A NEW FORM OF SPECTRO-COMPARATOR

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By employing a half-silvered surface and two microscopes, it is possible for one to construct a comparator possessing special advantages in the measurements and comparisons of photographs of spectra. The device may be arranged in several ways:

I. The microscopes may be set up with their axes intersecting on either side of the objectives and with the half-silvered surface at the intersection.

II. The microscopes may be set up with the axes of the objectives parallel. One beam of light, after passing through its objective, is turned by reflection through one or two right angles to meet, at the half-silvered surface, the direct or similarly reflected beam from the other objective.

The half-silvered surface transmits and reflects in either case about half of each beam; and the images, side by side or overlapping, may be observed in two directions at right angles to one another.

By employing the arrangement I in such form as shown in the diagram, it is possible to produce, with a minimum of optical surfaces, two sets of images in convenient positions for alternate measurement, the configurations appearing rotated 180 degrees with respect to one another. In the case of spectra, one eyepiece would show "violet right" and the other "violet left." Furthermore, in order to compare personal errors of measurement, two observers could conveniently measure together, one at each eyepiece, viewing each other's settings or making alternate settings. (Such a method of comparison between two observers should prove valuable in such observations as the transits of stars, occultations, etc.) To facilitate such comparisons in the measurements of spectra, the comparator should be made to rotate and should be set up on a narrow table with a seat on each side. To avoid the interference of reflections from the outside surfaces, the silvered surface should lie between two wedges or rectangular prisms of glass.