

been increased since the Civil war. Recent legislation provides a sufficient number that each large ship may be provided with one.

The creation of the office of naval operations has placed the navy's organization upon a basis equal to that of any other in the world and has resulted in a remarkable perfection of the navy's war plans. The study of strategy at the naval war college has been revived and is being carried on by actual attendance at the college and by correspondence on a scale never heretofore realized. Admirals Knight, Winslow, Captain Sims and others have testified that the war college has found an unexpected friend in Secretary Daniels.

The administration has established and congress has legalized the naval consulting board composed of the most eminent scientists, inventors, and engineers of the United States, whose expert services are at the navy's command and who have already compiled the first census of the country's industrial resources available for use in war.

Our target practice has recently "come up 40 per cent," according to Admiral Fletcher and Captain Sims, due to the restoration of individual and short range practice abandoned in the last administration. Captain Plunkett, head of target practice, says this practice is coming up "by leaps and bounds." The Pennsylvania recently hit a small target at a distance of 11 miles five times out of 12 shots.

The navy's experts have designed a large caliber gun that will shoot straighter, shoot farther and hit harder than any gun now in use in any foreign navy; they have adopted a new 16-inch gun for our latest dreadnaughts now building; they have worked out a system of electric propulsion which is not only a new departure from recognized means of propulsion for battleships, but which will enable us to provide unusual underwater protection for our vessels against mines and torpedoes; they have provided for vastly increased stores of mines, torpedoes, projectiles, powder, and other munitions, and by insisting upon complete and widespread competition in the markets and by the enlargement of the navy's manufacturing facilities have effected economies well over \$5,000,000 in three years; they have built up the navy's radio service to a point well nigh perfection, and by wireless telephony has given orders to a ship at sea.

#### NAVAL APPROPRIATIONS

The Naval Appropriation bill just passed carries the largest appropriation ever made at one time by any country, \$315,000,000. It provides for 81 ships to be built at once at a cost of \$110,000,000, 4 dreadnaughts, 4 battle cruisers, 4 scout ships, 20 destroyers, 9 fleet submarines, 27 coast submarines, 3 fuel ships, one repair ship, one transport, one hospital ship, one fleet submarine tender, two destroyer tenders, two ammunition ships and two gunboats.

Under the McKinley-Roosevelt administration new ships to cost \$167,006,642, under Roosevelt \$83,192,938, under Taft \$127,747,113, and under the three years of the Wilson administration \$226,290,822, have been appropriated for, and if you count, as they should be counted, the number of ships authorized in the Wilson administration, the total authorized increase of the navy will cost \$655,289,806. In the Roosevelt administration 55 ships of all classes were authorized; in Taft's 67; in the Wilson 111 were appropriated for, and 90 more authorized.

The democratic party has never gone out of office without leaving the navy stronger. President Polk created the naval academy at Annapolis. Under President Pierce, 18 steam vessels were added to the navy, when steam was in its infancy on the sea, giving it the advantage for the time being of the British navy in actual sea power, for all the ships of England at that time were wooden sailing vessels and the vulnerable side wheel steamers. Under President Cleveland Secretary Whitney laid the keel of the modern navy, and Secretary Herbert continued to strengthen it in Cleveland's second administration. President Wilson in one of his earliest messages said: "We shall take leave to be strong upon the seas." In spite of reckless and partisan criticism the navy under Secretary Daniels has made unprecedented strides, and this is universally admitted by British and other naval authorities. In addition to the achievements already noted, this administration has appropriated \$11,000,000 for a

20,000 ton capacity armor plate factory in order to prevent in the future paying extortionate prices to the armor plate trust; it has appropriated nearly \$5,000,000 for aeronautics; has adopted 16-inch guns for the new dreadnaughts; has opened the door of the navy to civilian aviators and engineers; and has utilized the navy yards discarded by previous republican administrations in spite of the enormous investment represented by them, for the increased work in the way of the building of ships.

#### REORGANIZATION OF THE DEPARTMENT OF COMMERCE

Great changes have been wrought in the department of commerce in the past three and one-half years. A new note has been struck in its activities. A campaign has been untiringly waged to make the department of commerce everything its name implies. Essential men and equipment have been asked for and furnished by the wise forethought of a democratic congress. Offices which have lain dormant for years have been rehabilitated and quickened with the breath of life. The relationship between the department and the business man, whom it is intended to serve, has grown closer. Warm co-operation between the two has superseded the aloofness, independence, and lack of understanding that formerly existed. Unremitting efforts have been made to acquaint the American business man in every quarter of the country with the fact that at Washington is located a department devoted solely and purely to his interests, with no axe to grind—a department heartily in earnest, anxious to serve. This campaign of education has met with flattering success, to the satisfaction of the department and the great benefit of the people as a whole.

If the respective services of the department are taken up in order it will be found that each of them has so progressed in effective public service as to make a unique record.

