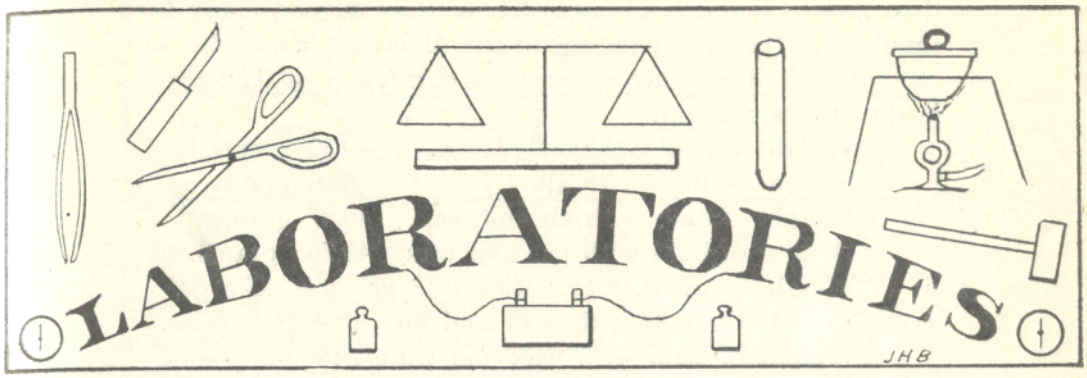

The following is a sample of the regular work in the second year in the Physical Laboratory, being rather full notes with some explanations, on one of the simpler experiments of the course in Physical Measurements. A high degree of accuracy is expected.

Specific Gravity of Air.

An ordinary electric light bulb contains so little air that the vacuum may be regarded as very nearly complete. One of these bulbs was weighed carefully, then the point at the lower end was snipped off, admitting air. The bulb, together with the broken pieces of glass, was again weighed. The difference between the two weighings must be the weight of the contained air. A small piece of wax was now put on the scales and the weight of the bulb and wax was determined. Then by means of a rubber tube and a glass nozzle, the bulb was filled with gas from the gas mains; the piece of wax was put over the small opening to keep the gas from flowing out. The bulb full of gas was then wieghed, so that all the data were at hand for computing the weight of the gas and of the air. It remained to find the volume of the bulb. This was done by filling the bulb with water by means of the glass nozzle and rubber tube, and then weighing the bulb with the contained water. The number of grams of water would give the number of cubic centimeters in the bulb, since by definition the gram is the weight of a cubic centimeter of water. The weighings to determine the amount of water contained in the bulb, and hence the volume, were made on larger scales