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NEW YORK, SATURDAY, APRIL 5, 1902.

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.

RECENT FIRE LOSSES IN AMERICA.

Is it not strange that with our cities equipped with fire departments that are universally conceded to be the best in the world the fire losses should reach such enormous totals as they sometimes do? Thus, a compilation by The New York Journal of Commerce shows that during the month of February the fire loss of the United States and Canada reached the stupendous total of $21,010,500. It is true, February was the month in which the great Waterbury and Paterson fires occurred; but even the loss by these two conflagrations combined, if deducted from the total, leaves a fire loss for a single month of $15,000,000. It is evident that we must look elsewhere than to the equipment and efficiency of the fire departments for an explanation of these totals; and the explanation is to be found undoubtedly in the very lax building laws which have obtained in the past, especially in regard to fireproof construction. Only as adequate laws are drawn up and enforced can we expect the fire losses to be brought down until they bear a reasonable proportion to the property under insurance. An analysis of these losses would doubtless show that only a small percentage of them occurred in buildings that were built according to the accepted methods of fireproofing.

EAST RIVER BRIDGE NO. 3.

The first important step in the actual work of construction of the new East River Bridge, which is to be built not far to the eastward of the present Brooklyn Bridge, and which has hitherto been known officially as Bridge No. 3, was recently taken when the first caisson was towed into position at the site of the pier off Washington Street. Like those which were sunk to carry the towers of the new East River Bridge, this caisson is built of timber; but while each of those towers is carried on two separate caissons the new towers will be founded upon single caissons. The one in question is a truly gigantic affair as caissons go, the largest in the world, in fact, being 78 feet wide by 144 feet in length and 60 feet in depth. It was constructed upon the shores of the East River in Harlem, and when it was afloat it drew no less than 14 feet of water. It took four tugs to tow the caisson down the river, and in some places, where the currents made navigation more difficult, as many as seven tugs were required. Now that the caisson is in place, the work of sinking it through the overlying material of the river until it rests everywhere on solid rock will go forward continuously night and day. It is expected that it will be down to grade in about ninety days' time.

A HEALTHY DECADENCE.

The wave of pessimism which is passing over Great Britain as the result of her feeling the first phases of that stress of competition, which was bound ultimately to come upon her, does not seem to be warranted by the statistical facts of the last Board of Trade returns, according to which the foreign commerce of the United Kingdom during 1901 amounted to the enormous total of $4,353,585,000. The foreign trade of Great Britain is $750,000,000 greater than it was six years ago, and is now equal to $105 per head of population. These figures suggest that the "antiquated" British methods, of which we have heard so much recently in the public press, cannot be so altogether futile, especially when we consider that her foreign trade last year was more than double that of the United States. The total foreign commerce is made up as follows: Imports, $2,611,195,000; exports, $1,402,495,000; and re-exports, of foreign and colonial merchandise, $338,233,000. If to these figures be added a vast sum of $7,500,000,000, representing the total over-sea trade of the British Empire, we cannot but feel that the long-deferred decadence is at least a healthy and vigorous one.

SAFE EXPLOSIVES.

The recent disastrous explosion on the Subway gives particular interest to the test of a new blasting agent, joveite, which has just been carried out in the presence of the Chief of the Fire Department, a representative of the Bureau of Combustibles, the General Superintendent of the Subway Construction Company, and other engineers and specialists. The test was carried out at the Jerome Park reservoir, which is now under construction by Mr. McDonald the contractor of the Subway. The powder is a picric acid compound, which is so treated in the process of manufacture as to render it insensitive to shock and only capable of being detonated by a fulminate. In the tests a box of the explosive, which latter is a yellow odorless substance resembling coarse corn meal in appearance, was tested by hammering a number of 6-inch spikes down into the material. In another test a mass of the blasting agent was shot at several times with a revolver. A 50-pound case was placed on an anvil, and a 250-pound weight dropped upon it from a height of 40 feet; though the friction of the impact set the joveite on fire, there was no detonation. On the other hand, the power of the explosive was shown by placing about twice the amount of an ordinary shotgun charge in a mortar beneath a 62-pound weight, and detonating the same, with the result that the projectile was thrown 300 feet into the air. Not many days later a test of Masurite (another blasting agent) was held, and we understand that the same feature of insensitiveness to shock was manifested. There is no question that this class of explosives is eminently suited to blasting operations in the heart of the city, such as are now being carried on at the Subway, provided, of course, that these compounds prove to be perfectly stable, or not liable to chemical decomposition. A so-called "safety" explosive in a decomposed condition would be about the most dangerous article in existence; for "familiarity always breeds contempt," and the decomposed explosive would receive a freedom of handling which dynamite, with its acknowledged greater sensitiveness, would never be subjected to. If a perfectly stable, insensitive blasting agent can be produced, one that will keep indefinitely, we think the Subway contractors should give it a thorough trial.

THE WORK OF THE WEATHER BUREAU IN 1901.

The excellent service rendered by the Weather Bureau during the past year has been recorded by its chief in the report which he has just submitted to the Secretary of the Interior. The Bureau and its staff have time and time again demonstrated their usefulness, notably during the Galveston hurricane, one of the most destructive tornadoes that ever swept the country.

