

inspection service at Baltimore is not so heavy during the winter season, two assistant inspectors of that service at Baltimore were detailed, each for three weeks, to serve in turn on board the Fish Hawk for the enforcement of the navigation laws on the Chesapeake Bay.

LIGHTHOUSE SERVICE

When charges were made recently against the conduct and economy of administration of the lighthouse service, Secretary Redfield immediately ordered a full and complete investigation. Hearings were begun before a committee consisting of Secretary Redfield, Assistant Secretary Sweet and Dr. S. W. Stratton, director of the bureau of standards on January 7, and on January 10 a recess was taken until January 28.

The specific charge of misconduct was that the bureau was favoring a certain concern which manufactures buoys and of which a former deputy commissioner of lighthouses is secretary, a demand being made for an explanation of why so many contracts have been let to that firm. The investigation, however, is to be general, covering the entire lighthouse service.

The lighthouse service is testing a new lighting system at Key West, Fla., which, because of the enormous candle power of the beam of light obtained from a very small consumption of power, bids fair to become very generally used as its efficiency is more and more conclusively demonstrated.

As the approaches to Key West are exceedingly difficult, the range light has been found most satisfactory, and because of the length of the channel, it is of the highest importance that the most powerful lights be used.

The principle of the "range light" consists in the establishment of two lights at different vertical heights and some considerable horizontal distance apart in an extension of the line of a channel. The approaching mariner then maneuvers his vessel so that the lights appear to be vertically over one another and, when this is the case, the vessel must be in the line of the channel.

BUREAU OF STANDARDS

The report of the inspection of railroad track scales in the state of Vermont has been completed and forwarded to the commissioner of weights and measures at whose request the inspection was made. Altogether 16 scales were tested with the following results: Allowing a tolerance of .2 of one per cent, which in the opinion of the bureau is a fair tolerance for such scales, 80 per cent of the scales would have to be rejected; on a tolerance of .4 of one per cent, 60 per cent would have to be rejected; and on a tolerance of 1 per cent, 40 per cent would have to be rejected. The magnitude of some of the errors was 1,349 pounds with a load of 35,000 pounds, and 1,149, 1,129, and 2,459 on three scales with loads of 70,000 pounds. Considering that empty cars weigh about 35,000 pounds, the errors in contents are far greater than should be permitted.

Tests of the scales used by the customs service in determining the duty on certain imports at New York likewise disclose large errors. Of the 16 scales tested there, 75 per cent would have been rejected on a tolerance of .2 of one per cent; 56 per cent on a tolerance of .4 of one per cent; and 25 per cent on a tolerance of 1 per cent.

BUREAU OF CENSUS

The Official Register of the United States for 1913 was delivered on January 7, 1914, three days later than the 1911 edition which was delivered on January 4, 1912.

The earliest issue of the Official Register (then known as the Register of Officials and Agents) was published in 1816 by the secretary of state, under authority of congress. The secretary of state continued to issue the register biennially until 1861, when the supervision of its publication was transferred to the department of the interior. The register of 1861 and each succeeding editions up to and including that of 1905 were issued by the secretary of the interior. In 1906 the duty of publishing the register was transferred by act of congress to the director of the census.

Heretofore the register has been published in two volumes. Volume I contained the names of all civilian employees of the government except those in the postal service, together with the names of commissioned officers of the army, navy and marine corps. The names of employees of the postal service were contained in Volume II. Officials of the census bureau and postoffice department decided for various reasons that the practical value of volume II was not sufficient to

justify the labor and expense involved in its preparation and in accord with their recommendations, congress last year authorized its discontinuance.

BUREAU OF FISHERIES

Dr. Hugh M. Smith, commissioner of fisheries, has just returned from a trip along the gulf coast of Florida where he made a personal inspection of the most promising sites for the location of a marine biological laboratory. The establishment of such a laboratory on Florida's gulf coast was authorized by congress in 1911 and its object is the study of various economic and scientific problems connected with the aquatic resources of that state.

DEPARTMENT OF LABOR

The department of labor recently made public the report of the investigation of the Calumet strike. The investigation was made and the report prepared by Walter B. Palmer of the bureau of labor statistics and deals with the various phases of the strike situation:

Causes of the strike; wages of mine workers; hours of labor; the training trouble; the one-man drill; deductions from earnings; the Western Federation of Miners; the vote for a strike; beginning of the strike; continuation of the strike; the militia, deputy sheriffs, and imported guards; injunctions against picketing; strike-breakers brought in; violence during the strike; arbitration proposals unavailing; discrimination and adjustment of grievances; concessions the companies would make; underground conditions; accidents in and about the mines; houses occupied by mine-workers; stipulations in leases; living conditions; welfare work; the Michigan copper district; the population of the district; earnings of the companies.

At the time of the strike over 9,000 miners, trammers, i. e., tram car men, and surface men were members of the Western Federation of Miners. At a meeting of District 16 on July 22 a strike was called which began on July 23. Having failed to secure a conference at which to present their demands, the representatives of the Western Federation of Miners publicly announced their demands to be:

Recognition of the union; an eight-hour day; a minimum wage of \$3 for all underground workers and engineers, and an increase of 35c per day for surface men; also that two men shall be engaged in the operation of all mining machines.

