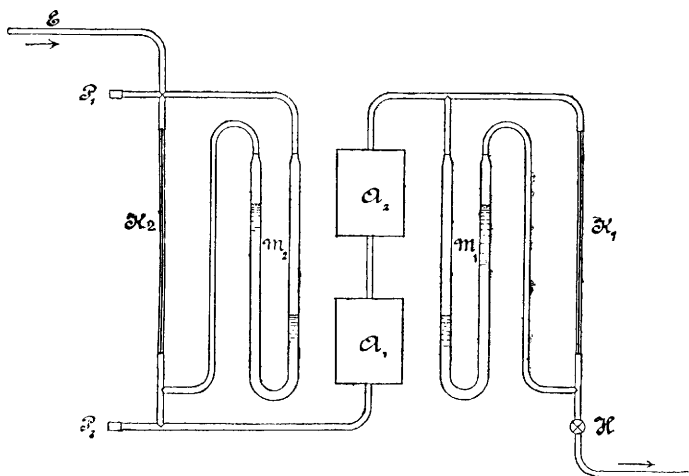


pressures indicated by the two gauges will be identical; when, however, absorption takes place a proportionately larger volume of gas will be drawn through  $K_2$ , and accordingly the gauge,  $M_2$ , will register a larger difference of pressure. If the constancy of the flow of gas through  $K_1$  is regulated automatically by the stopcock,  $H$ , the percentage of gas being absorbed may be directly read off the gauge,  $M_2$ ,



provided it has been graduated accordingly beforehand. Variations in the pressure indicated by the gauge,  $M_2$ , are automatically recorded in the form of a curve drawn on a revolving cylinder by a pen floating on water which moves up and down in obedience to the alteration of level in the gauge. The recording apparatus is inserted between the points,  $P_1$  and  $P_2$ . P. H.

**Burette Arrangement.** P. PANNERTZ (*Zeit. anal. Chem.*, 1906, 45, 751—754).—The apparatus is a modification of the one described by Flemming (*Chem. Zeit.*, 1904, 28, 818). The chief improvement consists in the fact that a Wouff bottle containing the standard liquid and holding the burette and the air-tube is substituted for the flask with a doubly-perforated cork. A three-way stopcock is employed which renders possible a connexion or disconnexion between the reservoir, outer air, and the elastic ball. For further particulars the illustrations in the original should be consulted. L. DE K.

**Apparatus for Dissolving and Evaporating to Dryness.** CONSTANTIN ZENGELIS (*Zeit. anal. Chem.*, 1906, 45, 758—760).—The apparatus, which admits of rapid evaporation without risk of loss by spirting, consists of a 300—400 c.c. Phillips's beaker with spout and furnished with two holes opposite each other about 3 cm. from the top. The rim is bent inwardly, and during the heating a watch-glass is placed over it concave side downwards. This watch-glass has a hole through

which passes a glass rod which is expanded at one place, so that the rod will be held up by the watch-glass with its drawn-out point about 1 cm. from the bottom of the beaker.

The beaker should be heated on a sand-bath or an asbestos plate.

L. DE K.

**Determination of the Calorific Power of Gases and Volatile Liquids.** E. GOUTAL (*Ann. Chim. anal.*, 1906, 12, 1—3).—The combustion of gaseous hydrocarbons becomes imperfect in presence of too large an excess of oxygen; in practice, therefore, several trials should be made with varying amounts of oxygen.

When determining the calorimetric power of liquid combustibles, these are weighed in sealed glass bulbs through the drawn-out points of which passes the usual iron conducting-wire. The bulb is placed in the porcelain capsule suspended in the bulb, and the usual course is that the points are broken before closing the apparatus in order to admit the oxygen. The author, however, recommends not breaking the points but using a source of electricity more powerful than that furnished by the bichromate battery which is generally sold with the apparatus, the glass bulb then being fractured within the closed apparatus. On account of the somewhat violent action, a platinised bomb should be employed or otherwise a non-enamelled one made of ferro-nickel. The combustion will now be always complete. L. DE K.

**Fluorine in Mineral Waters.** P. CARLES (*Compt. rend.*, 1907, 144, 37—39).—Fluorine has been detected in a large number of mineral waters of Bourbon by evaporating several litres, adding calcium acetate, collecting and washing the calcium fluoride, and decomposing by sulphuric acid in a platinum capsule covered with a glass plate. Minute directions are given in the original paper. The amounts of fluorine were estimated by comparison of the etched glass with a series of glasses etched by varying amounts of sodium fluoride under the same conditions. E. H.

**Estimation of Uncombined Sulphur.** E. BERGER (*Compt. rend.*, 1906, 143, 1160—1161).—Uncombined sulphur is readily and rapidly oxidised to sulphuric acid by the action in the cold of fuming nitric acid containing a little potassium bromide. For the estimation of uncombined sulphur, the author recommends adding 10 c.c. of fuming nitric acid and 0.5 to 1 gram of pure potassium bromide to a weighed quantity of the substance containing 0.1—0.2 gram of sulphur; after some minutes, evaporating to dryness on a water-bath, and precipitating the sulphuric acid with barium chloride, all traces of nitric acid having previously been removed by the usual process. M. A. W.

**Micro-chemical Detection of Phosphorus.** F. H. SCOTT (*J. physiol.*, 1906, 35, 119—124).—Acids readily remove most of the phosphorus from nuclein compounds in some soluble form, but not as inorganic phosphates. The whole principle of the methods of Lilienfeld, Monti, and Macallum is therefore wrong, and all deductions as to the distribution of phosphorus compounds (other than inorganic