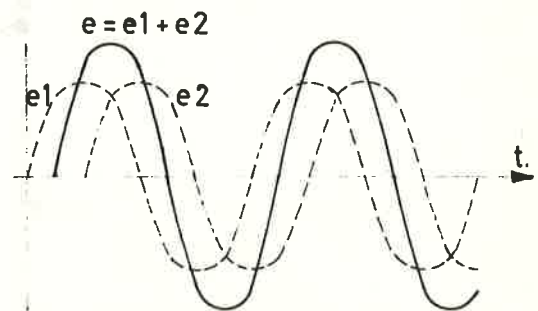


Fig. 65.02.



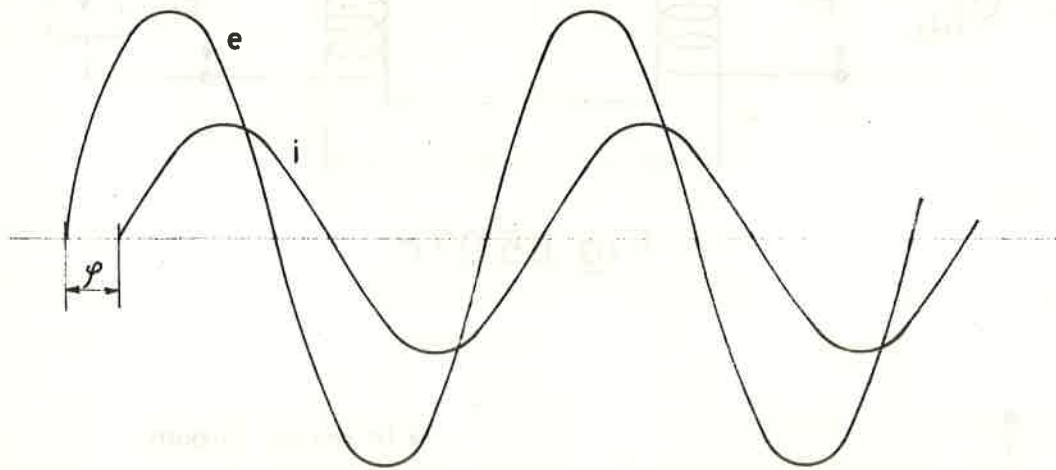
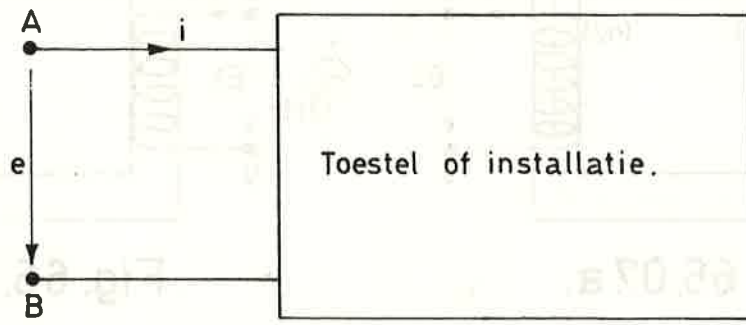
$$Z = \frac{E}{I} = \frac{10I}{I} = 10\Omega = Z_1 + Z_2$$

Fig. 65.03.



$$Z = \frac{E}{I} = \frac{7,07I}{I} = 7,07\Omega \neq Z_1 + Z_2$$

Fig. 65.04.



$$P = E \times I \times \cos \varphi.$$

Fig. 65.05.

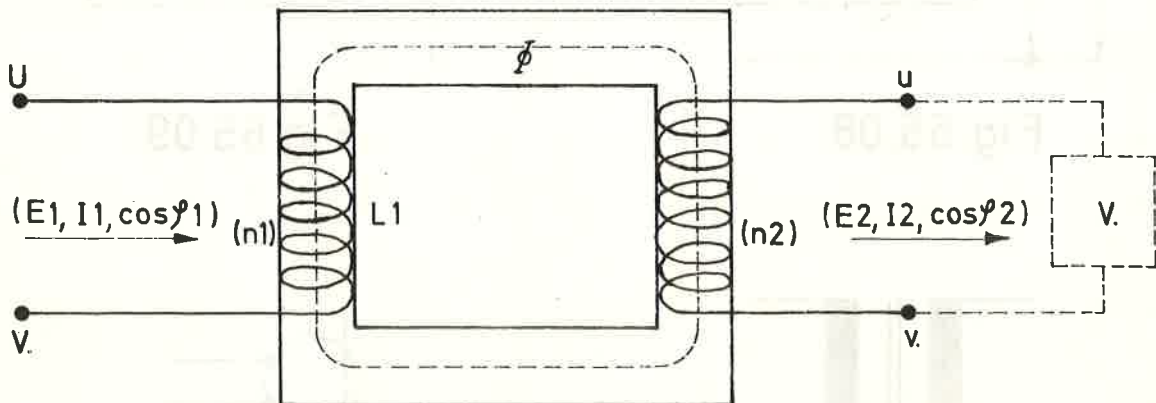


Fig. 65.06.

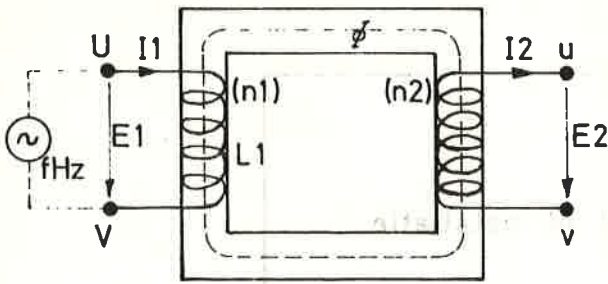


Fig. 65.07.a.

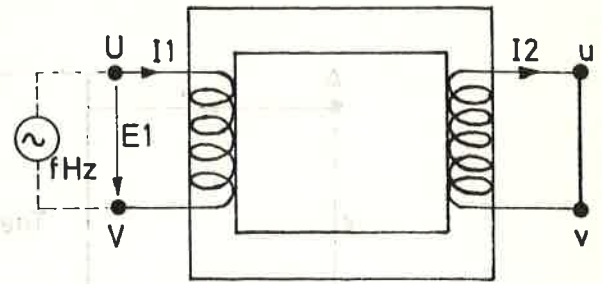


Fig. 65.07.b.

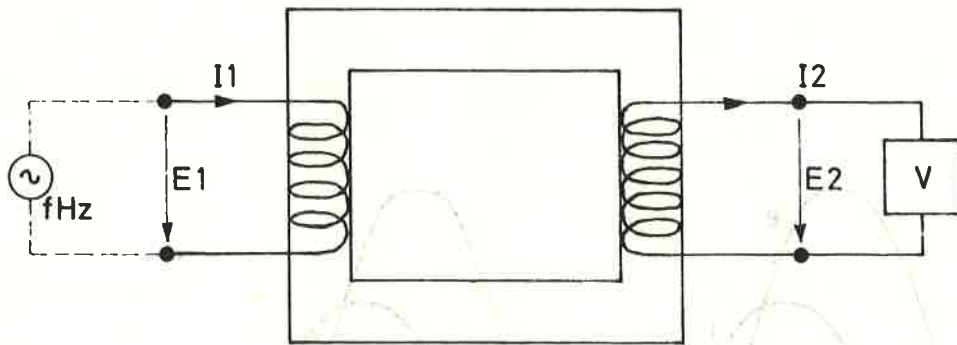


Fig. 65.07.c.

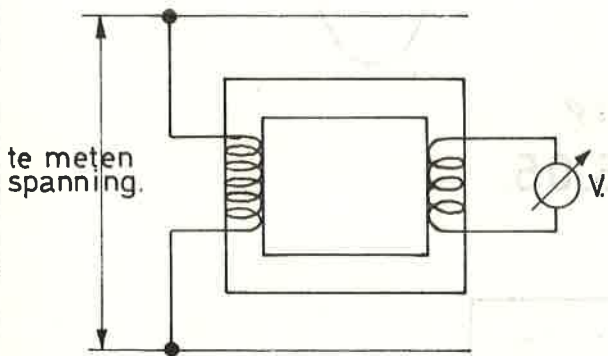


Fig. 65.08.

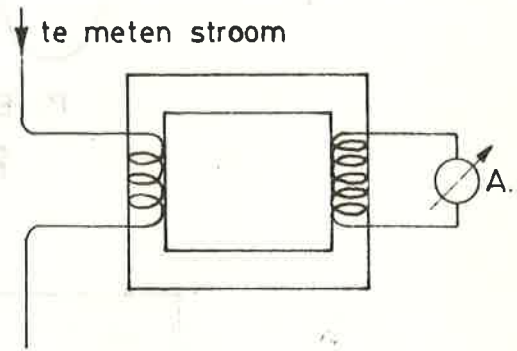
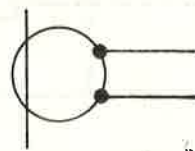


Fig. 65.09.



Vermogentransformator
Spanningsmeettransformator.



Stroommeettransformator.

Fig. 65.10.

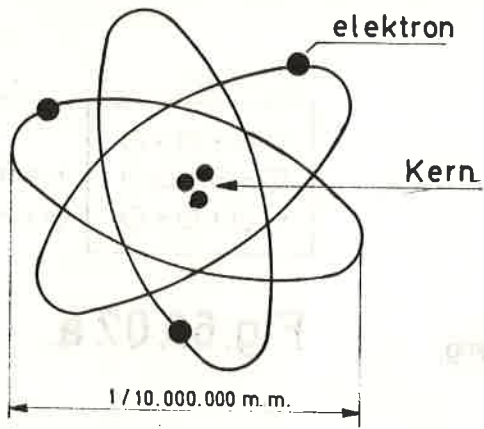


Fig. 66.01

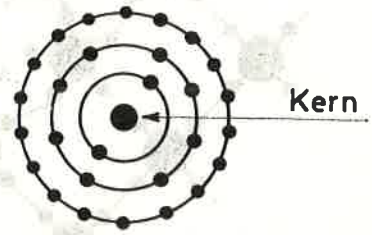


Fig. 66.02

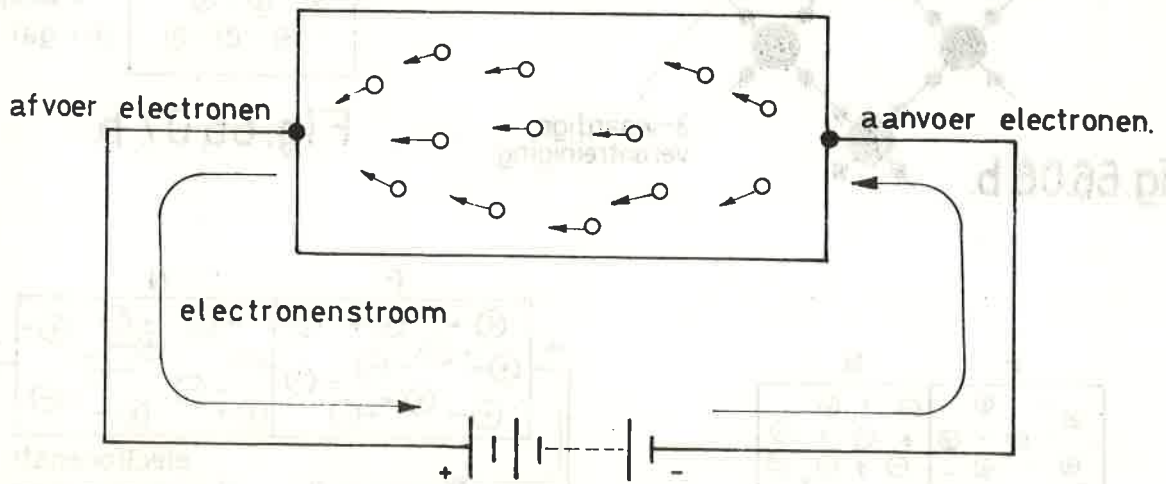


Fig. 66.03

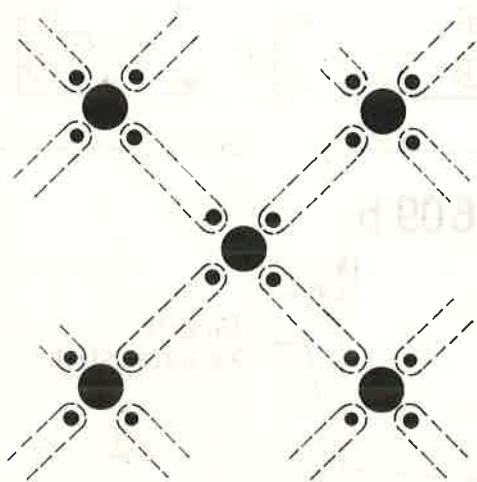


Fig. 66.04

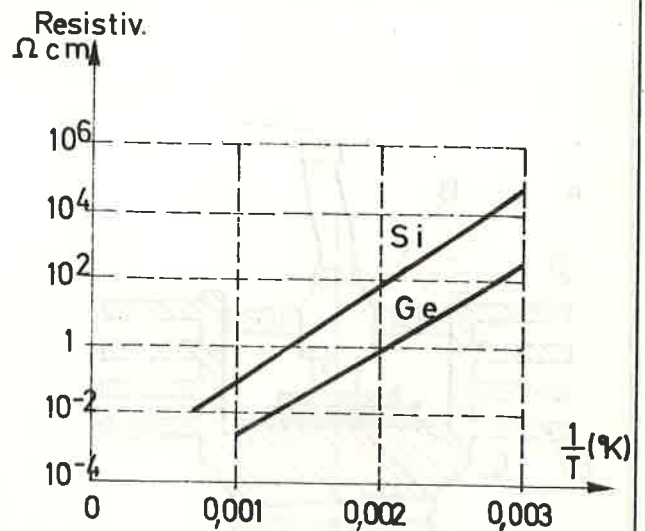


Fig. 66.05

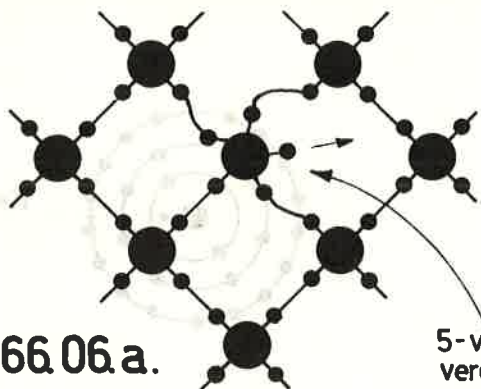


Fig. 66.06 a.

5- waardige verontreiniging.

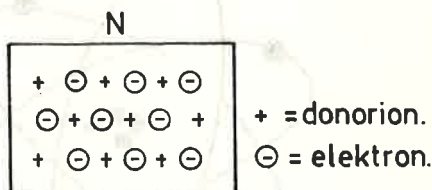


Fig. 66.07 a.

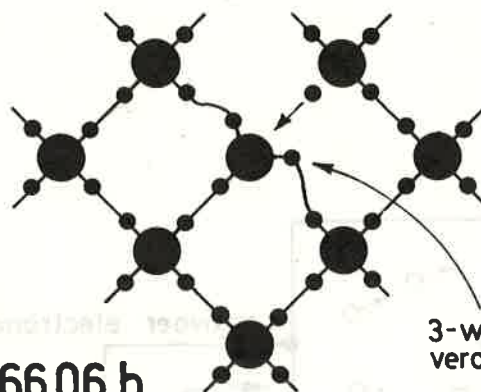


Fig. 66.06 b.

3- waardige verontreiniging.

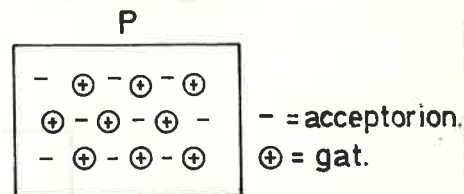


Fig. 66.07 b.

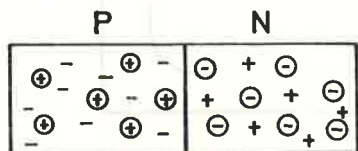


Fig. 66.08.

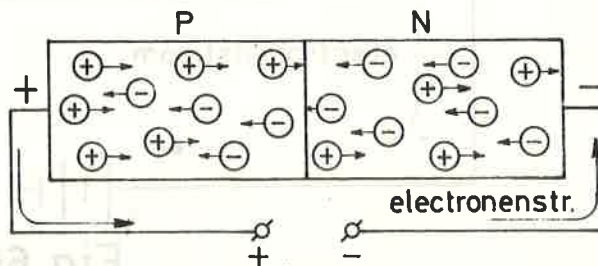


Fig. 66.09 a.

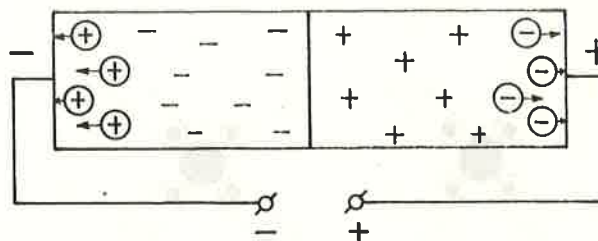


Fig. 66.09 b.

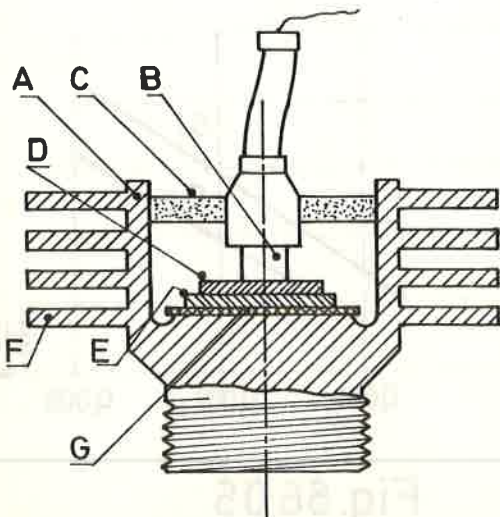


Fig. 66.11.

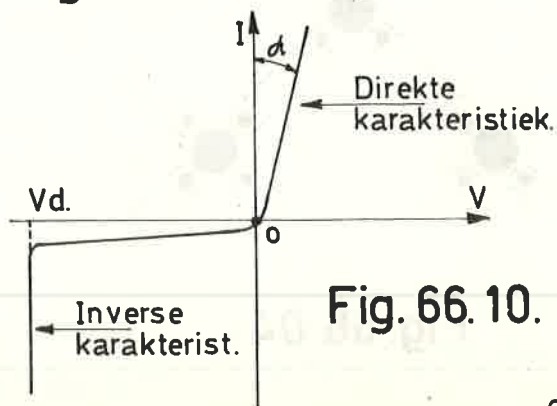


Fig. 66.10.

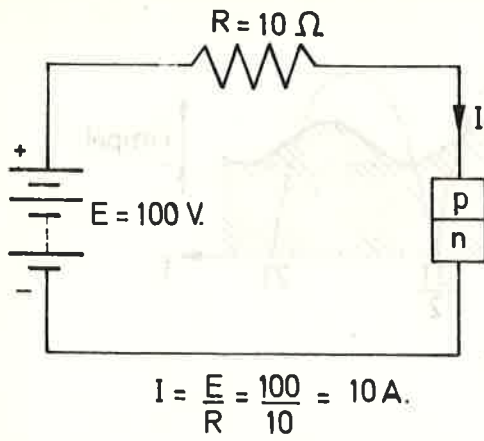


Fig. 67.01.a.

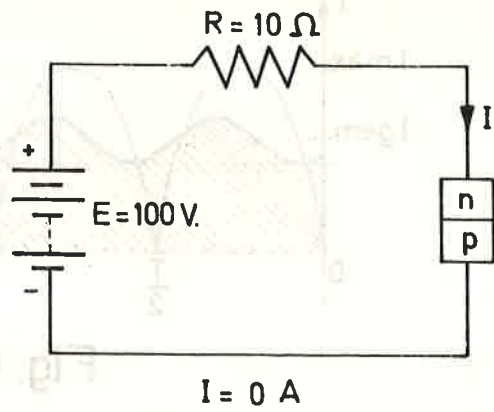


Fig. 67.01.b.



Fig. 67.02.

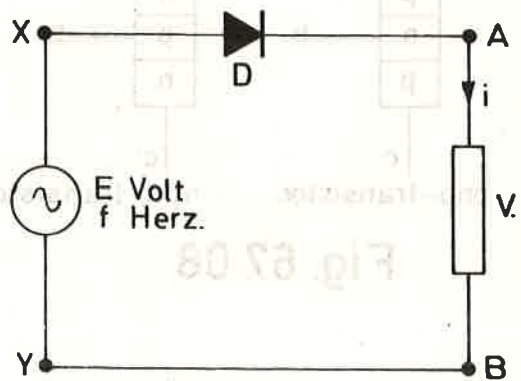


Fig. 67.03.

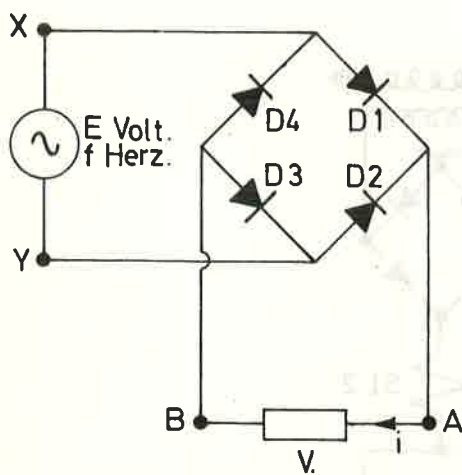


Fig. 67.06.

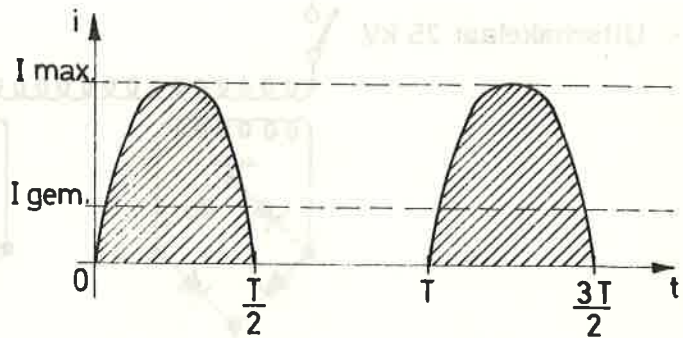


Fig. 67.04.

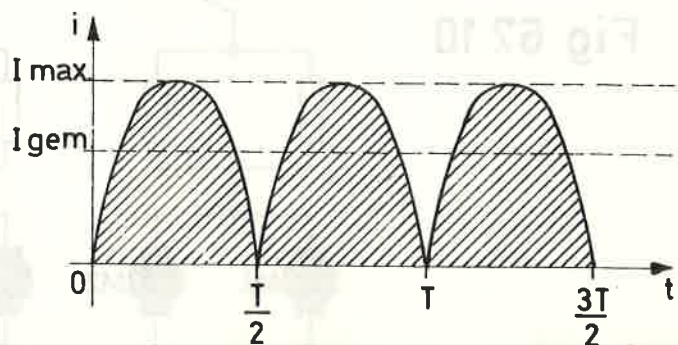


Fig. 67.05.

