"A separate stand is required for cells which are longer than two inches. The method of arrangement is shown in Fig. 4, where one end of the longer cell rests on the stand A, which also carries the optical instrument B, whilst the other is supported by a separate stand, F, which can be moved to accommodate a tube of any length. The reflector, D, is used as in Fig. 3.

"Fig. 5 shows the arrangement for measuring color in opaque objects. The optical instrument, B, is here shown as a binocular,

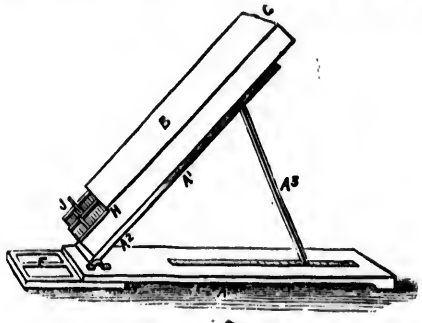

Fig. 5.

but the monocular described in Fig. 3 fits equally well into the shoe A^1, the bottom of which is commanded by both tubes of the instrument. Under one side, at F, is placed the opaque substance to be measured, and under the other the standard white (pure precipitated lime sulphate pressed to an even surface) for reflecting the beam of white light, which is then intersected at J by the suitable standard glasses, as already described for transparent colors."

At my request the inventor of this valuable instrument has measured a number of pigment samples selected at random from the stock of a large American color and paint manufacturer. I give the results in a few cases: The paint sold under the name of "primrose" was found to contain 1.16 red units, 2.9 yellow units, and .04 of a blue unit; the so-called "salmon" color equals 1.3 units of red, 2.7 of yellow, and 1.5 of blue; "lilac" equals red 1.85, yellow 1.7, and blue 3 units; "green stone" is composed of red 1.3, yellow 2.7, and blue 1.5 units; "apple blossom" is composed of red 1.9, yellow .95, blue .8; "light blue" is composed of red .95, yellow 1.2, blue 4.9; "cream" comprises red 1.25, yellow 2.5, blue .04; "yellow stone," red 4.3, yellow 3.4, blue 1.5; "dark drab," red 6.2, yellow 7, blue 7; "extra light" drab, red 1.25, yellow 1.35, blue 2.8; "golden brown," red 7.4, yellow 7.4, blue 3.2.