Dr. L. H. SIERTSEMA. *Measurements on the magnetic rotatory dispersion in gases.*

With the apparatus and method of observation, described in the former communications [1]), and in the first part of the present one, the rotatory dispersion is now measured in hydrogen, and the following results are obtained:

Hydrogen (85.0 KG., $t = 9°.5$). Admixtures 1.7 %, without oxygen, which admixture is the most important on account of its small dispersion. Pressure during the observations 77.7—93.7 KG.

λ	$n.10^6$	λ	$n.10^6$	λ	$n.10^6$	λ	$n.10^6$
0.656	370	0.589	472	0.517	606	0.431	896
»	365	0.555	527	0.486	683	»	898
»	362	»	526	»	688	»	900
»	361	»	526	»	695	0.423	921
0.619	414	»	527	»	691	»	938
»	417	0.527	593	0.454	803	»	935
»	408	»	589	»	801	»	939
0.589	468	»	582	»	796		
»	466	0.517	614	0.431	897		
»	460	»	614	»	889		

Calculating a formula for interpolation in the same manner as for the other gases, and comparing it with the observations, we find:

[1]) Communications etc. N°. 7, 15.

Hydrogen (85.0 KG., $t = 9°.5$).

$$n.10^6 = \frac{140.3}{\lambda} + \frac{45.82}{\lambda^3} = \frac{140.3}{\lambda}\left(1 + \frac{0\,326}{\lambda^2}\right)$$

λ	p	$n.10^6$ Calculated	$n.10^6$ Observed	Diff.
0.656	4	376	364	12
619	3	412	413	—1
589	4	462	466	—4
555	4	521	526	—5
527	3	579	588	—9
517	3	603	611	—8
486	4	688	689	—1
454	3	799	800	—1
431	5	898	896	2
423	4	937	933	4

The rotation is positive, as with the other gases.

Fig 1. (1/16).

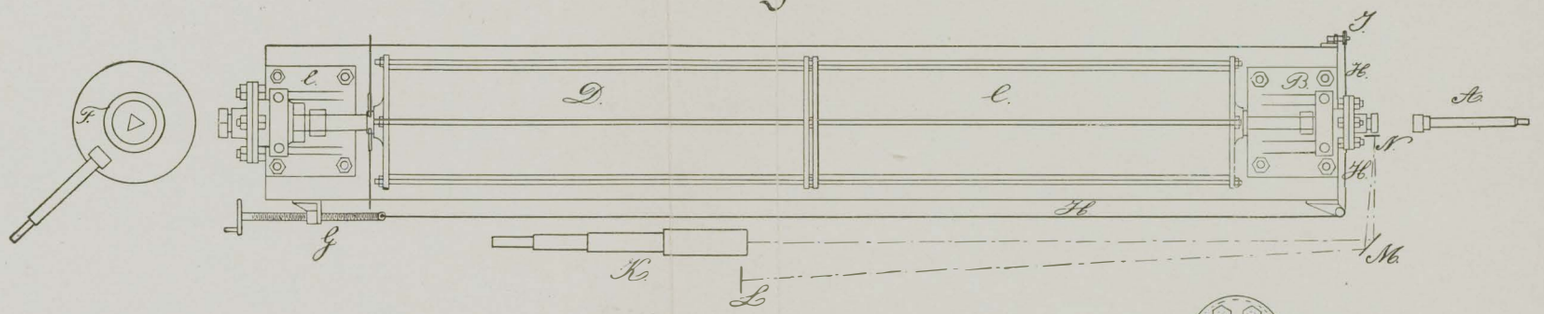

Fig 4. (1/10).

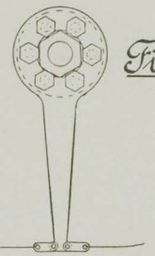

Fig 2. (1/4).

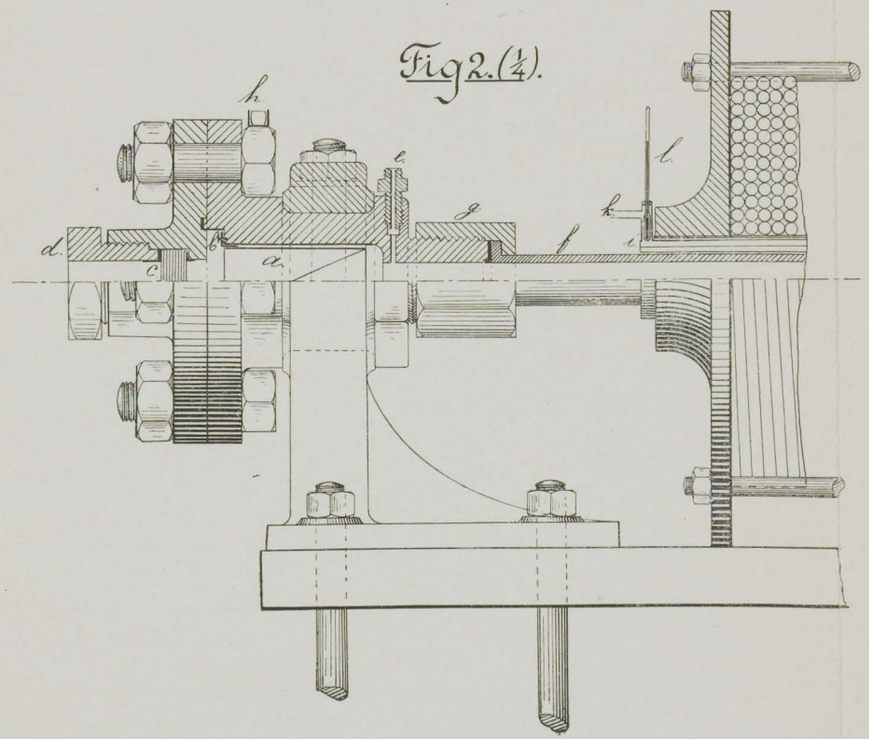

Fig 3. (1/4).