large pole signaling to ships in the lower bay and to Manhattan.

(3) Marine cable: Night scene showing Samuel Morse laying the first cable from Castle Garden to Governors Island in 1842.

(4) Scene showing the first stock ticker in the office of Joseph Grosbeck & Co., in 1867, initiating the elimination of "runners" in stock quotations.

(5) Alexander Graham Bell demonstrating the telephone at Chickering Hall in 1876.

(6) Modern developments in the postoffice and mail service.

(7) Overhead telephone and telegraph wires in the blizzard of 1888.

(8) Mechanism of the modern telephone.

(9) Mechanism of wireless telegraphy.

(10) Tentative modern scene—perhaps the Democratic Convention of 1924 showing the employment of all methods of communication, such as the telephone, telegraph, radio, street amplifiers and the telegraphic transmission of photography.

THE NEW WALL MAP OF THE UNITED STATES

A WALL map of the United States which will be designated as official for use of the Federal Government has been compiled by the Geological Survey and is now approaching completion, according to a review of map-making activities prepared by the senior mathematician of the Coast and Geodetic Survey, Oscar S. Adams, as reported in the *U. S. Daily*. The work of engraving the map will be completed in approximately six months, it was stated orally on August 19 on behalf of the Geological Survey.

The map is on a scale of one part in 2,500,000, on the Albers equal-area projection with two standard parallels. The extent of the United States is such as to be well fitted for mapping on a conical projection with two standard parallels, and the equal-area property is of great value in some uses for which the map may be required, according to Mr. Adams' review, which covers map-making activities during the years 1927, 1928 and 1929. "Since there are always two directions at every point that have true length scale, this kind of a map is about as satisfactory as any for scaling approximate distances between places," according to the review, which is as follows:

During the period of the past three years interest in map construction and map projections has continued to exist even in a greater degree than formerly. The need for special maps for aerial navigation has tended to this end. In general, two types of projection are considered for these maps, either the conformal or the equal-area projection.

The Coast and Geodetic Survey has published two pamphlets dealing directly with projections and has also issued a revised edition of another projection publication during this period. Some time ago the Board of Surveys and Maps of the Federal Government adopted the Albers projection for the general map of the United States.

Since no table of coordinates for such a map had been computed, a table was prepared at the request of the Geological Survey and published as Special Publication No. 130 under the title "Tables for Albers Projection." In Special Publication No. 153 is contained a development and computation of a conformal projection of the sphere within a square. One of the important contributions of the Coast and Geodetic Survey to this branch of geodetic work is Special Publication No. 68, "Elements of Map Projection with Applications to Map and Chart Construction." A revised edition of this work was issued in 1928.

In 1929 the Geological Survey published "Formulas and Tables for the Construction of Polyconic Projections," compiled by C. H. Birdseye as Bulletin 809. This publication gives the coordinates in inches for various scales of maps such as are produced in that bureau. Some forty pages of introductory text serve to explain the computation of the tables and their use in the construction of maps.

In the construction of maps for airways the Lambert conformal projection is used by the Coast and Geodetic Survey. The chief work in this line done up to the present time has consisted in the construction of maps for certain aerial mail routes. The work on sectional maps for general flying is just beginning and will be carried on until the whole country is covered by maps of this kind.

The Bureau of Foreign and Domestic Commerce has had constructed an interrupted map of the world on the sinusoidal equal-area projection which that bureau finds of great use in statistical work. This type of projection is certainly to be preferred in all cases where the relative area of various sections of the map come into consideration. Another equal-area world map has been constructed by S. W. Boggs, of the State Department, that is found to be very useful in certain statistical work of that department. It is coming to be recognized more and more that in the construction of a given map a projection should be chosen that will be best suited to the purpose in view.

A wall map of the United States, scale 1 part in 2,500,000, on the Albers equal-area projection with two standard parallels, has been compiled by the Geological Survey and is practically ready for engraving. After completion this map will be the official wall map for this country and should soon supersede all other types of wall maps in use in the various governmental departments. The extent of the United States is such as to be well fitted for mapping on a conical projection with two standard parallels, and the equal-area property is of great value in some uses for which the map may be required. Since there are always two directions at every point that have true length scale, this kind of a map is about as satisfactory as any for scaling approximate distances between places.