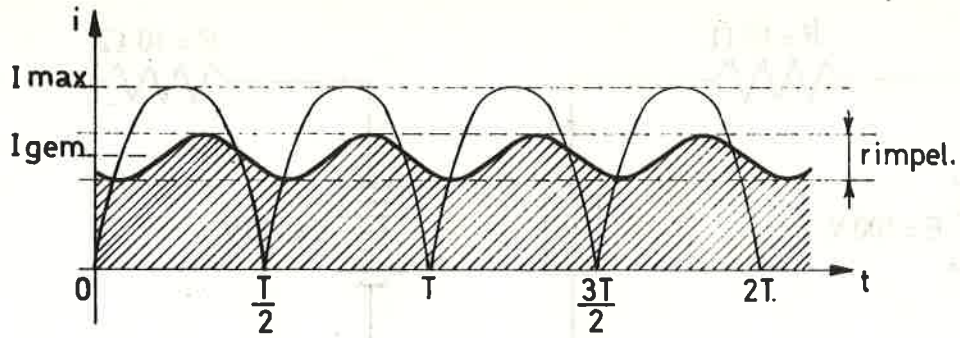


Fig. 67.07

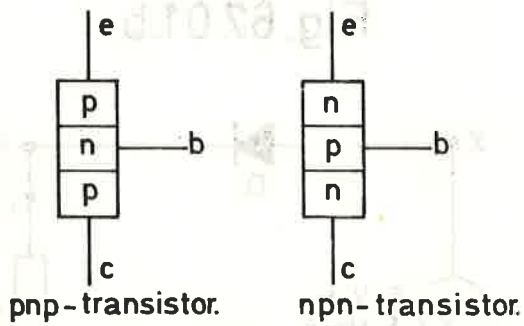


Fig. 67.08

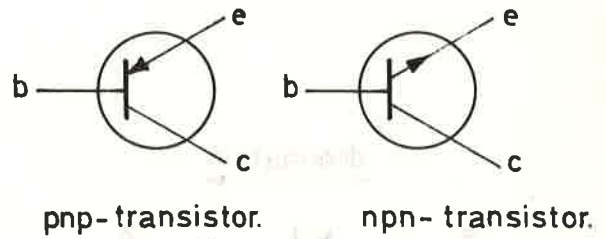


Fig. 67.09

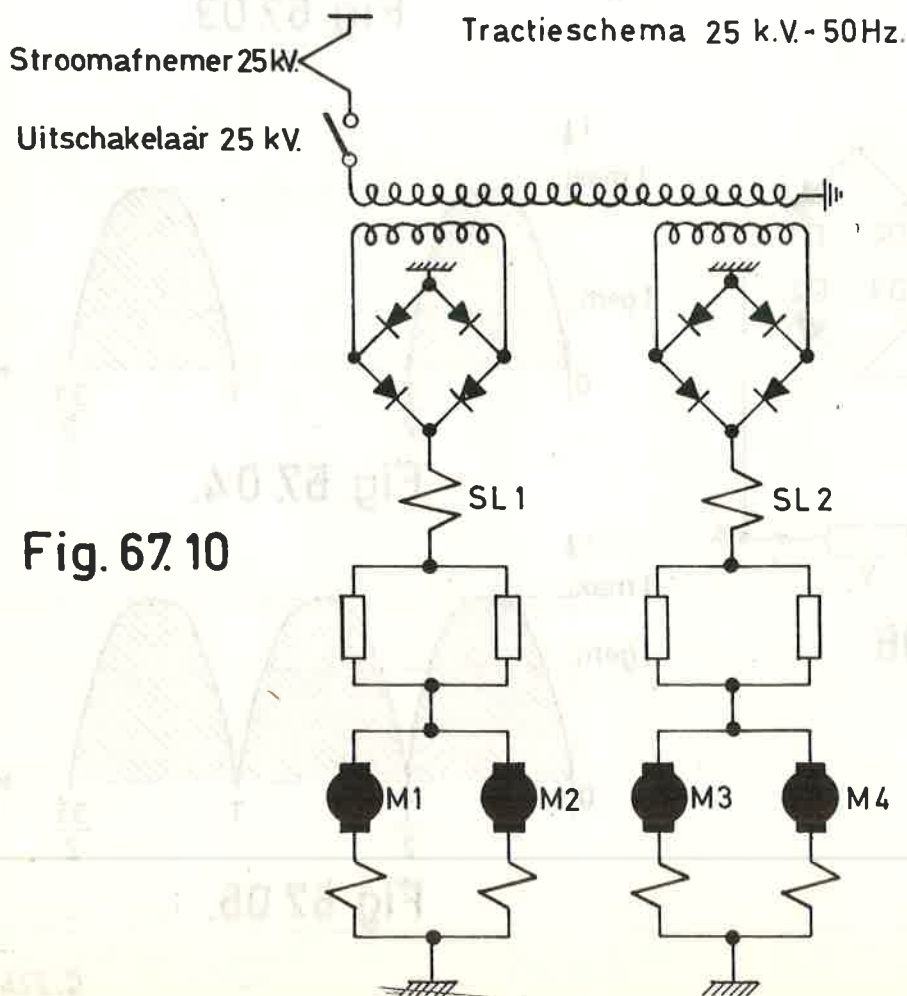


Fig. 67.10

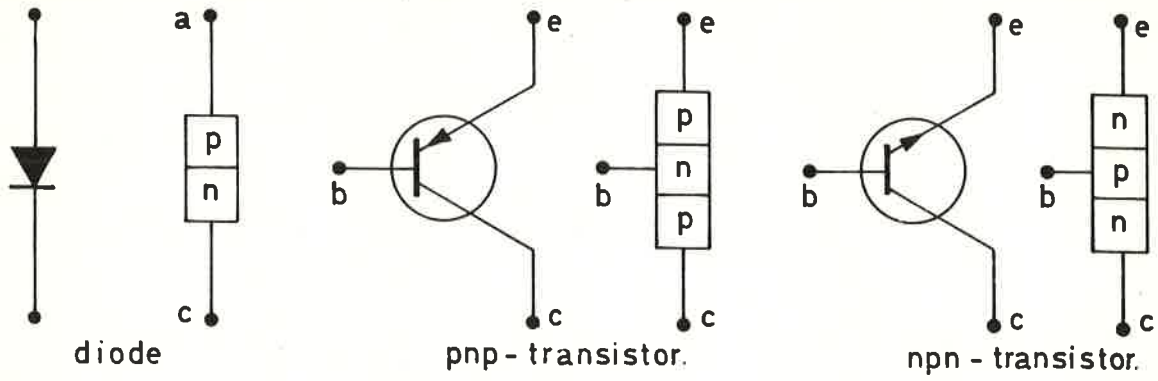


Fig. 69.01.

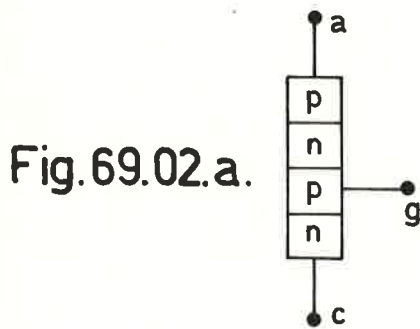


Fig. 69.02.a.

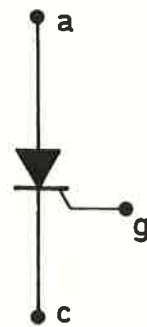


Fig. 69.02.b.

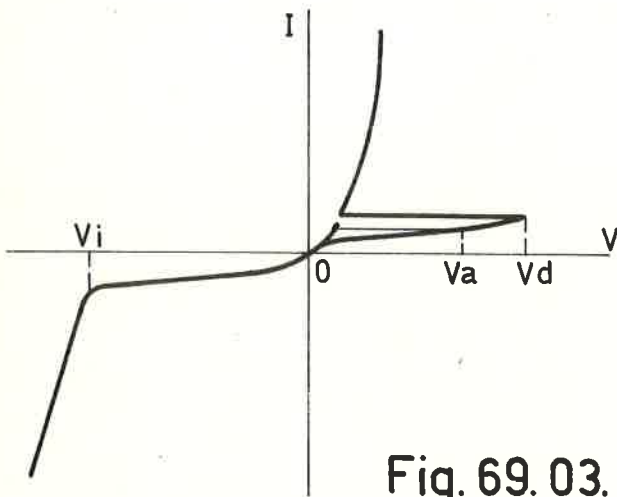


Fig. 69.03.

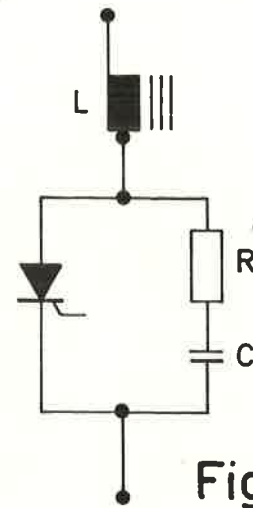


Fig. 69.04.

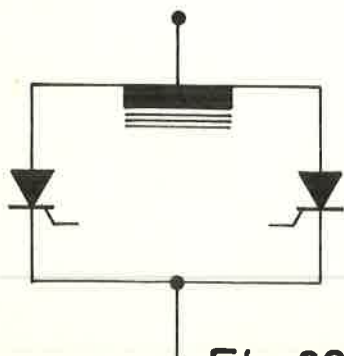


Fig. 69.05.

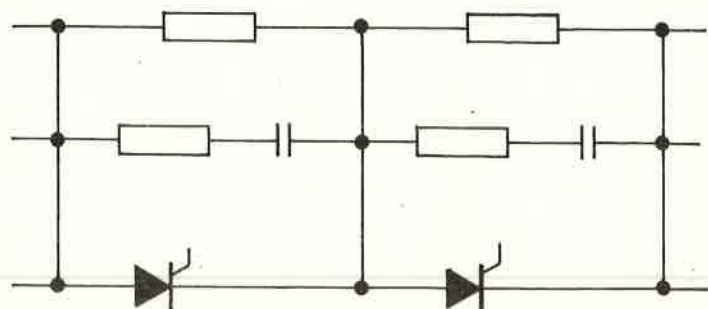


Fig. 69.06.

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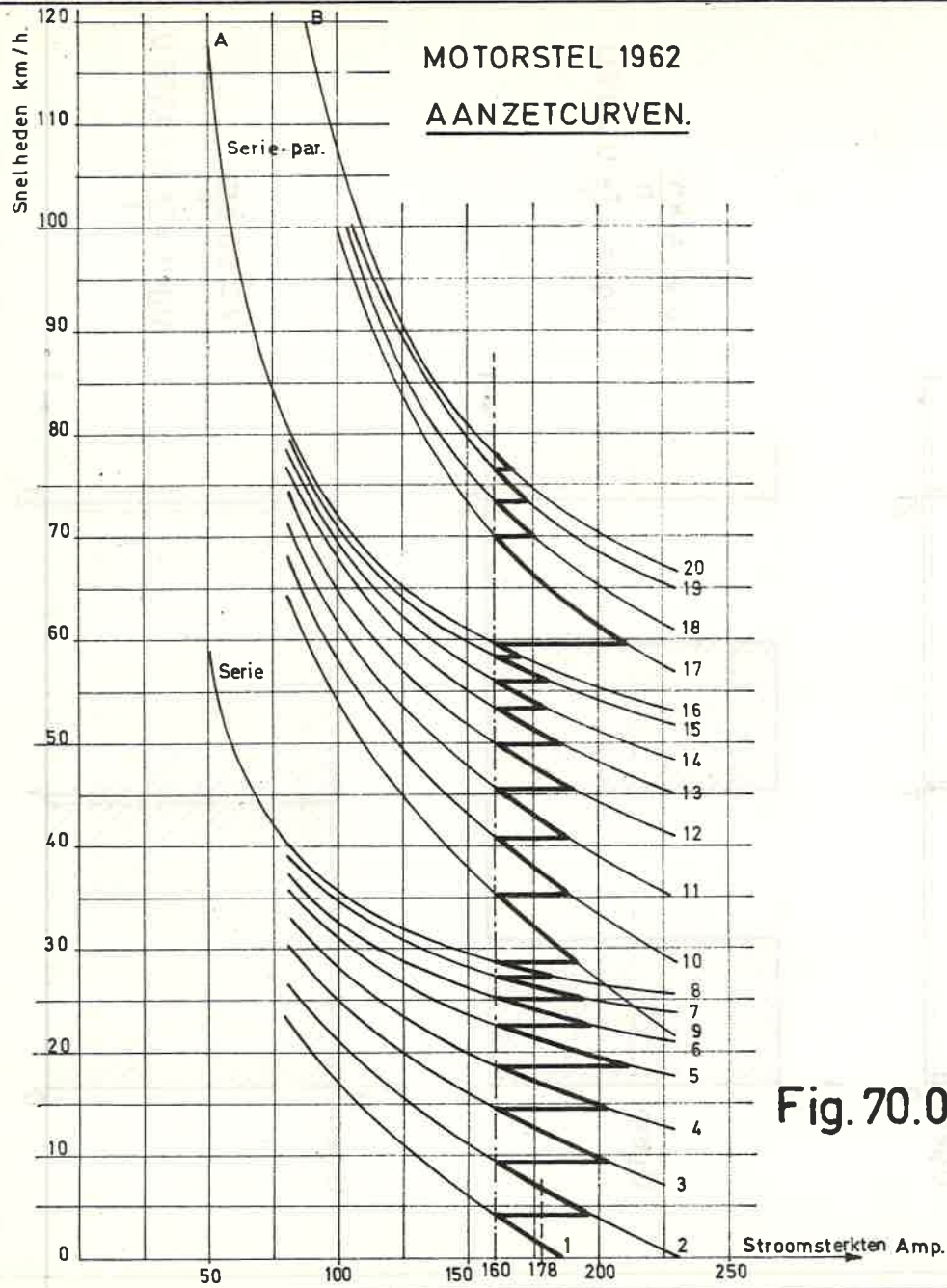


Fig. 70.02.

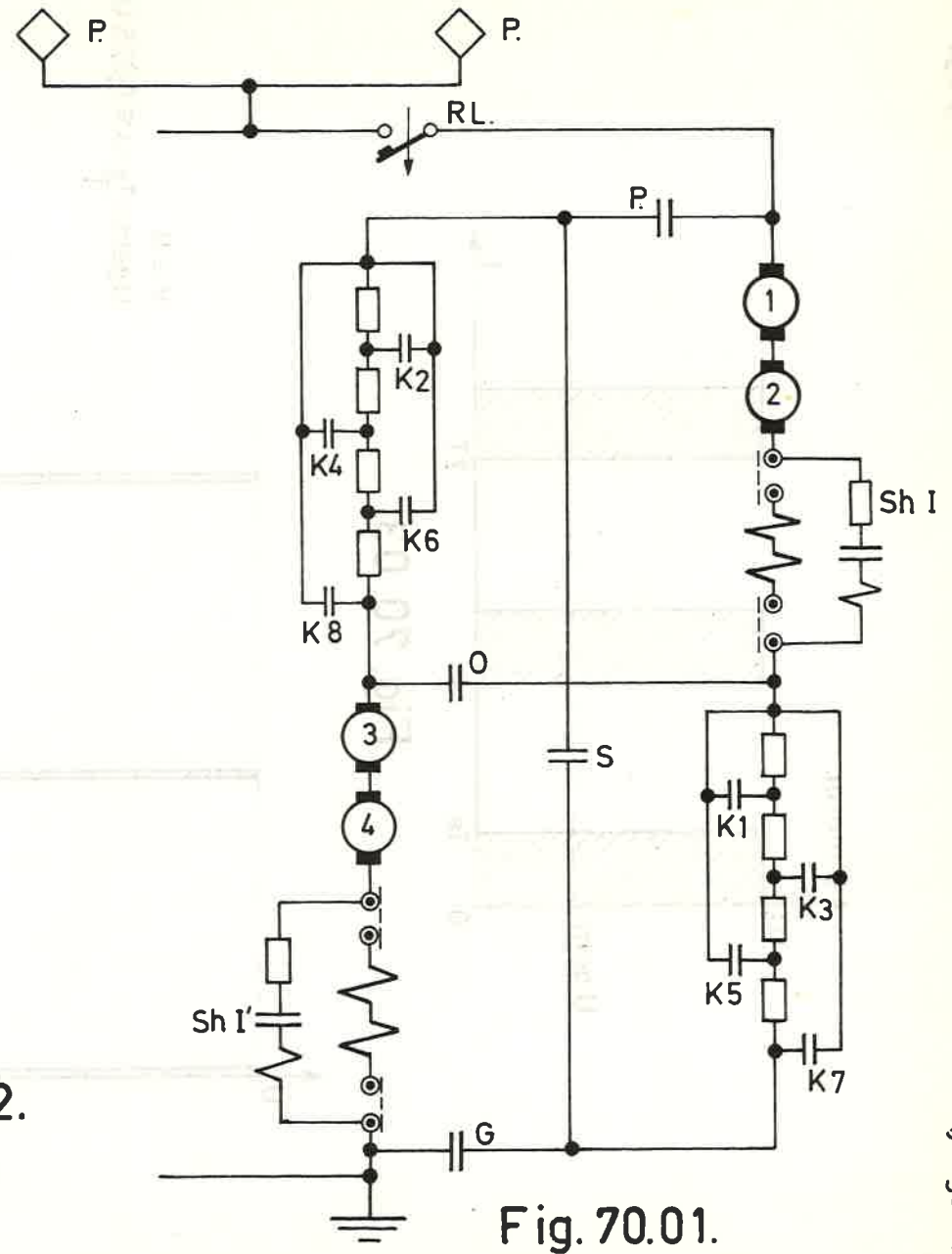


Fig. 70.01.

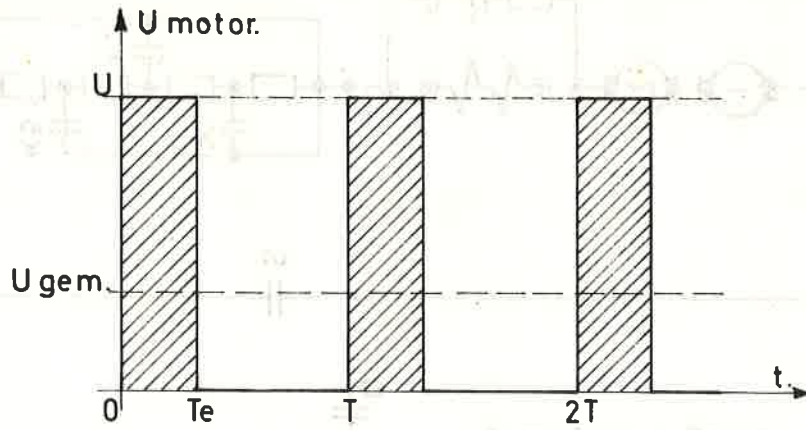
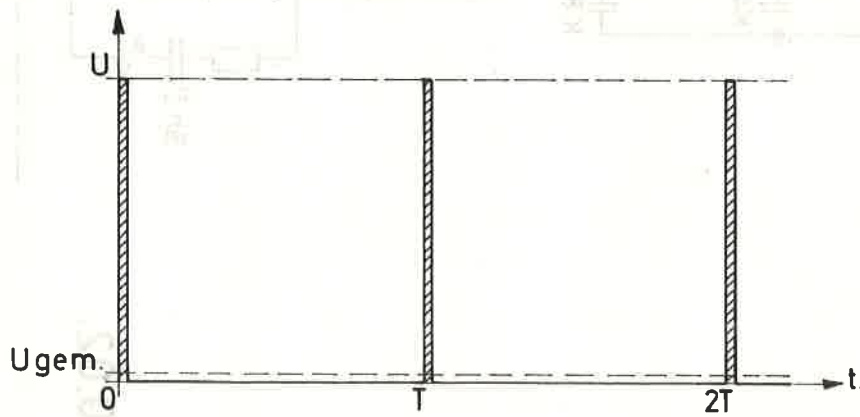
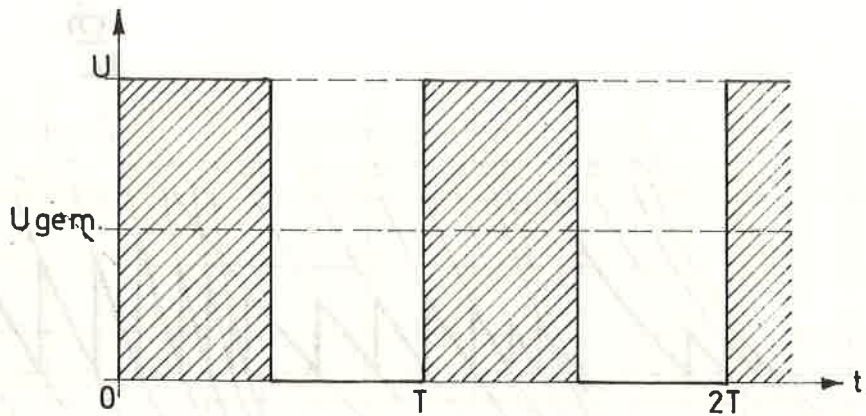


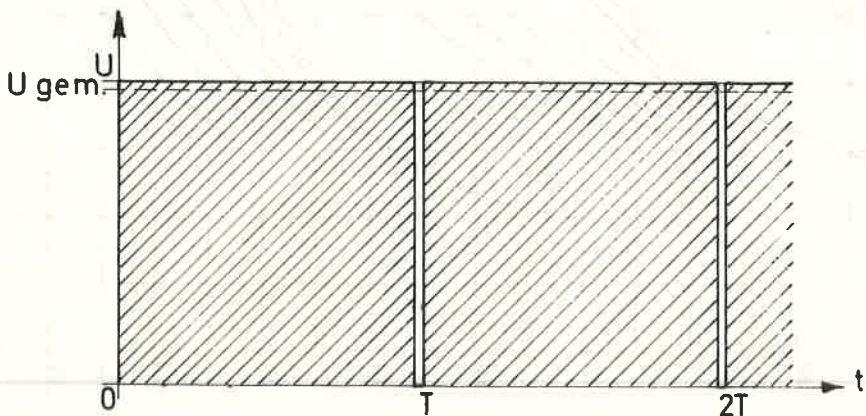
Fig. 70.03.



$V = 0$
 $U_{gem.} = \frac{T_e}{T} U \cong 0,025 U.$



$v \cong 25 \frac{km.}{h.}$
 $U_{gem.} = \frac{T_e}{T} U = 0,5 U.$



$V \cong 60 \frac{km.}{h.}$
 $U_{gem.} = \frac{T_e}{T} U = 0,975 U.$

Fig. 70.04.

