

two proposed bridges would suffice for the present, and the \$15,000,000 it is proposed to spend for the other could be used to better advantage in the construction of three or more tunnels of the kind suggested.

OUR EXPORTS OF IRON AND STEEL.

The most gratifying feature in the growth of the iron and steel trade of this country is the fact that a rapidly increasing proportion of the product of our furnaces and mills is being shipped abroad. In spite of the greatly increased demand at home, due to the present era of prosperity, and despite the steady rise in prices, our exports continue to grow at an increasing rate. The first ten months of the present year show an increase over the corresponding months of 1898 of about \$20,000,000, bar iron exports, for instance, having increased in quantity by 100 per cent, steel rods by 30 per cent, and steel sheets and plates by over 100 per cent; the greatest increase being in wire nails, of which we sold nearly 200 per cent more than in the preceding year. Thus our exports of wire for ten months rose from 135 million pounds in 1898 to 219 million pounds in 1899; steel sheets from 48 to 109 million pounds, and wire nails from 24 to 56 million pounds. The largest increase in value was in the exports of machinery, which rose in value from 12 million to 15 million dollars; builders' hardware coming next, with an increase from over 5 million to over 7 million dollars. The total value of iron and steel exports was for 1898, \$67,290,560; and for 1899, \$86,162,258. The present indications are that we shall sell to the outside world over \$100,000,000 worth of iron and steel and manufactures therefrom for the whole calendar year.

TROPICAL PRODUCTS OF OUR NEW POSSESSIONS.

The commercial possibilities which await the tropical island territories which have come into closer relationship with the United States during the past year in supplying a permanent and growing market in this country are suggested by the figures which the Treasury Bureau of Statistics has obtained of the importation of tropical and sub-tropical products into the United States during the ten months of the present year, compared with that of the corresponding months of the preceding year. They amount to no less than \$280,000,000, or an average of over \$1,000,000 for each business day of the year. The figures include raw silk, tea, rice, and the small portion of sugar which is manufactured from beets; but even if these be omitted, the total which would be clearly entitled to be classed as tropical products would exceed \$250,000,000 annually, including sugar, coffee, India rubber, fibers, tropical fruits and nuts, cacao, tobacco of finer grades, spices, dye woods, cabinet woods, etc. Curiously enough, all these articles can be and are now produced to a greater or less extent in the islands in question, sugar cane being grown in large quantities in Cuba, Porto Rico, Hawaii, and the Philippines. Coffee is successfully grown in all of the islands in question and at one time was a very important crop in Cuba as at present it is in Porto Rico, Hawaii, and the Philippines. Fibers of which the importations in the present year will amount to \$20,000,000 in value can be readily grown in all of the islands. The Philippines are already supplying the most important feature of our fibers, Manila hemp, which alone in the present year will amount to about \$6,000,000 in value.

THE AUTOMOBILE CUP.

The cup which has been recently presented to the Automobile Club, of France, by Mr. James Gordon Bennett is to inaugurate a series of yearly international contests between the different clubs of Europe and America, the winning club to hold the cup until beaten, as in the yacht races. This will form a yearly event which promises some interesting sport, as there is no doubt that the cup will be warmly contested by the different clubs. It is now in possession of the Automobile Club, of France, who will hold it until the first contest decides the winner. A series of rules have been established for the conduct of the races; the following is a résumé of them:

The cup may be competed for by all the clubs now on the official lists, which includes those of Belgium, Austria, Italy, Great Britain, Germany and the United States. Any club not on this list may be accepted by a majority of the clubs above named. To enter the competition, a letter should be addressed to the president of the club holding the cup, in which will be stated the number of vehicles to be entered, and other necessary details. The time fixed for the races is from the 15th of May to the 15th of August. Each club may send from one to three automobiles, these to belong to the class known as "voitures," as specified in the rules of the Automobile Club, of France, for 1899. According to this they should weigh, empty, more than 400 kilogrammes, and carry at least two persons, these placed side by side. A weight of 70 kilogrammes is allowed per person, this being regulated by the addition of ballast, as usual, to make up the 140 kilogrammes total. The 400 kilogrammes, representing the weight of the vehicle empty, is exclusive

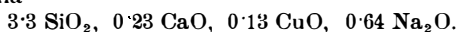
of combustibles, accumulators, water, baggage, etc. One of the rules is that all the automobiles entering the contest should be constructed in the countries represented by the different clubs. They are to be conducted by members of these clubs, the two places being occupied during the whole time of the race.

