

Marconi has always been extremely conservative in his estimate of the range to which his system may be extended in the future, the rapid increase in distance covered which has taken place in the past twelve months gives hope that the limit is far from having been approached.

THE NEW FRENCH LINER "LA SAVOIE."

So rapid is the increase in the fleets of the great transatlantic companies that the advent of a new, first-class vessel ceases to cause the decided sensation which marked the arrival of such a vessel only a decade ago. This falling off of public interest is not due to any decrease in the size, speed or appointments of the modern liner, but merely to the rapid succession in which the new vessels make their appearance in New York Harbor.

Of recent years all the leading companies have added to their fleets, either singly or in pairs, high-speed vessels which have been a great advance upon any previously owned by these lines. First came the "City of Paris" and the "City of New York," of the old Inman and International Line; then followed the "Teutonic" and "Majestic," of the White Star Line; the Cunarders "Campania" and "Lucania;" the North German Lloyd "Kaiser Wilhelm;" the White Star liner "Oceanic," and the Hamburg-American "Deutschland." The latest pair of crack ships to sail for New York are the "Lorraine" and "La Savoie," of the Compagnie Générale Transatlantique. The first-named made her maiden trip to this port last year, at which time she was described in our columns. The sister ship, "La Savoie," has just completed her first round voyage, and has taken her place in the front rank for speed, by crossing the Atlantic at an average of 21½ knots an hour, her speed developed on trial having been more than a knot greater than this.

The vessels of this company do not reach the great proportions of those of the German and English lines, and this simply for the reason that the capacity of the port of Havre, both in respect of depth of water and dock accommodations, puts a limit both upon draft and length. As a matter of fact, "La Savoie" has the largest dimensions that can be accommodated at the French port, as 5 feet more of length and a foot or two more of draft would shut her out of the docks altogether. "La Savoie" is 580 feet in length over all; 60 feet in beam; she has a depth of 39.6 feet; there are six decks, and she is built with sixteen transverse and one longitudinal watertight bulkheads. The motive power consists of two sets of triple-expansion engines, each engine having one high-pressure, one intermediate, and two low-pressure cylinders. The shafts are of nickel steel; the propellers measure 21 feet 5 inches in diameter and are three-bladed, the blades of bronze and the hubs of cast steel. On the trial trip "La Savoie" developed over 22,000 horsepower, and attained a speed of over 22½ knots an hour. The displacement of the vessel is 15,300 tons. There is accommodation for 446 first-class passengers, 116 second-class, and 400 third-class. The dining rooms, both first and second-class, are located on the main deck, and the smoking rooms on the promenade deck. The passenger accommodation includes many novel features, the most striking and commendable of which is that every stateroom has at the head of the bed a telephone communicating directly with the steward's room. This is a step in the right direction which will commend itself to all who have had any experience in ocean travel; it remains for some company to introduce elevators in order to bring ocean travel literally up to the comfort and convenience of first-class hotels on shore. That important feature of the modern liners, the decoration, has been carried out with the quiet taste which is characteristic of all French work of this kind. The external appearance of the ship is decidedly handsome. She has a graceful sheer, and the location of the smokestacks and the masts has evidently been determined with an eye to giving a well-balanced effect in a broadside view of the vessel.

GERMANY'S COMMERCIAL DEPRESSION—ITS CAUSES AND EFFECTS.

The British Foreign Office has received from its Consul-General, Mr. Francis Oppenheimer, at Frankfurt-on-Main, an interesting and exhaustive report dealing with the commerce and trade of Germany. Therein the Consul gives an elaborate résumé of the remarkable and rapid progress of the country within the past few years, and its present unsatisfactory condition.

