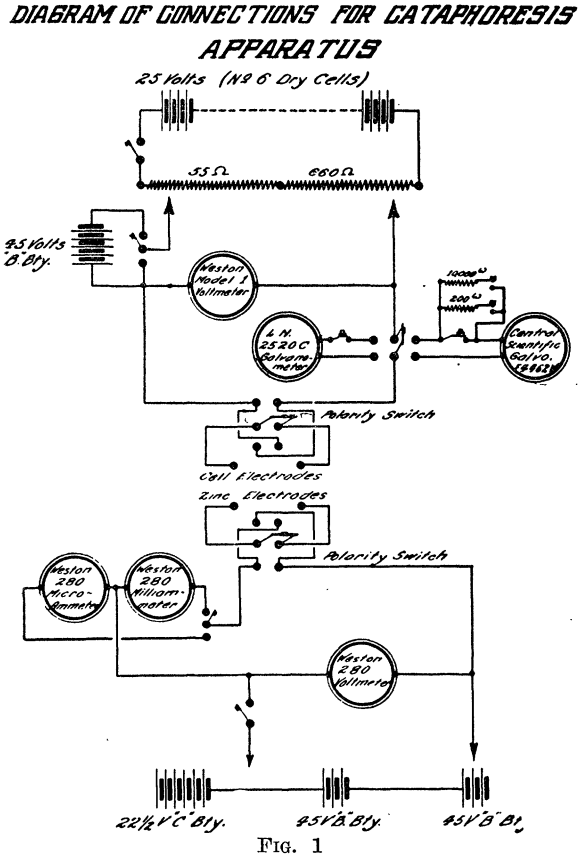

FIG. 1

Polarization may take place if any appreciable current is drawn from the cell electrodes. It is therefore advisable when balancing a circuit not to depress the key switches longer than is necessary to cause deflection of the galvanometer. After a little experience this difficulty is never encountered.

The method and apparatus herein described have been used for several months with a Northrup-Kunitz design of cataphoresis apparatus, and has proved to be of distinct value in controlling experimental work.

The author wishes to express his appreciation of the advice and assistance given by Captain R. A. H. Galbraith, of the Royal Canadian Corps of Signals.

JAS. GIBBARD

THE MEASUREMENT OF ARM GIRTH

FRANZEN has emphasized arm girth and calf girth in measures of growth and nutrition.[1] The instrument in common use for obtaining these measures is a tape wound about a coiled spring in a small metal case. To keep the tension more or less constant in measurements, a handle is provided with a spring to balance the spring of the case.

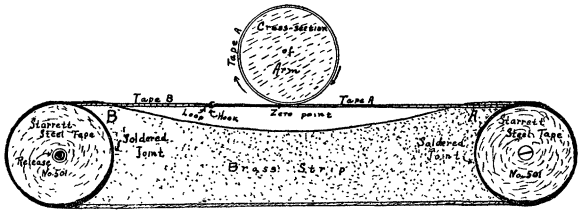

FIG. 1

The figure printed herewith is a drawing to illustrate a method of mounting two steel tapes so that the tension of one may be balanced by that of the other.[2] When one tape has been looped around the member to be measured, it is attached to the end of the other and both springs are released by the pressure of the thumb of one hand and a finger of the other. Tension is thus controlled automatically. The instrument, which may be called a girthometer, is entirely practicable, having been used for measuring thousands of arm girths under the direction of the writer.

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SPECIAL ARTICLES

THE LOGISTIC CURVE AND THE CENSUS COUNT OF 1930[1]

EARLY in 1920 we published[2] the results of fitting a logistic curve to the census counts of the population of the United States from 1790 to 1910, inclusive. At the time the computations were made in 1919 the results of the census of 1920 were not available, and therefore were not and could not be included in the calculations. Soon after the original paper was published the notation was improved, and the curve took the definitive form, still, however, *without* the use of the 1920 count,

$$y = \frac{197.27}{1 + 67.32\,e^{-0.0313x}} \qquad \text{(i)}$$

[1] From the Department of Biology and the Department of Biostatistics (Paper No. 153), of the School of Hygiene and Public Health of the Johns Hopkins University.

[2] Rearl, R., and L. J. Reed, "On the Rate of Growth of the Population of the United States since 1790 and Its Mathematical Representation," Proc. Nat. Acad. Sci., Vol. 6, pp. 275–288, 1920.

[1] R. Franzen, "Physical Measures of Growth and Nutrition," American Child Health Association, 1929.

[2] The writer was assisted in making the first of these instruments by Mr. Wm. Sachs. While no complete check of the literature has been made, nothing like it has been found in the references consulted. The instrument was devised for use in a study financed by the University of Texas Fund for Research in the Social Sciences.