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The Editor is always glad to receive for examination illustrated articles on subjects of timely interest. If the photographs are *sharp*, the articles *short*, and the facts *authentic*, the contributions will receive special attention. Accepted articles will be paid for at regular space rates.

AGRICULTURE THE BASIS OF PROSPERITY.

If any doubt existed that agriculture is the true basis of the prosperity of the United States, it must surely give way before the astounding array of figures presented by the Secretary of Agriculture in his Thirteenth Annual Report, which has reached this office as we go to press with the Middle West Number. Figures of statistics that reach into the billions become, at least to the average mind, merely symbolical; but when the Secretary tells us that for the present year the value of farm products in the United States is $8,760,000,000, and that it represents a gain of $869,000,000 over the year preceding, we can understand why it is that not even our vast manufacturing activity, expressed in great steel mills, machine shops, and factories innumerable, can compare in the value of its output with the products of the farm.

Elsewhere in the present issue we have shown how greatly our industrial prosperity has been due to the invention of labor-saving machinery. Particularly potent has been this influence during the past decade, during which there has been an increasing appreciation of and demand for the latest and most improved appliances. Formerly, the scarcity of hired labor discouraged the farmer in the endeavor to get out of his land the full measure of its productive capacity. Thanks to mechanical appliances, the output for a given amount of hired help has been trebled, and in certain classes of work has been multiplied tenfold.

To our excellent State agricultural colleges, furthermore, and the various educational institutions devoted to agriculture, to say nothing of the work of the Bureau of Agriculture, is due much of the credit for the present prosperity. The farmer of to-day is getting a larger return from the land because of his more intimate knowledge of the character of the soil; the nature of the crops for which that soil is adapted; and the proper times, seasons, and methods of plowing, seed time, and harvest.

These influences, coupled with the rapid increase in the acreage of cultivated land, and the breaking up of the old ranges and huge wheat farms into smaller holdings on which intensive cultivation is carried on, have served during the past eleven years to just about double the annual value of farm products, the increase being from $4,417,000,000 to $8,760,000,000. The total value for these eleven years reaches the enormous sum of seventy billion dollars. Little wonder is it that in some of the great corn and wheat-producing States of the Middle West the farmers are enjoying a period of unparalleled prosperity. This princely sum has served to sweep away the farm mortgage—that nightmare of the struggling husbandman of fifteen or twenty years ago; it has established banks; has replaced the tumbledown homestead with modern homes filled with the latest conveniences of civilization; by telegraph, telephone, and railroad, it has brought the farmer into intimate touch with the outside world, making him, in no mean sense, cosmopolitan; and it has served to render doubly secure the traditional right of the farmer to be considered as the backbone of the nation in its larger financial and political interests.

In looking through the details of this report, we find that the corn crop takes the lead in value, with a total of $1,720,000,000; and this, the Secretary tells us, nearly equals the value of the clothing and personal adornments of the 76,000,000 people enumerated by the census of 1900. Equal in value to the gold and silver coin and bullion of the United States, "it has grown up from the soil and out of the air in 120 days —$15,000,000 a day for one crop!" Second in value is the cotton crop, the lint and seed of which are worth about $850,000,000 to the farmer. Then follows wheat, whose crop this year is worth about $725,000,000 at the farm. The hay crop represents 665 million dollars; oats, 400 million dollars; potatoes, 212 million dollars; and tobacco, nearly 100 million dollars.

In conclusion, it should be noted that the increase of $869,000,000 in the value of farm products this year over 1908 is sufficient to buy a new equipment of farm machinery for over six million farms, and that the value of the cereal crops of the farmer would pay for all the machinery, tools, and implements of the entire manufacturing industry. Finally, the Secretary tells us that the value of all crops of $5,700,000,000 would make a half payment on the value of all steam railroads according to the valuations of 1904.

The pertinence of these statistics to an issue devoted to the Middle West will be appreciated when it is borne in mind that the Middle or Central West contains more than one-half of the wealth invested in improved farms in the United States; that it has more than one-half of the live stock and neat cattle; that it produces nearly 80 per cent of the food products, and more than one-half of the cereals that are grown in the entire country.

SEA STRENGTH OF PRINCIPAL NAVAL POWERS.

Toward the close of each year our Navy Department, through its Office of Naval Intelligence, issues a comparative table showing the warship tonnage of the principal naval powers. It is based on the number and displacement of warships built and building of 1,000 or more tons, and of torpedo craft of more than 50 tons. The statement for the present year, which shows the relative standing of the navies on November 1st, possesses special interest because it gives an authoritative statement as to the present strength of the navies in ships of the "Dreadnought" type—a subject regarding which the public has been treated during the past few months to overmuch literature of a sensational and misleading character.

Of battleships of the "Dreadnought" type, Great Britain has afloat and completed four, Germany two, and the United States two. France, Japan, Russia, Italy, and Austria have not as yet completed a ship of the "Dreadnought" type. Of "Dreadnoughts" under construction, Great Britain possesses seven, Germany six, the United States four, Japan two, Russia four, and Italy one. France and Austria have no "Dreadnoughts" under construction. In this connection it should be mentioned that our Navy Department does not consider that a battleship is entitled to be reckoned as of the "Dreadnought" type unless her main battery consists entirely of guns 11 inches or more in caliber. This eliminates the six French battleships of the "Danton" type, carrying four 12's and twelve 9.4's, and the three Austrian battleships of the "Ferdinand" type, carrying four 12's and eight 9.4's.