A committee of supervision is to be formed, and for this each club will be represented by a delegate; the donor of the cup is an honorary member of this committee. The necessary officers will be appointed, and also the starters, judges, timekeepers, etc.; these latter are not necessarily chosen from among the members. The races will be run over a route of 550 to 650 kilometers, with stages of not less than 150; they are to take place in the country whose club holds the cup for the year in question; if desired by this club, the races may be held in France, starting presumably from Paris. This will no doubt be carried out in a number of cases, on account of the fine roads in that country and from the fact that Paris, besides being a local center, has all the facilities for the care of automobiles.

Among other rules the most important is naturally that which concerns the winning of the cup; this is decided by the automobile which first crosses the line, and the club it represents will be declared victor. All communications in regard to these contests may be addressed to the secretary of the Automobile Club, of France, Place de la Concorde, Paris.

ANCIENT EGYPTIAN PORCELAIN.

It has often been a subject of question as to whether a veritable porcelain has ever been made by the Egyptians, the term including products which shall be compact and translucent. The French savant Brogniart, in his treatise on ceramics, concludes that all the samples of porcelain found in Egypt are of Chinese fabrication. M. Le Chatelier has lately made some interesting researches in this direction and has presented his results to the Academie des Sciences. Among the samples given him by an archæologist he has found a fragment of a funerary statuette coming from Sagarah, which he pronounces to be undoubtedly of porcelain; its hieroglyphics leave no doubt as to its fabrication in Egypt. The paste is translucent and of a pale blue color; in composition it presents marked differences from that of china. It is a veritable soft porcelain, its blue color being due to the addition of a small amount of copper. The experimenter has been able to reproduce a substance which resembles this very closely by making a paste of ground sand, 55 parts; white clay, 5 parts; and a special blue glass, 40 parts. This latter was made up according to the formula—



This paste when baked at a temperature of 1,050° C. yields a pale blue mass which turns to green when the temperature is raised above 1,200°. It is to be remarked that by reason of the feeble proportion of clay in the composition, the wet paste is plastic only in a feeble degree and for this reason could not be used for molding objects except those which took a compact form, such as the statuettes referred to.

RAILWAY SAFETY APPLIANCES.

The Interstate Commerce Commission, on December 6, gave a hearing to the representatives of the several railway companies, asking for a further extension of the time allowed them to equip their lines with safety appliances, under the act of March 2, 1893. Two years ago the Commission granted an extension until January 1, 1900, and the present extension desired is one year. Representatives of a hundred railways were in attendance, as were also representatives of labor organizations. The President of the Baltimore & Ohio Road, acting as chairman, representing eighty-eight other roads, having 80,000 miles of line, made the opening argument. He said that on June 1, 1899, 211,268 freight cars out of a total of 2,268,000 engaged in interstate commerce were not equipped with safety appliances, but since that time the number has been reduced to between 150,000 and 175,000. He stated that the railroads had done as well as could be expected, and some of the cars not equipped were so old that they would go out of service within the coming year, and the present withdrawal of 175,000 unequipped cars would practically paralyze interstate commerce. Other railroad officials also spoke, advocating an extension of time.

"ADVANCE SHEETS" OF THE GERMAN CONSULAR REPORTS.

To satisfy the numerous demands from German manufacturers, exporters and Chambers of Commerce, for an improvement in the information service of the German Consular Bureau, the Imperial Government has recently begun to publish pamphlets containing extracts from Consular Reports and other interesting matter. It is entitled "Advices for Commerce and Industry," and is something between the daily "Advance Sheets" issued by our Department of State and the monthly "Consular Reports." It is very gratifying to know that our Consular Reports and methods are considered abroad to be worthy of emulation.

