Calendar No. 886

89TH CONGRESS
1st Session

SENATE

REPORT
No. 900

SCIENTIFIC INSTRUMENTS FOR CERTAIN INSTITUTIONS

OCTOBER 16, 1965.—Ordered to be printed
Filed under authority of the order of the Senate of October 15, 1965

Mr. LONG of Louisiana, from the Committee on Finance, submitted the following

REPORT

[To accompany H.R. 9903]

The Committee on Finance, to which was referred the bill (H.R. 9903) to provide for the free entry of one multigap magnetic spectrograph for the use of Yale University, having considered the same, reports favorably thereon with amendments and recommends that the bill as amended do pass.

PURPOSE OF HOUSE BILL

The purpose of H.R. 9903, as passed by the House, is to allow Yale University to import free of duty a scientific instrument for its own use.

SUMMARY OF COMMITTEE AMENDMENTS

The Committee on Finance amended the House bill to provide for free importation of one MS-9 mass spectrometer for the use of Yale University, one digital polarimeter for the use of Smith College, one photomicroscope for the use of the Utah State Training School, American Fork, Utah, and one Weissenberg rheogoniometer for the use of the Catholic University of America.

GENERAL EXPLANATION OF HOUSE BILL

H.R. 9903 would direct the Secretary of the Treasury to admit free of duty a multigap magnetic spectrograph for the use of Yale University.

Your committee is advised that no comparable instrument made in the United States is available. The Department of Commerce has stated with respect to this bill:

> The Department is of the opinion that at the time Yale University determined its requirements and specifications for a spectrograph, no instrument of equivalent scientific value was available from domestic manufacturers.
>
> The multigap magnetic spectrograph is a highly specialized device for use in atomic energy research. The instrument must be made to order according to performance specifications, which are determined by the needs of the particular purpose for which the device is to be used.
>
> It is the understanding of this Department that the Nuclear Structure Laboratory at Yale University invited bids from seven domestic manufacturers, none of whom responded with an offer to construct the instrument. Only two authentic bids were received from abroad.

EXPLANATION OF COMMITTEE AMENDMENTS

The committee amended the bill to provide free importation of a mass spectrometer for the use of Yale University. A mass spectrommeter is a device used by chemists and chemical engineers to provide chemical analyses, measurements, and other research features. It is ordinarily built to specifications to meet particular requirements of the user. In the use of a mass spectrometer, the material to be studied is subjected to an ionizing process after which the ions formed are physically separated according to mass by electromagnetic means so that a mass spectrum is produced.

Another amendment made by the committee authorizes the free importation of a rheogoniometer for the use of the Catholic University of America. A rheogoniometer is an instrument capable of accurately measuring fluids under either steady-rate conditions and/or fluctuating rates of flow, and it represents a new development in viscometric measurement.

The next amendment insures free importation of a photomicroscope for the Utah State Training School at American Fork, Utah. A photomicroscope is a device consisting of a microscope and a camera designed to be operated in conjunction with it. The photomicroscope usually includes some illuminating equipment. The committee is advised that equipment comparable to the photomicroscope desired by this institution is not available domestically.

A further amendment made by the Committee on Finance authorizes free importation of a digital polarimeter for the use of Smith College. Polarimeters are laboratory instruments which have a variety of uses and applications dependent upon the molecular configuration of certain organic compounds. Polarimeters measure the degree of rotation of a beam of polarized light passing through a solution of the compound under study. In the sugar industry solutions are analyzed for their sucrose content in routine plant control. The strength and purity of many drugs and other chemicals can be measured by the use of polarimeters. Certain recording polarimeters may be used to follow the progress of chemical reactions

by measuring the degree of rotation of the beam of polarized light at various intervals of time. A digital polarimeter is one having an automatic read out which indicates the results automatically on a numerical dial. An important feature of this latter type of equipment is that it permits accurate measurements to be made by non-specialist operators.

In the circumstances, your committee is of the opinion that this legislation, as amended, is meritorious and consistent with prior legislation of this nature and recommends its enactment.

○