

a bed of wool. By this method the alloys soon reached a steady temperature, and as the liquid when covered by wool evaporated but slowly a constant temperature was easily maintained.

The next temperature, -77°C ., was obtained by pouring a mixture of carbonic acid snow and ether into the same vessel as was used for the liquid air, the snow being obtained in the usual way by allowing the gas to expand under high pressure from the cylinder in which it was confined.

A mixture of ice and water gave the zero temperature, and a vessel of boiling water the temperature of 100°C .

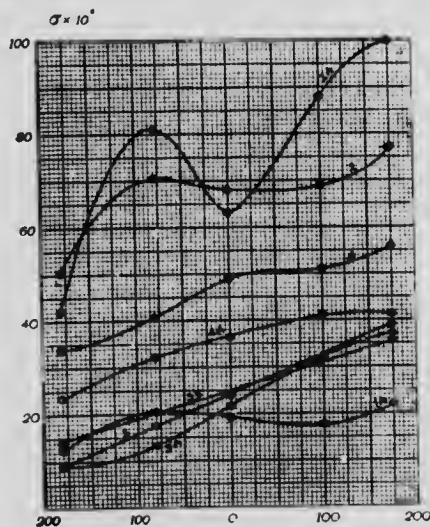


FIG. 2

To be certain before taking a reading that the baths had reached a steady state a nickel-iron thermocouple was used in connection with the potentiometer and the galvanometer mentioned above.

The results of the observations are given in Table III, and the points there given are joined by curves, as shewn in Fig. 2.

TABLE III.

Specific resistances of alloys.

Values of $\sigma \times 10^6$ where σ is the specific resistance.

Temp.	1A	2	2A	3	3A	3B	4	4A
-180°C	12.87	50.30	41.90	9.29	9.48	14.02	33.09	23.8
-77°C	20.80	70.26	81.00	17.79	13.66	20.44	40.50	32.0
0°C	19.31	68.36	63.70	24.48	22.09	24.35	49.39	36.8
100°C	18.78	68.89	58.10	31.88	32.18	31.63	51.51	41.4
160°C	22.58	77.80	100.50	39.65	37.72	36.57	56.61	41.8