Whilst in New York I visited the Chemical and Mineralogical Laboratories of the Columbia Schools of Mines, and found them admirably adapted and fitted up for work in all the branches of these sciences. It is here desirable to point out that necessarily, there is a difference in the appointment of those laboratories intended for teaching purposes only and those in which analytical work purely is carried on, remembering of course that in *many* features *all* laboratories must be similar both in arrangement and forms of apparatus. As of special interest in the laboratory just named, I would mention as worthy of notice a water-bath, about ten feet in length, which could be heated as ordinarily by Bunsen burners, or more quickly by a steam coil connected with the heating apparatus of the building. In less than two minutes after the steam was turned on, the water in this bath would be raised to the boiling point, thus saving a great expenditure of time and economizing fuel. Another feature was the slate-covered benches, which resisting the action of acids and alkalies, always preserve an even and untarnished surface, a condition very desirable but impossible to keep when the working benches are simply of wood. When, as here, there is a strong up-draft in the flue, an open draught cupboard can be used. This is very desirable, as when the front of the cupboard is enclosed with doors, the operator is always more or less hampered in his manipulations.

The Connecticut Agricultural Experimental Station at New Haven was next visited. The chemical laboratory here is about 36 feet by 29 feet with working benches on two of the sides and in the centre. As there were several chemists working in this laboratory the tables in the middle of the room made it much too cramped for comfortable work. Iron sinks were situated at the ends of the two central tables, from which the waste water was conducted to a cesspool and from thence over the land. A special room for the balances is here dispensed with, each chemist having his balance on the portion of the bench or table allotted to him. This arrangement although economizing time is not to be commendably endorsed, as a delicate balance must in a short time be seriously injured by the fumes necessarily present where a number of analysts are working.

Our next visit was to the Experimental Station at Amherst, Mass. Here a building has recently been erected which is entirely devoted to the chemical work of the station. The two laboratories are fitted up with all modern improvements, both as to apparatus and fittings. The larger laboratory is 19 by 16 feet, the smaller 17 by 12 feet. Wherever possible the arrangement of having two laboratories in the place of one, is most desirable, for many analytical operations cannot be conducted with success where other chemical work is being carried on. This is particularly necessary, for instance, in water analysis, which requires an atmosphere free from ammonia and hydrochloric acid, necessarily present in the air of a general working laboratory. A feature of special interest here was that the ceilings were lined with wood. The plan of lining both the walls and ceiling of our new laboratories with wood is one I would strongly recommend for the reason that plaster ceilings and walls are attacked by acid fumes, soon becoming dirty in appearance and small pieces of the surface whitewash scaling off may spoil an analysis by falling into vessels which are being used, a catastrophe which can be seen is not easily preventable where such ceilings are used. The gas in this laboratory, both for heating and illuminating purposes, is made from gasoline (light petroleum) on the premises. The plant is extremely simple and very nearly automatic. Air is drawn over the surface of gasoline which is placed in a tank sunk some feet below the surface of the ground at suitable distance from the building. The resulting mixture of air and gasoline vapour forms the illuminating gas. In order that such gas may be used economically as a fuel the carbon should be completely burnt, and a further supply of air is required to bring about a total combustion. In the Amherst apparatus the same arrangement which draws the air over the gasoline supplies an extra blast of air to the burners. Dr. Goessman, the director, assured us that the process had now been in operation for over a year and had given excellent satisfaction. Gas by this method costs about $1.00 to $1.25 per 1,000 feet, according to the price of gasoline. I have dwelt somewhat at length upon this method of manufacturing gas, as it does not seem improbable but that we shall have to adopt some such system for the laboratories of the farm.