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UNITED STATES IN THE WORLD'S TRADE.

We can scarcely overestimate the valuable assistance rendered to the foreign trade of this country by the reports from diplomatic and consular officers which are distributed from time to time by the Government. The voluminous annual reports recently transmitted to Congress describe the present condition of commerce and industries in all the countries of the world, especially as affecting American trade; and in his message accompanying the volumes for this year President McKinley says that "it is gratifying to be able to state that they show a marked increase in the practical utility to our exporters and manufacturers of the service of our official representatives, both diplomatic and consular, in promoting trade and presenting a mass of evidence as to the steady growth and popularity in foreign markets of our manufactured goods, as well as of our food supplies, our raw materials and the products of our mines."

There was a time, not so very far distant, when the reputation of our consular service, both at home and abroad, stood at an exceedingly low ebb, and it is, therefore, doubly gratifying to learn from a letter of Secretary of State Hay, which accompanies the President's message, that our consular officers are addressing themselves with steadily increasing zeal and efficiency to the work of collecting information of practical utility to manufacturers in the United States. Our consular as well as our diplomatic officers are greatly assisting American trade by answering through the Bureau of Foreign Commerce specific inquiries from business firms and organized trade bodies. The answers to these inquiries, if of sufficient general importance, are utilized in the form of daily consular reports which are distributed to the press, to chambers of commerce, and other trade organizations. To many it will be as gratifying as it will be surprising, to learn in the words of Secretary Hay that "no other country in the world has so rapid a system of disseminating similar information, or one that so satisfactorily meets the requirements of its industries and commerce." We would draw the attention of our readers to the fact that we publish every week in the SCIENTIFIC AMERICAN SUPPLEMENT a digest of these consular reports, a judicious selection being made which presents the substance of the week's reports in condensed form.

In the course of a general summary of the reports, made by Frederick Emory, Chief of the Bureau of Foreign Commerce, special emphasis is laid upon the fact that since the date of the previous annual review, the commercial expansion of the United States proceeded at a pace which has exceeded the expectations of even those who were most confident of a great development of our export trade. At the same time, a word of timely warning is issued against the temptation to sacrifice the quality of goods to cheapness, the harmful results of which were seen in the falling off of the sales of bicycles, because of the exportation of inferior wheels. At present the word "American" is synonymous with excellence and superior utility in many special lines of goods, and we can conceive of nothing more calamitous to the future of our foreign trade than that the term "American" should become in the least degree associated with the idea of cheapness at the expense of quality.

THE DOUBLE TURRET REJECTED BY THE NAVAL BOARD OF CONSTRUCTION.

It will be in the nature of a surprise to the large and rapidly growing section of the American public that follows with interest the development of our navy, to learn that in spite of the extremely favorable official report on the recent trial of the double turrets of the "Kearsarge," the Naval Board on Construction has decided by a vote of four to one to reject this accredited design in favor of the arrangement of batteries which is to be found upon the "Indiana." The importance of this decision will be understood when we remember that it affects, not merely the two new battleships proposed as part of this year's programme, but also the

three battleships of the "New Jersey" class authorized by the last Congress. The "Indiana" battery arrangement, as is well known, places the main battery in two turrets on the center line, one forward and one aft, and carries the eight guns of the 8-inch battery in four turrets placed at the corners of the superstructure. The public will naturally be curious to know why, in face of the favorable reports on the "Kearsarge," the Construction Board should still look unfavorably upon the double-turret system. Briefly stated, the position of the Board is, that while it admits that the trials have shown the practicability of the double turrets from a structural point of view, they prove very little as to its ability to stand the actual test of battle. The Board admits that these turrets embody certain distinctive and desirable advantages, that they save weight, give great concentration of fire, simplify the complicated question of blast interference and secure, in all but one respect, the same efficiency in gun-fire as is obtained by the "Indiana" arrangement; but it declines to accept the system on the ground that the contingencies of a sea fight may reveal possible weaknesses, chiefly of a military character.

Apart from the risk of disablement, which we discussed in our last issue, as far as we have been able to ascertain, the chief objection urged by the Board is that the ship might have to engage an enemy on either side of it at the same time, and that the "Indiana" could devote four 8-inch guns to each broadside, whereas the "Kearsarge" could devote but two. As a matter of fact, however, the probabilities of a ship's being engaged on both sides at once are not great. History and the accepted principles of good tactical formation make it likely that the majority of the engagements will be fought with one broadside only in action at a time. If this is the case, it looks as though the Board were making the mistake of sacrificing the greater for the less and adopting the system whose maximum efficiency may rarely, if ever, be called for.

We are pleased to note, however, that there is a provision permitting the department to change the battery design at any time within six months after the contract is awarded, and we sincerely trust that in the future tests, and in the exhaustive discussion which will take place, the responsible officers, whether of the line or the staff, will stand ready at all times to submerge personal preference or the prestige of individual departments in favor of the best interests of the United States Navy.

AMERICAN VS. ENGLISH MACHINE TOOLS.

If England has been slow to recognize the serious nature of the invasion of her markets by the American manufacturer, it cannot be denied that she is now acknowledging its success with astonishing frankness, and probing deeply into her own methods in the search for the true cause of her failure. The leading technical journals have thrown open their columns for a free discussion, both of the secrets of American success and of the apparent inability of English manufacturers to contend with it. In the leading technical papers, more than one series of exhaustive articles either has been or is now running, which are devoted to a detailed description of American machine tools, shop methods and general system of management. These articles cannot fail to have an important bearing upon the future struggle for commercial supremacy, at least as far as Great Britain herself is concerned. Although the emergency is being met with characteristic composure, evidence is not wanting that many firms are both remodeling their plant and endeavoring to impart a little more elasticity to their system of shop management.

