atoms of hydrogen liberated in the same time divided by the 'valency' of the element as compared with hydrogen. This law was discovered by Faraday; and appears to be precisely true: and inasmuch as the relative weight of every element is known with fair accuracy, it is easy to calculate what weight of substance any given current will deposit or set free in an hour, if we once determine it experimentally for any one substance.

By this means, we succeeded in properly adapting the sizes of the generating and other apparatus. All connections were made in a manner to insure a uniform voltage of the various parts of the condenser to prevent local action, each connection being so made and provided with such measuring instruments as to insure ready adjustment to effect this. The apparatus was designed in accordance with the above statements. Its operation has extended over a period of fourteen months, and with the exception of about ten tubes which have become pitted, the results have been satisfactory.

When the condenser was planned, the condenser manufacturer was instructed to slope the tubes down one inch in the direction of flow; but when he did so, it was forgotten that the middle inclination, if parallel to the first and third passes, would then be up-hill for the circulating water, and that when the condenser was shut down all the water would drain out of this middle section except that in the bottom tubes. These bottom tubes it has been found have become somewhat corroded, although not seriously.

The cause for this result having now been found, its prevention has been effected by perforating the diaphragm in the condenser head to permit prompt drainage of these tubes when the condenser is taken out of active operation.

The efficiency of the apparatus amply justifies the expense of its installation, while its operation is not expensive and the plant here described will now be followed by other protecting plants of the same character.

W. W. CHURCHILL.

QUOTATIONS.

THE NEXT INTERNATIONAL TUBERCULOSIS CONGRESS.

THE International Tuberculosis Congress takes place at intervals of three years, and the latest was held in Paris last autumn. The next, therefore, is due in 1908, and Washington has been selected as the place of meeting. It seems a far cry from now to the autumn of the year after next; but the American National Association for the Study and Prevention of Tuberculosis, which has general charge of the arrangements, evidently intends that this meeting shall be notable among congresses, and with laudable forethought has already got its plans something more than mapped out. As an initial step it set itself the task of collecting a sum of $100,000 towards the expenses, but resolved to get this amount in a fashion quite impossible in any country on this side of the Atlantic. In other words, the minimum subscription was placed not at five shillings but at five thousand dollars, in the belief that there would be no difficulty in finding at least twenty citizens of the United States ready for such an object to put their hands into their pockets to the tune of £1,000 each. Nor does it appear likely that these rose-colored expectations will be falsified, for about half the sum desired is already in hand. There is a double object, however, in this early collection of the sinews of war. A sum of $100,000 lying at interest at American rates for a couple of years will enable another scheme to be fulfilled. This is to award prizes of considerable value to the authors of the best papers sent to the congress on certain selected subjects, such as municipal control, bacteriological treatment and sanatoriums, as also to anti-tuberculosis societies which can show the largest increase in membership since the congress of 1905, and to the city, wherever situated, which can claim the greatest improvement in its phthisis mortality rates during a corresponding period. The exact subjects have not yet been finally determined, but it is understood that an announcement of them is to be expected before very long. A further novel suggestion which

seems likely to be adopted is that by way of making it worth while for those in Europe to cross the water, and also of affording a certain latitude, the congress shall officially last three weeks. Only the middle week, however, is to be devoted to scientific meetings and discussions, it being proposed that the first week shall be given up by visitors to exploring some of the other great cities of the United States north of Washington, in which official arrangements will be made for their reception, and the third week to similar official visits to cities southwards. The idea is that there may be many who could reach Washington some little time before the scientific proceedings commence, but would have to leave immediately on their termination, while others could spare plenty of time afterwards, but none before, and that by placing the discussions in the middle week America will be able to show public hospitality to visitors of either class.—*The British Medical Journal.*

CURRENT NOTES ON METEOROLOGY.

CLIMATE AND ALTITUDE IN AFRICA.

The tempering effect of altitude, even within the tropics, is well known. The vice-governor of the Congo Free State, in a recent description of a journey over the Uganda Railroad (*Mouvement Géographique,* No. 16, 1906), brings out this point in his notes on Nairobi, an important town on the line west of Mombasa, about half-way between the Indian Ocean and Victoria Nyanza, at an elevation of 5,450 feet. Here it is possible to raise several varieties of European fruits, vegetables and cereals; the European population is increasing, and many of the white settlers have brought their families. It is further stated that they have no desire to return to their native land. If this be true, it marks a radical departure from the usual rule for white settlers in the tropics, but it is doubtless an exaggerated statement, or has its origin in the fact that most of the Europeans have been at Nairobi but a short time and have not yet attempted to bring up their children there.

Concerning German East Africa, the government of that district has recently issued a circular for the use of white colonists who intend to settle in the Kilimanjo province. The province consists chiefly of grassy steppe, and the industries must be general agriculture and stock-raising, in the main. The altitude mitigates the heat, although the region is only about 200 miles south of the equator.

Major Gibbons (*Geogr. Journ.,* March) has studied the western part of the high plateau region of British East Africa with a view to ascertaining its adaptability for European settlement. Most of the plateau is 6,000 feet above sea-level. Major Gibbons believes that this, as well as other higher altitudes in this part of Africa, will be classed as healthy countries, and that they will have considerable agricultural development.

MONTHLY WEATHER REVIEW.

Recent numbers of the *Monthly Weather Review,* Vol. XXXIV., 1906, have contained the following notes and articles of general interest: 'The Relation between Storm Movement and Pressure Distribution,' by E. H. Bowie; 'Climatology of Haiti in the Eighteenth Century,' by C. F. Talman; 'Vertical Air Currents,' by F. W. Proctor, who notes that he has several times had toy kites lifted by vertical currents during summer anticyclonic weather, thus showing the presence of small irregular rising bodies of air. A case of 'Snow formed by Mixture of Warm and Cold Air' is described by R. W. Gray, observer at Atlantic City, N. J. On February 6 last snow fell during a part of the day when the sky was perfectly clear. At times the flurries were quite heavy. Condensation seemed to occur at not more than 75 to 100 feet above ground, and in a region of mixture of cold northwest land wind with a warmer, damp ocean wind. Consul-General Skinner, at Marseilles, describes the new method of frost protection in use in the vine-growing regions. A newly-invented preparation, known as the 'Fumigène Mortier,' packed in boxes containing about nine pounds of black powder, and costing 1.50 franc each, is much used in producing thick smoke, which has proved very effective in