

TABLE I.

Grams Ag employed.	<i>N</i> /100-AgNO <sub>3</sub> used to titrate back, in c.c.	Nett <i>N</i> /10-NaCl used, in c.c.	Equiv. to grams Ag.	Diff. in Ag found, in grams.	Error per cent.
1.0	72.00	92.8926	1.0032	0.0032	+0.32
1.0	76.20	92.4726	0.9987	0.0013	-0.13
1.0	75.05	92.5876	0.99994	0.00006	-0.006
1.0	73.20	92.7726	1.0019	0.0019	+0.19
1.0	72.30	92.8626	1.0029	0.0029	+0.29

Average error = +0.266 per cent. and 0.068 per cent. Mean error = 0.198 per cent.  
Average time taken = 27 minutes.

To test the usefulness of this apparatus as applied to the practical estimation of silver in bullion, the usual conditions under which this is done by the Gay-Lussac method were adhered to, namely, 1 gram of pure silver dissolved in about 15 c.c. of nitric acid, 100 c.c. of *N*/10 sodium chloride added, and the excess titrated with *N*/100 silver nitrate. (When necessary, any excess of silver solution added was titrated with *N*/100 sodium chloride.)

The following table contains the results of these experiments, and the time taken :

TABLE II.

Grams Ag employed.	<i>N</i> /100-AgNO <sub>3</sub> used to titrate back, in c.c.	Nett <i>N</i> /10-NaCl used, in c.c.	Equiv. to grams Ag.	Diff. in Ag found, in grams.	Error per cent.
1.004	72.00	92.8926	1.0032	0.0008	-0.08
1.000	73.30	92.7626	1.0018	0.0018	+0.18
0.9994	74.75	92.6176	1.00027	0.00087	+0.087
1.0018	73.80	92.7126	1.00129	0.0005	-0.05
1.0034	73.00	92.7926	1.0021	0.0013	-0.13
1.0030	72.30	92.8626	1.0029	0.0001	-0.01
1.0035	72.30	92.8626	1.0029	0.0006	-0.06

Average error = -0.066 per cent. and +0.133 per cent.  
Mean error = -0.067 per cent. Average time taken = 30 minutes.

It may be added that no excessive shaking up of the mixture is required other than sufficient to ensure proper mixing after each addition of the reagent.

CHEMICAL LABORATORY,  
UNIVERSITY OF TORONTO.