NOTE ON THE TEST FOR STRYCHNINE.[1]

By W. P. Mason and J. W. Bowman.

ORGANIC matter having been removed, and the solution containing the purified alkaloid having been evaporated to dryness on the water-bath, the dry residue is taken up with a little concentrated sulphuric acid, one of several oxidizing agents added in solid form, and the well-known strychnine color reaction forthwith appears as usual. Or, in the event of the evaporation having been accomplished in a platinum dish, such dish may be connected with the positive pole of a battery, and, upon touching the negative pole to the acid contents, the strychnine color instantly flashes out. All this being long since known, the following table is offered to indicate the relative degrees of delicacy of the several reagents commonly employed.

In each instance the figures at the top indicate the number of milligrams of strychnine sulphate actually operated upon, *i. e.*, the amount left upon the evaporating dish by the evaporation of the measured quantity of standard solution employed.

Amount used in milligrams.	0.500	0.400	0.300	0.250	0.150
$K_2Mn_2O_8$	very strong	very strong	very strong	very strong	strong
$K_2Cr_2O_7$	very strong	very strong	very strong	very strong	strong
PbO_2	fair	fair	weak	no test	no test
$K_6Fe_2(CN)_{12}$	strong	strong	strong	strong	strong
MnO_2	strong	strong	strong	strong	strong
H_2CrO_4	very strong	very strong	very strong	strong	strong
Battery	strong	fair	no test	no test	no test

Amount used in milligrams.	0.050	0.025	0.020	0.015	0.010
$K_2Mn_2O_8$	strong	strong	weak	very weak	no test
$K_2Cr_2O_7$	fair	weak	very weak	no test	no test
PbO_2	no test	no test	no test	no test	no test
$K_6Fe_2(CN)_{12}$	fair	fair	weak	very weak	no test
MnO_2	strong	fair	weak	weak	very weak
H_2CrO_4	weak	no test	no test	no test	no test
Battery	no test	no test	no test	no test	no test

From the foregoing it will be seen that beautiful as Letheby's galvanic test is, it does not compare favorably in point of deli-

[1] Read at the Brooklyn Meeting, August 16, 1894.

cacy with the more common ones using chemical reagents It certainly fails long before the bitter taste disappears.

From the table it would seem that MnO_2 should be given the first rank, but the slowness of its action is greatly in its disfavor, and the consequent difficulty of getting the color to flow down the side of the dish from the crystal of reagent is an objection. The presence of a little organic matter, also masks its action.

Altogether, we found that $K_2Mn_2O_8$ gave the most satisfactory results. Of course, the color of this reagent is an argument against its use, but if the acid used be of full concentration, and if a blank experiment be run at the same time with acid only in the dish, no trouble need be feared from that source.

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THE DETERMINATION OF MELTING-POINTS AND THE COMPOSITION OF SOME CANDLE MATERIAL.

BY W. E. GARRIGUES.
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THE so-called melting-point of a fatty substance is obtained in such a variety of ways, and with equally varied results, that the claim of a certain figure for any particular article of commerce is really of little or no value, unless accompanied by a description of the method employed in its determination, which for ordinary trade conditions is hardly feasible.

There is probably no method in common use, even comparatively independent of personal equations and respective laboratory conditions. Those proposed for determining melting-points in capillary tubes etc., besides being open to these objections, necessitate allowing the fat to harden for many hours before applying the test. Wiley's method for butter fat is both tedious and difficult of manipulation and of course useless for free fatty acids.

The solidifying point, after Dalican, is not infrequently reported as the melting-point of stearic acid candles, and would if this were the only material employed, be an easy and fairly good solution of the problem; obviously, however, it is valueless for paraffin-wax and even for many mixtures of the two. The writer believes that any procedure which will quickly give