the balance wheel, hair spring and small portions of the bearing plates of a small jeweled wrist watch attached to a glass plate. To the escape wheel on the arm of the balance wheel is attached a very fine human hair carefully washed in ether and alcohol. It then bends over the shaft of the balance wheel and is attached at the opposite end of the glass plate under slight tension produced by the hair spring. A very fine glass rod attached to the circumference of the balance wheel indicates the motion produced by the elongation or contraction of the hair with humidity changes. A more sensitive measurement may be obtained by attaching small mirrors to the rim of the balance wheel and the regulator arm and using the distance between the spots of light reflected as an indicator of the motion produced by humidity changes.

The instrument was calibrated and checked by alternately placing it in a closed chamber first over water and then over concentrated H2SO4. All readings were within 2 per cent. R. H. When placed above salt solutions in closed containers, the instrument checked to about 1 per cent. in every instance. Under these conditions equilibrium was reached within 15 minutes.

The advantages of this instrument are threefold.

(1) It is quite accurate and may be easily read without altering the humidity in the chamber. (2) As the small size makes its use in very small spaces possible without changing the humidity, humidity of microclimates may be obtained. (3) It is inexpensive and easy to construct.

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A SMALL HYGROMETER

The construction of a hygrometer that was much smaller and more sensitive than the usual commercial equipment became a necessity during the course of an experiment in which the relative humidity of a long narrow sealed tube had to be determined without changing its humidity by opening it.

This instrument is shown in Fig. 1. It consists of

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**FIG. 1**

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**BOOKS RECEIVED**


Collected Papers from the Faculty of Science, Osaka Imperial University; Series A, Mathematics, Vol. 5, 1937. The University, Japan.


