

I have made use of this device to obtain equations which have coefficients as high as 34 or 45 (these are met with in reactions with molybdesnum, vanadium, etc.), and in none of the cases considered did I encounter greater difficulty than in the specimen equations given in this paper. The device is therefore one of great convenience. It will save the chemist the labor of burdening his memory with a mass of formulas or the trouble of searching for them in some standard work. A very little practice with it will soon make it an implement of great value.

A NEW LECTURE-TABLE EXPERIMENT WITH PHOSPHORUS.

EDWARD H. KRAUS, PH. D.,

Syracuse, (N. Y.), High School.

The activity of phosphorus, and more especially its great affinity for oxygen, is usually illustrated by dissolving a small piece of yellow phosphorous in a few cubic centimeters of carbon disulphide and pouring this solution on filter paper. Upon the evaporation of the carbon disulphide, the finely divided phosphorus, which is now evenly distributed over the paper, quickly ignites.

The following simple modification of the above, I think, will commend itself as well adapted for a lecture table or so-called "teachers'" experiment. Instead of hanging or waving the moistened paper in the air in order to hasten the evaporation of carbon disulphide, as Remsen recommends, place the dry filter paper (paper 11 cm. in diameter gives the results) over the mouth of a strong, empty, salt-mouth bottle of about 350 to 400 cc. capacity. Pour enough of a solution of phosphorus in carbon disulphide upon the filter so as to wet it thoroughly. After several minutes the phosphorus will ignite and the burning paper, usually accompanied by a loud report, is hurled several feet into the air. During the evaporation of the carbon disulphide, a considerable amount of its vapor settles into the bottle. The mixture of the carbon disulphide vapor and air in the bottle explodes when the phosphorous takes fire.