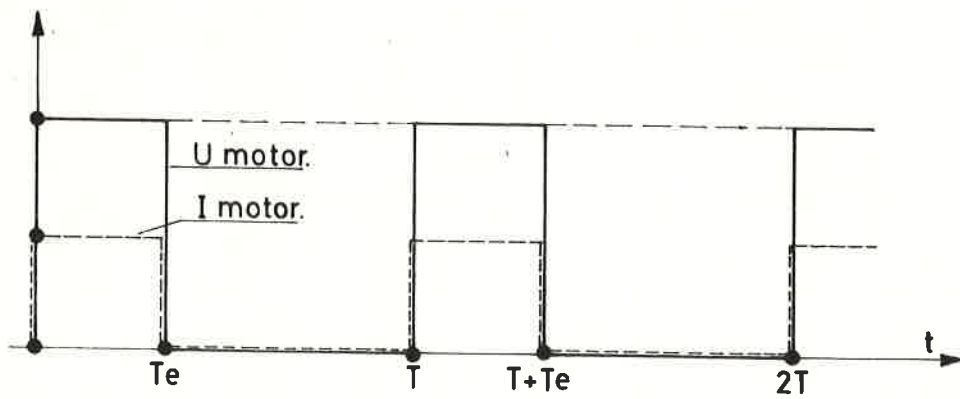


Fig. 70.05.

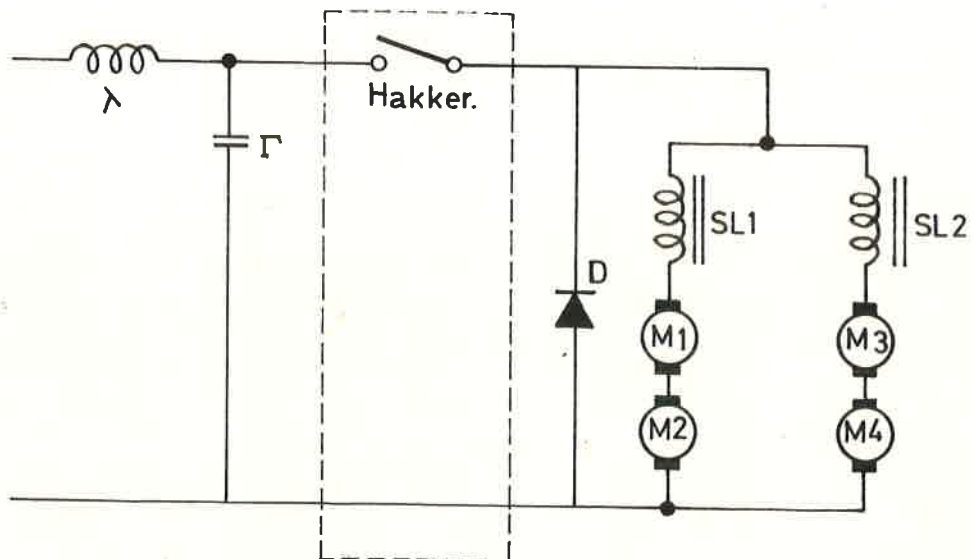


Fig. 70.06.

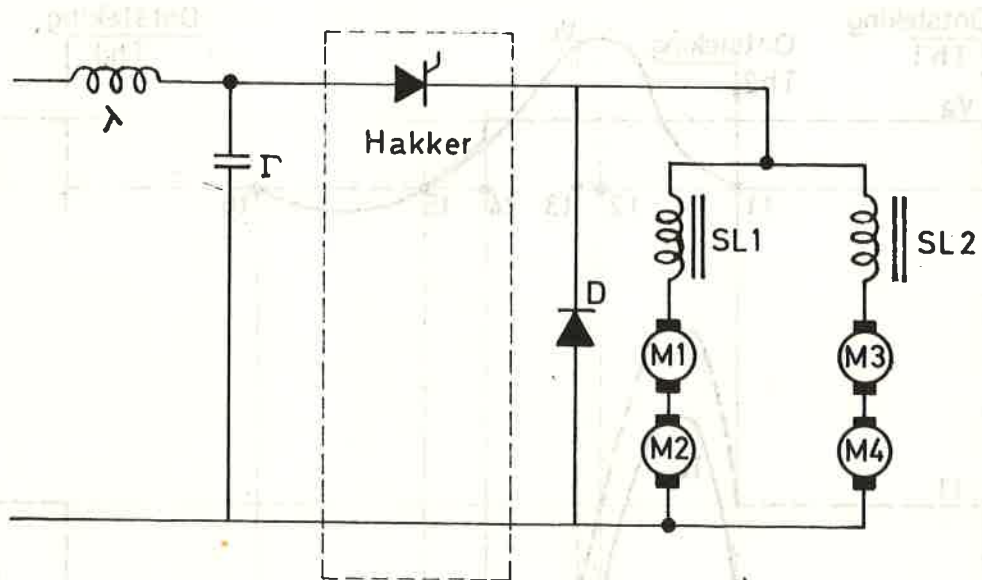


Fig. 71.01.

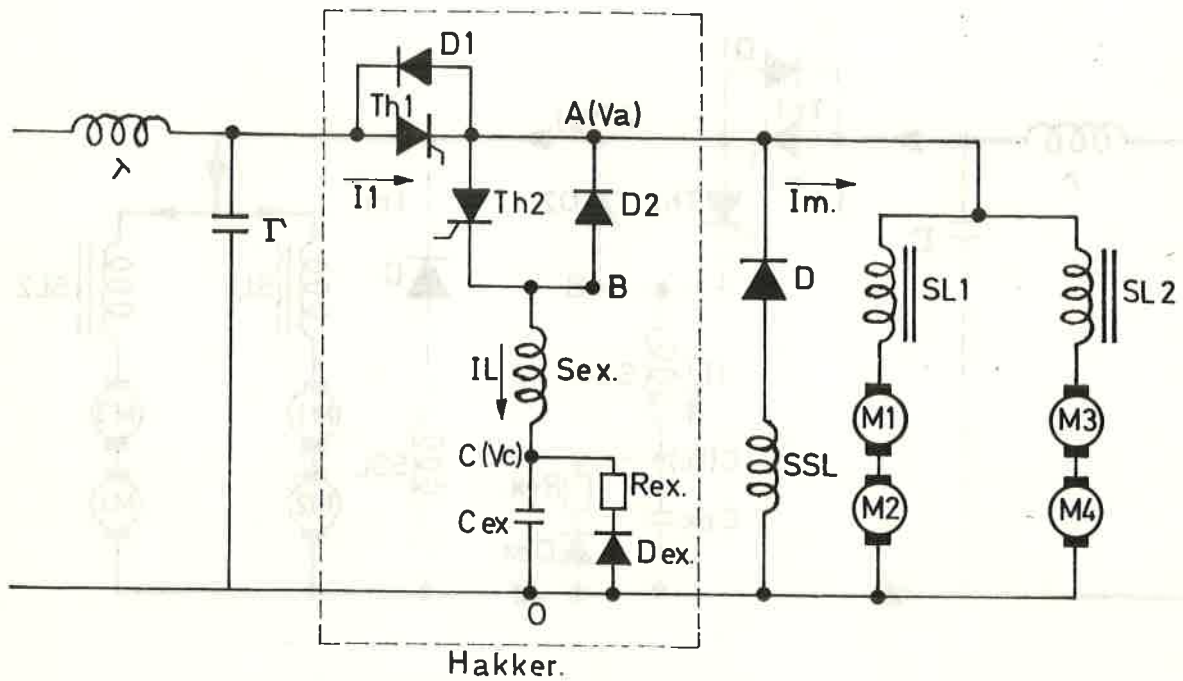


Fig. 71.02.

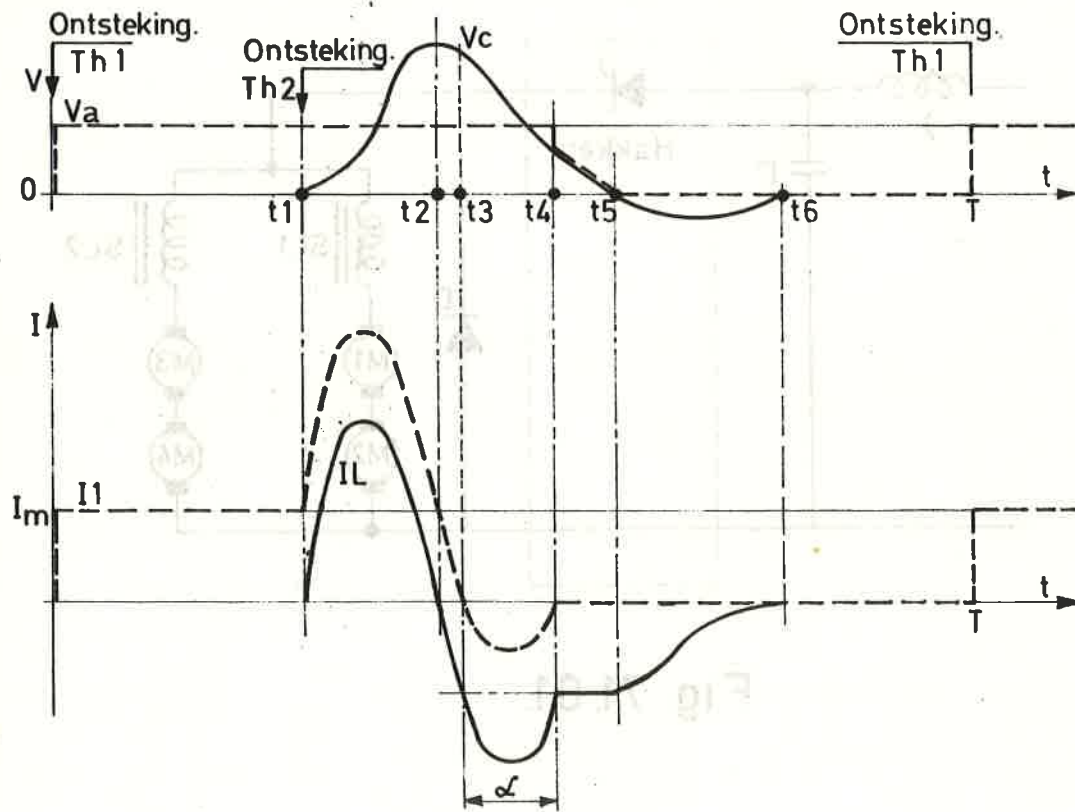


Fig. 71.03

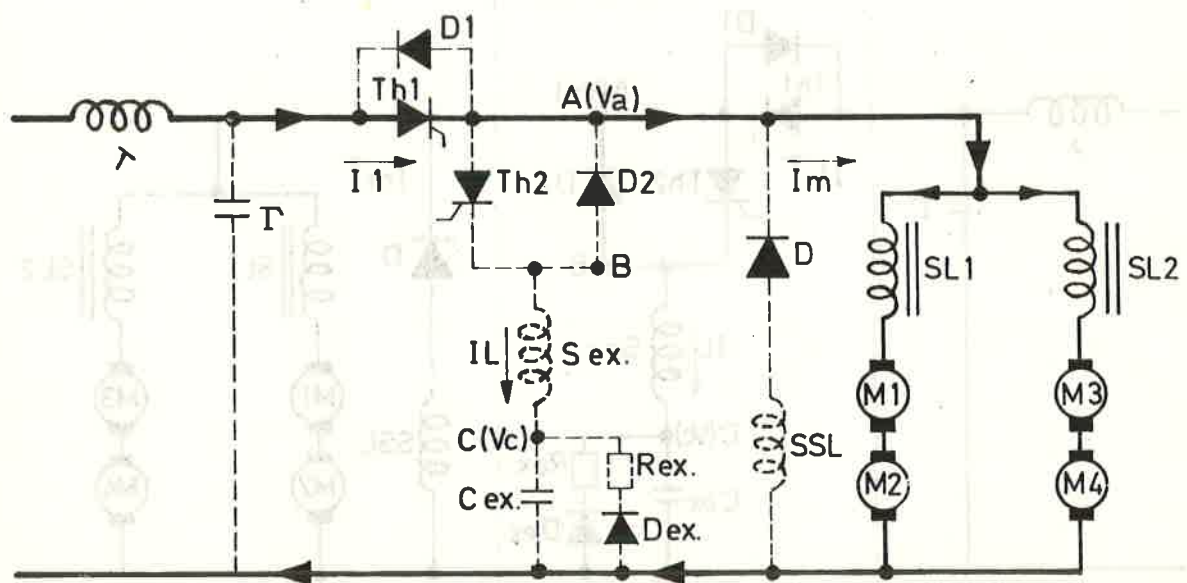


Fig. 71.04. a.

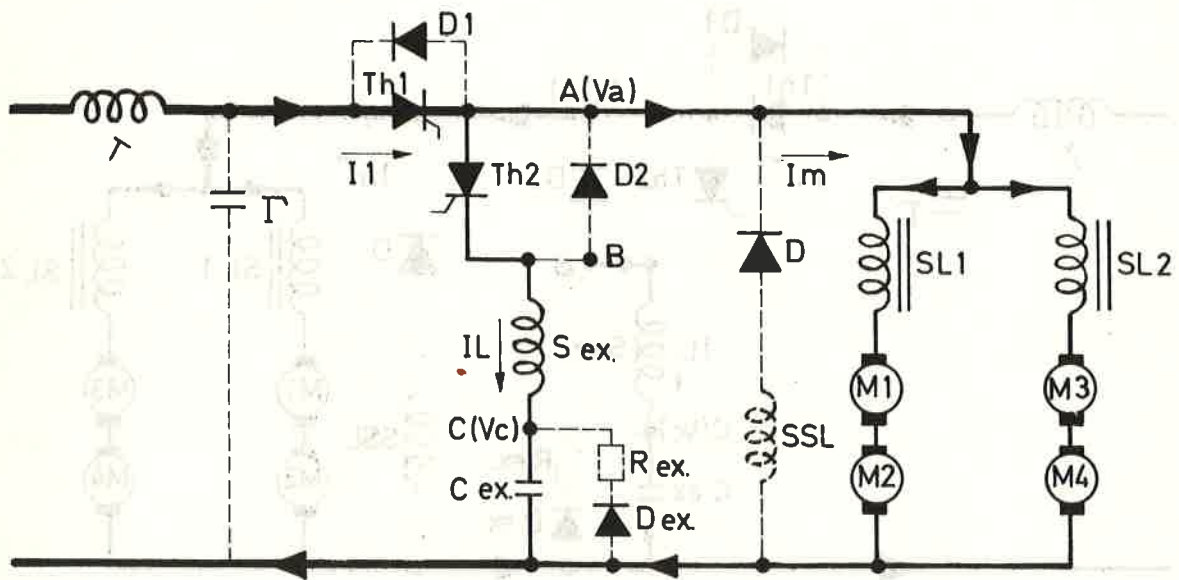


Fig. 71.04.b.

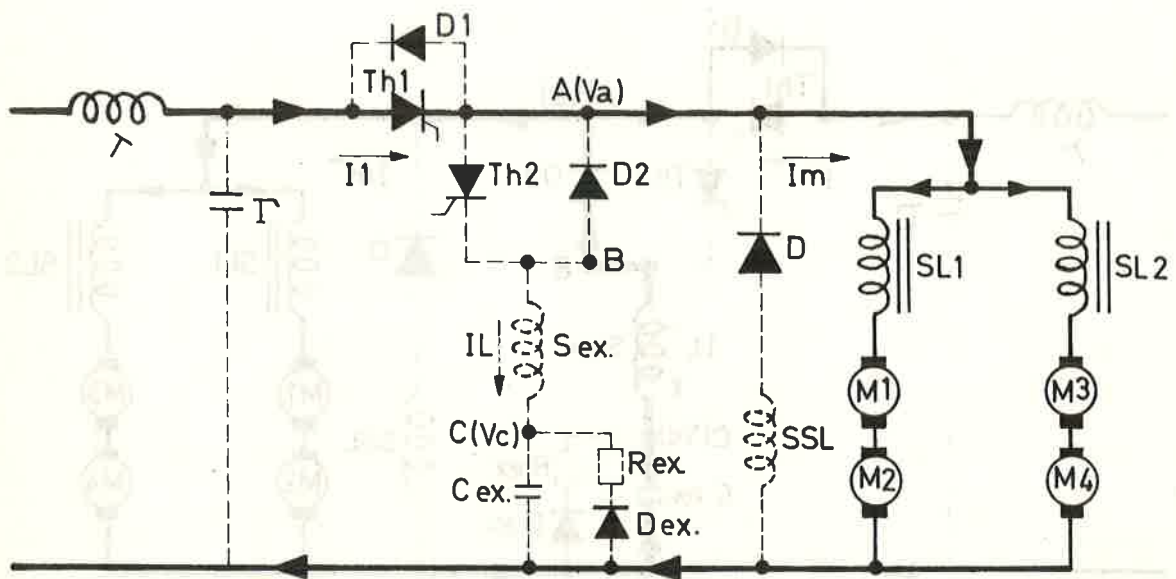


Fig. 71.04.c.

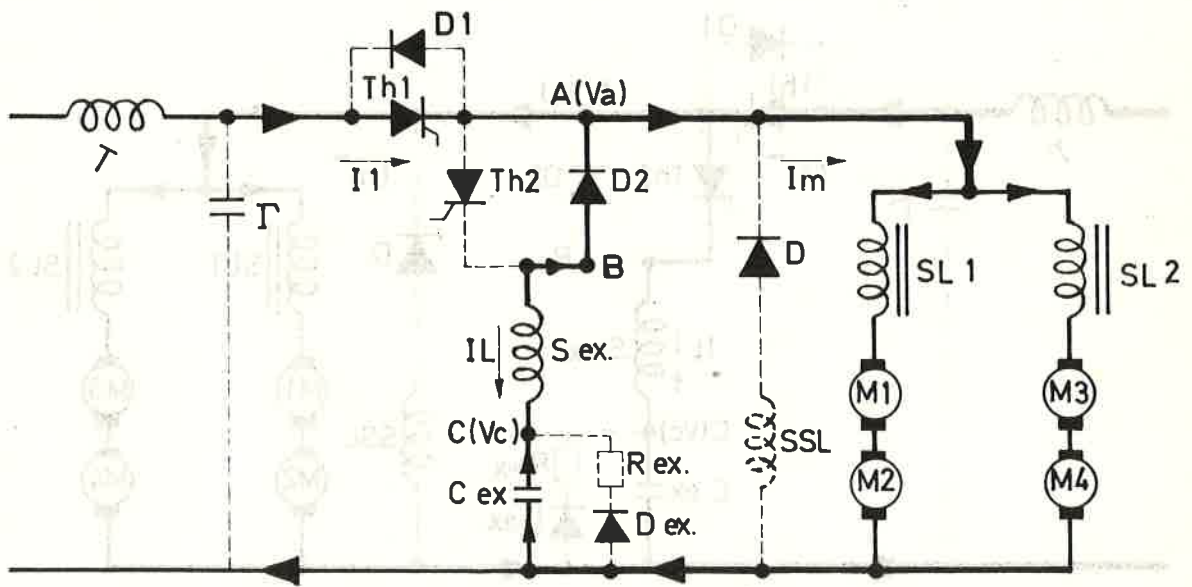


Fig. 71.04.d.

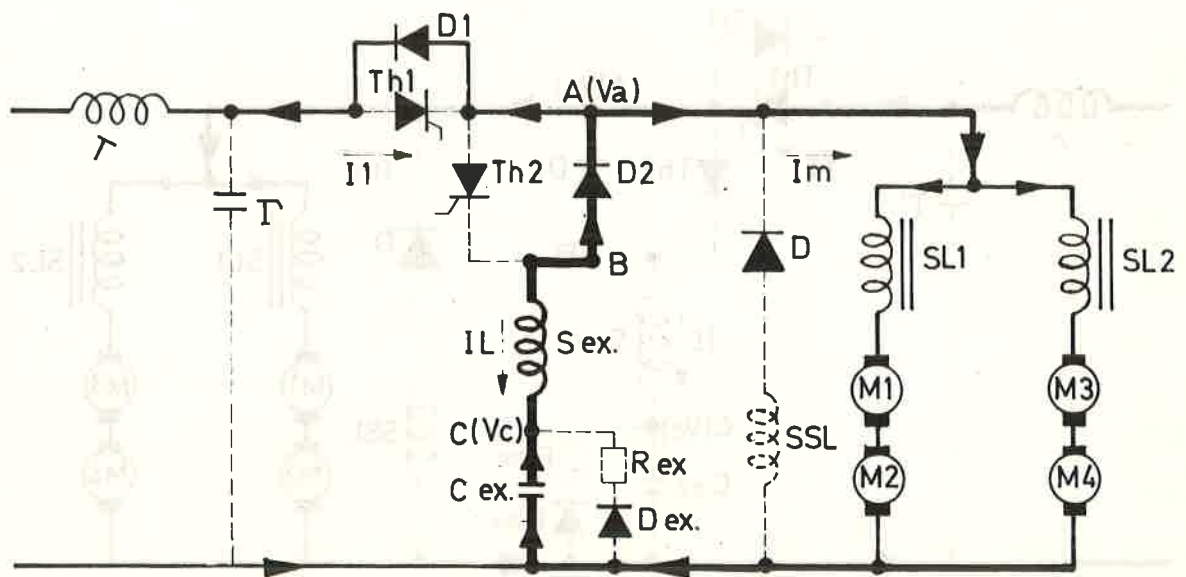


Fig. 71.04.e.