Some of the large radio broadcasting stations have found special use for the azimuthal equidistant projection with the station placed at the center of the projection. Such a map gives at once the azimuth and distance of any other point from the broadcasting station. Of course a separate map has to be prepared for each station, and this requires a considerable amount of computation and compilation if an accurate map is to be produced.

THE CONFERENCE OF AGRICULTURAL STATES OF EASTERN EUROPE

WE learn from the New York *Sun* that representatives of the agricultural states of eastern Europe have been meeting in an agricultural conference at Warsaw.

The delegates were able to form an "entente cordiale" of eight agricultural states—Poland, Roumania, Czechoslovakia, Jugoslavia, Hungary, Bulgaria, Latvia and Estonia. Lithuania declined an invitation to attend the conference for political reasons.

The League of Nations will be asked to work out an international convention prohibiting export bounties for agricultural products. Special measures will be taken to eliminate ruinous competition among the agricultural states and also to adapt their exports to the requirements of importing countries.

One important decision was the adoption of a "preferential clause" applicable by European countries importing agricultural products to those producing them, in order to protect Europe against a flood of American cereals. It was also decided to hold periodical meetings of the agricultural entente states.

Poland took the initiative in convening the meeting. This country has already signed with Germany the "rye convention" with a view to putting an end to ruinous competition in the Scandinavian markets, which Poland could have conquered because her labor costs are far lower than Germany's. Poland also has done much towards the rationalization of exports of live stock and by-products of the industry.

SCIENTIFIC NOTES AND NEWS

THE Royal Society of Natural History of Madrid has added Professor W. M. Davis, of Harvard University, to its list of honorary members. Professor Davis has spent the summer at Eugene, Oregon, where he has given two courses of lectures at the summer session of the state university.

DR. ROSS G. HARRISON, Sterling professor of biology at Yale University, has been elected a corresponding member of the Prussian Academy of Sciences in Berlin.

PROFESSOR L. R. JONES, of the department of plant pathology of the University of Wisconsin, has received an honorary degree of doctor of science from Oxford University. He attended the fifth international botanical congress at Oxford University in August.

AT the recent convocation of the University of California, the degree of Ph.D. was conferred on J. A. Pearce, of the Dominion Astrophysical Observatory at Victoria, B. C., Canada.

WE learn from the *Journal* of the American Medical Association that Dr. Harry J. Corper, of Denver, has been awarded the Ward Burdick Research gold medal by the American Society of Clinical Pathologists for his work in isolating and culturing the tubercle bacillus. Dr. Rodney H. Jones and Dr. Edward R. Mugrage, instructor and professor in clinical pathology, respectively, at the school of medicine of the University of Colorado, were awarded a gold medal for the best scientific exhibit presented at the annual meeting of the American Society of Clinical Pathologists which was held at Detroit recently. The exhibit concerned the Aschheim-Zondek pregnancy test.

AT the one hundred and fifth annual exhibition of the National Academy of Design, an ibex bronze by James L. Clark, assistant director in charge of preparation at the American Museum, was awarded the Speyer Memorial Prize for animal sculpture.

THE Planck gold medal has been awarded to Dr. Niels Bohr, professor of physics at the University of Copenhagen.

THE Osler memorial medal for 1930 has been awarded to Sir Wilmot P. Herringham. This bronze medal is awarded every five years to the Oxford medical graduate who has, in the opinion of the board of awarders, made the most valuable contribution to the science, art or literature of medicine.

THE governing body of Corpus Christi College of the University of Cambridge has made the first award of the Copeman medal for research in medical and biologic sciences to Dr. Reginald Hilton.

DR. N. L. BRITTON, who recently retired as director of the New York Botanical Garden, has been elected honorary president of the International Desert Conservation League, an association recently organized in California "to respond to an urgent demand for the protection of desert plant life and the conservation of desert beauty spots in the form of park areas containing rare desert flora and fauna."