that the clock makes circuit, a short circuit for the battery current is provided by the wires v, v′, and the clock, S loses its current, and therefore its magnetism, and the armature of S flies back, breaking the circuit of the chronograph.

If gravity batteries are used it is necessary that they be kept working all the time, whether the apparatus is in use or not; otherwise they become foul, copper is deposited on the zinc, &c. The waste material, however, when they are kept working is not serious if they are made to work through a resistance.

If the distances on the chronograph sheet between successive clock records are not equal, the fault evidently lies with the clock, and can be remedied by proper adjustment of it.

<div align="right">W. F. KING.</div>

Owing to the damage done to the rating station by the floods of June, 1897, and the subsequent disorganization of the Calgary office, it was found impossible last spring to utilize the chronograph and electric clock, the short time available for rating meters being fully taken up in re-levelling the platform, regauging and straightening the track and strengthening the fending piles ; in consequence, the ordinary methods had to be resorted to. During the coming spring another attempt will be made to get the chronograph system in working order.

The rating for meter No. 24 is here given.

<div align="center">METER No. 24.</div>

REDUCTION of observations for rating taken at Calgary, Alberta, June 9th, 1898, by rigid method.

R. W. MACINTYRE, *Observer.*   J. G. McINTOSH, *Computer.*

No.	r	t	x	y	$x-x_0$	$y-y_0$	$(x-\bar{x})^2$	$(x-x_0)(y-y_0)$	Remarks.
1	25 2	13·8	1·826	7·246	+1·161	+4·547	+1·348	+5·279	Length of base = 100 ft.
2	25·5	17·6	1·449	5·682	+0·784	+2·983	0·614	2·337	
3	25·5	18·4	1·386	5·435	+0·721	+2·736	0·520	1·972	
4	25·4	17·8	1·427	5·618	+0·762	+2·919	0·580	2·224	
5	25·6	18·6	1·376	5·376	+6·711	+2·677	0·506	1·903	
6	25·5	19·2	1·328	5·208	+0·663	+2·509	0·439	1·663	Meter
7	25·3	18·2	1·390	5·494	+0·725	+2·795	0·526	2·026	Vanes immersed 0·8 feet.
8	25·1	36·2	0·693	2·762	+0·028	+0·063	0·001	0·002	
9	25·1	39·8	0·631	2·513	−0·034	−0·186	0·001	0·006	
10	25·1	38·8	0·647	2·577	−0·018	−0·122	0·000	0·002	
11	25·0	44·4	0·563	2·252	−0·102	−0·447	0·010	0·045	
12	25·1	41·6	0·603	2·404	−0·062	−0·295	0·004	0·018	
13	24·9	41·5	0·600	2·409	−0·065	−0·290	0·004	0·019	
14	23·3	68·0	0·343	1·471	−0·322	−1·228	0·104	0·395	
15	22·7	72·6	0·313	1·377	−0·352	−1·322	0·124	0·465	
16	22·9	78·5	0·292	1·274	−0·373	−1·425	0·139	0·531	
17	23·3	78·0	0·299	1·282	−0·366	−1·417	0·134	0·518	
18	23·4	79·4	0·295	1·259	−0·370	−1·440	0·137	0·533	
19	23·6	81·6	0·288	1·225	−0·377	−1·474	0·142	0·555	
20	24·0	77·5	0·309	1·290	−0·356	−1·409	0·127	0·502	
21	20·7	99·0	0·209	1·010	−0·456	−1·689	0·208	0·770	Observations 22, 23, 24
25	21·0	97·3	0·217	1·029	−0·448	−1·670	0·201	0·748	and 26 rejected.
27	20·6	99·7	0·206	1·003	−0·459	−1·696	0·211	0·778	
28	20·7	102·8	0·201	0·973	−0·464	−1·726	0·215	0·801	
29	20·5	101·4	0·202	0·986	−0·463	−1·713	0·214	0·793	
30	19·9	99·5	0·200	1·005	−0·465	−1·694	0·216	0·787	
			17·293	70·160			6·725	25·672	

$x_0 = ·665$ $2·699 = y_0$

<div align="center">

NORMAL EQUATIONS.

$b + 0·665a = 2·699$, whence $a = 3·817$

$6·725a = 25·672$,, $b = 0·161$

EQUATION FOR RATING.

Velocity $= 3·817 \times \dfrac{\text{Revolutions} + ·161}{\text{Time.}}$

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