Germany's industrial progression started in the year 1894, and until 1900 continued with wonderful uninterruptedness. The demand for German articles was prodigious, and orders accumulated and increased so rapidly that the markets of the world were flooded with the products of German industry. Prices, however, remained normal, and the extraordinary sale of German goods was probably due to the low price. In 1900, however, occurred a famine in coal and iron, which constitute the fundamental bases of all indus-

tries. Considerable anxiety ensued as to what would happen, and several interesting debates were held in the Imperial Diet concerning the question. Public confidence, however, was restored, and a continuance of prosperity was anticipated.

The Consul-General advances two reasons for the justification of this opinion. "There has been," he states, "a remarkable increase in the number of industrial enterprises, the result of which was fresh and more work for great and small industries." The other reason resulted from "the formation of numerous syndicates." As this country is the land of trusts, so Germany is the country of syndicates. There is scarcely a ramification of trade the members of which have not combined for the regulation and control of prices, and even the quantity of output has been regulated by them. Protected by tariffs the syndicates have been enabled to inflate their prices to that limit which just renders foreign importation and competition impossible. Another means of preventing foreign competition is that the syndicates refuse to supply any customers who purchase similar articles from foreign manufacturers. The retailer must obtain all his goods from the home manufacturer, or be boycotted. The result of this industrial despotism is that the retailer is considerably limited in the choice of his source of supply, while the foreign competitor finds no market for his goods. Another serious phase of the situation is that the home retailer discovered that while he was paying tremendous prices for his goods, the same articles were being placed upon the foreign markets at a ridiculously low figure, which absolutely precluded the manufacturer from reaping any profit. In short, the retailer was not only paying dearly for his goods, but he was also paying for the loss that the manufacturers were incurring in the foreign markets.

Such a condition of affairs could have but one outcome. The inevitable result has ensued. The manufacturers, secure from foreign competition by the protective tariffs, have increased their prices to such an extent that now they have attained an unenviable and absolutely untenable position. The retailer refuses to pay the exorbitant prices, with the result that the demand has considerably decreased. The commercial depression which at first was considered to be only temporary in character has now developed into a matter of grave importance. In the early part of 1900 it was impossible to obtain sufficient labor to cope with the orders in hand. Now it is difficult to find adequate work for the laborers. Some industries, such as coal mining, are still fully occupied, but others, such as the iron trade, are experiencing serious times. The staffs are being considerably reduced, and wages are declining. Unless something unforeseen happens in the near future to revive the prosperity of the country serious situations will develop. The unemployed problem will become acute. The government has endeavored to save the situation by levying new tariffs and increasing old ones, but reprisals from other countries are promised if such drastic measures are enforced. And for all this the syndicates are entirely responsible. Had they not assumed such an intolerably despotic attitude no such crisis would have developed. Money has become so dear that it is impossible for any profits to be made. The first industry to suffer from this tendency was the building trade. Builders were unable to raise on mortgages at a rate that would leave them even a small margin of profit. The result was that work in this line came to a standstill. Cessation of work in this trade affected the iron, glass, cement, stone, and cognate industries. Once the canker set in it has rapidly spread, and all efforts to stem the tide of depression have so far been completely nullified. The public have now painfully realized that the syndicates have failed to bestow those benefits which for times of trouble had in theory been anticipated, and their power and influence on the markets is now regarded more as an evil rather than a blessing.

The Consul-General opines that the high-water mark of German prosperity has been attained not by chance, but systematically and scientifically, and he states that Germans may well be proud of what they have achieved in comparatively so short a span of time. He advances, however, a word of warning. The increase of the tariffs will result in the absolute exclusion of the foreigner, while the syndicates will take immediate advantage of the augmentation of the customs to increase their prices. The British exporters have felt the effect of the tariff considerably, but they are now surmounting the difficulty in the only possible manner, and one that is likely to affect the syndicates very severely. Several British manufacturers who cannot manufacture their goods in England to sell them profitably in Germany are establishing branch works in Germany. They can there compete with the syndicates upon their own ground and upon the same terms. The English manufacturer now undersells the syndicate at a price which is highly profitable to himself, and since he has to recoup no losses incurred by forcing another or foreign market, it cannot be described as unfair competition. Already several British firms

have branch works in Germany, and, owing to the success that has attended this policy, several other firms who have hitherto had an extensive trade with Germany, but which has been killed through excessive tariffs, are emulating their efforts. When this competition becomes sufficiently powerful the syndicates will experience serious times and will eventually be crushed. The English firms may suffer somewhat in the output of their English factories owing to the establishment of such branch works, but it will enable them to direct their attention to new markets, where there is no opposition by heavy protective tariffs.