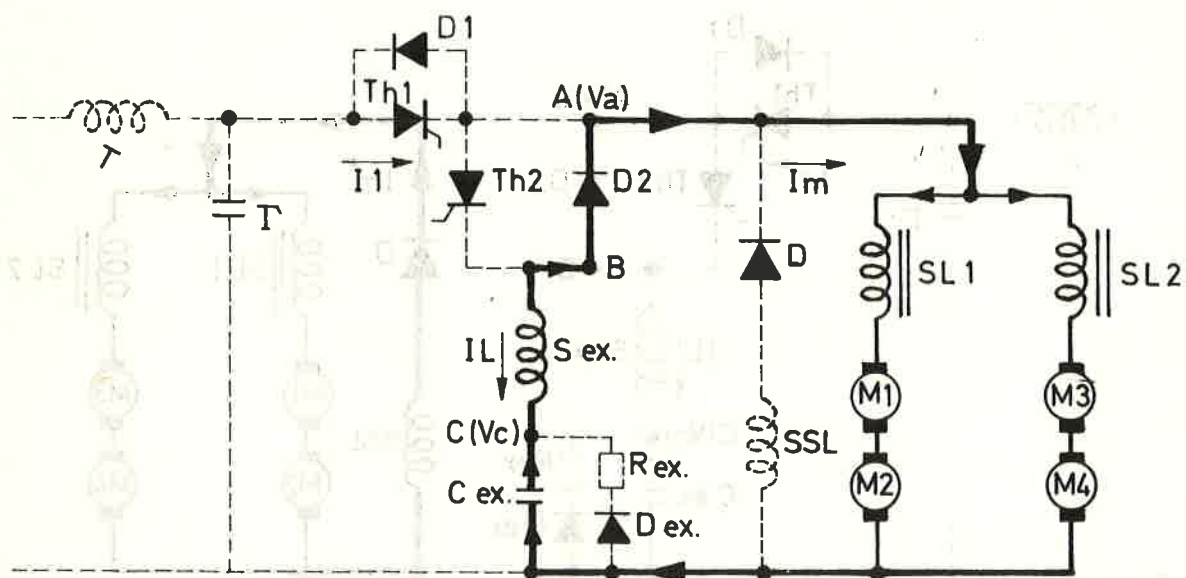


Fig. 71.04.f

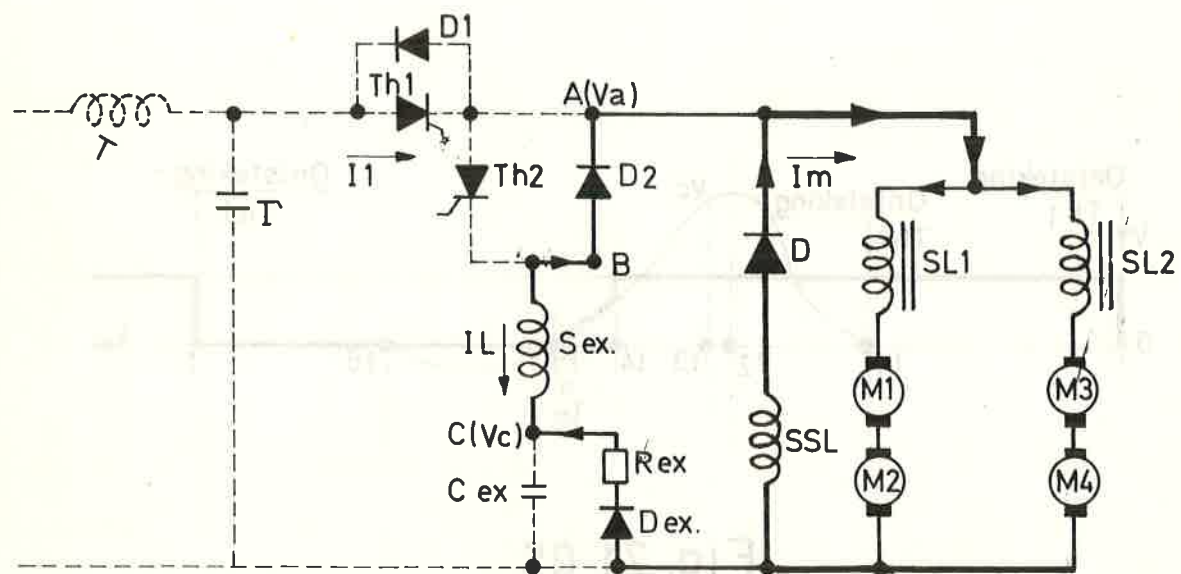


Fig. 71.04.g

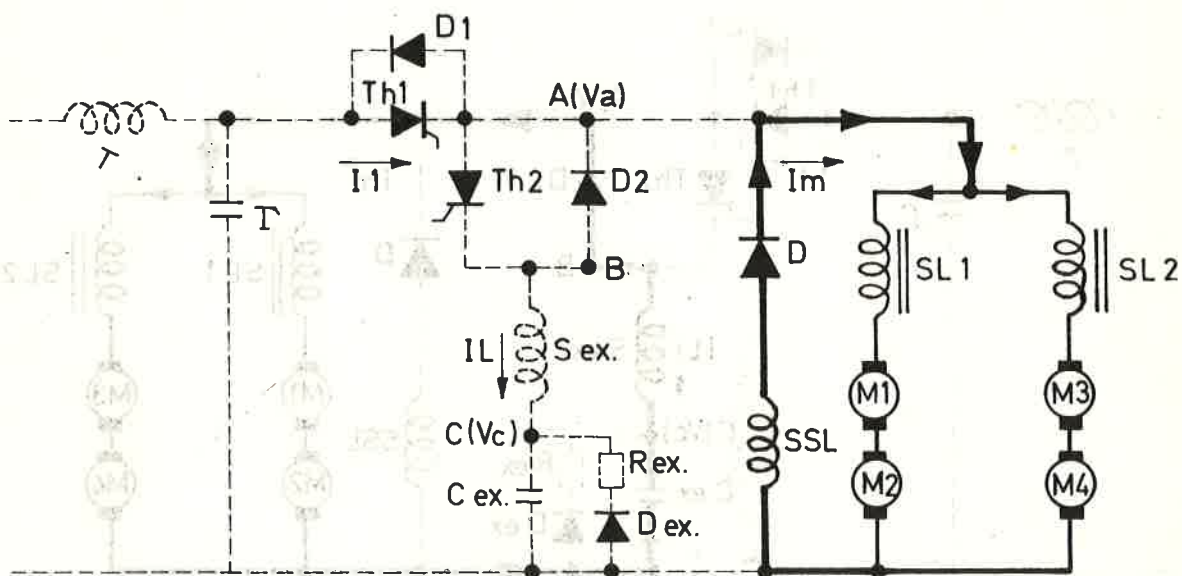


Fig. 71.04.h.

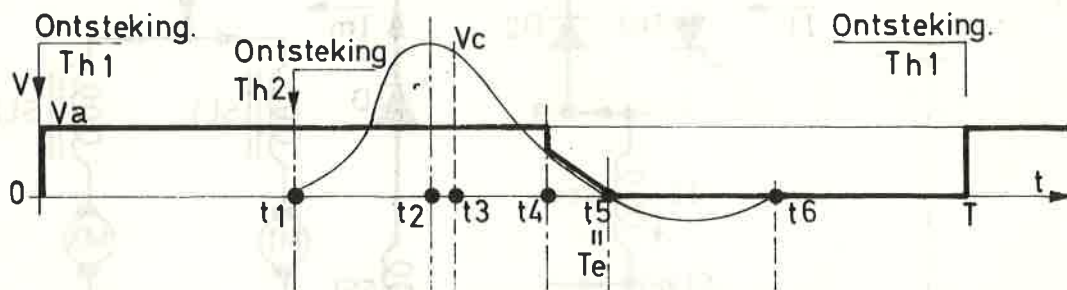


Fig. 71.05

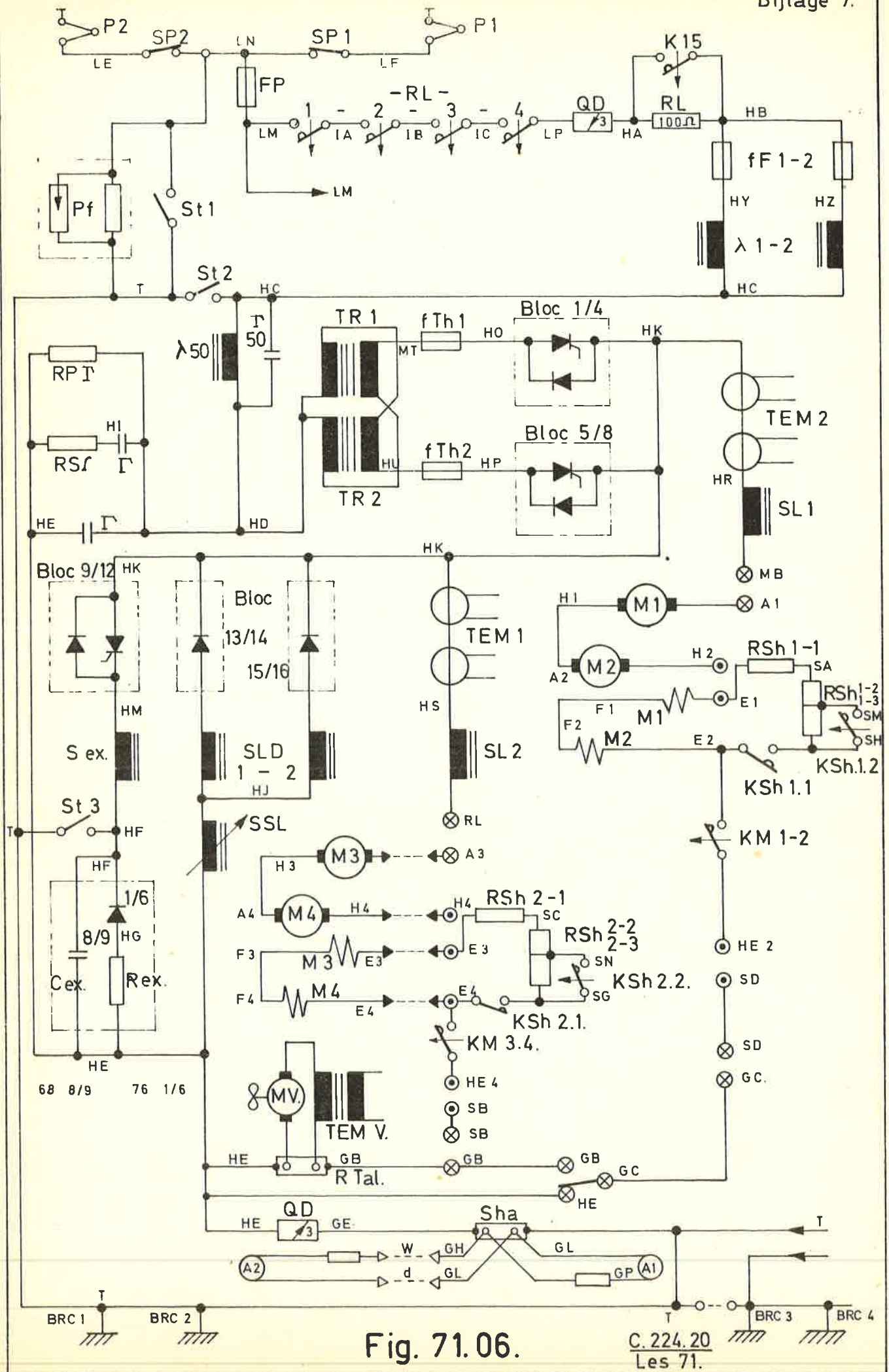
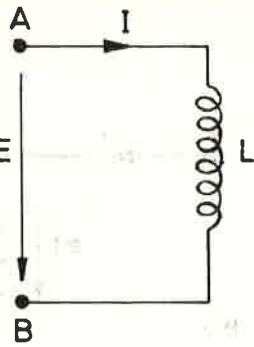
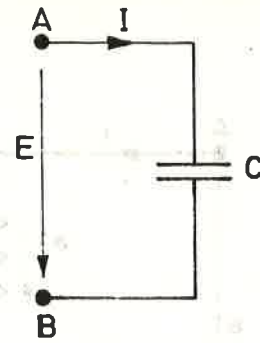


Fig. 71.06.



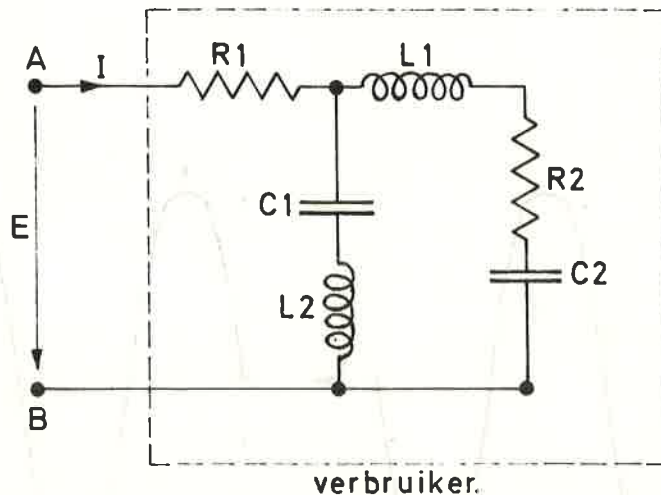
$$X = \frac{E}{I} = 2\pi fL$$

Fig. 65.01.a.



$$X = \frac{E}{I} = \frac{1}{2\pi fC}$$

Fig. 65.01.b.



verbruiker.

$$Z = \frac{E}{I}$$

Fig. 65.01.c.

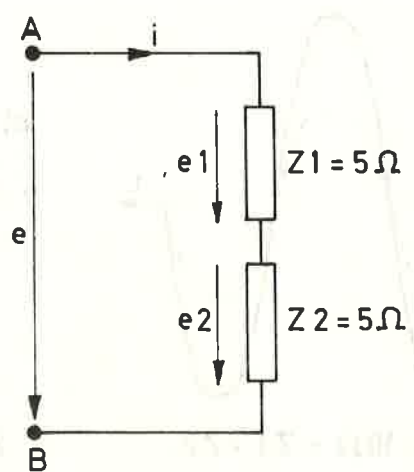
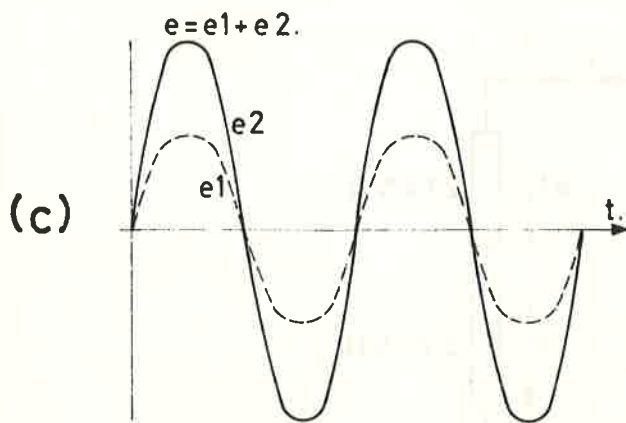
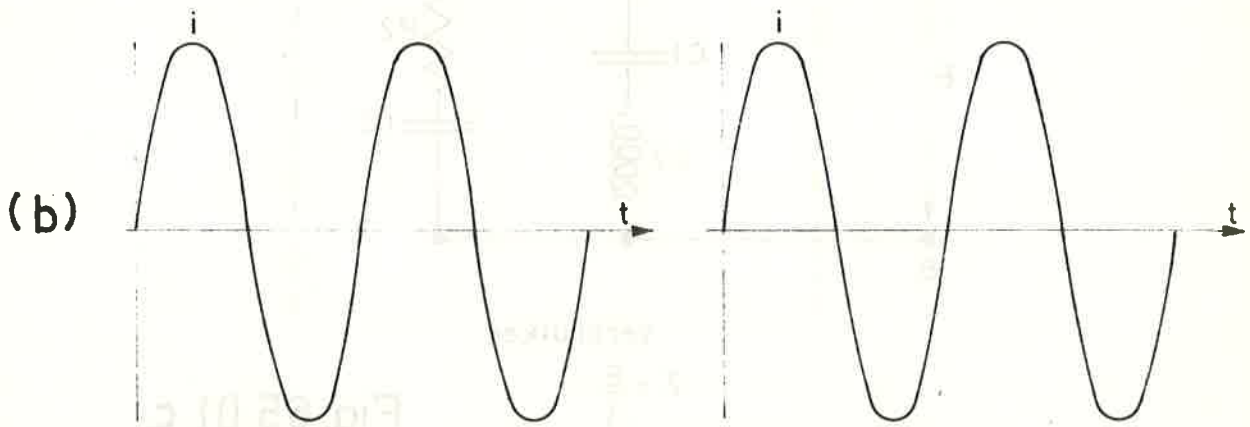
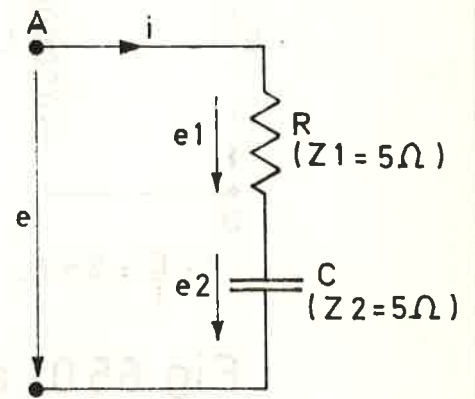
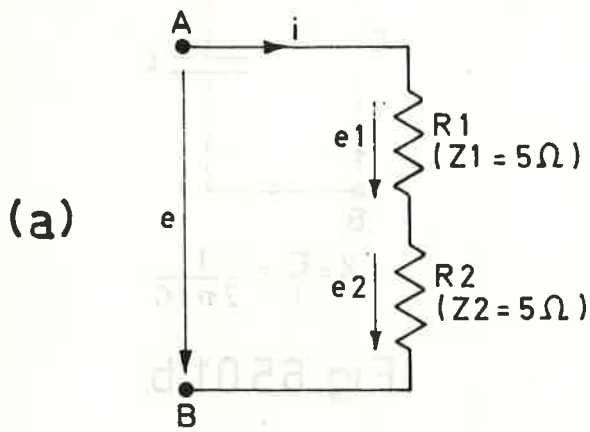
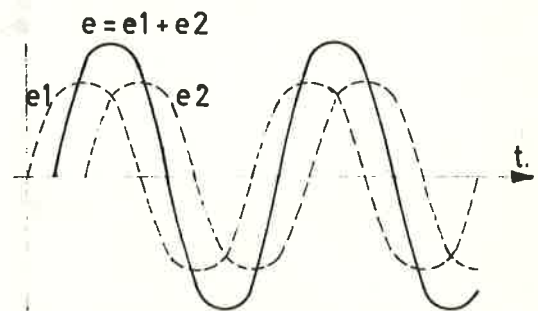


Fig. 65.02.



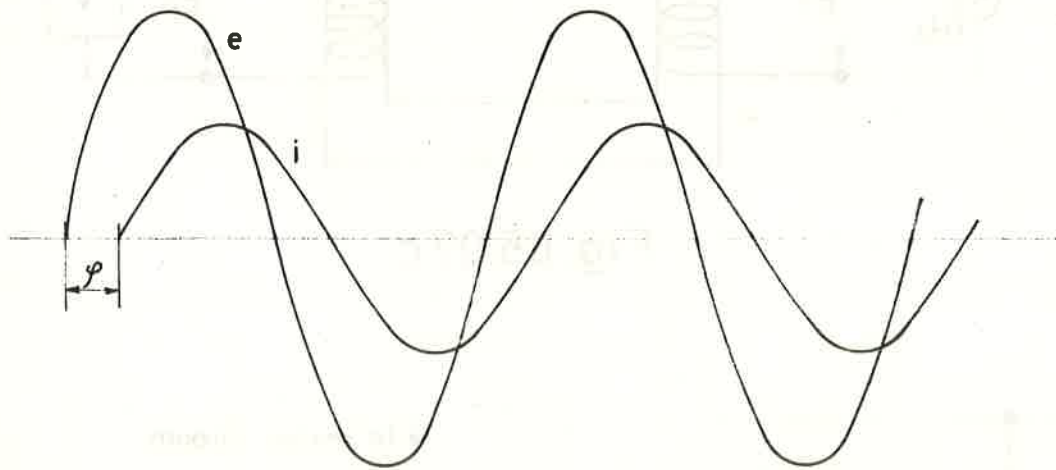
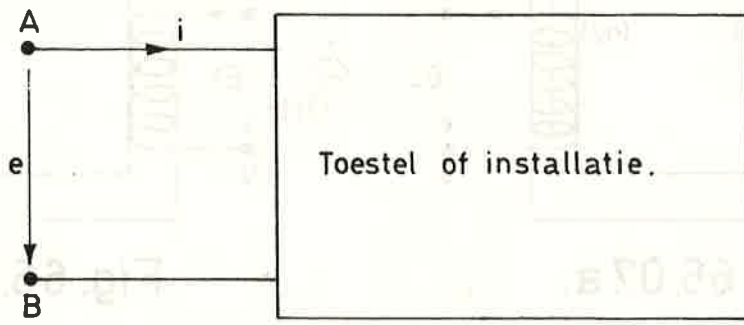
$$Z = \frac{E}{I} = \frac{10I}{I} = 10\Omega = Z_1 + Z_2$$

Fig. 65.03.



$$Z = \frac{E}{I} = \frac{7,07I}{I} = 7,07\Omega \neq Z_1 + Z_2$$

Fig. 65.04.



$$P = E \times I \times \cos \varphi.$$

Fig. 65.05.

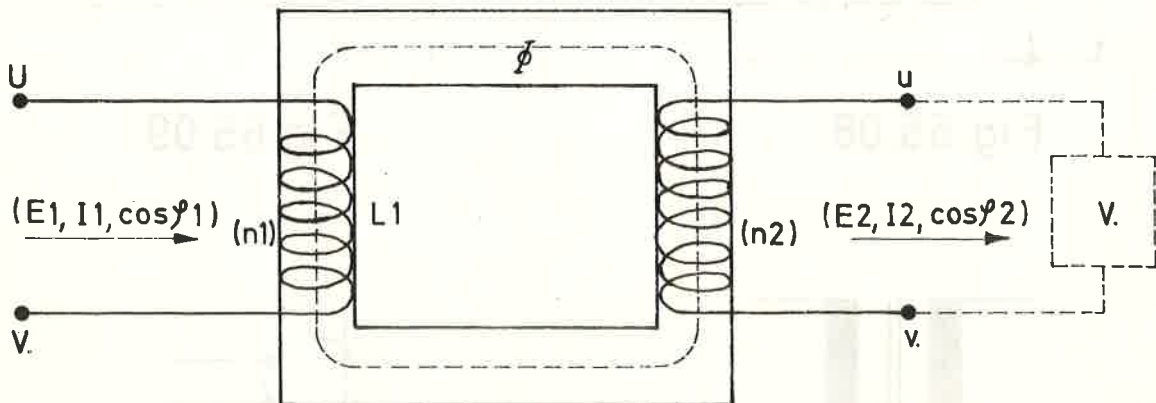


Fig. 65.06.

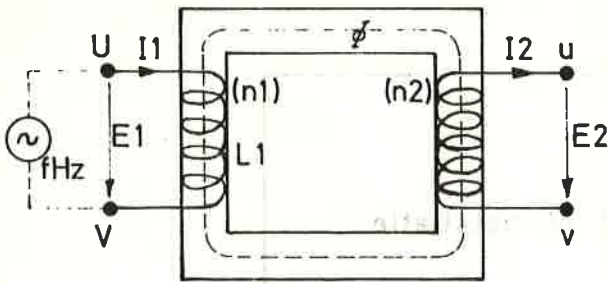


Fig. 65.07.a.

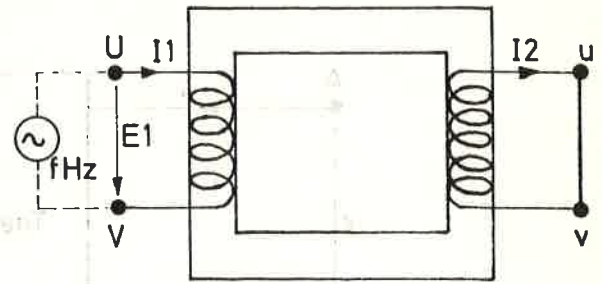


Fig. 65.07.b.

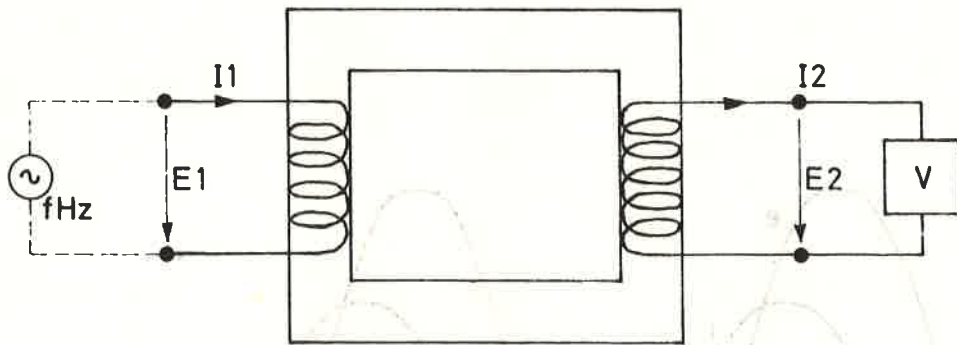


Fig. 65.07.c.