Of armored cruisers of the "Invincible" type, Great Britain possesses three, and has two under construction; Germany has none completed, and three under construction; and Japan has one completed and one building. Adding together the totals for ships armed entirely with big guns, both "Dreadnoughts" and "Invincibles," we find that Great Britain has seven completed of 125,450 tons displacement, and nine under construction of 191,000 tons; Germany has two completed of 36,000 tons, and nine under construction of 183,000 tons; the United States has two completed of 32,000 tons, and four under construction of 83,460 tons; Japan has built one of 14,600 tons and is building three of 56,200 tons total displacement; Russia has none completed and is building four of 92,000 tons total displacement; Italy has none completed, and one of 18,600 tons under construction; France and Austria have nothing either afloat or on the stocks of the all-big-gun type.

Of battleships of the first class, other than "Dreadnoughts" (in which enumeration the Navy Department includes all battleships of about 10,000 tons displacement or over that are less than twenty years old, unless they have been reconstructed and re-armed since 1900) Great Britain possesses forty-nine of 714,750 tons displacement; Germany, twenty-four of 282,424 tons; the United States, twenty-five of 334,146 tons; France, seventeen of 215,270 tons; Japan, twelve of 171,898 tons; Russia, five of 166,000 tons; Italy, ten of 122,600 tons; and Austria, three of 31,800 tons. Great Britain, Germany, the United States and Italy are building no battleships of this class, but France has six, Japan one, Russia four, and Austria three under construction.

Of armored cruisers other than the "Invincible" type, Great Britain possesses thirty-five of 416,600 tons displacement; Germany, nine of 86,693 tons; the United States, twelve of 157,445 tons; France, twenty-one of 192,982 tons; Japan, eleven of 180,900 tons; Russia, seven of 70,200 tons; Italy, eight of 59,000 tons; and Austria, three of 18,800 tons.

In the class of torpedo-boat destroyers, Great Britain leads with 148, followed by Russia with 97, Germany with 79, Japan with 56, France with 56, the United States with 17, Italy with 17, and Austria with 6. Great Britain has 20 torpedo boat destroyers under construction, the United States 19, Germany 18, France 16, Japan 3, and Austria 6.

The following table gives the relative order of warship tonnage both at present and when all the ships now under construction are completed. It will be noted that the only change in relative standing in the second list is that Germany will take the second position at present held by the United States.

RELATIVE ORDER OF WARSHIP TONNAGE.

Nation.	At Present, Tonnage.	With All Vessels Completed, Tonnage.
Great Britain	1,758,350	2,005,873
United States	682,785	785,687
Germany	609,700	820,692
France	602,920	766,906
Japan	396,368	489,704
Russia	259,263	412,250
Italy	216,038	257,818
Austria	114,897	167,297

Referring to the statistics of total displacement, particularly of battleships of the pre-"Dreadnought" type, we wish to draw attention to the fact that although Germany possesses only one battleship less than the United States, the average displacement of the German ships is very much smaller, being about 11,770 tons as against 13,370 for the United States battleships. Furthermore, our strength in this class of vessel is incomparably stronger, since every one of these twenty-five ships carries a main battery of four guns of 12 or 13-inch caliber, whereas ten of the German battleships carry nothing heavier than a 9.4-inch gun, a weapon which at the great ranges of 7,000 to 9,000 yards at which modern battles will be fought would be altogether ineffective against battleship armor. Hence, as late as a year ago, when Germany had no "Dreadnoughts" afloat, she actually possessed only fourteen battleships capable of fighting effectively at modern ranges, as against twenty-five flying the United States flag, and forty-nine under that of Great Britain.

It is here that the careful observer of naval development must look for an explanation of the feverish haste with which Germany is building a fleet of "Dreadnoughts." The short-sighted policy which led to the mounting of the 9.4-inch gun as the principal arm in her first two squadrons of battleships, left her navy in a very serious condition when the absolute superiority of the 12-inch gun was demonstrated in the battle of the Sea of Japan. Her present lavish expenditure on battleships must be regarded rather in the light of an effort to retrieve a disastrous error than as a distinct challenge to the supremacy of the British or any other navy.

Nor is it any answer to this view of the case to state, as has so often been done of late, that the construction of the first "Dreadnought" robbed all existing battleships of their right to be named as such. We confidently predict that the battleships of the older class will play an unexpectedly important *rôle* in the next great war; and when two theoretically unsinkable fleets of "Dreadnoughts" have hammered each other into a state of comparative exhaustion, it will be the nation that can send in the most numerous second line of older ships, armed with a mixed battery of 12's and smaller rapid-fire pieces, that will win the day.

THE SECOND REFRIGERATION CONGRESS.

The Second International Congress of Refrigeration will convene in Vienna, Austria, from September 29th to October 3d, 1910. If anything like the interest displayed at the first congress is experienced, the meeting will be a tremendous success.

At the first international congress, which was held in Paris, France, October, 1908, out of a total membership of more than 6,000, about 2,000 were in actual attendance from all parts of the world. About thirty delegates went from America (out of a membership of 401), representing the principal cold-storage houses, manufacturers of ice-making machines, and other allied industries. The first congress was a complete success, and has been the means of arousing the highest interest in the work of refrigeration. Since it was held, national associations of refrigeration have been formed in many different countries, including the United States, Great Britain, Germany, Austria, France, etc., where the preservation of perishable products is being investigated and studied with great care. There is every reason to expect substantial results of a practical character. The second congress, to be held in Vienna in 1910, is being organized very systematically, having the advantage of the experience of the first congress, and it is safe to say that the second congress will make still more valuable additions to our knowledge on the subject involved.

These matters are of the greatest importance to a large and growing industry, particularly in the United States, involving as they do the encouragement of growers and producers of perishable products.

According to the Geological Survey, the United States leads all other countries in the conversion of raw asbestos into manufactured products, although much less than 1 per cent of the material used is mined in this country.