The Consul-General strongly condemns the policy of organizing industries into syndicates or trusts. The home country must be the sufferer in the long run, as Germany has now found out to its cost, and eventually such combinations will be killed, and the home trade pass more completely into the hands of the foreigner.

SCIENCE NOTES.

A deposit of prehistoric ivory has been discovered in Alaska.

M. Deutsch, the donor of the hundred thousand francs prize for the aeronaut who succeeds in making the trip from St. Cloud to the Eiffel Tower and return in thirty minutes, is considering the advisability of modifying the original conditions, owing to the danger of maneuvering over Paris. The line of route may be changed so as to go around Mt. Valerian, starting and returning to St. Germain, Paris.

J. B. Nagelvoort has recently stated (Nederl. Tijdsch. v. Pharm.) that colchicum flowers contain as much as 0.1 per cent of colchicine, which is nearly ten times as much as has been hitherto found. Since, however, he has merely relied upon color reactions for the alkaloid, and does not appear to have determined its melting point, the statement must be accepted with reserve, since the purity of his alkaloid is open to question.—Pharm. Zeit.

The Colorado Cliff Dwellers' Association is making every effort to preserve the ruins which lie on the Mesa Verde, in southwestern Colorado. There are from three hundred to four hundred cliff dwellers, including the cliff palace on this Mesa. As these ruins are in the Ute Reservation, the state and national government does not have any direct control over them. A ten years' lease has been obtained by the association from the Ute chiefs. The Secretary of the Interior has ratified the lease, and the association now has charge of the ruins. A toll road will be established, and the money received will go in part to pay for the rent which the Indians receive and also to keep the ruins from weathering and to protect them from vandals.

H. Causse has previously stated that contaminated waters have the property of restoring the color to Schiff's reagent and of giving an orange color with sodium para-diazo-benzo-sulphonate. He now finds that pure waters will restore the color to hexamethylene rosaniline decolorized by sulphurous acid, while polluted waters give no color with the reagent. The reagent employed is hexamethyltriamidotriphenylcarbinol, known commercially as "violet crystals." It is employed in the form of a 1 per mille solution in water saturated with sulphurous acid. One hundred c.c. of the water to be tested is placed in a stoppered flask, and 1.5 c.c. of reagent is added. If the water be pure, a violet ring is formed on the surface, which gradually permeates the whole liquid. Another quantity of the water is heated to 35 to 40 deg. C. in a stoppered flask for two hours, and then cooled; this, treated as above, gives the violet reaction, but much more intensely if the water be pure.—Comptes Rend., 133, 171.

An important and enterprising scheme which will do much to foster commercial relations between Russia and England is to be made by a number of Russian agriculturists and dairy producers. At the present time the major portion of the butter imported into England comes from Denmark, but a large quantity is also supplied by Russia. The latter country is now to attempt to obtain the monopoly in this supply. A direct butter trade between various parts of Siberia and England is contemplated, and to accomplish it a number of landed Russian proprietors and traders from various parts of the country are going to visit England to study the requirements of the English nation with regard to this commodity and other dairy produce. The deputation will be under the direction of Prince Sherbatoff, president of the Moscow Agricultural Society. They will visit farms, dairies and cattle-breeding establishments in England, so as to become thoroughly familiar with the English method of farming and to carry out the same schemes as far as practicable in their own country. By this means the trade relations will be considerably improved between the two countries, and it will lead to a larger demand from Russia for English agricultural machinery.