NEW YORK'S TRADE IN WILD ANIMALS.

With the approach of cold weather all wild animals move into their winter quarters, and following the custom of their class the animals held in captivity in museums and circuses take up their abode in warm, steam-heated cages prepared for them. During the summer months many of them have been traveling about the country on exhibition, and others have been browsing in the numerous parks and private summer menageries just outside of large cities. The demand for wild animals for small parks in summer is quite general, and dealers in wild creatures make quite a fair profit in renting them out during the dull season. But as winter approaches, most of the animals return to the cities for exhibition in their regular quarters, where an eager public is always willing to pay a small fee to gaze at them.

The trade in wild animals has been unusually brisk for several years now, and the importations have steadily increased. In spite of this, however, prices instead of advancing for most of the animals have fallen; the reason for this is attributed to the fact that expeditions for capturing wild animals in their natural homes are more numerous than ever before, and they are better equipped for their work than in the past. Consequently more wild animals of nearly every description come to the civilized countries in captivity than in the days of Nero, when imperial Rome boasted of thousands of wild animals caged in its confines. While it is generally reported that many of our wild beasts are rapidly being exterminated, it is nevertheless true that they will never become extinct so long as their kind can be bred in captivity. This is now an accomplished fact with nearly all of the birds and animals.

This success of breeding in captivity is noticeable among lions in particular, and from present indications there is little danger of these felines becoming extinct. The importation of lions has almost ceased because it is cheaper and easier to breed them in captivity. Formerly an importer of fine lions could calculate upon getting \$5,000 for a good specimen, but to-day young lions bred in captivity are almost a drug in the market. The only demand for imported lions is to keep up the stock of the breeding ones, or for very large, powerful creatures, for it is noticeable that the tendency in cage-breeding is for the animals to degenerate in size and ferocity. Tigers do not take as kindly to cage life as the lions, and they do not breed so satisfactorily in captivity, and considerable numbers are imported every year. Elephants do not breed well in captivity, not more than two or three ever having been bred in this country, but the importations of these animals is so large that the prices obtained for them have dropped from \$10,000 to \$1,500 to \$2,500 each.

Numerous as monkeys are in this country, they are not bred here, as they do not breed well in captivity. They are so easily obtained in the country south of us, however, that prices obtained for them are merely nominal, and there is little danger of their immediate extinction. In their native countries they multiply so rapidly that the supply always keeps well up to the demand. Among the highest priced animals of to-day are the rhinoceros. There are quite scarce, and they do not breed in captivity. There are probably not more than half a dozen in number in this country; all were bought years ago at good round sums. Thus the full grown one in Central Park cost the department \$7,000, and a similar sum was paid for the fine African specimen in the Philadelphia Zoo. The most recent purchase of a rhinoceros was the full grown one for Barnum's circus, which cost the proprietors \$7,250.

The hippopotamus is another extremely rare and expensive creature, and sales of these African products are so few that it is difficult to quote a price for them. It is seldom that dealers have a good specimen to sell, and few private circuses could afford to give the prices that would be demanded. The hippopotamus born in Central Park is the only instance of these animals breeding in this country. Had this baby hippopotamus belonged to a private show, it would have made a fortune for its owners.

Snakes and birds form a large part of the animal importer's business. These creatures come in great numbers from India, Africa, and South America. The public is peculiarly fascinated by snakes, and they are among the most popular creatures exhibited. The best specimens of reptiles come from India, and a snake twenty feet or more in length is worth considerable money. In a cage it is the size of the snake more than its venomous qualities that attract, and a large boa constrictor or python is worth more than a rattlesnake of smaller size.

Exporting wild animals was formerly quite an extensive feature of the trade in these creatures, but owing to the scarcity of our large animals this feature of the business has fallen off. A young American bison can now be exported and sold for \$1,000, and American elk, moose, and caribou have good market demands in Europe. Our Florida diamond-back rattlesnake and the alligator have a fair market demand abroad, and good specimens are occasionally shipped to foreign dealers to fill orders. G. E. W.