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FOURTH ROUND TABLE OF CATHOLIC SCIENTISTS HELD IN NEW ORLEANS

FORTY-ONE priests, nuns and lay delegates, representing twenty-four Catholic educational institutions in the United States and Canada, attended the round table for Catholic scientists and teachers of science which was held in New Orleans, on December 28, 1931. The meeting was held at Loyola University, following a luncheon at which the president and faculty of the university acted as hosts.

The round table is an informal group of research workers and teachers which originated at the American Association meetings in New York City in 1928. It started with only six members, but each succeeding year has interested a steadily increasing number in attending the A. A. A. S. meetings. Encouragement of productive scholarship, as distinct from the purely absorptive, by Catholics in the field of natural science is the main object of the round table. Its sessions are held during the association meetings, since its members feel that, inasmuch as science in general and scientific research in particular are neutral as regards religious belief, the formation of anything that savored of a separate Catholic body would be superfluous and, given the hazard of misinterpretation of its aims by Catholics and non-Catholics alike, apt to do more harm than good.

In order to further its main objective the round table has sponsored discussion groups, membership in the A. A. A. S. and its associated societies, shorter teaching hours and more research equipment for members of science faculties, and a continued program for encouraging worth-while students to make science teaching and research a life career in preference to other overcrowded professions.

More than three hundred names, including those of several bishops and college officials, listed in the membership of the round table, testify to a healthy interest in its activities. Reports of past sessions will be freely supplied by the writer, the secretary for the present year.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

A ROTARY MYOGRAPH

REQUIRING several myographs for student laboratory use, the simple apparatus as sketched was designed and proved satisfactory in use.

The equipment shown presents several advantages over those listed in various catalogs at prices of $200 and more. The rotary myograph as pictured requires no casting patterns and can be made from material usually found in physiological or biological laboratories. Other advantages besides the low cost are: The writing surface is nearly twice as long and is fully twice as wide as those found on the expensive machines. The principal wearing surface has ball bearings in place of friction rods. The weight of the entire machine is about one tenth and the storage space required about one fourth of the heavier machines. The noise of operation is no greater and the speed of the drum does not vary with uniform spring tensions. The speed of the writing surface may be adjusted over a wider range, while speeds of one thousandth of a second per centimeter have been attained; this is at least ten times that required for the usual student use in studies on speed of the nerve impulse, determination of latent period, stimuli summation, refractory period studies, reaction time studies and others.

The drum can be removed without releasing catches, and the ordinary kymograph paper may be used. Any laboratory using kymographs may make the drums of these serve double duty without having to invest funds in expensive equipment.

MATERIAL AND CONSTRUCTION

Ordinary aluminum drums of the Harvard type were used, although others would serve as well. Center rod ringstands may be employed for the base and drum axis. Other material, such as brass plate, spring wire, machine screws and nuts, fiber sheets and cheap quilt frame clamps, are usually to be found in the stock of most schools or can be readily obtained.

The base plate may be a center support ringstand base or heavy iron plate, the rod which serves as the drum axis must be a close but free fit. Cased ball bearings obtainable at cycle shops, placed as shown, reduce friction and make for smooth action, although these are not essential to a good working assembly. The set shows a support rod for the switches, but these can as well be placed on adjacent ringstands.

A fairly strong spiral spring is essential for the driving unit; these may be obtained from old bedsprings or from heavy door-springs. The —| shaped spring stop may be made of brass or may be a short bolt through the base plate. The collar with wing nut

