Professor Nagler's family and to the President of the University of Iowa.

The meetings and the papers presented illustrate the increasing interest in, and value of, the scientific and practical applications and contacts of geophysics —both nationally and internationally.

JNO. A. FLEMING,
General Secretary

SCIENTIFIC APPARATUS AND LABORATORY METHODS

A SIMPLE AGITATOR FOR SUBMERGED RESPIROMETERS

SOME time ago there arose in our laboratory the need for a suspending, controlling and agitating device for a set of Barcroft respirometers of the type described by R. W. Gerard.[1] The device designed for this laboratory and now being used in it is illustrated in representative sections in the accompanying

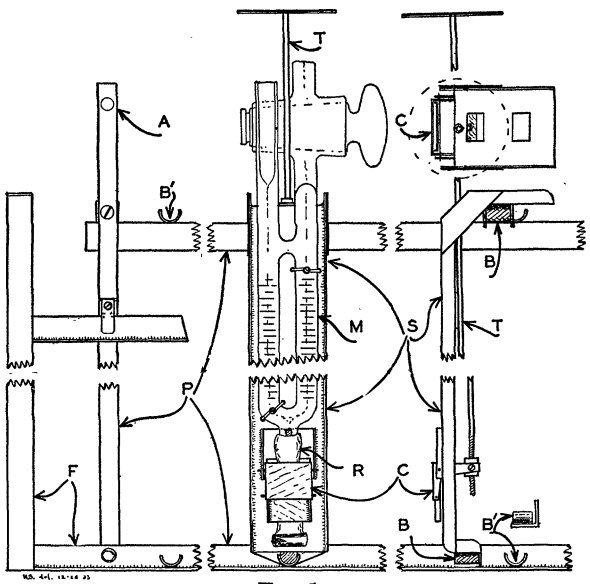

FIG. 1.

figure. Essentially, the hanger for each manometer consists of a strap of metal (S) bent into the shape of an inverted L and properly braced so as to support the glass structure of the manometer (M). A two-piece clamp (C), actuated from above by a threaded rod (T), compresses the manometer reservoir (R) at the lower end of this hanger. The latter has two bearings (B) by means of which it is suspended on the agitating device. These bearings fit into corresponding cup bearings (B′) on the agitating device and permit the removal and replacement of each individual hanger without disturbing the others. The agitating device is essentially a U-shaped frame (F) the sides of which guide, and the lower member of which supports the other three parts of a jointed parallelogram (P) upon which the manometers are rocked in unison. This parallelogram is moved by means of a crank and pulley system connected to one of its upper corners (A). This device can be made in duplicate for use on both sides of a large bath and activated by means of the same pulley system. The cost of the apparatus, excluding the motor and the manometers, is less than $5 and the simplicity of the design renders skilled labor and special tools unnecessary in its construction.

H. SPECHT

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[1] *Am. Jour. Physiol.*, 1931.

A STAIN FOR DIFFICULT PLANT MATERIAL

RECENTLY some plant material has been encountered which could not be satisfactorily stained by the ordinary procedure. The following version of the Flemming triple stain was worked out for this material and is now being used for most of the cytological work at this laboratory.

Proportions:

1 part —1 per cent. aqueous gentian violet
2 parts—1 " " " safranin
1–4 " —distilled water

Schedule: If a fixative with no chromic acid has been used, slides are soaked in 1 per cent. aqueous chromic acid from one hour to over night, and rinsed through several changes of tap water. They are stained 1 to 24 hours—depending on strength of stain. A dilute stain over a period of 24 hours gives the best results. They are then washed in tap water. Thereafter they are placed for 30 seconds in 1 per cent. iodine-potassium-iodide in 70 per cent. alcohol and washed a few seconds in each of the following:

50 per cent. alcohol (two jars in series)
70 " " "
95 " " " plus picric acid (about 1 gm per 100 cc)
95 " " " " ammonia (8–10 drops per 100 cc)
95 " " "
100 " " "
clove oil plus orange G (0.2 gm per 100 cc)
" " clear
xylol (three jars in series)

The slides may be examined in xylol. Excess safranin may be removed by returning the slide to 100 per cent. alcohol, then back to xylol. Excess gentian violet may be removed by returning the slide to clove oil, then back to xylol.

This stain is extremely selective. Chromosomes in different stages of development take up varying shades of color, usually from light to dark purple.