

OVER \$3,000,000 worth of abrasive materials were produced in the United States last year. All branches of the abrasive industry showed notable growth except the millstone and the grindstone industries, according to W. C. Phalen, of the United States Geological Survey, in an advance chapter from Mineral Resources of the United States, 1910. The total estimated value of all the abrasive materials consumed in this country last year was \$4,234,662, of which \$3,010,835 worth were of domestic production. Abrasive materials may be divided into two classes—natural and artificial. The production of artificial abrasives has shown great increase since they were first made, less than 15 years ago, and at the present time it exceeds that of the natural abrasives. During 1910 natural abrasives valued at \$1,406,805 were produced in 21 states. Of these materials, grindstones and pulp stones led with a production valued at \$796,294. The production of burrstones and millstones in the United States in 1910 was valued at \$28,217. The production of oilstones and scythe stones amounted to \$228,694, compared with \$214,019 in 1909. Garnet is one of the very hard minerals, and is extensively used as an abrasive. The production of abrasive garnet in 1910 amounted to 3,814 short tons, valued at \$113,574. This was an increase of 842 tons, or 28 per cent., in quantity, and of \$11,259, or 11 per cent., in value. In the class of artificial abrasives are included carborundum, alundum and crushed steel. The production of artificial abrasives in 1910 showed an increase of 2,559,000 pounds in quantity and of \$238,210 in value, as compared with 1909.

#### UNIVERSITY AND EDUCATIONAL NEWS

THE class of 1886 has presented to Harvard University \$100,000, the income of which is to be used for the benefit of the college. From Mr. William J. Riley, of Boston, the university has received \$25,000 for the establishment of scholarships in memory of his nephew Clemen Harlow Condell.

DR. GUY POTTER BENTON was installed as president of the University of Vermont on

October 6. In the morning there were addresses from representatives of various institutions; in the afternoon the governor of Vermont administered the oath of office and Dr. Benton gave the inaugural address. In the evening there was a corporation dinner and on the preceding day an educational conference was held.

MESSRS. J. B. DUKE and B. N. DUKE have made further gifts amounting to \$228,000 to Trinity College.

THE installation of Dr. Elmer Ellsworth Brown as chancellor of New York University will take place on Thursday, November 9. Presidents Lowell of Harvard, Hadley of Yale, Butler of Columbia, Schurman of Cornell and Finley of the New York City College will be among the speakers.

PROFESSOR JAMES WILLIAM TOUMEY, who has acted as head of the Yale Forest School during the absence of Professor Graves, has been elected director for the year 1911-12.

WILLIAM H. EMMONS, associate professor of economic geology and mineralogy at the University of Chicago, and geologist for the United States Geological Survey, has been appointed head of the department of geology at the University of Minnesota.

A. C. TROWBRIDGE, instructor in geology at the University of Chicago and assistant geologist of the Illinois Geological Survey, has been appointed professor of geology at the State University of Iowa.

As a result of the resignations of Professor R. A. Harper, Dr. W. G. Marquette, assistant professor, and A. B. Stout, instructor, in the botany department of the University of Wisconsin, who have accepted places at Columbia University, the regents of the state university have appointed E. M. Gilbert, assistant professor of botany; W. N. Steil, E. T. Bartholemew and Alban Stewart, instructors in botany, and A. G. Johnson, assistant in botany.

At the University of Wisconsin E. Baumgartner has been appointed instructor in anatomy and Assistant Professor Bennett M. Allen

has been transferred from the department of anatomy to that of zoology. New assistants appointed in zoology are H. V. Lacy, Edward H. Jones, Elizabeth A. Smith and Nathan Faster.

DR. ROBERT RETZER, of the University of Minnesota, has been appointed assistant professor of anatomy in the University of Chicago.

A. B. DUNNING, S.B. (Harvard, '07), has been appointed assistant professor of mathematics at Boston University.

At Northwestern University Leon Irwin Shaw, Ph.D. (Wisconsin), has been appointed instructor in chemistry; George Vest McCauley, Ph.D. (Wisconsin), instructor in physics, and Chester Henry Yeaton, A.M. (Harvard), instructor in mathematics. Robert Harvey Gault, Ph.D., has been advanced from an instructorship to an assistant professorship in psychology and has been appointed editor of the *American Journal of Criminology*.

#### DISCUSSION AND CORRESPONDENCE

##### THE COTTON WORM IN MASSACHUSETTS

DURING the last week in September of the present year, a number of moths of the cotton worm, *Alabama argillacea* Hübn., were captured at Amherst, Mass., some of them being taken at night, while others were found at rest during the daytime. Although this insect has been taken at Amherst before, there are no records of it in any such abundance, and it would seem that there must have been quite a pronounced northern migration of this species this season. The moths were very fresh and perfect.

There have been occasional captures of this moth in the New England states, and in the collection of Mrs. C. H. Fernald is a fresh pair taken in September (probably 1881) at Orono, Maine.

It may be well to call attention here to a discussion on the habits of this insect at a meeting of the entomological members of the American Association held in 1882, and reported in *The Canadian Entomologist*, Vol. XIV., p. 151, where some evidence is given,

supporting the view that the appearance of this species in the north is not, at least in all cases, due to migration.

H. T. FERNALD

##### VECTORIAL TREATMENT OF SECONDARY MAXIMA IN GRATING SPECTRA

TO THE EDITOR OF SCIENCE: A friend has been good enough to direct attention to a regrettable error in my review of Wood's "Physical Optics," which appeared in SCIENCE, September 29, 1911.

Instead of alluding to "the author's clever vectorial treatment of secondary maxima in grating spectra," I should have called attention to the fact that the essential features of this beautiful geometrical and graphical method were invented by Professor Arthur L. Kimball. The omission of this fact from Professor Wood's text is doubtless owing to want of space.

I still remember the delight with which I read Professor Kimball's paper when it appeared in the *Philosophical Magazine*, July, 1903, and can explain my forgetfulness and inadvertency only as a consequence of the very considerable amount of sand which has run through my hour glass.

HENRY CREW

#### QUOTATIONS

##### THE UNIVERSITY PRESIDENT AND HIS PROFESSORS<sup>1</sup>

A SUCCESSFUL college or university president can not afford, for the sake of his own success, to make his administration in any sense a personal one. It is his business to see to it that the students who commit their training to the institution he serves, are provided with the very best teachers and lecturers the funds at his command will allow him, with the consent of his board of trustees, to give to these young people. If there are instructors whose worth has been demonstrated by years of service, he will put forth every possible effort

<sup>1</sup> Extracts from an address to the senate of the University of Vermont and State Agricultural College by Guy Potter Benton, installed as president on October 6, 1911.