

**In the month dedicated to the Environment (June 5 is the World Environment Day), MUHNAC highlights the importance of Laboratorio Chimico (19th century) with regard to the analysis of essential resources such as air and water.**

Júlio Máximo de Oliveira Pimentel was the Professor responsible for Chemistry at Escola Politécnica de Lisboa between 1837 and 1864. He published “Lessons of General Chemistry and Main Applications” in three volumes, the only work among the Chemistry Professors of this school that presents images related to practical work.

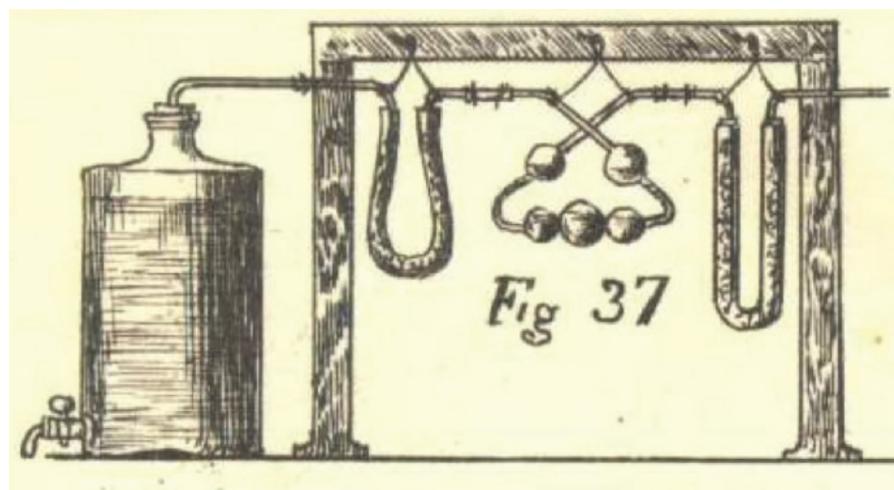
The comparative analysis of the practical work mentioned in the previous work with the programs of different academic years allows us to identify 24 practical laboratory procedures taught from 1850 to 1873.

One of such practical works, present in all curricula for the mentioned period, was the Analysis of the atmospheric air here displayed.

According to Pimentel:

“The amounts of water and carbonic acid contained in a certain portion of the air can be evaluated with extreme accuracy in a very simple apparatus consisting of a liquid-filled aspirator communicating with a series of tubes, one filled with pumice and asbestos soaked with sulfuric acid; the others containing the potash in solution and in fragments. The air that passes slowly through these tubes loose the water in the first, which is condensed in the sulfuric acid,

and the carbonic acid in the second, which is fixed by the potash. Through the increasing of weight of both of them, we will know the amount of water and carbonic acid contained in the air submitted to the experience, (...). The liquid filling the aspirator must be low volatile, like olive oil or sulfuric acid, (...).<sup>1</sup>



**ENVIRONMENT  
AND AIR QUALITY  
experimental  
assembly for  
atmospheric air  
analysis**

<sup>1</sup> PIMENTEL, J. M. (1850). Lições de Chymica Geral e suas Principaes Aplicações – Tomo Primeiro, Lisboa, p. 122.