

For Bureau of Standards, \$450,000; Bureau of Mines, \$275,000; Bureau of Fisheries, \$1,072,474; Coast and Geodetic Survey, \$3,500,939; Bureau of Lighthouses, \$2,355,068. These funds are sought for "new projects" and if obtained it is expected that many of the scientific personnel furloughed for reasons of Budget Bureau "economy" slashes will be put back to work.

It is unofficially estimated that about half of the 380 Bureau of Standards employees whose pay stopped July 1 might be allowed to continue their important scientific tasks if the \$450,000 public works funds are granted. The Bureau of Standards was severely cut by the Budget Bureau deductions from 1934 appropriations, being allowed only \$1,363,000 instead of about \$2,000,000 appropriated by Congress. The Bureau of Standards is also expected to play an essential part in the gigantic public works construction program by testing materials purchased. If this work can not be done because of lack of funds, there is the possibility of the

Government's losing millions of dollars due to inferior materials used by contractors.

Essential safety work and fundamental research for the mining industry of the Bureau of Mines will be rescued if the funds are granted that bureau.

Similarly it is contemplated that the coastal mapping and triangulation work of the Coast and Geodetic Survey can be speeded up with employment of engineers and other technical men now out of jobs due to the depression. The Bureau of Fisheries sees possibilities of serving the public good by expansion of its fisheries conservation and propagation work.

Reconditioning Projects

Applications have also been filed by Secretary Roper for public works funds for reconditioning projects; Aeronautics, \$487,500; Coast and Geodetic Survey, \$79,200; Bureau of Fisheries, \$230,000; Bureau of Lighthouses, \$2,283,920; Navigation and Steamboat Inspection, \$30,000; Bureau of Standards,

\$148,500. These funds will be for repairing and modernizing buildings and equipment and are not expected to aid materially in salvaging abandoned scientific research.

Although no formal applications have been made by Secretary of the Interior Ickes for public works funds for carrying on some of the curtailed activities of the Geological Survey, which has also been hard hit by the economy program, such grants may be sought. Secretary Ickes has announced his determination to attempt to secure jobs for furloughed employees of his department with some of the new agencies of the government.

The effect of the economy program on the Department of Agriculture's many research projects is not yet known. Changes are being made slowly in that department and its may be several weeks before the details will be known. It is known that Secretary Wallace is determined that the scientific research of the department shall not be disrupted by the economy program.

Science News Letter, July 15, 1933

On The Science Front In Washington

PUBLIC HEALTH

Federal Health Research Slowed by Dismissals

THE SCIENTIFIC investigations into the causes and methods of fighting disease which are being carried on by the U. S. Public Health Service will be considerably slowed but not badly hurt by the dismissal of employees as an economy measure.

None of the key people in the research program is being dismissed, Dr. L. R. Thompson, assistant surgeon general in charge of scientific research, stated.

At the National Institute of Health, formerly the Hygienic Laboratory of the Service, not more than eight or nine employees are being dismissed. These are laboratory attendants. Altogether between thirty and thirty-five employees in Dr. Thompson's division are being dropped as an economy measure, but most of these are married, their husbands or wives being employed by the government. Some of these were part-time workers on problems of child hygiene. Most of them were technical assistants. None of the highly trained scientists has been dropped.

As a result, the scientists will have to do their own dirty work, such as washing test tubes and preparing stock reagents. This will slow them in their investigations, but it will not stop them.

True to its traditions of self-sacrificing service, this branch of the government is making no complaint over the situation and is cheerfully preparing to carry on its important work in spite of all obstacles, such as lack of technical assistance.

Science News Letter, July 15, 1933

GEOLOGY

Geological Survey Loses Men of International Fame

BUDGET BUREAU slashing of funds for scientific purposes will cause the loss to the Government service of a galaxy of geologists of national and international reputation.

Some of these have been in the U. S. Geological Survey for more than thirty years, and so are eligible for the retirement annuity. Others, younger men, will have to be dismissed without that amelioration of circumstances.

It is not yet known just how high the total of dismissals will be, but about 150 have already been added to the army

of the scientific unemployed from the Survey. Present plans are taking into consideration the possibility that the new public works program will turn over some funds to the Geological Survey. In case money is not made available from this source the dismissals now will only mark the beginning of the disruption of the Government's staff of geologists.

Dr. Arthur Keith, treasurer of the National Academy of Sciences, and representative of the United States at many international scientific meetings, is one of the distinguished men slated to go. His specialty has been the structure of the earth, and his research has given the world fundamental information for the understanding of earthquakes.

Ore Expert Lost

The Government loses an expert on rocks, ores, and minerals, with the letting out of George Steiger. Mr. Steiger has been with the Geological Survey since 1892. The chemical and physical laboratories in the Interior Building are the result of his planning.

A specialist in the examination of minerals in well cuttings from the recently discovered potash fields of Texas and New Mexico is lost in Frank Cath-

cart Calkins, who has been with the Survey since 1901.