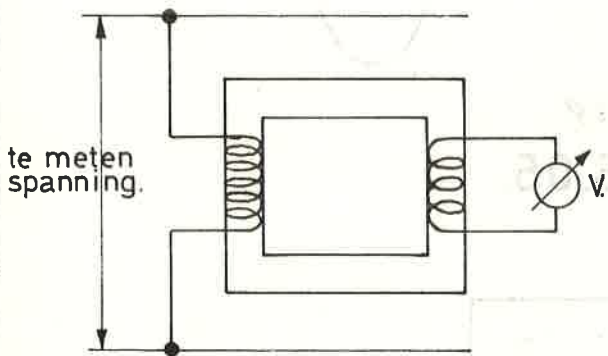


Fig. 65.08.

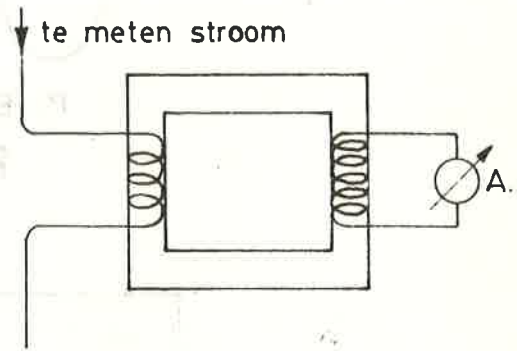
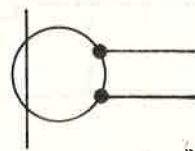


Fig. 65.09.



Vermogentransformator
Spanningsmeettransformator.



Stroommeettransformator.

Fig. 65.10.

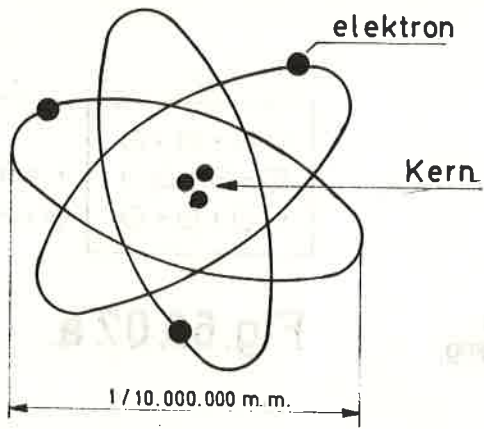


Fig. 66.01

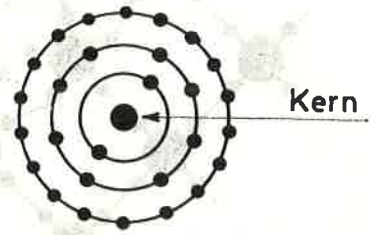


Fig. 66.02

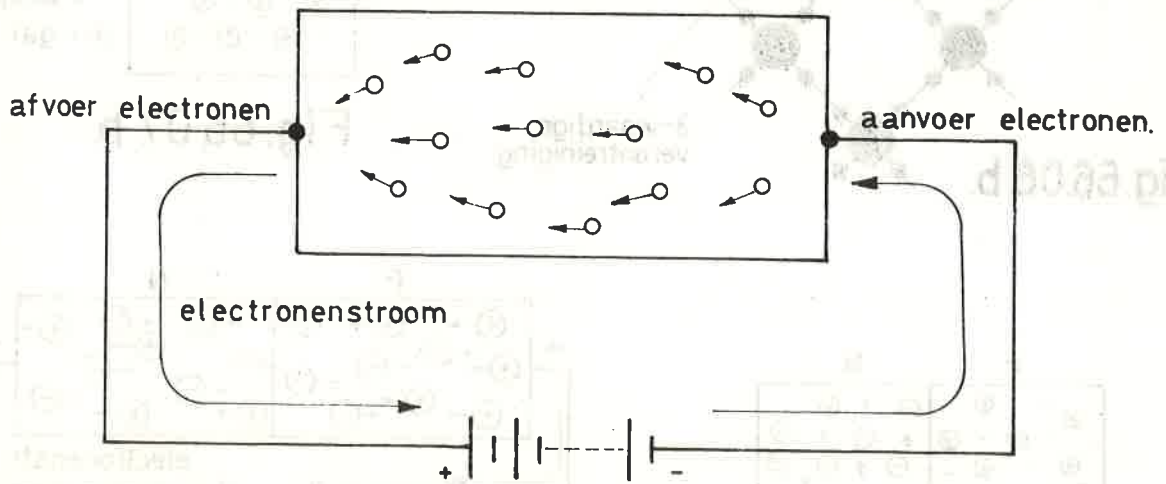


Fig. 66.03

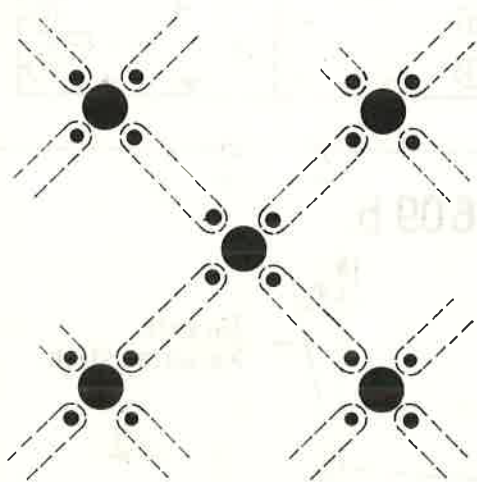


Fig. 66.04

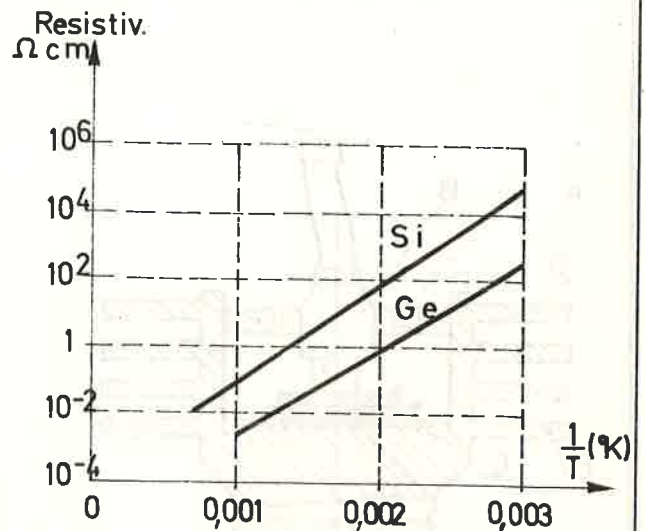


Fig. 66.05

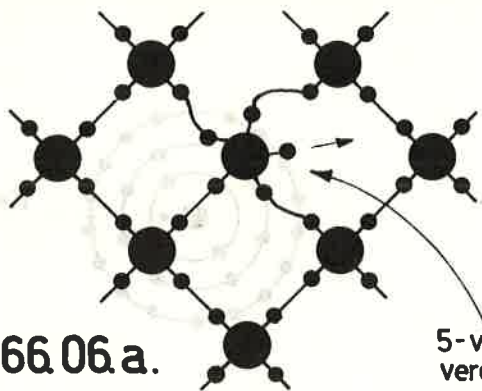


Fig. 66.06 a.

5-waardige verontreiniging.

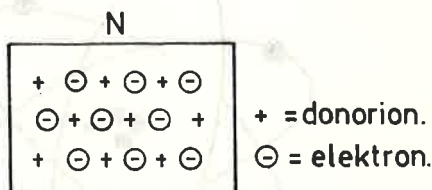


Fig. 66.07 a.

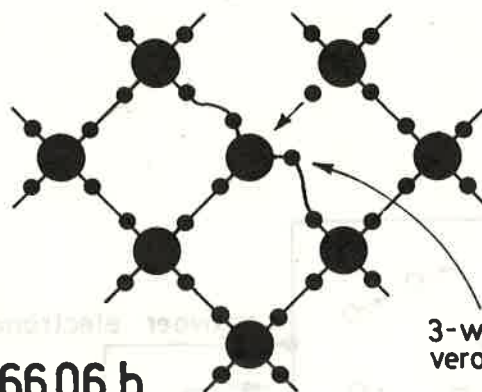


Fig. 66.06 b.

3-waardige verontreiniging.

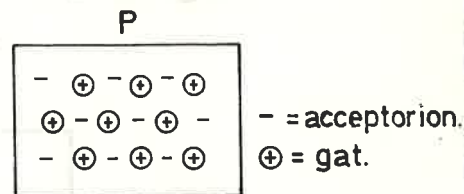


Fig. 66.07 b.

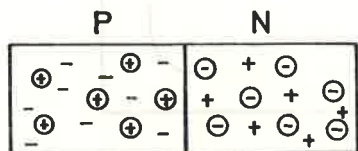


Fig. 66.08.

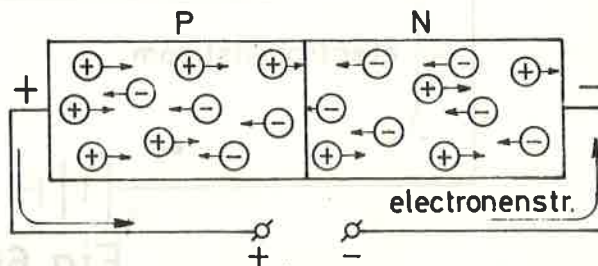


Fig. 66.09 a.

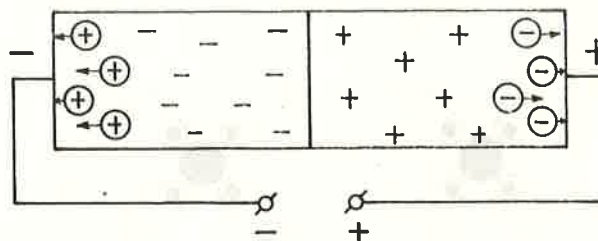


Fig. 66.09 b.

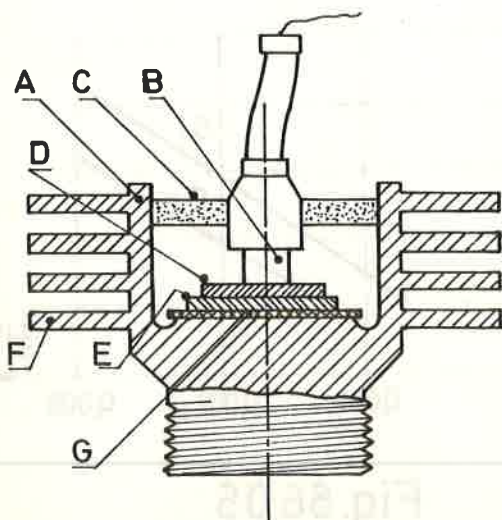


Fig. 66.11.

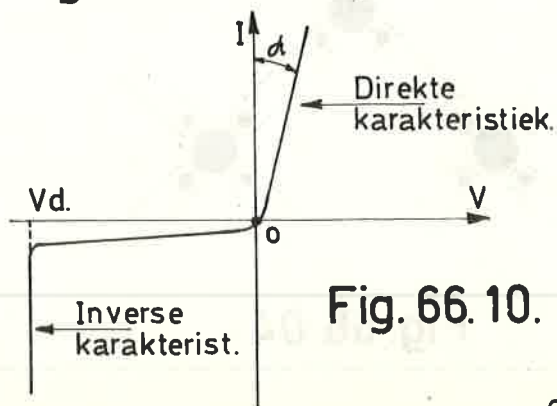


Fig. 66.10.

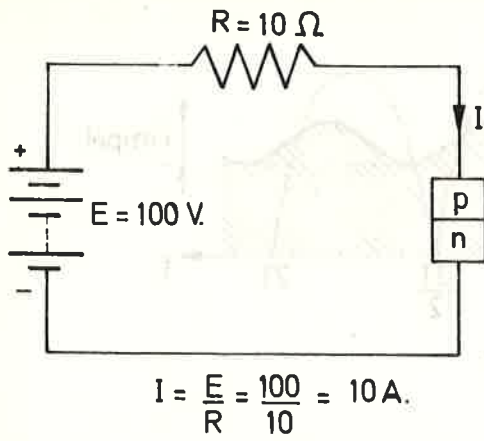


Fig. 67.01.a.

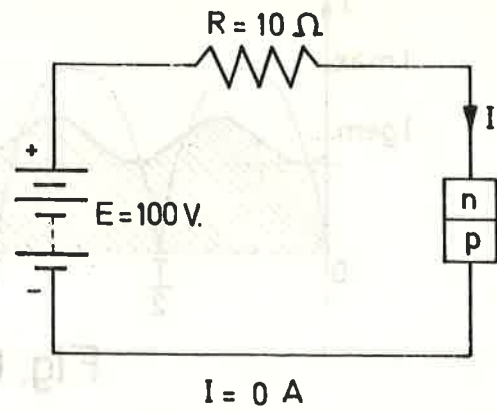


Fig. 67.01.b.

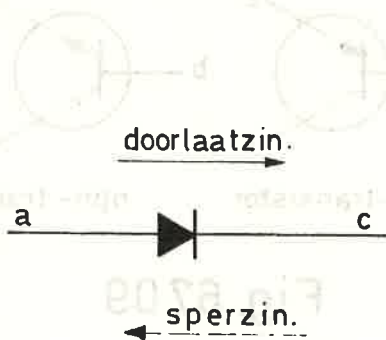


Fig. 67.02.

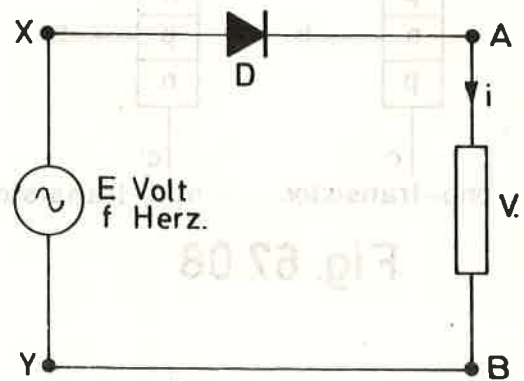


Fig. 67.03.

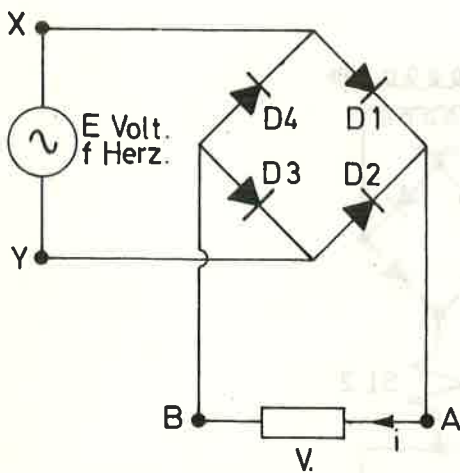


Fig. 67.06.

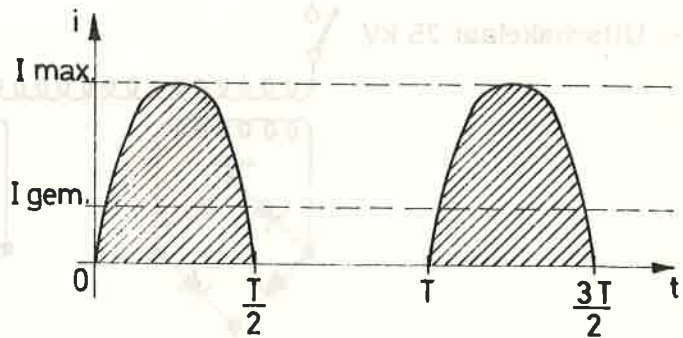


Fig. 67.04.

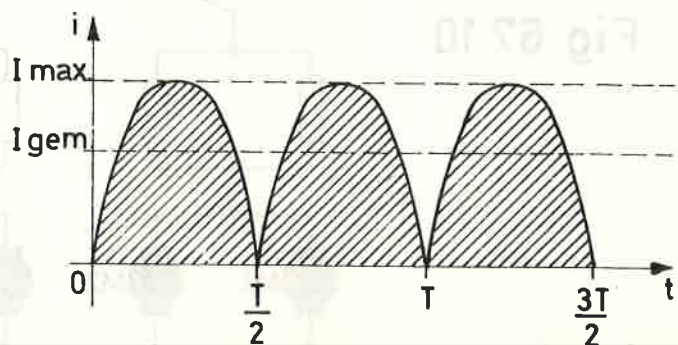


Fig. 67.05.

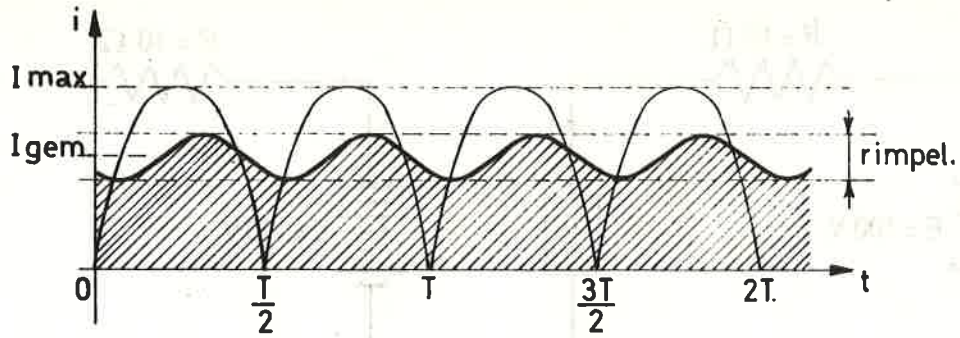


Fig. 67.07

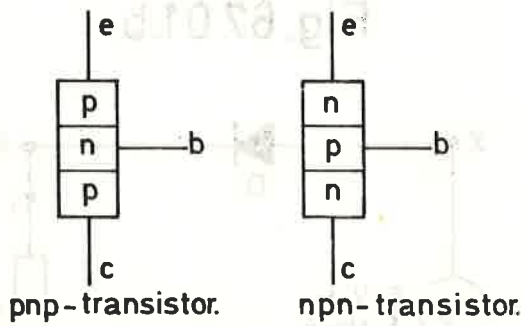


Fig. 67.08

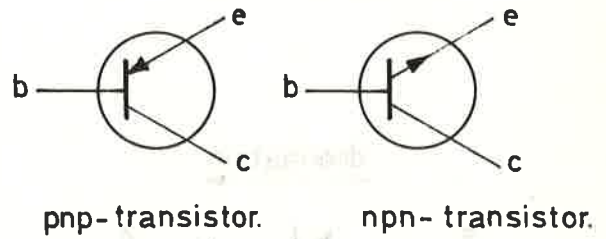


Fig. 67.09

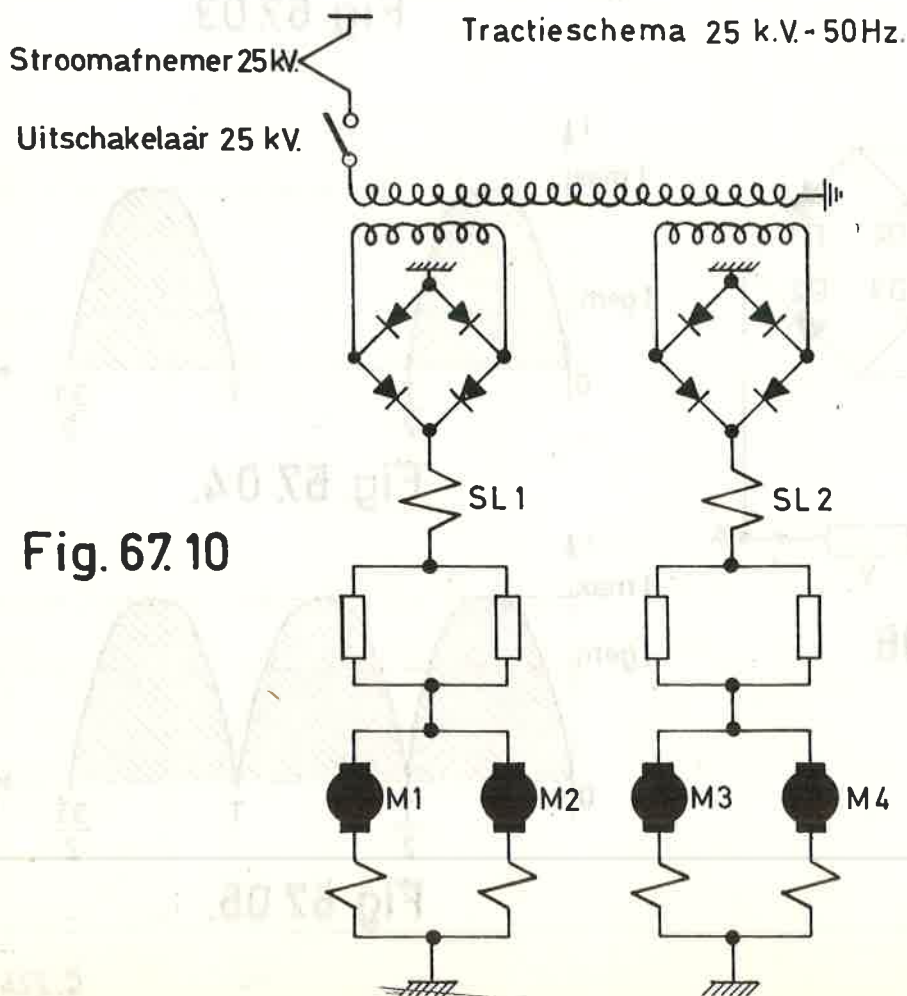


Fig. 67.10

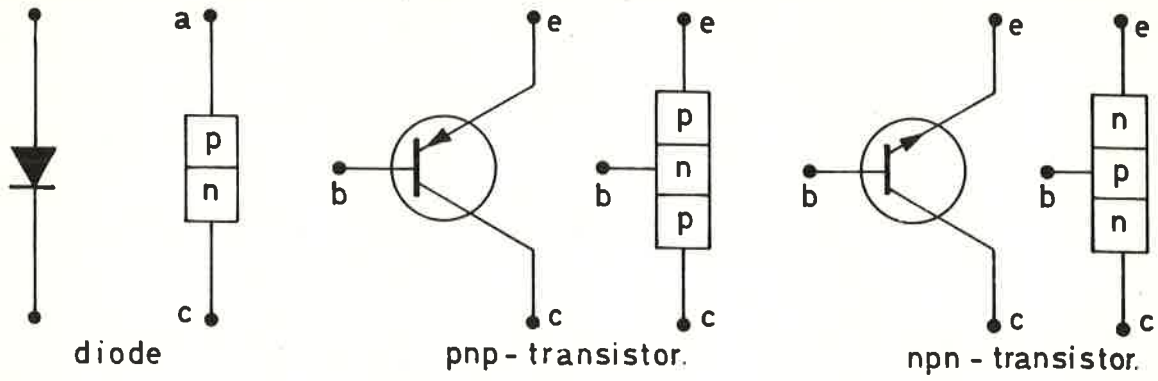


Fig. 69.01.

