High Speed Photography.

The photographer who is attracted by the problems of high-speed shutter work is very frequently the prey of conflicting desires. On the one hand, he is tempted to "make sure" of getting a sharp picture by working the shutter at a needlessly high speed, and on the other hand he is wisely anxious to do his best in the direction of giving a developable exposure. For example, the movement of the object may be such that anything longer than 1-100sec will show a betraying blur, while so short an exposure as this is perilously near the region of pronounced under-exposure. In such a case what is he to do? It is no easy matter to advise unless one knows all the circumstances of the case. But one practical point is often lost sight of by many high-speed workers—viz., the advantage to the photographer of increasing the distance between the camera and the moving object. Not only does this permit of a longer exposure for the same displacement or blur of image on the plate, but, as every photographer knows, the nearer we are to our subjects the longer the exposure has to be—as a general rule. With a view to enabling photographers to dispense with tables, etc., in the field I elaborated a simple working rule some years ago, but I do not remember that it was ever made public property, says the Rev. Lambert, M.A., a well-known amateur. It does not profess to be absolutely accurate, but it is quite "near enough" for practical purposes. The rule supposes the limit of displacement or blur to be one-thousandth part of the focal length of the lens. Thus, for a 5in focus lens, the image must not move more than 1-200in on the plate during the exposure.

Suppose, now, the object to be moving at thirty miles per hour, then the shutter maximum time for this object at 500 yards distance is 1-30sec. If the object is moving twelve miles per hour, then the shutter speed is 1-12sec. That is to say, the number of miles per hour of the moving object is the fraction denominator of seconds for exposure at 500 yards. It is then an easy matter to get the corresponding time for the same object at other distances. For example, suppose the object is moving four miles per hour, then if it is 500 yards away the shutter speed-limit is ¼sec. At 100 yards the image will be five times as large on the ground glass, and move five times as much, so we must cut the time down one-fifth, i.e., the shutter must now work at one-fifth of one-fourth, i.e., 1-20sec. If the object is only 100ft away, then, as there is one-third of 100 yards, we must therefore increase the shutter speed by three, i.e., the exposure is now 1-60sec. One more example will suffice to exemplify the working of the rule. Suppose the object is moving twenty miles per hour, shutter speed at 500 yards, 1-20sec; at 1,000 yards, 1-10sec; at 250 yards, 1-40sec; at 100 yards, 1-100sec; at 100ft, 1-300-sec, etc. The foregoing estimates are made on the assumption that the object is moving across, i.e., at right angles to, the line of sight. But in the case of objects coming directly towards are going directly away from the camera,

LADY MOOR AND HER DOGS.

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