A leading authority on deep earth temperatures particularly as related to important oil fields goes with the leaving of C. E. Van Orstand.

Dr. Nelson Horatio Darton's contributions have been in the geologic and topographic mapping of the southwestern part of the United States. For this work he has been awarded the Charles P. Daley medal of the American Geographical Society.

Dr. Arthur Coe Spencer is a specialist on mine deposits and has also investigated dam and reservoir sites.

Louis M. Prindle is an expert on the complex geology of northwestern Massachusetts and adjoining states.

Dr. Charles Butts is a stratigraphic geologist.

Dr. George Burr Richardson, a specialist in oil and gas and in the mapping of oil and gas fields of the United States, has also served the Internal Revenue Bureau for special investigations in connection with the valuation of oil and gas properties.

Arthur James Collier is an authority on coal, petroleum, and gold deposits.

These men are typical of those that the government service is sacrificing in the name of economy.

International Congress

By unhappy coincidence this "economy" attack on the U. S. Geological Survey comes at a time when America is host to foreign geologists. The International Geological Congress meets in Washington during the last week in July. Not a cent of Government support is given this meeting, although foreign governments have subsidized previous congresses held in their countries. Uncle Sam's greeting to the foreign geologists comes in the form of dismissals to some of their colleagues who will act as hosts.

Science News Letter, July 15, 1933

PHYSICS

Cuts Destroy Uncle Sam's Photographic Laboratory

UNCLE SAM has fired his experts on the making of photographic films. In the interests of "economy" dollar saving, the Government will scrap a laboratory which it has taken a decade to build and which could not be duplicated except at immense cost in time and money.

All the Government saves by this

move is less than \$10,000 a year. Thousands, not millions! Less than half of the initial cost of one of the Air Service's photographic planes! Yet with this Bureau of Standards laboratory gone, the plane and all other military and civil photographic outfits of the Government will depend entirely upon the few commercial film companies in this country for knowledge regarding the emulsions they must use. In peace time, this is a serious situation. In war time, it might be disastrous.

Only Research for Public

With the laboratory, goes Dr. Bert H. Carroll, young physical chemist, who has had the distinction of being the only scientist in this country to do research work for the public on the important subject of the making of the emulsions that make photographic films sensitive. He is one of the very few men in this country outside commercial film companies who are familiar with the subject. With him also goes Dr. Donald Hubbard, who has been in the laboratory for seven years rated as a "junior chemist" although qualified as a specialist in this field.

The making of emulsions for films has always been considered an art. The men who could do it have guarded their skill as a trade secret, and have passed it on to others only in the same company. Even they have great difficulty in making the emulsions in case they move to another plant and have to work under different conditions, because the underlying principles have not been understood. Even the most modern emulsion plant when it moves from place to place usually takes more than a year to get going again.

When the United States was faced with the World War, the importance of aviation photography became evident. We had to have photographs, from the air, of the enemy lines. This meant that we had to take photographs at long range. We had to take them with short exposures. We had to take them through the mists which invariably lie between a high flying plane and the ground. And we had to have results that would show details clearly.

This meant, in turn, that we must have better films. Films sensitive to the red end of the spectrum were an absolute necessity.

Then the Government discovered within the service, in the spectrographic laboratory at the Bureau of Standards, experts on the sensitization of plates or film to the red. Research was started

which resulted in the hypersensitization process used for ten years by the air service.

In 1922, funds were transferred from the air service to the Bureau of Standards for research on making films more sensitive, and particularly on the making of new and better emulsions.

It was necessary to build from the ground up. Nothing recent existed in print on the subject of emulsion making. Dark secrecy surrounded the whole subject. Even today, no university in the land is doing research on this subject. No laboratory in a public institution had undertaken it.

Even in the commercial research laboratories, the work has been extremely limited. Manufacturers have produced dyes which are added to the emulsion to make it sensitive to the red end of the spectrum, but they have published extremely little which dealt with anything remotely connected with making of the emulsions themselves.

Science News Letter, July 15, 1933

AVIATION

Public Safety In Air Endangered By Slashes

GOVERNMENT CUTS in the name of economy are endangering public safety in the air.

The U. S. Department of Commerce issues certificates for approved types of airplane engines. In June, 1933, this meant that the engine stamped with this mark of Uncle Sam's approval was of a safe and practical type. It meant that the engine had been tested by experts of the National Bureau of Standards in the government's own testing plant at Arlington, Va.

Manufacturer's Test Accepted

But in July, 1933, and thereafter unless funds not now provided for this purpose are forthcoming, Uncle Sam's certificate will mean something entirely different. It will mean that the manufacturer, not the government, has tested the engine. The tests will be conducted in the plant of the manufacturer, by persons in the employ of the manufacturer, with the manufacturer's testing equipment. A single government inspector visiting the plant will be expected to insure that test conditions are satisfactory.

Some aviators, who have to trust their lives to their motors, have expressed the opinion that a government certi-