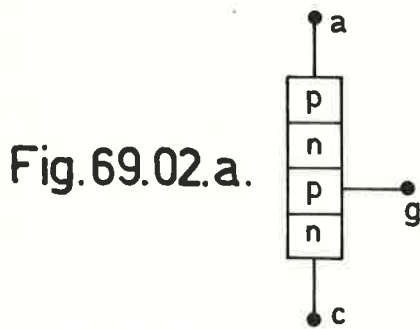


Fig. 69.02.a.

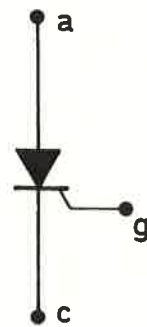


Fig. 69.02.b.

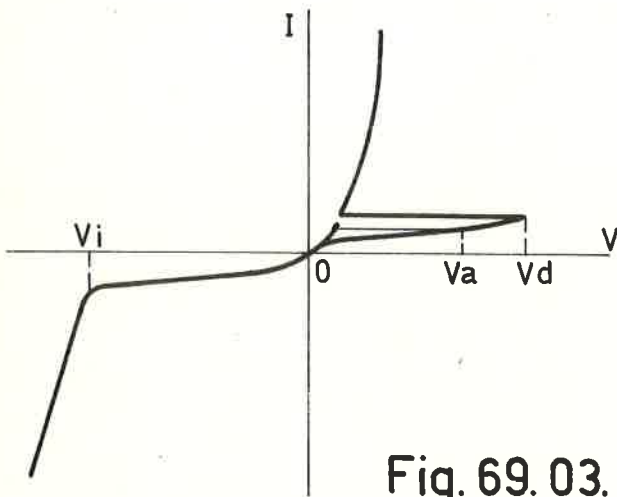


Fig. 69.03.

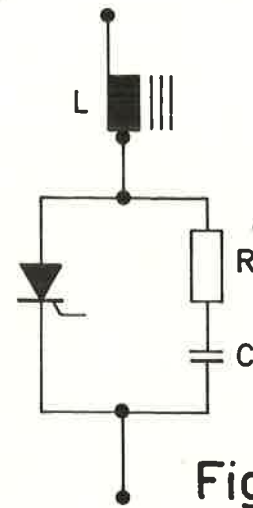


Fig. 69.04.

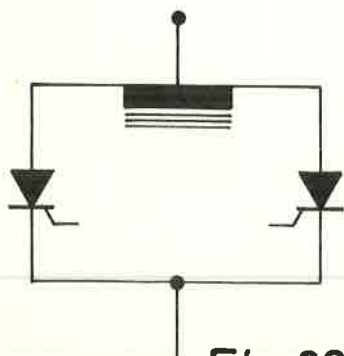


Fig. 69.05.

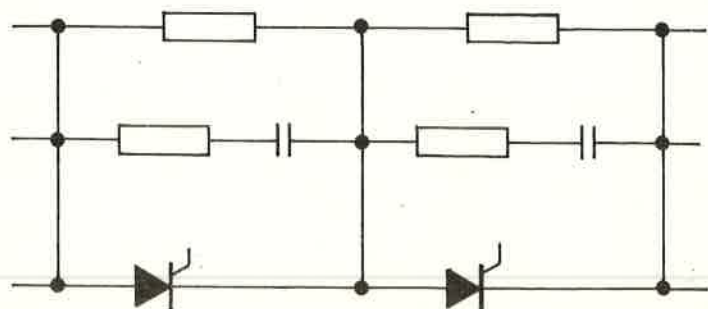


Fig. 69.06.

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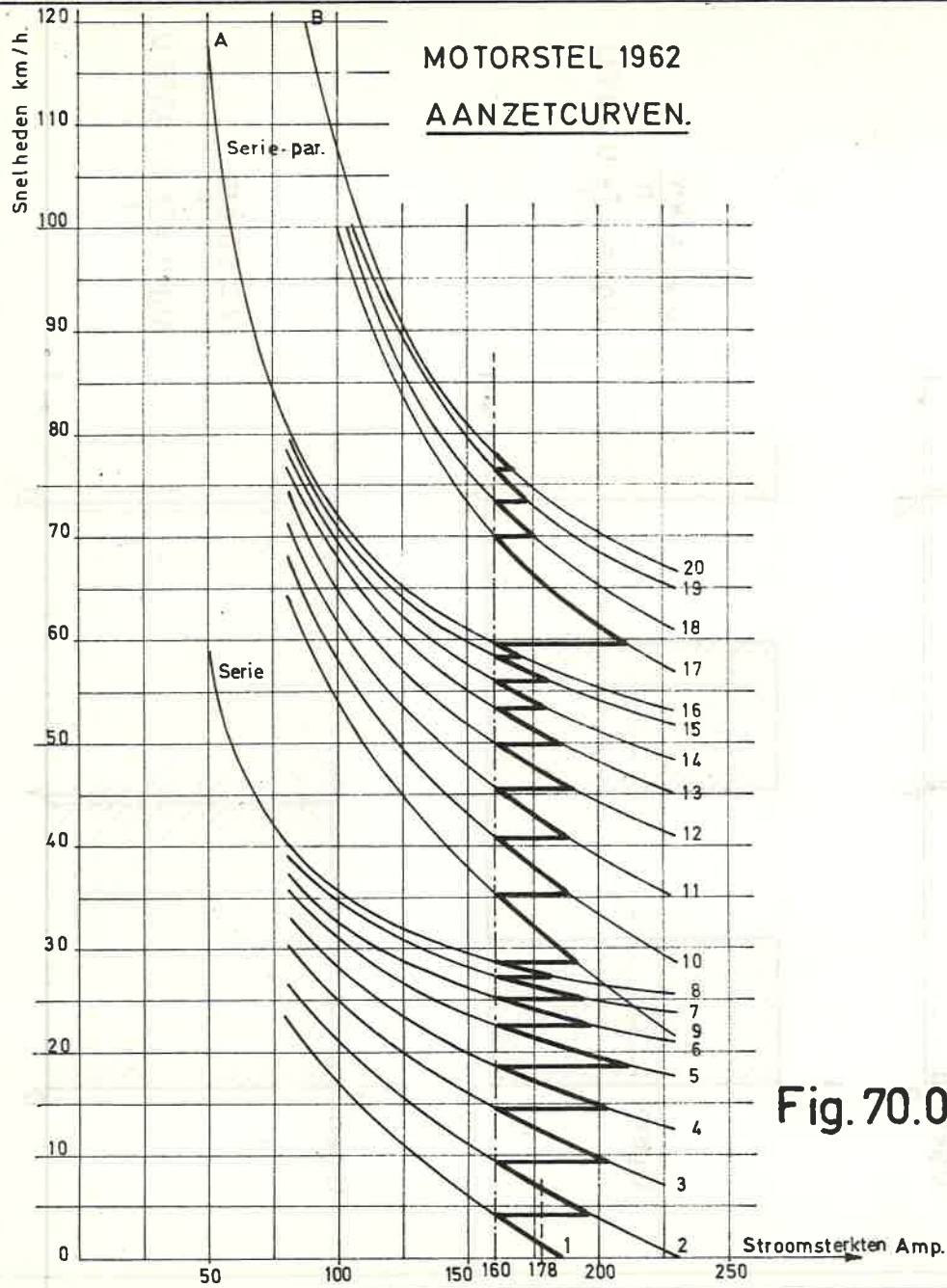


Fig. 70.02.

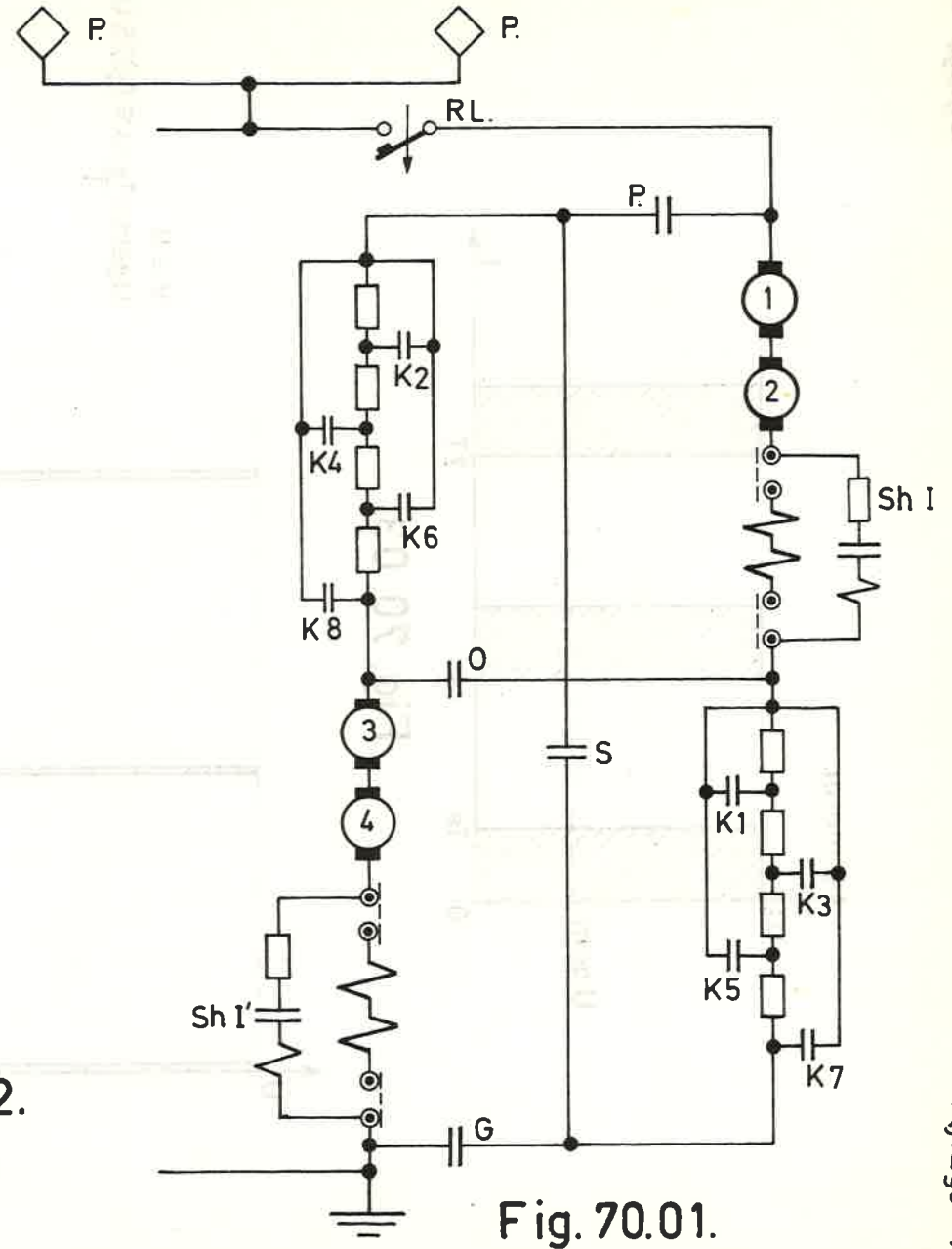


Fig. 70.01.

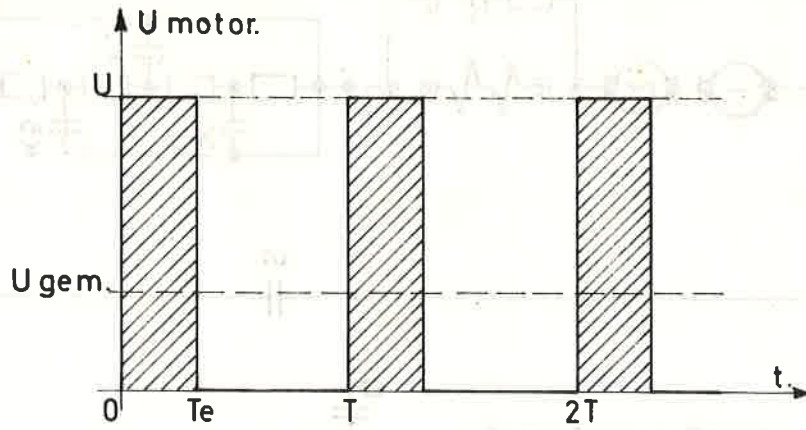
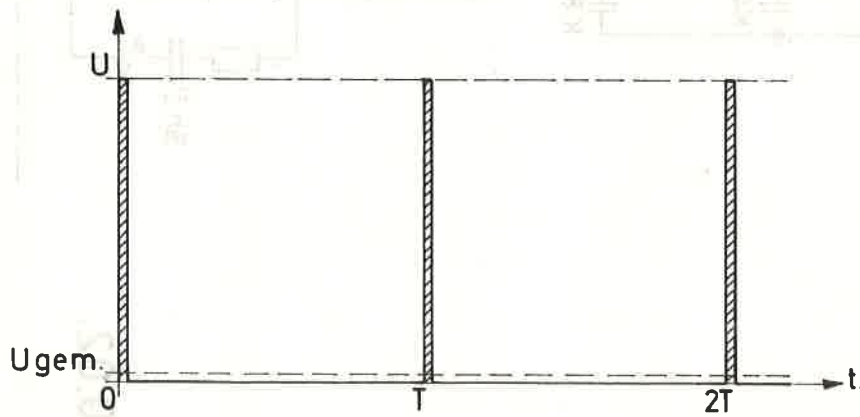
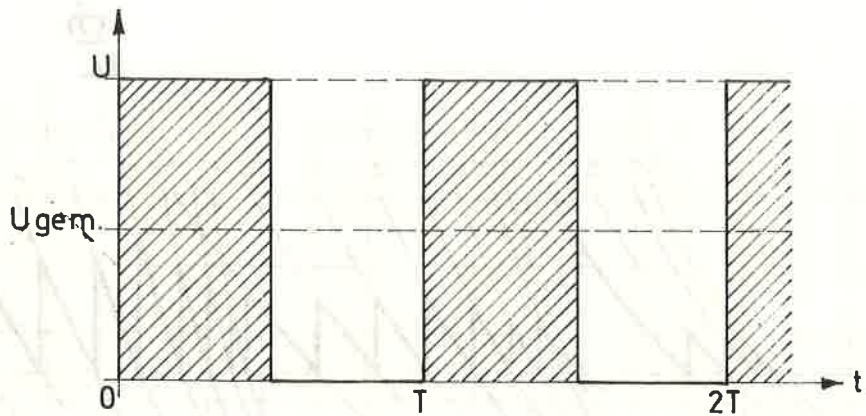


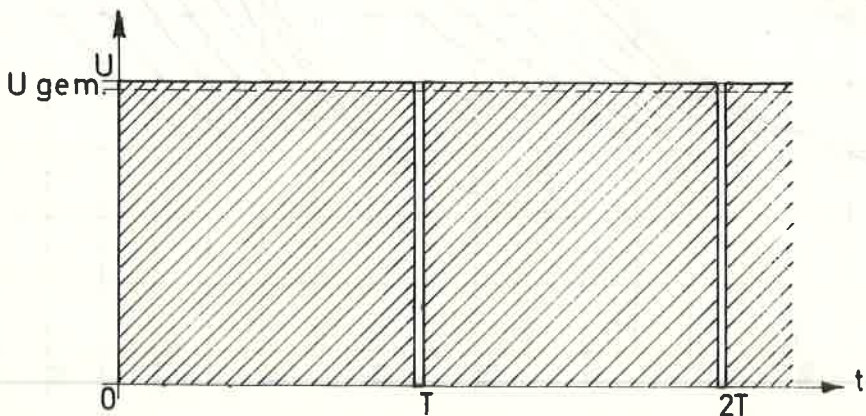
Fig. 70.03.



$V = 0$
 $U_{\text{gem.}} = \frac{T_e}{T} U \cong 0,025 U.$



$v \cong 25 \frac{\text{km.}}{\text{h.}}$
 $U_{\text{gem.}} = \frac{T_e}{T} U = 0,5 U.$



$V \cong 60 \frac{\text{km.}}{\text{h.}}$
 $U_{\text{gem.}} = \frac{T_e}{T} U = 0,975 U.$

Fig. 70.04.

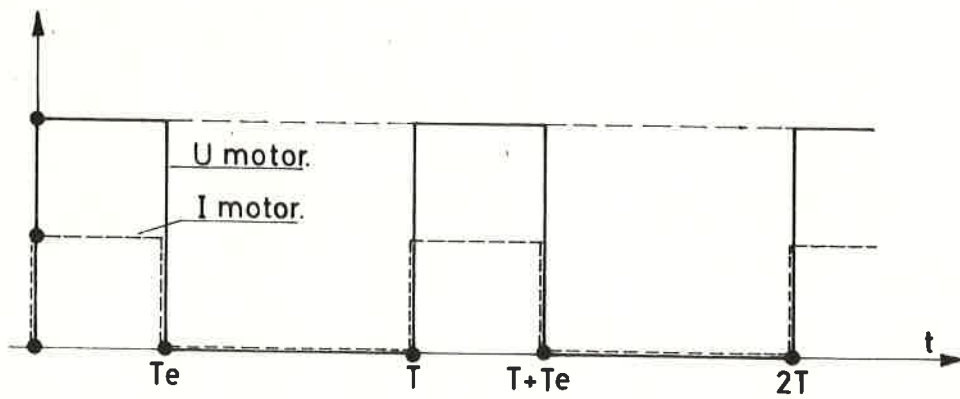


Fig. 70.05.

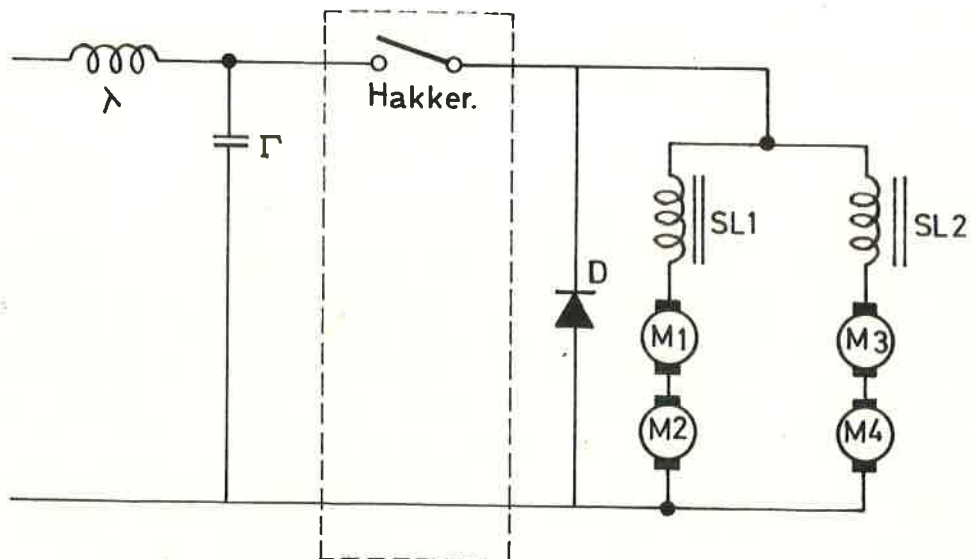


Fig. 70.06.

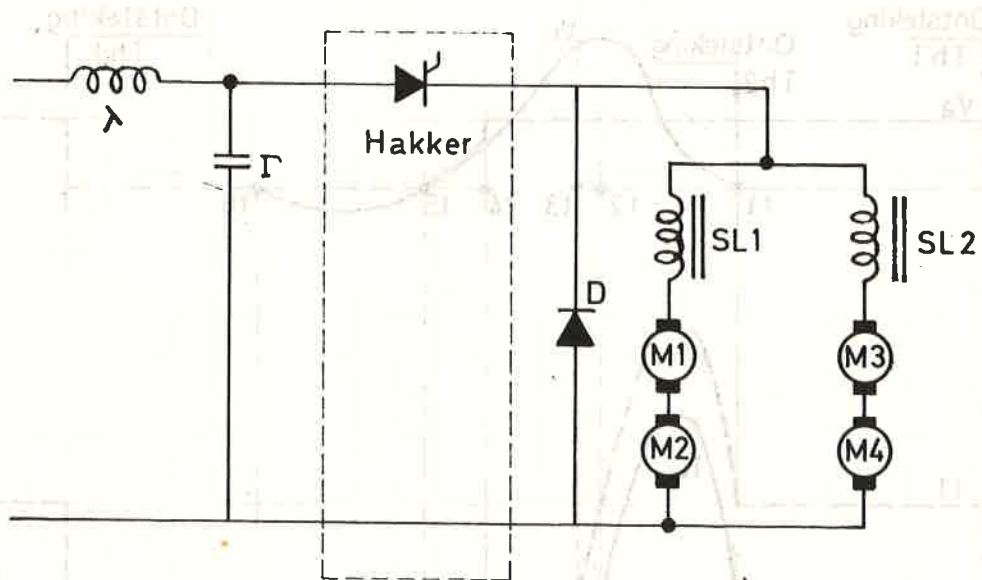


Fig. 71.01.

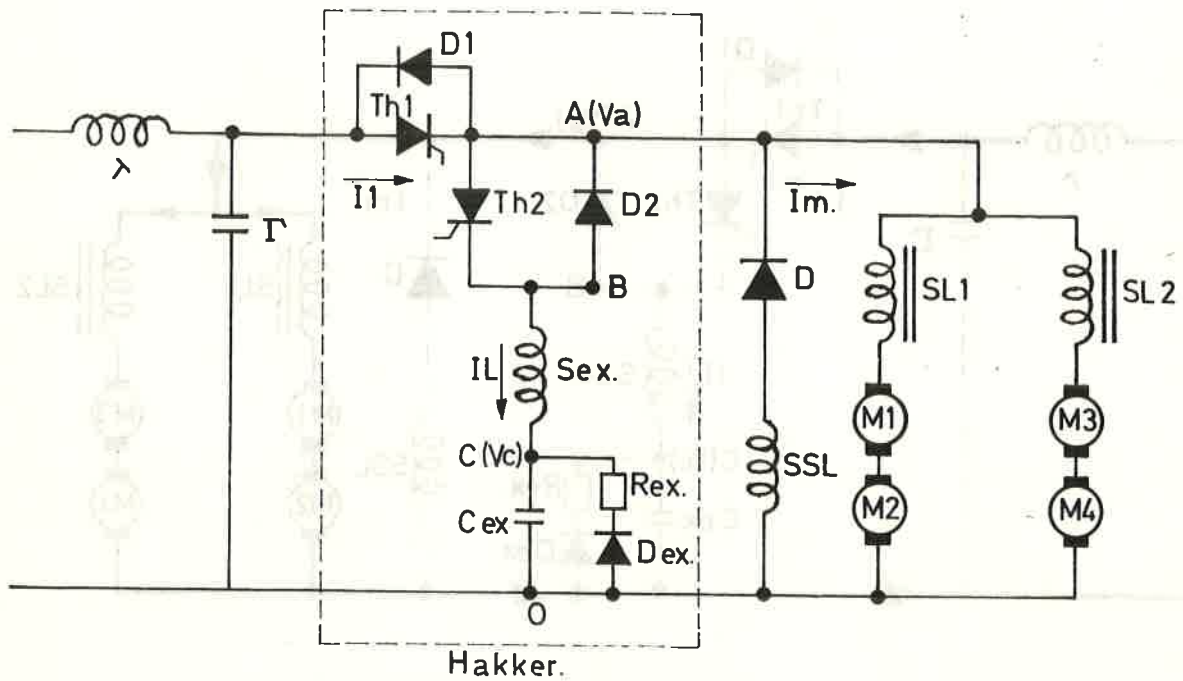


Fig. 71.02.

