The bridge output was displayed on a Telequipment S43 oscilloscope for rough balance, with the final, accurate balance being made with an Airmec 853 wave analyser. Care was taken to eliminate stray and leads capacitances. Connections to the pressure vessel were made rigid by pulling the leads through a Tufnol cylinder which was screwed to the pressure plug, and the soldered connections to the bridge leads were shielded by a brass cap fitting over the Tufnol cylinder. Connections between the pressure vessel and RC bridge consisted of co-axial cable drawn through $\frac{1}{4}$ in. o.d. brass tube to provide both rigidity and secondary screening. The outer braidings of the co-axial cables were connected to the central tapping of the bridge input transformer to eliminate the effect of the leads capacitance in the measurements, and the secondary screenings were connected to the bridge earth terminal.

PROCEDURE

The test liquid was thoroughly degassed by alternate freezing and melting under vacuum, and was introduced again under vacuum through the end plug in the bellows assembly. The complete unit shown in fig. 3 was inserted in the pressure vessel. The system was pressurized and electrical measurements commenced after allowing up to 30 min for the heat of compression to be dissipated. The approach to thermal equilibrium could be monitored by the change in resonant frequency of the crystal. The capacitance of the crystal at resonance was set at the average value of capacitances obtained with an infinite resistance

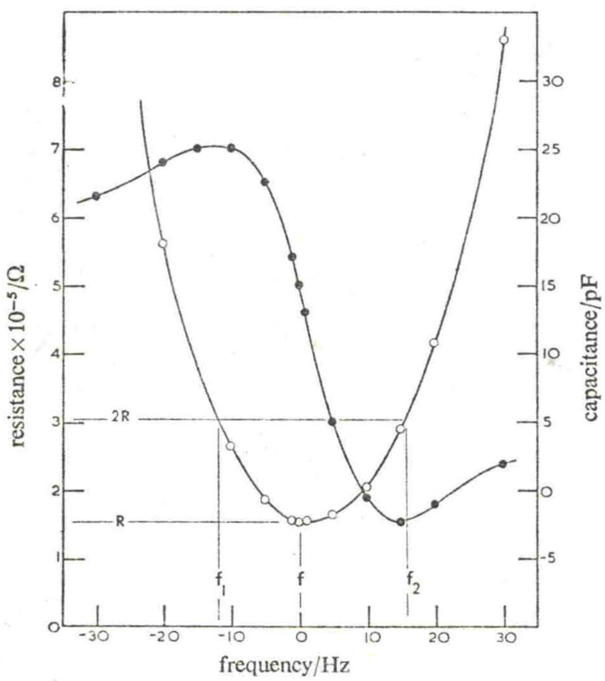

FIG. 5.—Resonance characteristics for a 39 kHz crystal in benzene at 25°C. Resistance, ○; capacitance ●.

liquid	refractive index at 25°C obs.	recommended [4, 5]
benzene	1.4978	1.4979
carbon tetrachloride	1.4576	1.4576
cyclohexane	1.4234	1.4235
n-pentane	1.3575*	1.3576*
isopentane	1.3509	1.3507

$^*n_{D20}$