In a similar way the other eight sections are analysed, giving the following results:—

Section	n_2	n_1	R Feet.	ζ °
1 ..	38	0	3·8375	24·36
2 ..	76	38	3·7969	25·56
3 ..	114	76	3·5607	24·07
4 ..	152	114	3·8707	22·00
5 ..	190	152	3·7977	23·91
6 ..	228	190	3·8220	22·74
7 ..	266	228	3·6299	23·74
8 ..	304	266	3·8116	20·92
9 ..	342	304	3·8277	25·19
			9) 33·9547	9) 212·49
			3·7727	23·61
		Compare	3·7828	25·51 from abacus.
		Difference	0·0101	1·90

It will thus be seen that the results of analysis by this method agree closely with those obtained from the abacus. No corrections have been applied for the influence of other tides on the M_2 tide in the above results, while the results from the abacus are corrected ones.

The corrections due to the other tides depend on the corresponding values of $R\zeta$ in equation (7), and the following table shows the relative importance of these products:—

Tide.	R. Feet.	$8R\zeta$.
M_2	3·783	+753·6
ν_2	0·234	+ 19·18
S_2	0·583	− 12·74
N_2	0·791	+ 6·14

TIDE-GAUGE.

A NEW tide-gauge (see illustration) has been designed and constructed in Wellington, and as it possesses some novel features a description of it may be of interest. It is based on the Wellington Harbour Board tide-gauge designed by Mr. W. Ferguson, M.A., M.Inst.C.E., and described in "Transactions of the New Zealand Institute," Vol. xli (1908), page 407. The gauge consists essentially of the pencil actuated by the clock, and the paper moved by the tide. The pencil-carriage C is in train with the driving-weight W of the clock and moves 6 in. per day, so that the gauge will run for over a week without attention. The paper is attached to the flat table AB and consists of a block of paper cut to fit the table. The block remains on the table and a sheet is taken off once a week. The table oscillates with the tide, and the method of attaching it to the spindle of the float-wheel is shown clearly in the illustration. It is found convenient to have the record-paper on a flat table instead of on a cylinder, as in the more usual forms. The gauge is constantly referred to by the harbour engineer during dredging operations, and measurements can now be made without taking the record-paper off the gauge. The ratio for heights is $\frac{1}{1\frac{1}{2}}$ so that 1 ft. of movement of the float is shown as 1 in. on the record, and this gives a convenient scale for measurements. The gauge has been running for some months by the side of the Harbour Board gauge and is performing satisfactorily. It is proposed to instal the gauge at Suva to obtain sufficient records there for a harmonic analysis of the observations to be carried out.