

NOTES FROM THE RESEARCH LABORATORY EASTMAN KODAK COMPANY.*

NEW TURBIDIMETER FOR SOLUTIONS OF GELATINE, CELLULOSE, VARNISHES, ETC.¹

By S. E. Sheppard.

A TURBIDIMETER for definite thickness of fluid is described. It is based on the continuously variable visibility of a standard object, consisting of two crossed gratings which can be rotated in opposite directions about a common axis. It is shown that for the practical limits of working if A_{max} be the angle for the visibility limit for any standard medium, *e.g.*, distilled water, lacquer solvent, etc., and if A be the angle for the same thickness of turbid solution, then putting $A_{max}/A = 100/C$, the percentage clarity C , is obtained, $= 100 A/A_{max}$.

The advantages of using per cent. clarity figures, instead of arbitrary turbidity figures, are emphasized, and the technic for use of very viscous solution with volatile solvents discussed.

CHEMICAL INDUCTION IN PHOTOGRAPHIC DEVELOPMENT. I. INDUCTION AND THE WATKINS' FACTOR.²

By S. E. Sheppard and G. Meyer.

THE Lainer effect, which consists in the acceleration of development by dilute solutions of soluble iodides has been investigated quantitatively and found to affect chiefly organic developers of low reduction-potential, such as hydroquinone. Such developers, having a low Watkins factor, show a marked induction period; it is now shown that this is reduced by soluble iodide, the principal action of which is to increase the Watkins factor. The action is discussed in connection with the mechanism of development. Evidence is brought forward against Lüppe-Cramer's theory of "nucleus activation," and in support of the view that

* Communicated by the Director.

¹ Communication No. 81 from the Research Laboratory of the Eastman Kodak Company, published in *J. Ind. Eng. Chem.*, 1920, p. 167.

² Communication No. 84, published in *Phot. J.*, 1920, p. 12.