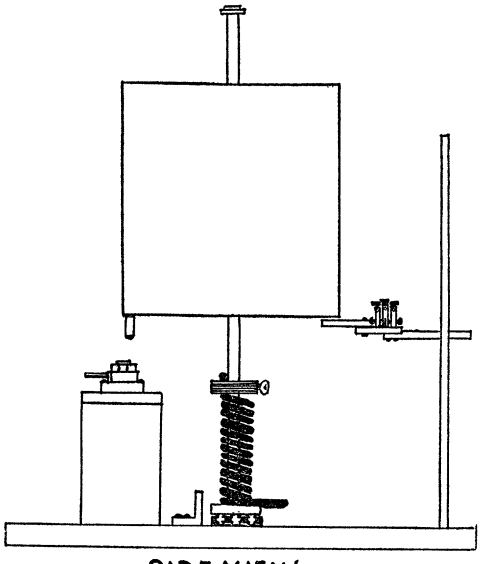
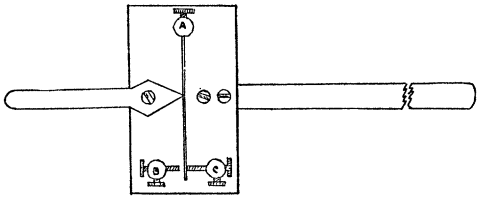


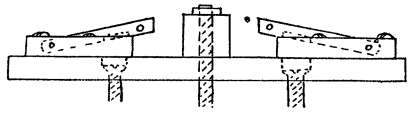
FIG. 1

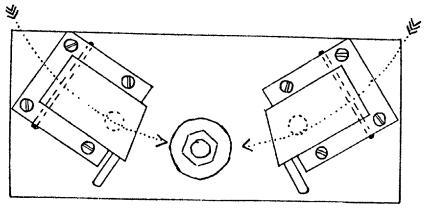
makes the upper end of the spring fast to the hollow drum support and allows for spring tension adjustments.

The switch assembly is self-explanatory, and either spring brass or steel may be used for the vane. Contact points may be platinized if desired.

The most difficult part of the assembly to make is the drum catch and release. Figs. 3 and 4 give a top and side view of this in proportions. One fourth inch brass plate is used to cut out the U-shaped retainers for the catches. These catches are normally held up by spiral brass springs placed over the set in bolt heads, the shanks of which run to the base plate. Quarter inch brass plate is used to mount the catches and central bumper post on, the entire catch and release assembly is mounted on a wooden block which is firmly attached to the base plate by the three bolts. The center bolt is fitted with a rubber stopper to reduce noise and prevent backlash.







FIGS. 2, 3 and 4

The catch and trip pin on the drum is a brass machine screw, this is covered by fiber tubing, except at the wearing edge. The dotted arrow in Fig. 3 shows the path of the trip pin. By proper placing of the switches this trip pin will cause either make or break stimuli to occur. Since the switches function either right side up or inverted stimuli may be placed as close together as wanted or even be made simultaneous by placing one switch over the other.

In use the spring tension is adjusted to give a drum speed of approximately one centimeter per hundredth of a second. The drum pin is held by the catch and release is obtained by depression of the small pin projecting from the catch. If the base plate is not heavy enough to prevent jump of the assembly in use, a small quilt frame clamp such as found in dime stores may be used to fix the assembly to a desk top. Set screws must be employed to firmly fix the drum to its hollow support rod. All kymograph drums do not have these, but they are easily attached.

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MULTIPLE LABORATORY INCUBATOR FOR THE BIOLOGICAL STUDY OF CHICK EMBRYO

IN former publications in this journal,[1] and elsewhere,[2,3] I have emphasized that the accurate control of the most important physical factors, such as temperature, humidity and composition of air, is absolutely indispensable in the experimental incubation of hen's eggs. The importance of such control in all physiological and physicochemical studies of the embryo is obvious when daily observations have to be made on a small number of various individuals.

The laboratory incubator previously described[1,2,3] had already given excellent service by its accuracy in the control of the various physical factors and by its adaptability to a wide range of experimentation. With this incubator we were enabled to obtain very

[1] A. L. Romanoff, SCIENCE, 69: 197–198, 1929.
[2] A. L. Romanoff, *Cornell Univ. Agr. Expt. Sta. Memoir,* 132: 1–27, 1930.
[3] A. L. Romanoff, *Jour. Morph. and Physiol.,* 50: 517–525, 1930.