come these difficulties. The method has been approved by Long and others.

My attempts to bring about atmospheric oxidation under fixed and constant conditions are described in Section 7.

17. *Bromine Absorption.*—F. Evers (1) proposes the decolorizatic of bromine water by oil of turpentine as a way of distinguishing it from mineral adulterants.

Schreiber and Zetzsche (2) improve upon this suggestion by modifying the details of the process, as follows :—

The sample is prepared by dissolving 1cc. in 49cc. alcohol (90—95 per cent.)

Solution (1.)—Bromide of potassium 50 grammes and bromate of potassium 15 grammes, in 1 litre of water.

Solution (2.) Dilute sulphuric acid, 1:3.

20cc. of the prepared sample is treated with 20cc. of each solution, and the mixture shaken for half a minute, the temperature being kept as near 20° C. as possible.

Genuine spirit of turpentine decolorizes this solution.

I have found this to work fairly satisfactorily with four samples of genuine turpentine spirit. The decoloration was complete in one case, and nearly so in the others. Coal oil, gasoline and rosin oil, failed to decolorize the bromine solution. Oil of turpentine with 20 per cent of coal oil was easily distinguished from the unadulterated article, but 10 per cent coal oil gave only a doubtful indication.

18. If oil of turpentine be mixed with about 4 volumes of a mineral oil (coal oil) the addition of strong sulphuric acid produces little or no charring, and the rise of temperature is gradual. In the following experiments, 10cc. of strong sulphuric acid was added with constant stirring, to a mixture of 10cc. turpentine with 40cc. of ordinary kerosene (coal oil). The beaker containing the turpentine mixture was placed in a larger beaker, the intervening space being filled with fibrous asbestos.

The coal oil used to dilute the turpentine was found to produce a rise of 3·4° C. on mixing 50cc. with 10cc sulphuric acid. Two samples of turpentine gave (a) 57° (b) 57° mean=57° C. and (a) 54·8 (b) 52·9 mean=53·9°—while the sample, No. 63 of the tables, gave (a) 10·9 (b) 10·4, mean=10·7° C.

The initial temperature was, in each experiment, nearly that of the room. Further investigation of this test will be made.

(1.) Chem. Centralb., 1898, 865.

(2.) Chem. Zeit., 1899, 686. Abstracted in Jour. Soc. Chem. Indus., 1899, 949.