

NEW APPARATUS AND MATERIALS

Ilford Photo-electric Exposure Meter Model B. Sold by Ilford Limited, Ilford, London.

This meter is a considerably improved form of the original Ilford photo-electric exposure meter which has been available for about two years now. In outward appearance it looks rather similar to the previous model, but on examination it can be seen that certain changes have been made.



A, B, C, D, E, which are the five speed groups (from slow to fast) into which all the Ilford emulsions are divided for the purposes of classification for setting the meter to the speed of the film or plate in use. This is done with the arrow shown, and on the same disc as the arrow are engraved the stop numbers from $f'1$ to $f/32$.

When using the meter, having already set it for the film in use, it is merely necessary to point it at the subject and note the position of the small red-headed pointer. Keeping it pointing thus at the subject, the outermost scale is then turned with the thumb, which is pressed against its finely knurled edge. The green and red dots, which have been already referred to, now come into play. If the light is intense, as in fairly bright outdoor subjects, the green dot is moved so as to come opposite the marks on the moulded casing which

The engraved dial which carries the stop numbers and shutter speeds is somewhat different; it now carries two sets of exposure figures, and also a red and a green dot. One range of shutter speeds is from 100-sec. to $1/100$ -sec., and the other shows exposures between $1/2,000$ -sec. and 2-sec.; each of these scales occupies less than half of the dial, as can be seen. The fixed centre boss of the meter dial carries the letters

correspond to the graduations on the scale over which the pointer moves. When so set, the correct exposure can immediately be read off on the dial for all stops. Conversely, the green dot is used for more dull subjects, so that if a reading cannot be obtained, owing to weak conditions of light, the outermost disc is turned until it brings the green dot into the range of indicating marks. At the same time, the other set of shutter speeds is brought into place against the f -numbers.

Turning the outer scale in this manner so as to change from the green to the red indicating dots operates a swinging diaphragm over the cell itself inside the meter. When working with the red dot only a small hole, about $1/10$ -in. in diameter, is left in front of the cell, through which the light can shine; changing over to the green one uncovers the whole of the cell to the light. The photo-electric cell is set well back inside the meter, which thus narrows its acceptance angle; this helps to produce more accurate readings owing to the elimination, as far as possible, of stray light which is not part of the subject. The swing-in stop takes up its position automatically just behind the cell window, and is some distance in front of the cell; the whole of the cell is thus still used, but the quantity of light reaching it is diminished.

The meter is very sensitive, but is, at the same time, robustly constructed. It is in a case of black moulded material, the under side of which has a panel which bears very brief instructions on the use of the meter. A complete instruction booklet is provided, and this explains the operation of the meter in detail, and in addition gives a full list of Ilford films and plates classified under their speed group letters. Another useful application of the meter, where a direct reading of the subject is not possible, due to there being too low an illumination level, is the method of measuring the exposure necessary for the light source and multiplying by a suitable factor. A method of high-light exposure measurement is also described which is particularly well adapted for the exposure of reversal cine film.

The Ilford exposure meter, model B, which is supplied complete in a strong and neat ever-ready type of leather case, costs £3:3:0.