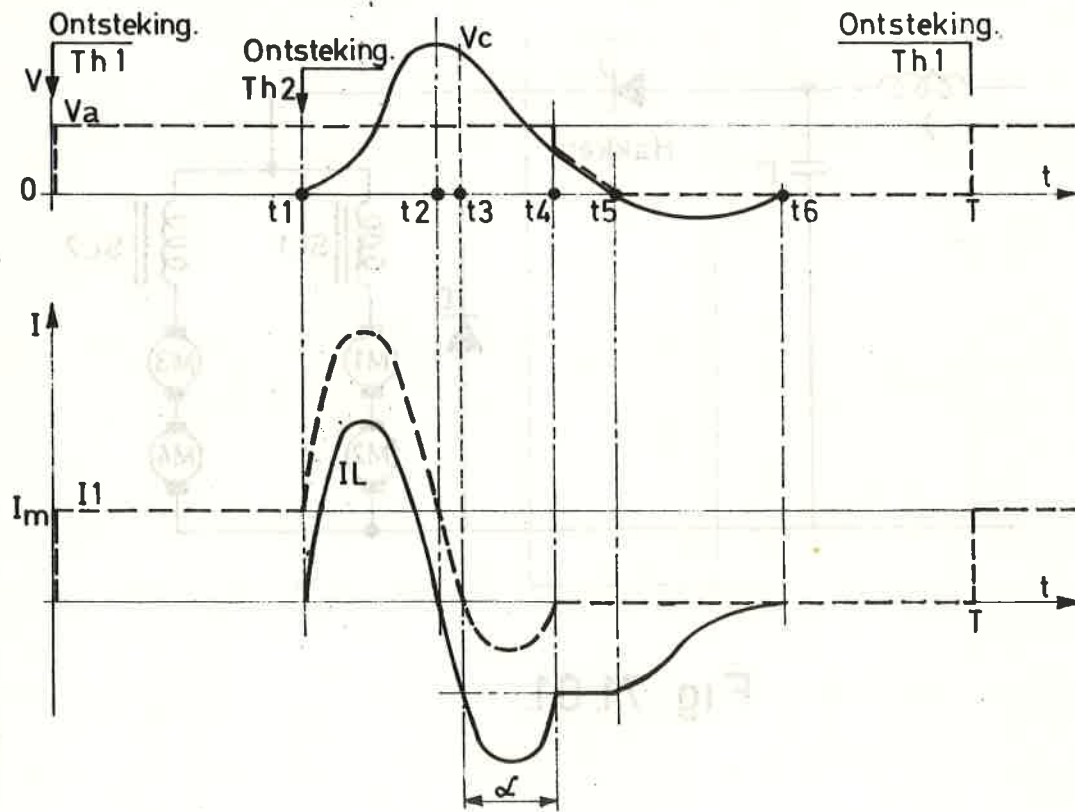


Fig. 71.03

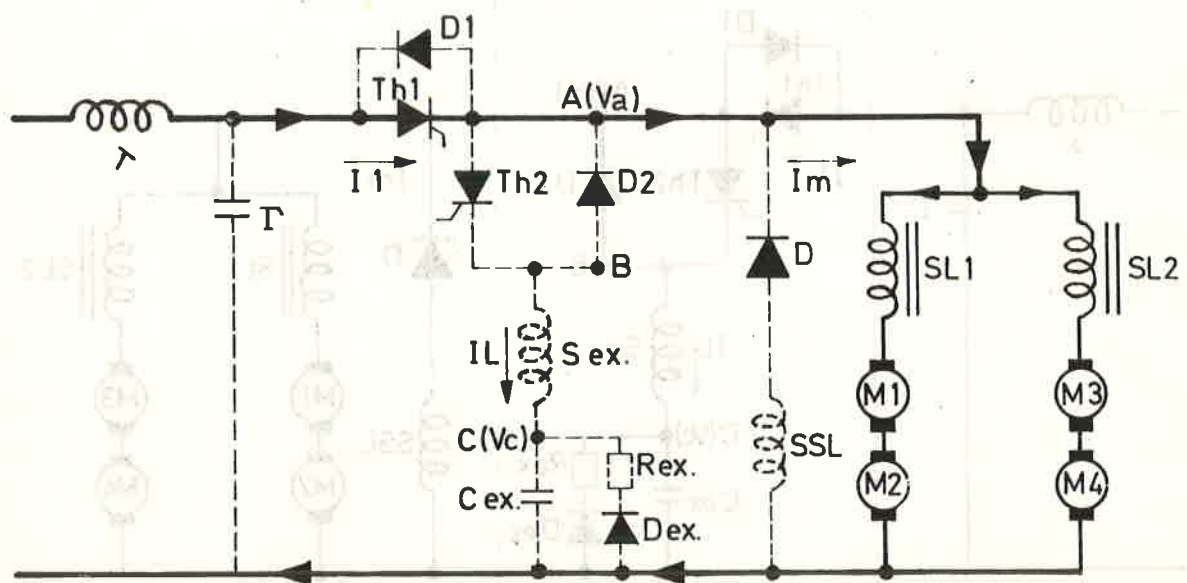


Fig. 71.04. a.

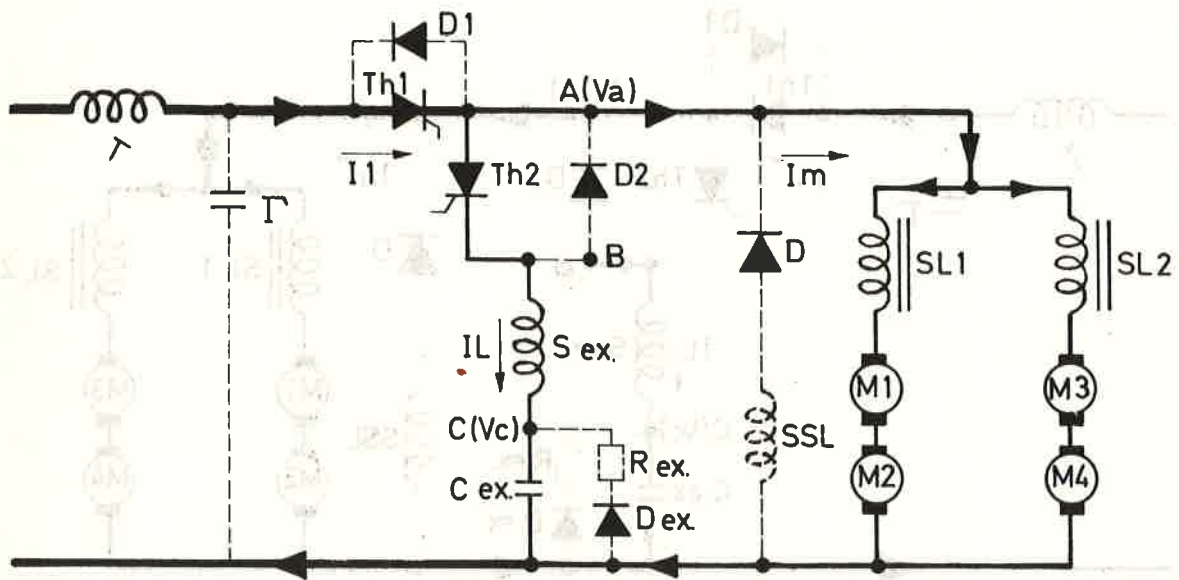


Fig. 71.04.b.

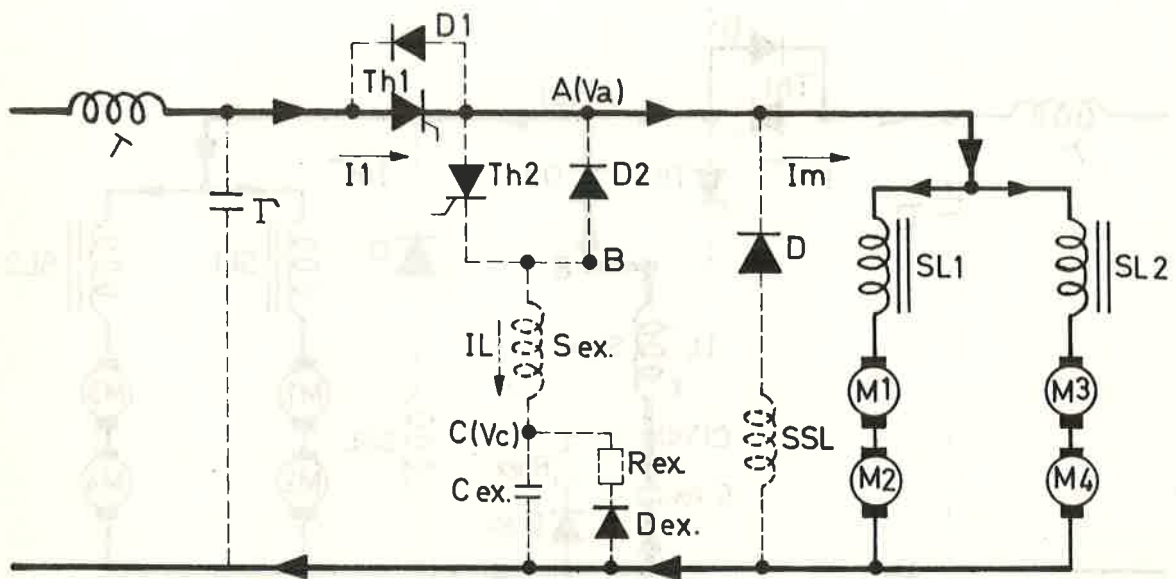


Fig. 71.04.c.

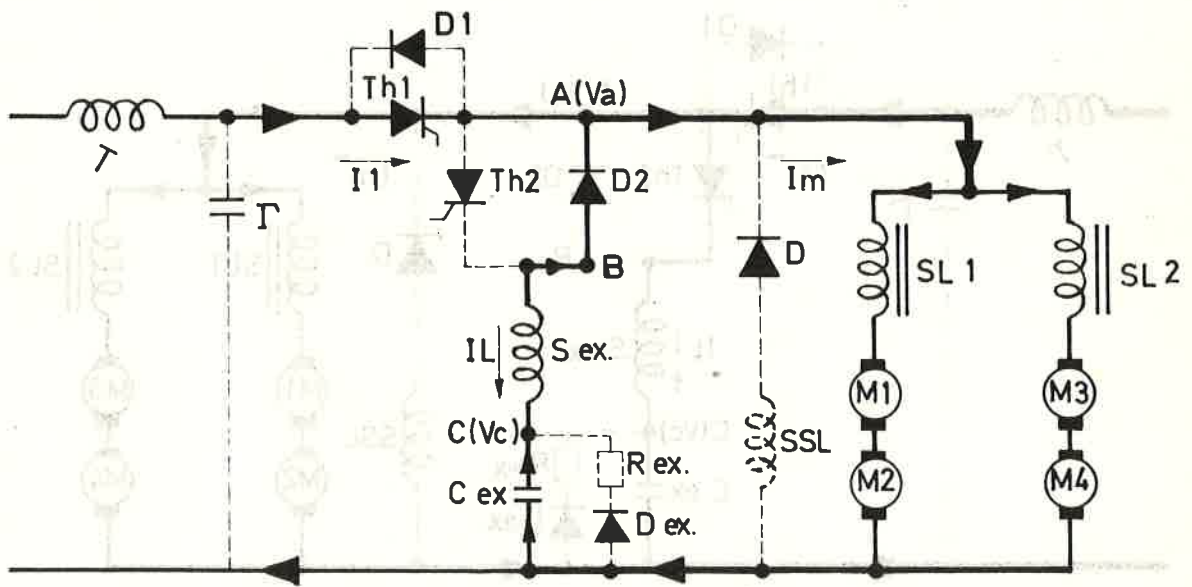


Fig. 71.04.d.

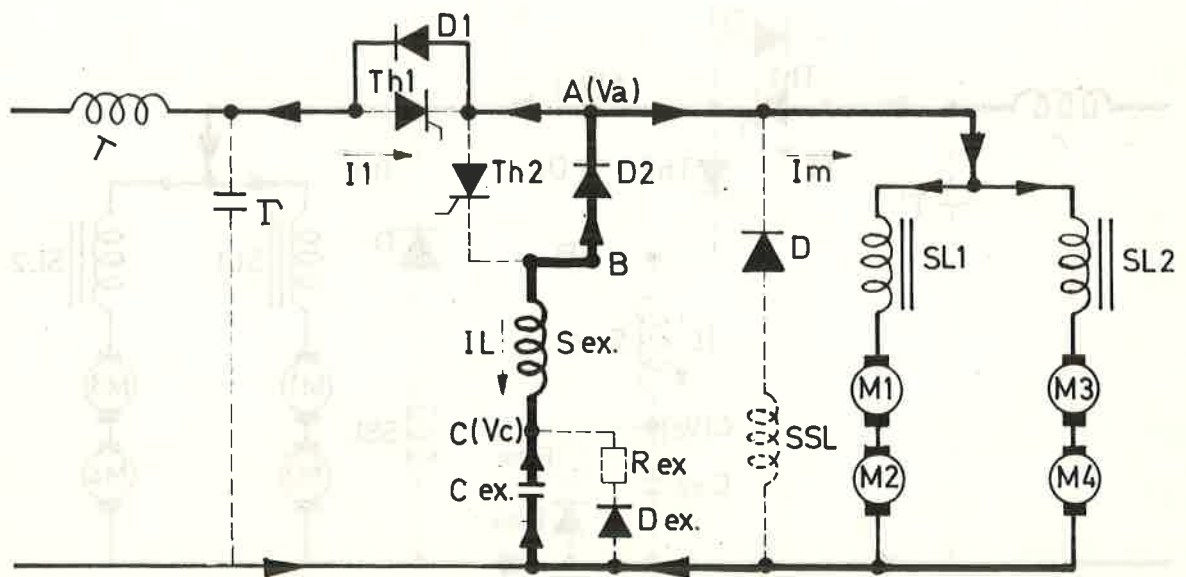


Fig. 71.04.e.

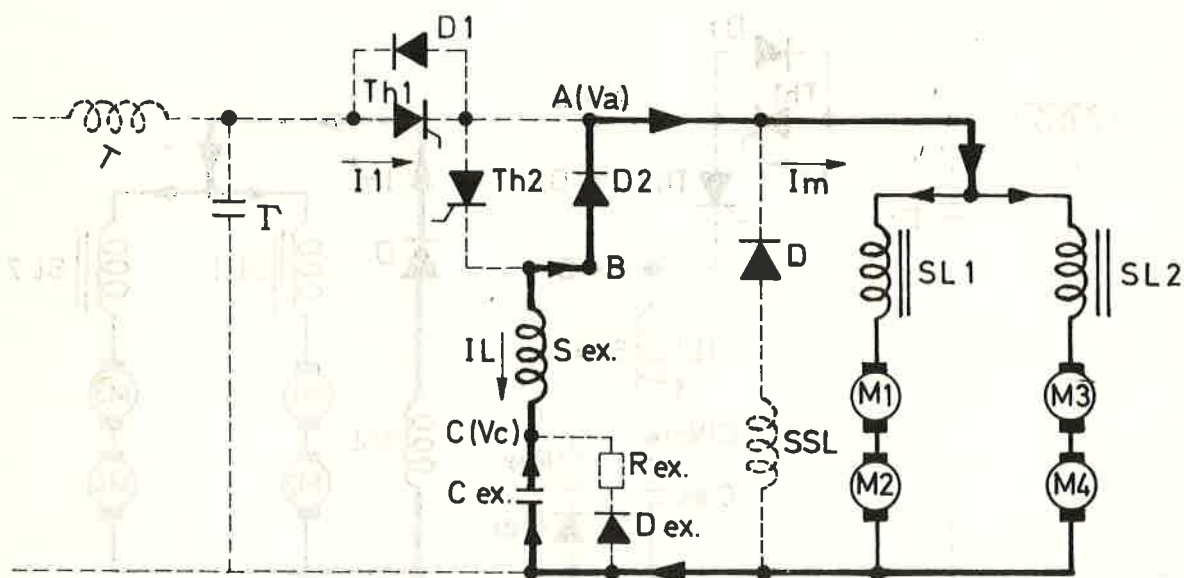


Fig. 71.04.f.

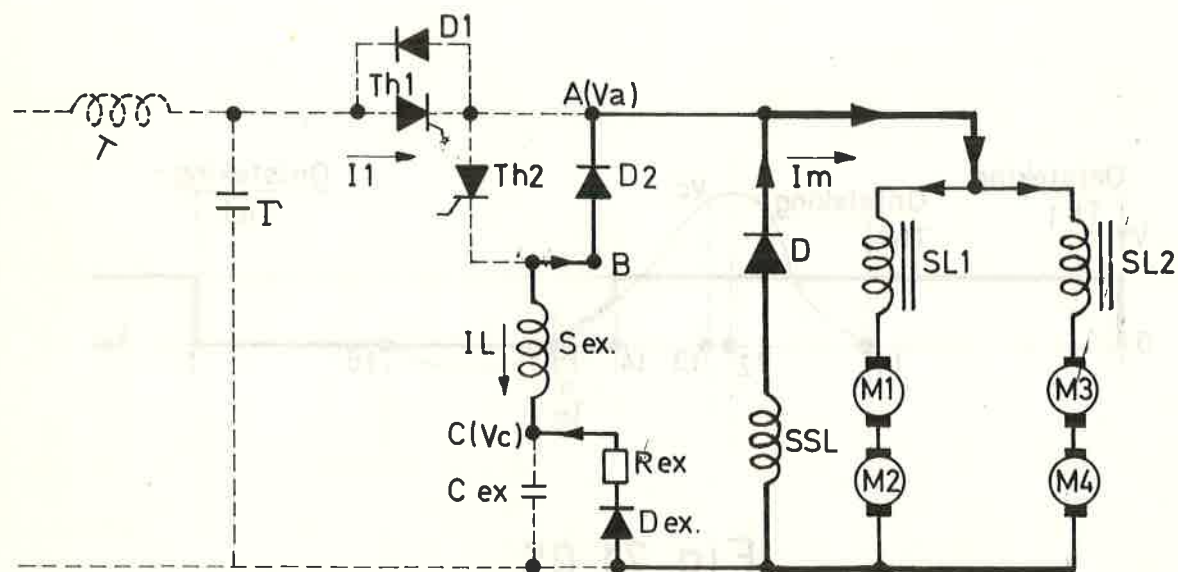


Fig. 71.04.g.

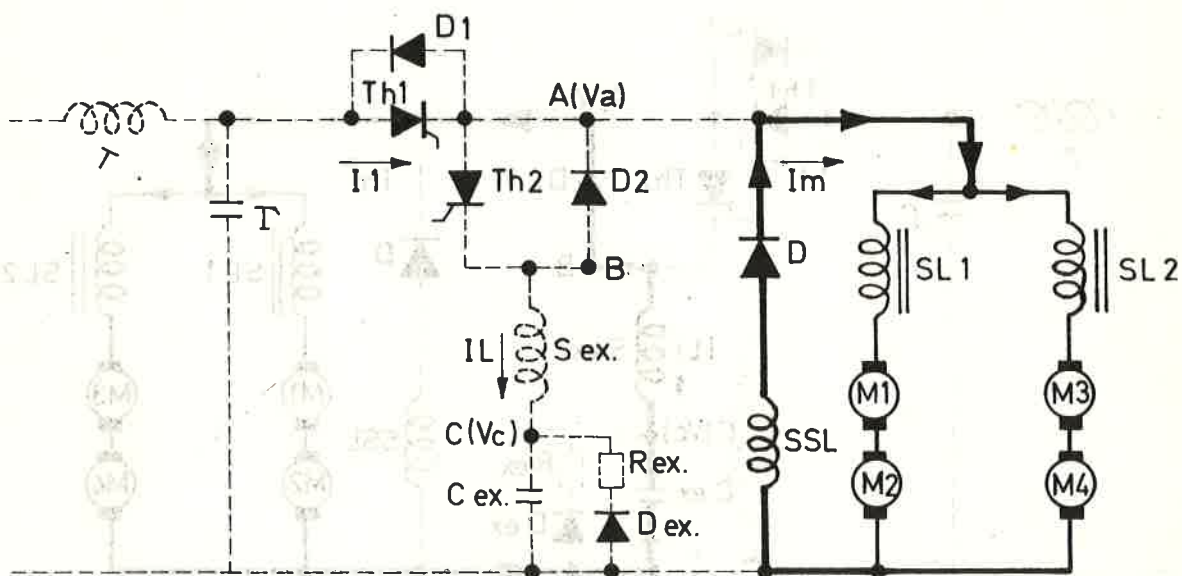


Fig. 71.04.h.