In a recent issue of *The Mechanical World*, of London, attention is drawn to one feature of English business methods which undoubtedly has contributed largely to the successful introduction of American machine tools. Our contemporary is of the opinion that American machinery catalogues are vastly superior to those which are issued by English firms. It states that in England one rarely meets with a catalogue which gives such detailed particulars, drawings, etc., as will enable the actual construction of the machine to be made out and a probable estimate of its capabilities obtained. English policy seems to be a strictly secretive one, the catalogues being drawn up rather with a view to conceal as much as possible from rival makers than with the object of affording lucid descriptions to the purchaser. The present practice is attributed to the conservatism which still dominates business methods on the other side of the water; and probably our contemporary is correct in stating that in this particular instance this conservatism has much to do with the apparently indifferent showing made by English machine-tool makers in comparison with their American competitors.

The *Mechanical World* contrasts with the English method, that adopted by the American machine-tool maker, who takes the prospective purchaser into his confidence, giving him in his catalogues information which would enable any builder, if he were so disposed, to make the machine. The English maker objects to this policy on the ground that it is "giving too much away," forgetting that the splendid equip-

ment and excellent management of our large machine-tool makers, enables them to turn out their product at such a low cost, that no one attempting to build these tools for himself could hope to do so as cheaply as they can be purchased from the makers. Our contemporary concludes that when all is done and said "English tool-makers in competing with American concerns will find that they will have to conform to the newer order of things. The American has set the pace, and more up-to-date methods are no longer to be questioned on the score of expediency, but have become absolutely necessary under the stress of competition."

FOX BREEDING ON THE ALASKAN ISLANDS.

The Alaskan and Aleutian chain of islands stretch westward across the Pacific, almost to the mainland of Asia. Although they have been American territory for a long time, they are seldom heard of, with the exception of the Pribylov group, which are important on account of the fur seals and the international complications which have arisen in connection therewith. Now, however, we learn from an interesting report by Howard M. Kutchin, special agent for the protection of the Alaskan salmon fishery, that a new industry is being carried on in these islands. Fox breeding for their pelts is assuming proportions of considerable magnitude on the Alaskan Islands, many of which have been leased for this purpose, and others have been appropriated without the payment of a Government yearly rental of \$100 for each island. There are now no less than thirty-five islands occupied by proprietors of fox ranches.

A considerable portion of the time occupied by the cruise of the "Perry" last season was devoted to the work of ascertaining the location of the islands in use for the purpose mentioned, and in enforcing the regulations of the Treasury Department in relation thereto. The industry is still in an experimental stage and in many cases it is a question whether the labor and expenditure may not prove a bad investment, but there are other instances in which proper business methods have been used where the returns will soon be adequate and promise immense profits in the future. The foxes with which the breeding is begun cost from \$150 to \$200 a pair, and the work has been going on for fifteen years or more, and up to date there have been practically no returns, but as three of the islands have now over a thousand foxes it will be seen that it must be only a question of a short time when the venture will turn out satisfactorily from a financial point of view.

The original project was to propagate the silver grey fox, the fur being more valuable than that of the blue fox, the common rate for a pelt being \$50 for the silver grey and \$16 for the blue fox. The silver grey is a comparatively ferocious beast, considering the cowardly nature of the species in general, and is also much given to killing its young. It has been almost impossible to domesticate this animal. It is, perhaps, more of a wolf than a fox in its instincts, and the breeding of them has been practically abandoned, there being but a single island where they are now to be found in any number.

The blue fox is practically the only one which is bred, and it is readily tamed, and with gentle handling soon becomes so domestic in its habits as to accept food from the hand of its keeper. Neither of these is a distinct species, the blue fox being developed from the white fox, while the silver grey and black comes from the red. The usual food is fish, either raw or cooked, and corn meal mixed with tallow.

Except for a couple of months in midsummer the feeding is done throughout the year at the average cost of \$1.50 per fox. Each of the islands has from two to three keepers for the fox ranch, according to the number of foxes cared for, and they spend their entire time, the year around, in the work.

The skins are taken from November 20 to January 20, the method being to catch the foxes in traps. All females are released after marking them. For each six females one male fox is turned loose, the finest animals being selected for breeding purposes. The killing age is about eighteen months, although fox skins may be had as young as eight months, and if especially well grown the animals are sometimes killed at that age. The semi-domestication of the fur-bearing animals affords the only possible escape from the early extermination of a large part of those species which now provide the most costly and luxurious of wearing apparel. It seems reasonable to suppose that the Alaskan fox industry, in which \$100,000 is now invested, may be the beginning of a great and profitable business, the islands of Alaska being particularly fitted for the experiment, and very few of them are of the least value for any other purpose. It is thought by experienced fur men that it might be entirely feasible to introduce the Russian sable and other of the more valuable martin species into Alaska for propagation on the same lines as the fox experiment, and whatever the government can do in the direction of encouraging the development of fur raising, will be a step well and wisely taken. In one island bears are being raised, and the proprietor of the bear range has a dozen or more animals.