distribution of coal and iron, of oil and gas, of cements, phosphates, and glass, of gold, silver, copper, lead, and zinc. The minerals and ores whose distribution is shown on the economic maps will be illustrated by a small collection of specimens in an adjoining case.

The colored geologic map of North America, which was prepared by the Survey in cooperation with the Geological Surveys of Canada and Mexico for the International Geologic Congress, which met in Mexico last fall, will also be exhibited.

A collection of coals and other economic minerals, the distribution of which is shown on the economic maps, will be presented.

On the flat surface of a map it is difficult to show clearly the relief of the country represented, but by means of a model it can be fully expressed. For this reason a number of models have been prepared to illustrate some of the most important relief features and economic resources of the country tributary to the Jamestown Exposition. These include geologic models of the southern Appalachian region, the New River coal field, and the Philadelphia region, a topographic model of the Atlanta-Chattanooga region and a topographic and geologic model of Alaska. A collection of Alaskan minerals will be especially interesting when studied in connection with the model of Alaska.

The educational series of rock specimens prepared by the Survey for teaching geology will be exhibited. Two hundred similar collections, each containing 156 specimens illustrating the various types of rocks, have been distributed to the universities and colleges of the country.

The machine used by petrographers for grinding thin sections of rocks will be exhibited. The method of preparing thin sections and their kaleidoscopic appearance under a polarizing microscope will be illustrated.

A complete set of survey publications, including topographic and geologic maps, annual reports, monographs, professional papers, bulletins, water-supply papers, and mineral resources will be on file.

The method of storing and arranging the large number of maps and folios for convenient use in public and private libraries has been given much attention, and the best cases yet devised for the purpose are exhibited.

RESEARCH FELLOWSHIPS IN ENGINEERING AVAILABLE AT THE UNIVERSITY OF ILLINOIS

The University of Illinois has extended and strengthened the field of its graduate work in engineering by recently establishing ten Research Fellowships in the Engineering Experiment Station. These fellowships have an annual value of $500, and are open to graduates of approved universities and technical schools, both American and foreign. They must be accepted for two consecutive collegiate years, at the expiration of which period, if all requirements have been met, the Master's degree will be granted. Preference will be given to men who have had some experience in practical engineering work outside of college. The appointments will be made upon the recommendation of the Station Staff of the Engineering Experiment Station, and upon the approval of the Faculty of the Graduate School and the President of the University.

The Engineering Experiment Station, it may be explained, is a department connected with the College of Engineering. It was established in 1903 for the purpose of carrying on investigations along various lines of engineering, and for the study of problems of importance to professional engineers and to the manufacturing and industrial interests of the state. The work of the station and the college is closely related, the heads of the several departments of the college of engineering constituting the station staff. The investigations are carried on by the members of the staff directly, sometimes by a fellow as graduate work, sometimes by a member of the instructional force of the college, and frequently by special investigators belonging to the station corps.

The various laboratories of the station and the college offer exceptional facilities for investigational work, being well-equipped with the most modern apparatus. During the past four years about $300,000 has been appro-

priated by the state legislature for the maintenance and extension of this equipment, and it is believed that the same liberal policy will be continued.

By offering these research fellowships at $500, and throwing them open to graduates of both American and foreign universities, the station hopes to secure a picked body of men imbued with the true spirit of genuine investigators who will do graduate work of high grade. It is expected that valuable results will accrue to the station, and that a body of experts will be developed, some of whom may be attached later to the regular corps of station investigators. A circular giving full information will soon be issued, and can be obtained upon application to the director of the Engineering Experiment Station, Urbana, Illinois.

L. P. BRECKENRIDGE,
Director of the Engineering Experiment Station.
UNIVERSITY OF ILLINOIS,
URBANA, ILL.,
February 23, 1907

THE CARNEGIE INSTITUTE

MR. ANDREW CARNEGIE on April 6 notified the president and board of trustees of the Pittsburg Carnegie Institute that he was sending them $6,000,000. Of this amount $5,000,000 is United States Steel Corporation 5 per cent. bonds and $1,000,000 in cash. The cash is to be used in erecting more technical school buildings. The bonds are an endowment. One million dollars is to be added to the endowment of $2,000,000 already given the schools, and the other $4,000,000 is to be added to the institute's present $2,000,000 endowment.

In his letter, as published in the daily papers, Mr. Carnegie says:

> The director and teachers of the Technical Schools participate in the pension fund established by me for the advancement of learning, and this should be availed of. Those of the other departments do not. A pension system is, therefore, to be established for them out of the endowment fund; after the death of the recipient the pension to be continued to the widow in all cases where needed.
>
> I desire gratefully to acknowledge my unpayable indebtedness to yourself and the trustees for services which have resulted in such complete triumph. My highest hopes will be realized if the future yields such golden harvest as the past.

As we have already announced, the dedication of the new building of the institute, erected by Mr. Carnegie at the cost of $5,000,000, will take place on the afternoon of April 11, and will be attended by many distinguished guests from Europe and the United States. The program which has been arranged in connection with the ceremonies will last for three days. In addition to a reception and inspection of the buildings on Thursday morning and a concert in the evening, there will be on Friday a reception at the Carnegie Technical Schools, a presentation of addresses, and in the afternoon speeches by distinguished guests and in the evening a dinner by the trustees in honor of Mr. and Mrs. Carnegie and invited guests. On Saturday morning honorary degrees will be conferred on foreign guests by the Western University of Pennsylvania, and in the afternoon there will be an excursion on the river and a visit to the Homestead Steel works of the Carnegie Steel Company.

SCIENTIFIC NOTES AND NEWS

THE spring meeting of the council of the American Association for the Advancement of Science will be held in the Assembly Hall of the Cosmos Club, Washington, D. C., on the afternoon of April 17, 1907, at 4:45 P.M.

THE annual session of the National Academy of Sciences will be held in Washington, D. C., beginning on Tuesday, April 16, at 11 A.M. The place of meeting will be the National Museum.

THE American Philosophical Society will hold its annual meeting at Philadelphia on April 18, 19 and 20.

DR. GEORGE OTIS SMITH has been appointed director of the U. S. Geological Survey to fill the vacancy caused by the election of Dr. Charles D. Walcott to the secretaryship of the Smithsonian Institution. Dr. Smith received the bachelor of arts degree from Colby College in 1893, and the doctorate of philosophy