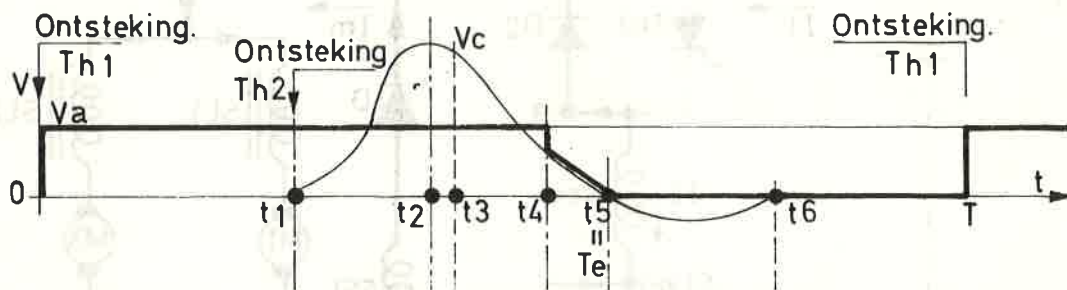


Fig. 71.05

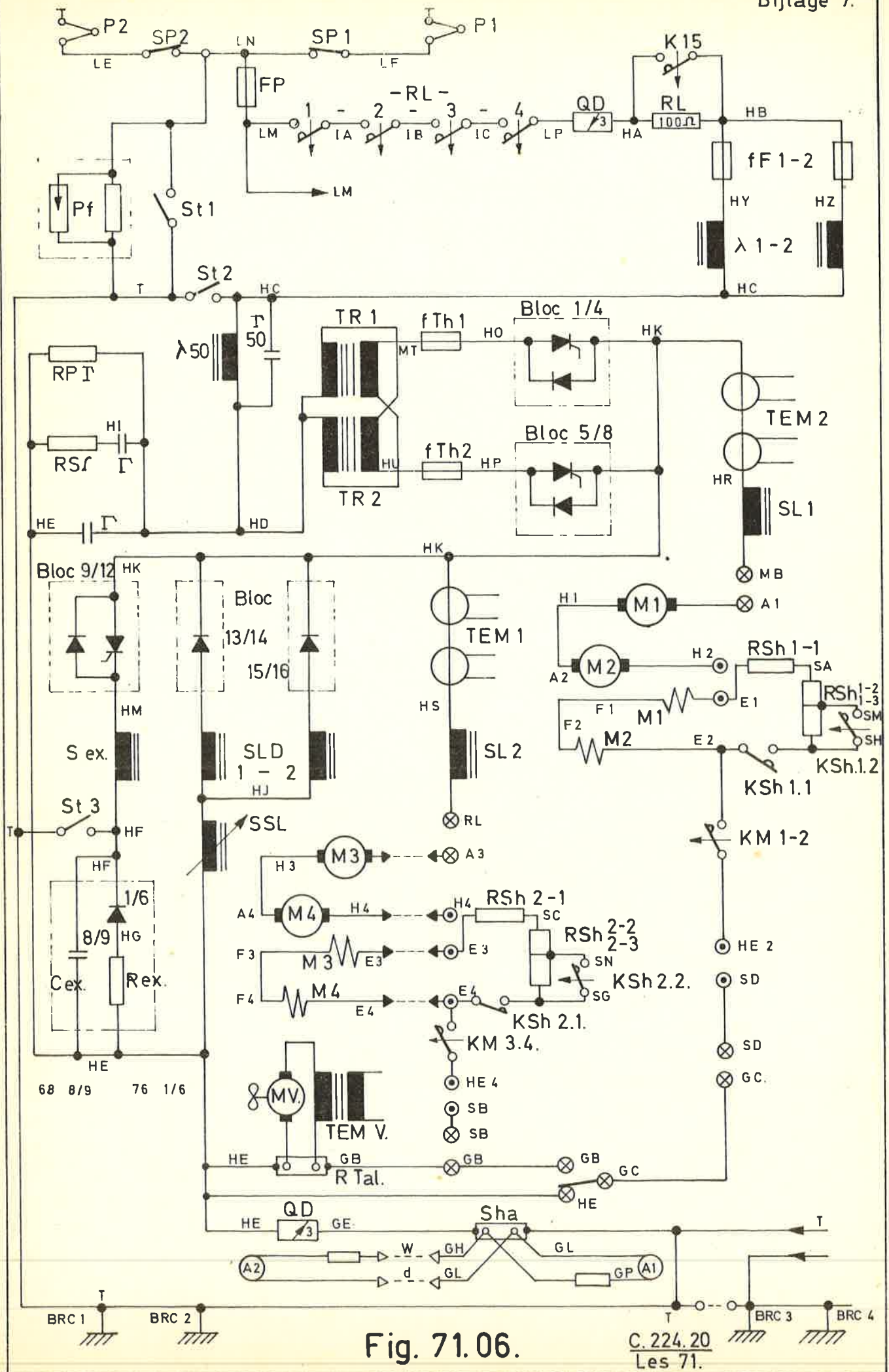
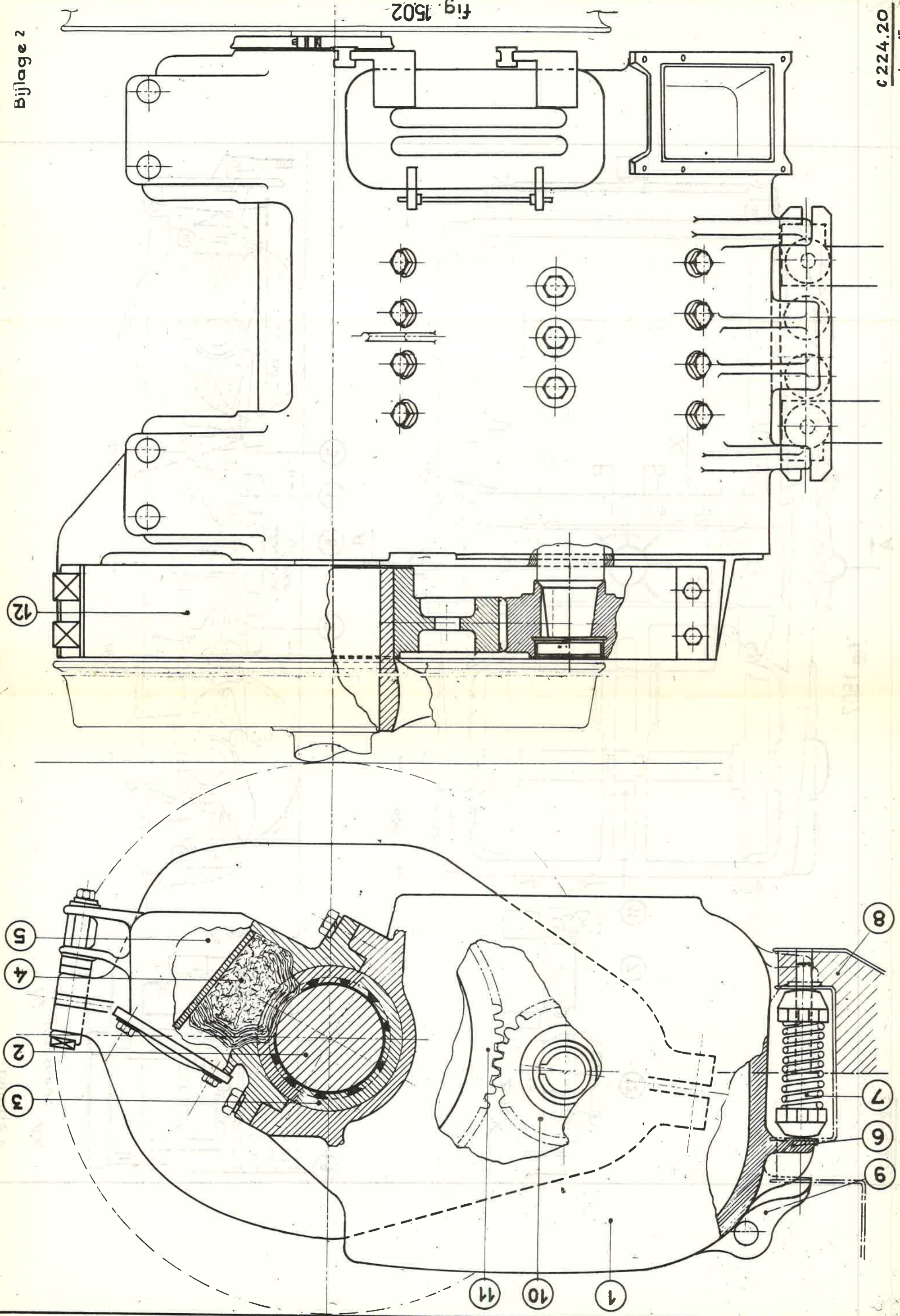
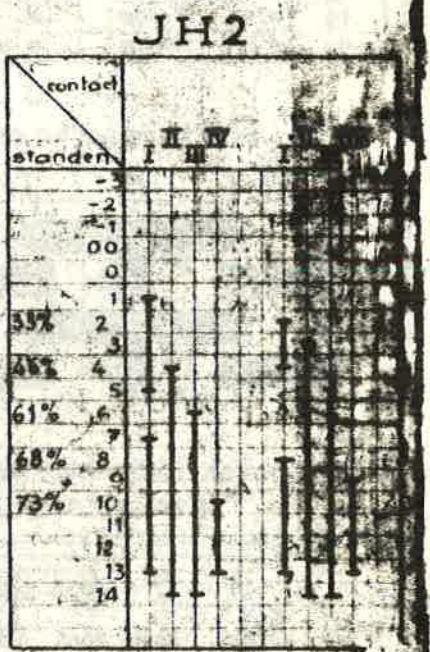
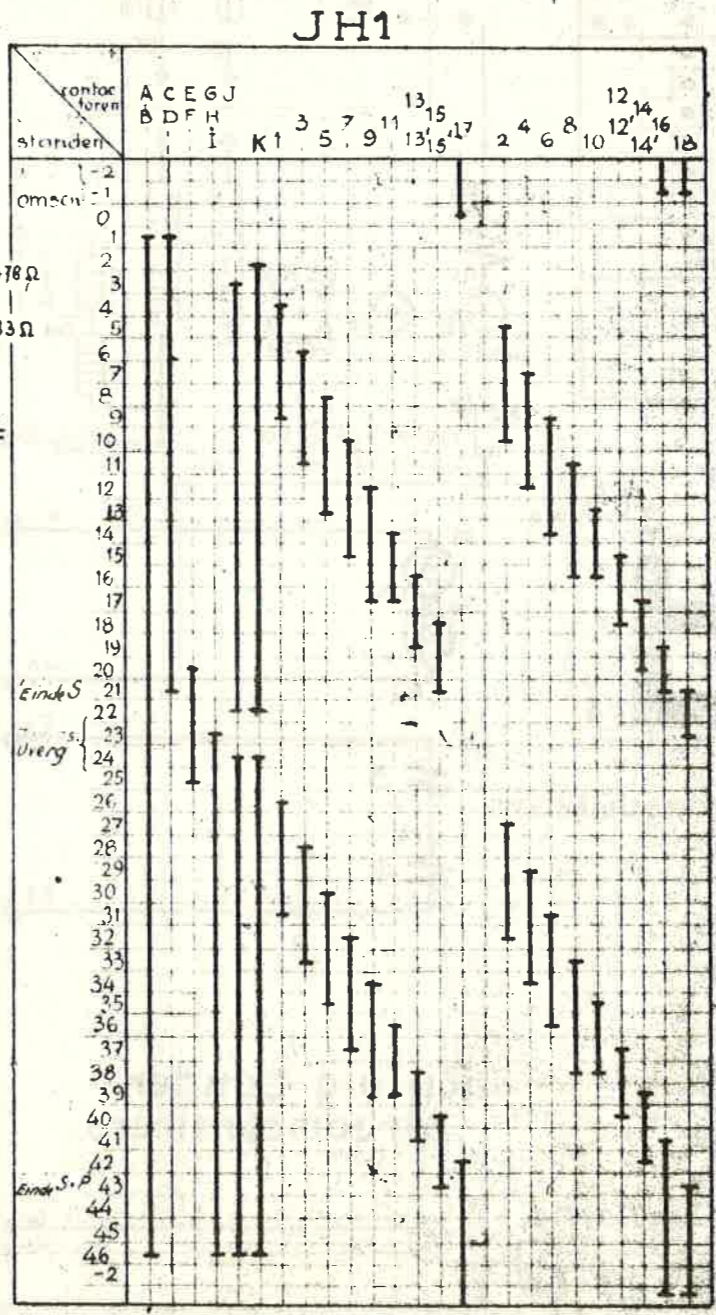
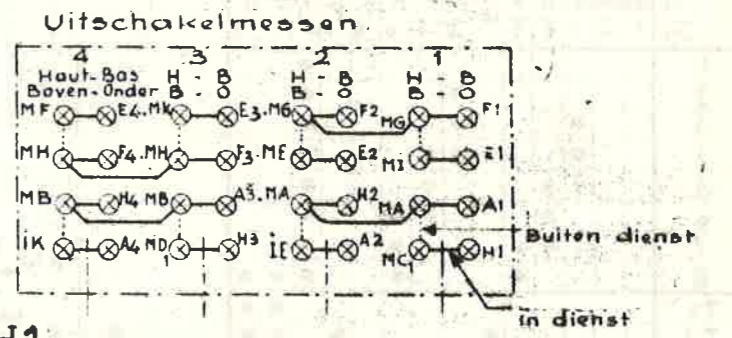
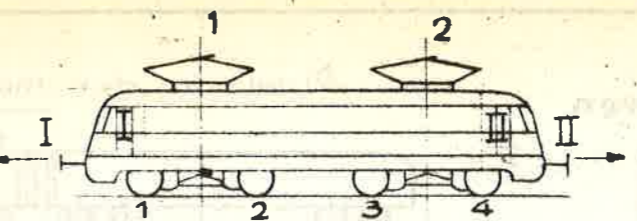
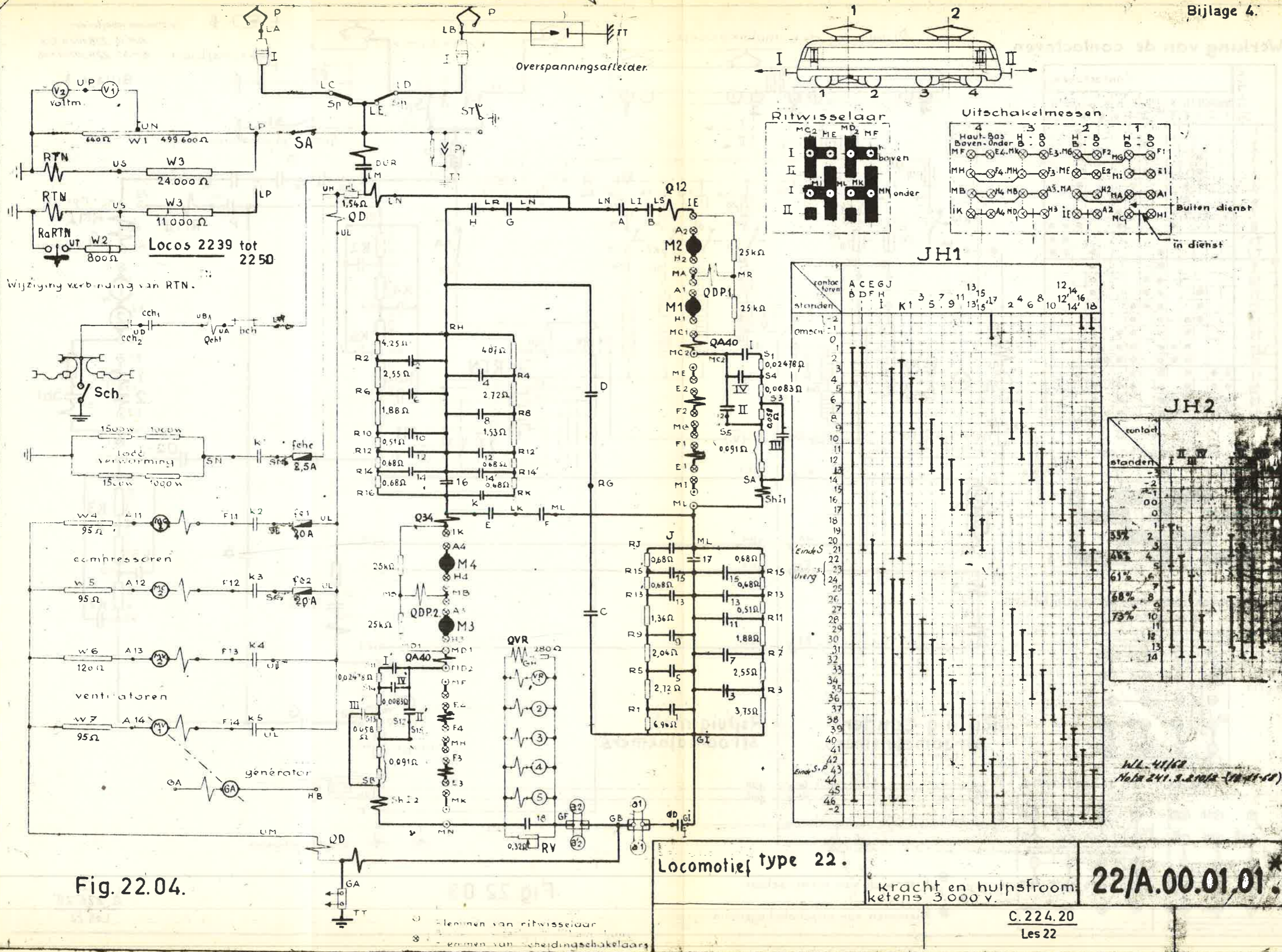


Fig. 71.06.

fig. 1502

Bijlage 2





W.L. 41/62
Nota 241.3.2.1012 (10-11-62)

Fig. 22.04.

Locomotief type 22. Kracht en hulpsfroom ketens 3000 v.

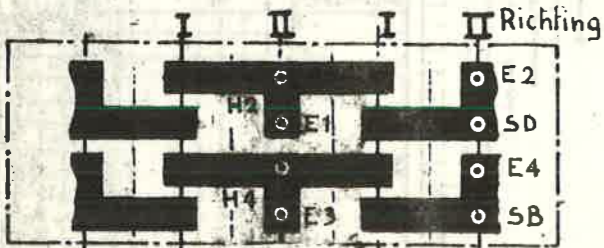
22/A.00.01.01.

C. 224.20
Les 22

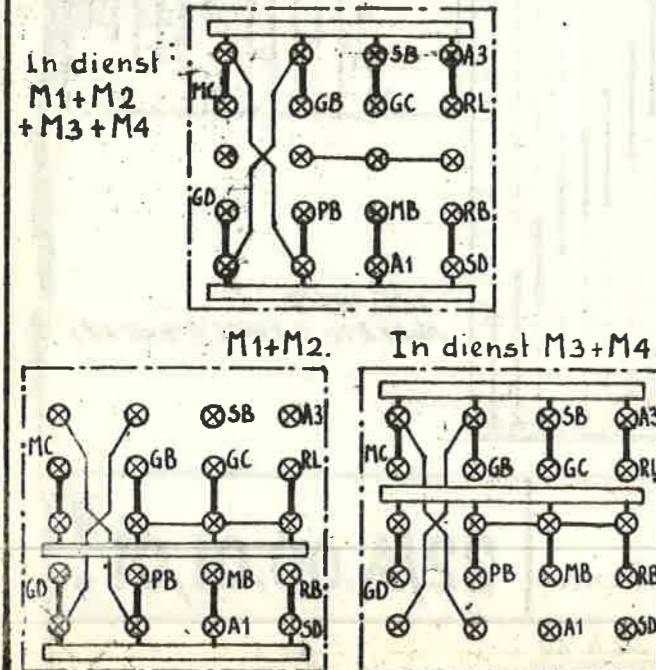
Werking van de contactoren.

Standen.	- Contactoren.												
	Sh	Sh	K	K	K	G	K	K	K	K	P	0	0
	1	2	3	5	7		2	4	6	8		5	0
Serie	1												
	2												
	3												
	4												
	5												
	6												
	7												
	8												
	T1												
	T2												
Parallele	9												
	10												
	11												
	12												
	13												
	14												
	15												
Shunt.	17												
	18												
	19												
	20												

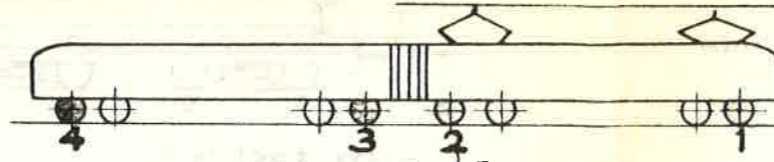
Ritwisselaar



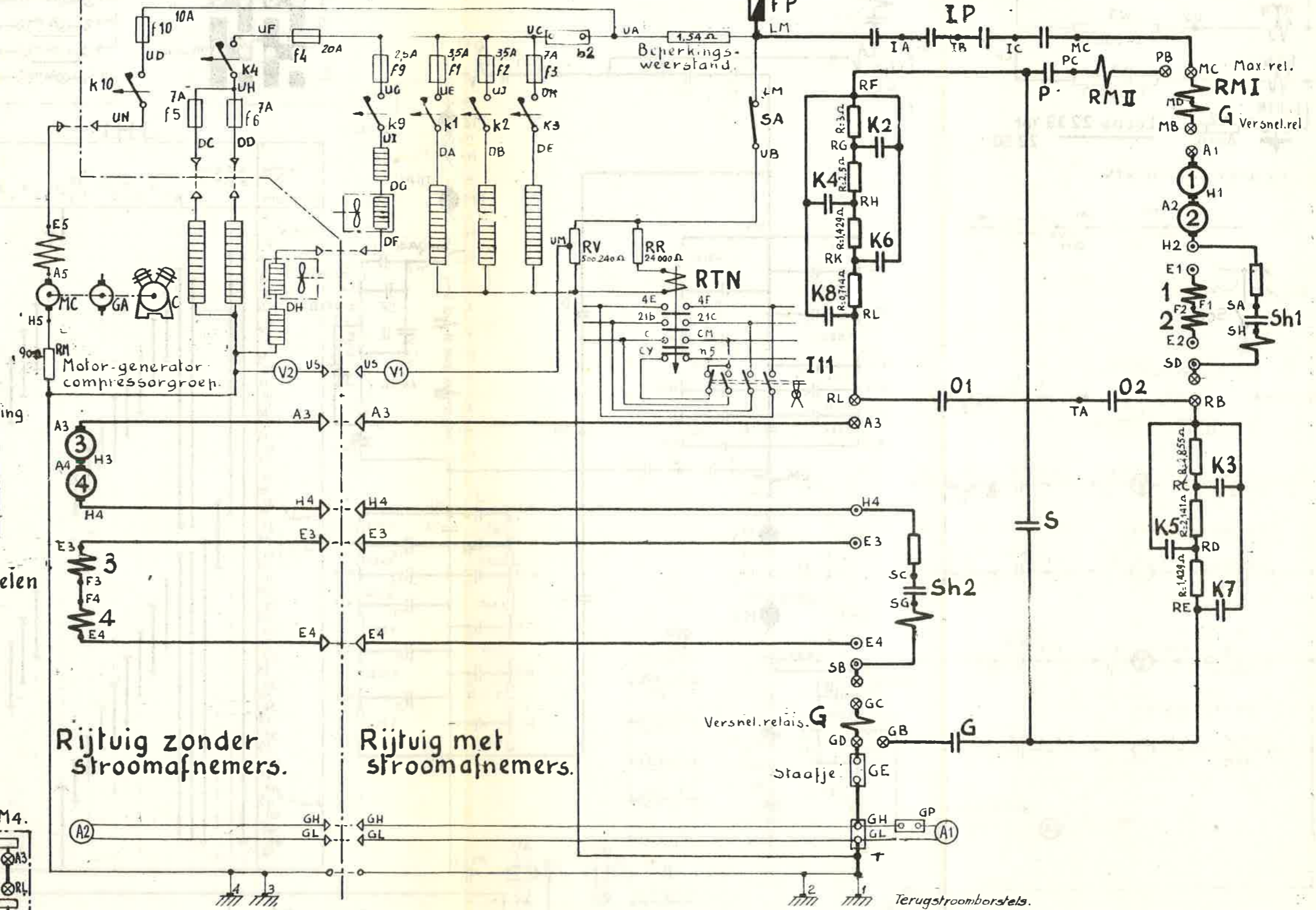
Scheidingschakelaars voor het vischakelen der motoren.



Plaatsing der motorassen.



Rijrichting



- ⊙ Klemmen van ritwisselaar.
- ⊗ Klemmen van uitschakelingschakelaars.

Fig. 22.03