

127 less than the number reporting in 1902. The springs not heard from number 167, and these, with few exceptions, reported sales in 1902. In addition there are 36 springs which report that no sales were made in 1903, thus increasing the number of delinquents to 203. The average price for a gallon of mineral water is about 16 cents for 1903, as compared with 13.7 cents for 1902. The total production for 1903, including the figures estimated for the delinquent springs, is 50,575,746 gallons, at a valuation of \$8,074,096. This is a loss in quantity of 14,283,715 gallons and in value of product of \$719,655, as compared with the production of 1902. When the 522 springs actually reporting are alone considered, the figures are 37,707,647 gallons, as compared with 63,174,522 gallons in 1902, a loss of 25,466,905 gallons; and a valuation for 1903 of \$6,382,726, compared with \$8,634,179 in 1902, a loss of \$2,251,453. It is probable that a loss would be shown even had all the springs now delinquent sent in returns. The survey report from which these figures are taken is an extract from the forthcoming volume 'Mineral Resources of the United States, 1903,' and may be obtained, free of charge, from the Director of the United States Geological Survey, Washington, D. C.

THE new number of the quarterly *Bulletin* of the Imperial Institute contains, according to the London *Times*, a number of valuable reports by the scientific and technical department on recent investigations of various British products, undertaken with a view to ascertain their present or potential applicability to commercial needs. An examination of sisal, banana and pineapple fibers from southern Rhodesia, and their submission to commercial experts, has led to the conclusion that they would sell freely in the London market, at remunerative prices, if imported regularly in bulk. Another report shows that Bermuda is capable of becoming a competitor with the foreign countries, chiefly Syria and Caucasian Russia, on which we now depend almost exclusively for our imports of liquorice root. The Bermuda product would occupy an intermediate position between the coarse Syrian and the fine Caucasian root. Leathers

from Pemba tanned with local mangrove barks have been found to be suitable for the manufacture of cheap boots, and it is suggested that a remunerative export trade might be initiated at Zanzibar, in competition with the lower grades of American and Australian leather in demand in this country. Cacao, cotton and honey samples from Trinidad have been favorably reported on, the cacao being quite equal to the highest qualities in the English market. Though found to be incompletely soluble in 70 per cent. alcohol, lemon-grass oil from Montserrat would, it is stated by dealers in essential oils, find a ready sale here and on the continent. There would also be a continental demand, though probably not a home demand, for seeds of the 'physic-nut' tree (*Jatropha Curcas*) of Lagos, as the oil extracted could be employed for soap making. Five of the reports relate to the rubber production of the Empire. One of them gives the results of analyses of rubbers and rubber vines received from Takaunga, the Kamasia Hills and Rabal, in the East Africa Protectorate, while another deals with the *Urceola esculenta* of Burma. The conclusion in respect to the plant is that it will yield marketable rubber of good quality, and the shipment of a trial consignment to this country is recommended. A sample of 'pontianac' obtained from the state forests of Patiala was found to correspond closely with the 'pontianac' extensively used in the United States, and to be equally suitable for utilization in this country in the manufacture of low-grade rubber goods. In addition to the reports referred to, various general notices are given respecting economic products and their development, together with a detailed description of the eucalyptus oils of New South Wales, as illustrated by an extensive exhibit now open to the public and presented to the institute by the Technological Museum of Sydney.

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#### UNIVERSITY AND EDUCATIONAL NEWS.

THE will of Mr. James Callanan, of Des Moines, makes bequests for educational institutions as follows: Talladega College, Alabama, \$100,000; Casenovia College, New York, \$5,000; Penn College, Oskaloosa, Iowa, \$10,-

000; Des Moines College, \$5,000; Wilberforce University, Green, O., \$5,000; Ambidexter Institute, Springfield, Ill., \$10,000.

THE *Educational Times* states that of the £170,000 required for the endowment of Sheffield University nearly £110,000 has been collected or promised. The Duke of Norfolk, who is named as the chancellor of the new university, has given £10,000. All classes of the community have contributed freely. The claims of the scheme are being advocated in the large towns near Sheffield, such as Rotherham, Doncaster, Barnsley and Chesterfield, on the support of which the stability of the university largely depends. It is essential to the success of the scheme that the public grants should be largely increased. The Sheffield city council now supports the technical department of the college to the extent of about £5,000 a year, but has promised, if the charter is granted, to make a yearly contribution to the arts, science and medical departments of a sum not exceeding the revenue of a penny rate, which is expected to produce some £6,700 a year, or about £5,000 more than the council now pays to those departments. The West Riding county council has set aside £6,000 a year for the universities in Yorkshire. This sum has not yet been divided between Leeds and Sheffield. In addition, it is anticipated that the Derbyshire county council, as well as some of the surrounding local authorities, will contribute.

At a recent meeting of the Harvard faculty, it was voted to change the requirements for the degree of A.M. and to allow undergraduates who have completed the requirements for the degree of A.B., with the exception of a single course, to be admitted to the graduate school as candidates for A.M.

THE following appointments and promotions have been made at the College of Physicians and Surgeons, Columbia University: Dr. Gorham Bacon, professor of otology; Dr. Joseph A. Blake, professor of surgery; Dr. George E. Brewer, professor of clinical surgery; Dr. Frederick R. Bailey, adjunct professor of normal histology; Dr. Arnold Knapp, professor of ophthalmology; Dr. Eugene Hydenpyl, ad-

junct professor of pathological anatomy; Dr. Frederick Peterson, clinical professor of psychiatry; Dr. Francis Carter Wood, adjunct professor of clinical pathology, and Dr. Russell Burton-Opitz, adjunct professor of physiology.

MR. JAMES WALTER GOLDTHWAIT, of Lynn, Mass., has been appointed instructor in geology at Northwestern University. Mr. Goldthwait took his undergraduate and his graduate work at Harvard University, where he was also one of the corps of instruction.

THE following appointments have been made to the teaching force of the Michigan College of Mines, Houghton, Michigan: Arthur Alexander Koch, Ph.D., University of Basel, instructor in chemistry; Charles Franklin Bowen, M.S., University of Wisconsin, and Eugene Thomas Hancock, B.S., University of Wisconsin, instructor in geology and mineralogy; Charles Hamilton Hoyt, C.E., Thayer College of Engineering, instructor in civil and mining engineering; Durward Copeland, B.S., Massachusetts Institute of Technology, instructor in metallurgy and ore dressing.

W. L. POWERS, Cornell College, '03, has been appointed assistant in inorganic chemistry in the Medical College of Sioux City.

DR. WILLIAM PALMER WYNNE, D.Sc. (Lond.), F.R.S., senior honorary secretary of the Chemical Society and professor of chemistry in the School of Pharmacy of the pharmaceutical Society, has been appointed to the Firth chair of chemistry in University College, Sheffield, in succession to Professor Carleton Williams.

DR. ALBERT S. GRÜNBAUM, lecturer in experimental medicine in Liverpool University and director of the Liverpool Cancer Research, has been appointed professor of pathology and bacteriology.

MR. J. J. LISTER, M.A., fellow of St. John's, Cambridge University, has been appointed demonstrator of comparative anatomy until Michaelmas, 1905.

At the University of Brussels, Drs. G. Dwelshawers and R. Berthelot have been promoted to full professorships of philosophy and Dr. Stroobant to a professorship of astronomy.