

it can be accurately accomplished, some of which may be printed in THE CANADIAN PHOTOGRAPHIC JOURNAL by and by, but in the meantime it may be managed with sufficient accuracy in a simple way. Focus, as in the case of a single lens, on a distant object, and measure the distance between the diaphragm slot and the focusing screen, which generally will be near enough for most practical purposes. Suppose the focus is found to be 10 inches; bring that to tenths = 100, and ascertain the number of tenths in each of the stops. Suppose one should be four-tenths; divide the 100 by 4, which will give 25, and shows that stop should be marked  $f/25$ , and so on with all the rest. A smaller fraction than a tenth, a sixteenth, or, better still, a millimeter, for the reduction of the focus and measurement of the stop, will admit of more refined measurements, but tenths will do very well.

Having thus laid the foundation, as focusing and the proper use of the stops go hand in hand, I now proceed to that important operation.

The first essential is a very fine ground glass. If the camera has not that, it may be improved by oiling, or, better still, by rubbing in a solution of wax in turpentine, and rubbing off as much as possible. For very fine work a good plan is to cement with Canada balsam a microscopic glass cover in the centre of the focusing screen, and employ a focusing glass or Ramsden's eyepiece adjusted so that its focus falls exactly on the front of the focusing screen.

If the object in view be such as the copying of a map, whose sharpness to the edges is a *sine qua non*, the adjustments as to size, position, etc., may be made with full aperture or a large stop, and then stops smaller and smaller

must be put in and the image examined until the desired result is obtained.

For portraiture, sharpness all over the plate is not necessary, and sharp backgrounds not desirable. Therefore  $f/4$  or  $f/8$  should be used, and in the case of sitting figures where the projecting knees may be out of focus when the head is in, the swing-back should be employed as a means of correction.

It is in landscape work, however, that focusing assumes almost the dignity of a science, and in which, from an art point of view, the use or abuse of the stop may make or mar a picture. Those whose only aim is to produce what are sometimes called topographical landscapes have only simple duties to perform—to ascertain the point from which the most pleasing composition can be obtained, focus sharply any prominent object, slip in stop  $f/32$  or smaller, and give the necessary exposure. But pictures, or rather photographs, so produced are destitute of that which gives the greatest charm to a landscape—atmosphere; and as the various distances are all almost equally sharp, the unsatisfied eye wanders, like Noah's dove, from point to point without finding a place on which to rest.

The picture maker, or true photographic artist, has a different end in view. He wants to make a picture in which the eye shall be led to that which is its *motif* and made to rest there, corralled from wandering, as it were, by the less sharply defined subordinate parts, while a kind of halo of mystery is suggested by the almost imperceptible atmospheric haze, rather felt than seen in the distance. He, too, like his topographical friend, places his camera on the well-studied point of view, and knowing that the effect of a picture, when confined within the limits of the