#### BUREAU OF FISHERIES

The constructive public service of the bureau of fisheries has never been so great nor so evidently appreciated as during the past three years. Its administrative and scientific activities have been directed at the accomplishment of public good by the most direct and practical methods.

The results accomplished by this bureau have already been reflected in a new attitude of the public and of congress toward the value of the scientific and practical service of the bureau. The scientific force of the bureau has been increased by 37 per cent, as a result of action by the two recent congresses, and the way thus paved for greatly increased future service.

#### COAST AND GEODETIC SURVEY

Until recently the method was in vogue of discovering hidden rocks in Alaskan waters by running vessels upon them. This did not recommend itself to the present administration as a business proposition, apart from the humanity of the case. Sad experience has shown that the ordinary sounding apparatus will not detect that dangerous foe of the navigator—the pinnacle rock. The wire-drag work, the only certain method of finding submerged dangers to navigation, has been increased during the last four years from one party covering 169 square miles of water area per year to four parties covering 1,157 square miles per annum.

A few months after the present administration took charge wireless apparatus on three of the vessels of the survey was installed.

Three ancient, worn-out steamers used by the coast and geodetic survey, requiring large expenditures for repairs to keep them in condition for service, have been replaced by vessels of modern and adequate type for efficiently doing the work of surveying the waters of our coasts.

#### BUREAU OF THE CENSUS

Under a democratic director of the census, by collecting as many of the statistics in the wealth, debt, and taxation inquiry as possible by correspondence, instead of by sending agents into the field, a saving, estimated at about \$150,000 was made in the cost of the inquiry as compared with that of the last preceding similar inquiry, made ten years before. Furthermore, the work on the recent inquiry was completed in less than half the time required for that on the preceding one.

#### BUREAU OF STANDARDS

The growth of the bureau of standards has been remarkable. Its touch with business is

more intimate. Its work has taken on a practical significance never before achieved. Manufacturers are coming to understand the value of applied science to them. It has begun a series of popular bulletins by publishing a circular on "Measurements for the household" which has met with keen interest.

When it was found that nearly two billion dollars in freight rates were being collected on railroad track scales beyond the capacity of the instruments of state and county inspectors to make tests, the department obtained from congress a special fund to co-operate with the manufacturers of such scales, with the railroads, and with the inspectors. This was primarily in the interest of the shipper, who was entitled to know from an official source that such scales were accurate. During one year 68 per cent of the scales tested were found to be defective.

Last year, appreciating the splendid service which the department through its bureau of standards was rendering to the people generally, particularly in the application of science to industry, Congress provided a \$200,000 laboratory for chemical research affecting industry.

The increased usefulness of the bureau to the country can not be measured. The men provided for this important bureau by the last republican congress numbered 281. The personnel has been increased to 444, or by 58 per cent during the present administration.

#### BUREAU OF NAVIGATION

In the spring of 1913 the United States motor vessel Tarragon was engaged in the enforcement of the navigation laws in Chesapeake and Delaware Bays. The importance of this work was immediately recognized, and the territory was enlarged to include the whole Atlantic coast.

The Ship Registry act, one of the most immediately successful measures of constructive legislation ever enacted for the benefit of our merchant marine, took effect August 18, 1914. It was originated in and drawn up by this department. It provides for the admission of foreign-built ships to American registry for the foreign trade. The tonnage in the foreign trade increased from \$1,076,152 gross tons on June 30, 1914, to 2,194,470 gross tons on June 30, 1916, or over 100 per cent. American shipping in the foreign trade has never before increased so rapidly as during the past two years. No other nation ever in so short a time doubled its shipping in foreign trade.

#### STEAMBOAT-INSPECTION SERVICE

The steam-boat inspection service was never more efficient than it is today. Congress has this year provided for 30 additional local steam-boat inspectors, greatly needed, and these have been distributed about the country where they are required most.

The appointment on November 2, 1914, of a traveling inspector for this service (the first of the kind) was found so productive of results that legislation was secured permitting of the taking on of a second traveling inspector July 1, 1916.

#### BUREAU OF LIGHTHOUSES

The bureau of lighthouses is the greatest organization of its kind anywhere and is maintained at a high standard. Through the liberality of congress and by careful economy of funds it has been found possible for the first time to equip a number of its seagoing tenders with wireless apparatus and to bring the wages paid to its seamen upon the Atlantic coast a little more in harmony with those paid by private parties. Both measures tend directly to cheaper and better service.

#### BUREAU OF FOREIGN AND DOMESTIC COMMERCE

The bureau of foreign and domestic commerce, the spearhead of the department, has been developed in a remarkable manner under the present administration. What does the bureau do? It does nothing but promote American commerce abroad. It does for our foreign trade what the agricultural department does for the farmer. It reaches out into all the world and gets business for American manufacturers, and it is on the job in every continent all the time. Greatly increased appropriations have made it possible to broaden the scope of the work and to meet in large measure the added demands for information and other assistance that have resulted from war conditions.

The bureau was completely reorganized early in the present administration. Increased appropriations made it possible to form new di-