simple electrodynamic damping by an impedance in series with the input.

The motion of a "bimorph" type Rochelle salt crystal is transmitted through an amplifying lever to a pen of stainless steel tubing designed for maximum strength consistent with low moment of inertia (Fig. 1). One or more of these write on 1⅛ inch paper tape moving at a speed up to 20 cm/sec, the highest justified by the frequency characteristic of the Crystograph. Response amplitude is practically independent of frequency to 130 cycles per second; within 40 per cent. to 190. Figure 2 shows the frequency characteristics.

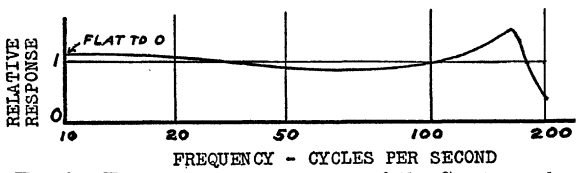

FIG. 2. Frequency response curve of the Crystograph.

With this frequency range, greater than that of the string galvanometer as ordinarily used, it is possible to obtain satisfactory ink electroencephalograms and electrocardiograms, and to study potentials and discharge frequencies of central nervous system, muscle and even peripheral nerve, except for spike shape. The Crystograph may also be useful in the physical sciences, as in recording number and amplitude of Geiger counter discharges.

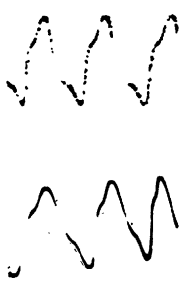

FIG. 3. Typical wave forms obtained from the Crystograph (above) compared with the cathode ray oscillograph (below). A distorted 60 cycle wave.

We hope to be able to present more details concerning the construction and uses of the Crystograph in a future issue of the *Review of Scientific Instruments*.

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ANOTHER METHOD OF PREPARING DISTRIBUTION MAPS

THE method of placing the black dots on outline maps as described by Hubricht[1] reminded the writer of the method which she had used for a number of years. The type of one-cent pencil which has the more or less conical eraser attached within the wood is necessary. By means of a safety razor blade the eraser may be sectioned horizontally until the area of the end of the eraser is equal to the size of the dot desired. By dipping the end of the rubber into india ink and then using the eraser as a stamp, black dots of uniform size and color intensity may be placed upon the outline maps. The method is quick and the dots are photographed very satisfactorily.

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[1] SCIENCE, 84: 48, 1936.

LABELING MUSEUM SPECIMENS AND LABORATORY EQUIPMENT

THE following method was devised and has been found quite satisfactory at Ashland College.

An electric stylus and white or colored transfer paper (obtainable from Demco Library Supplies, Madison, Wisconsin), such as are used by librarians to mark the backs of books, are used to burn the desired labels on various objects. Rough objects should be made smooth by filing. After the label is dry it may be shellaced.

The method has been successfully tried on the following: fossils, rocks, mollusca shells, wood fungi, arrow heads, microscope base, projection lantern, ground glass stoppers and plain glass, after treatment with the fumes of hydrofluoric acid.

The chief advantages of this method over the gummed label method are: that the specimens can be washed without injury to the label; the size of the labels can be varied to suit the size of the specimens; the labels are neat, permanent, inexpensive and can be done by any one who can print or write well.

E. E. JACOBS
MARY AUTEN

ASHLAND COLLEGE

BOOKS RECEIVED

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