

employ a little apparatus called Johnson's actinograph. This consists of a small tin box about $1\frac{1}{4}$ inch cube, containing a small roll of sensitized albumen silver paper; this paper is pulled through a small slit, and a space adjoining the slit is painted a deep chocolate color, the light acting on the sensitized paper, causing it to assume a color similar to that painted on the box; this is called one tint. The roll of paper is drawn forward about a quarter of an inch, and when darkened to the same color as on the box, this registers another tint, and so on for as many tints as from experience it is judged the negatives will require for printing. When the tissue is considered to be sufficiently printed, the next step is to develop it, and, as we have before stated, this is done by dissolving away the unaltered gelatine and pigment; but before this is done it is necessary to place the tissue in intimate contact with a support of some kind, so that the tissue may be developed from the back, as the light coming through the negative has commenced to act on the surface of the tissue, so that in the higher lights the hardening action has only penetrated very slightly into the film, and, therefore, the pigment between this and the paper on which it is spread is soluble, and will dissolve away as soon as it is placed in warm water. It will, therefore, readily be seen that if the tissue were placed in warm water just as it left the printing-frame, the insoluble film acted upon by light, being on the surface, would float off as soon as the soluble gelatine was dissolved. This necessity for transferring the tissue to a support, and stripping off the paper on which the pigment was spread, so as to allow development to take place from the back, is the reason why a carbon print gives a reversed image unless it is transferred a second time.

**Instructions for the Use of Carbon Papers by the
Single-Transfer Process.**

Those taking up carbon work for the first time, we would recommend to purchase cut sizes of tissue, and to commence with the single-transfer process on to opal, for although the picture will be reversed—i.e., objects that should be on the right hand will appear on the left, and vice versa—yet the manipulation is so simple that failure to produce satisfactory results, can hardly take place if the following simple instructions are adhered to. Pictures can be produced in this way without any special apparatus; all that is required is four dishes—one for sensitizer, one for cold water, one for alum, and one for hot water; each of the four dishes should be large enough to hold the opal to which the print is transferred, but the larger the hot water dish the better. Black varnish and a small brush, powdered alum, a few pieces of ground opal a little larger than the cut tissue, a squeeze, and