There were 14,528 employees of these companies on July 22. About 11,700 worked underground and the remainder on the surface. Underground work came to a complete standstill and this caused all surface employees to stop work. No employees of the stamp mills struck but these employees, 1,100 in number, were compelled to cease work after the rock on hand had been stamped and smelted.

Before the strike began, J. A. Cruse, sheriff of Houghton county, had sworn in about 420 deputy sheriffs at the request of the mining companies, nearly all of them employees of the companies. This number was increased after the strike began until it numbered about 1,700 on November 1. The companies also imported from other states a large number of armed guards supplied by the Waddell-Mahone agency of New York and other agencies. On the night of July 23, the day the strike began, the sheriff of Houghton county telegraphed the governor asking for state troops. On July 24 the governor ordered troops to go to Houghton county at once. By July 25 they began arriving, and by July 27 all had reached their destination. A number of minor riots occurred during the first two days of the strike, but it is not shown that any fire arms or any other dangerous weapons were used by the strikers at that time. A number of strikers have been killed and others injured by the use of guns in the possession of the Waddell men.

The first strike-breakers brought into the district were brought in by the Quincy Mining company and arrived at Hancock on September 19. The thirty-two who arrived at Hancock were kept confined in the railroad coach several hours. They were escorted to a shaft house by soldiers and Waddell men. There was present also a large body of strikers near enough to be seen by the new-comers. On the same day fourteen of the men from New York broke away from the mine and went to the headquarters of the federation in Hancock, where they made statements to the effect that they had not known they were coming to a place where there was a strike and did not know it until they arrived and saw the soldiers, and in the background the strikers.

Twelve of them made affidavit to that effect. Many strike-breakers made affidavit that the agent at the employment agency informed them that there was no trouble or strike at the place they were to work; that on arrival they were guarded by deputies and soldiers and not permitted to leave the bunk house at the mine, and that they were otherwise mistreated. During October many strike-breakers were brought in by the Calumet-Hecla company and some for other companies. Some of these came from western points. Two of these men made affidavit that deputies at the point of a gun compelled them to go from Superior to Calumet; where they were put in an auto and taken to one of the mining camps. Most of them, however, came from Chicago.

The report shows that the hours of labor of underground workers in the Michigan copper district prior to the strike were from 10 to 11 hours per day which included the time required for going to and from the working places to the surface and the time for luncheon. In some of the mines the miners are paid as low as \$2.35 per shift, while trammers are paid as low as \$2. The earnings of miners employed during the six months ending June 30, 1913, by the Calumet-Hecla company and subsidiary companies varied from \$2.89 to \$3.62 per shift and averaged \$3.28. The earnings of men employed during the same period by the other companies varied from \$2.48 to \$2.90 per shift, an average of \$2.74. The general average of all companies during the year was \$2.98. The earnings of trammers employed during the year by Calumet-Hecla and subsidiary companies varied from \$2.50 to \$2.91 per shift, and averaged \$2.75. The earnings of trammers employed by other companies during the year were from \$2.30 to \$2.54, an average of \$2.40. The general average of all companies during the year was \$2.59.

Some of the smaller companies have been operating at a loss, but the largest company in the region, the Calumet-Hecla company, which employs upwards of 50 per cent of the total number of mine workers engaged in that region, has had extremely large profits. It was organized in 1871 under the laws of the state of Michigan with an authorized issue of capital stock of \$2,500,000, par value \$25, of which \$12 per share is paid up, so that the actual cash capital paid in is \$1,200,000. The total dividends paid from date of organization in 1871 to, and including March 30, 1913, were \$121,050,000, besides having reinvested about seventy-five millions of dollars out of its net earnings.

The dwelling houses owned by the companies, in which the miners are housed, are generally substantial frame houses and are usually kept in good repair. The lots on which the houses stand are usually 50x100 feet. The rents range from an average of \$3.32 for three-room houses to \$7.00 per month for nine room houses. The house lease provides that the mining company may dispossess and evict the occupants after fifteen days notice.

The Calumet-Hecla company, which has a larger number of employees than any other company in the copper district, has provided a number of welfare agencies for their benefit. The employees of its subsidiary companies have the use of the library and both houses. The Calumet Hecla company has built and now owns ten school buildings, which are used as public schools, and for which the Calumet township pays rent. It has also built an armory, which is used by the local military company, and for which the state pays rent. It has given the ground for the Y. M. C. A. building in Calumet and for the most of the church buildings in the township, and has contributed to their support. It has built and maintains a hospital for which a charge of 50 cents per month is made to all single men, and \$1.00 per month for married men, this \$1.00 covering medical and surgical attention and all medicine that may be necessary for the entire family. It has established a voluntary aid fund and those who desire to accept the benefits of the fund are charged 50 cents a month, and boys whose wages do not exceed \$30 per month are charged 25 cents. It has created an old age pension fund for certain employees who have attained an age of 60 years and who have been in the employ of the company for twenty years or more, and in a number of other ways has promoted the welfare of the workers.

In connection with the efforts of the department at mediation the reports of Messrs. John A. Moffitt and John B. Densmore, who acted as commissioners of conciliation at different times, show:

First: That suggestions were made that the