The work of the year has been more or less a continuation of that previously begun. Better means for obtaining ocean forecasts by international co-operation have been obtained. Three additional forecasting districts have been established. The last appropriation bill passed by Congress provides for three additional forecast officials, who are to take charge of these districts. The line of work pursued in previous years by the climate and crop service divisions was continued. Unfortunately, few persons realize how complete is the system adopted by the Bureau for the dissemination of information to the crop growers. Paid and skillful officials to the number of 1,200 outside of Washington report on all matters concerning weather, crops, climate, and statistics; at the central office in Washington 200 officials alone are employed; 180 fully equipped meteorological stations are centered over the United States and its dependencies, each conducted by trained officials; and in every State and Territory a central observatory is located, to which all subordinate officers in the State report, and to which all volunteers give their information. The telegraph circuits of the Bureau have been equipped with ingenious devices for the rapid distribution of daily meteorological reports. Temperature and rainfall reporters telegraph their data daily from the growing fields to certain cotton, corn and wheat centers. Storm-warning display men are stationed along the Atlantic, Gulf and Pacific coasts and in the lake region. A Weather Bureau man is to be found on the floor of every important board of trade or exchange in the country. He publishes weather and crop information, and chart, the weather report on a large map.

Particular attention has been given to the distribution of forecasts by means of the rural delivery. There are now 365 centers. Some 42,000 families in the farming districts are supplied with the latest weather protection. The rural free delivery places the frost and cold-wave warnings in the hands of those who can make the most valuable use of them.

In wireless telegraphy the Bureau has endeavored to secure a more powerful transmitter, a sensitive receiver, and a selective means whereby messages can be differentiated. The first of these problems has been successfully solved; the second is nearing a successful solution; and the third, although well demonstrated theoretically, has not been fully tested in practice.

The experiments conducted by the grape growers in France and Italy for the purpose of preventing hailstorms, by the use of explosives fired from especially designed cannon, has attracted the attention of the Bureau. It is the opinion of scientists both in America and Europe that hailstorms cannot be prevented by such means. With the experience of a few years ago with our own rainmakers before it, the Weather Bureau sees no reason for expending thousands of dollars in uselessly cannonading the heavens.

Of the minor work conducted by the Bureau, mention should be made of the installation of sixty new storm-warning towers and of the inauguration of the study of meteorology in the schools and colleges of the country.

COMING AUTOMOBILE ENDURANCE TESTS.

With the advent of spring, the automobilist feels the blood astir in his veins, and is seized with the desire to be out on the roads, testing and enjoying his new means of locomotion. As a result of this, there are to be several endurance runs. The first of them will take place on Long Island on the 26th of this month, under the direction of the Long Island Automobile Club. Steam vehicles, which were last year barred from this run on account of the non-stop conditions, will this year be permitted to enter, since they will be allowed to stop every 20 miles to take on water and fuel. Electric vehicles may be entered under similar conditions. Gasoline machines will be expected to make the 100 miles without a stop, including the climbing of a long hill at Roslyn. Carriages that go through successfully, without a penalized stop, at an average speed of between 8 and 15 miles an hour, will be awarded first-class certificates. The speed must be reduced to 8 miles an hour in passing through towns and villages, and stops made in compliance with the requirements of public safety will not be charged against a vehicle. The maximum speed limit of 15 miles an hour must at no time be exceeded. All gasoline and steam vehicles will have their fuel consumption accurately measured.

The Automobile Club of America will make a 100-mile endurance run from New York to Southport, Ct., and return, on May 30. The contest will be open to steam, gasoline and electric vehicles. The steam carriages will be allowed three stops for supplies. The electric vehicles will be divided into three classes, viz., carriages making the entire 100 miles without a change of battery, carriages in which a change of battery is made at the 50-mile point, and carriages in which batteries are changed twice at one-third and two-thirds of the distance. These are the first endurance runs in which there has been a class for electric vehicles, and it is to be hoped that the manufacturers will take advantage of it to show what their machines can do on long-distance work; for although American-made electrics are the finest in the world, no attempt has yet been made to show what they can do in long cross-country runs. England and France, thus far, hold the record in this respect. To obtain a first-class certificate, vehicles must not fall below an average speed of 8 miles an hour, or at any time exceed the speed limit, which is 15 miles an hour.

A motor bicycle endurance run from Boston to New York will be made by the Metropole Cycle Club of the former city. It is intended to take two days to cover the 200 miles, and the start will be made from Boston on the morning of July 4. The bicycles will be graded in classes according to the horse power of the machines, and they will be run under practically the same rules that obtain in automobile endurance tests. This will be a very interesting event, and will do much toward advancing the motor bicycle in popular favor and showing what it is capable of accomplishing in making a long-distance journey over roads that are not of the best.

Many of the other automobile clubs are planning race meets for Decoration Day. Among others, the newly-formed Hartford Club will have races at Charter Oak Park, in which Fournier is expected to contest. The Springfield, Mass., and the Indianapolis, Ind., clubs are also actively engaged in perfecting their plans for similar meets.

The Automobile Club of America expects to have another 500-mile endurance run in the autumn. The route followed this time will be from New York to Boston and return.

The series of events which are to be held in France this season at Nice promise to be of unusual interest. The principal event is the Nice-Abbazia race. As the necessary permission could not be obtained from the French authorities this year it was decided to hold the annual race in Italy, starting from Nice as tourists until the frontier is reached. The terminal point, Abbazia, is in fact in Austria. Accordingly the Austrian as well as the Italian clubs are greatly interested in the affair, and the King of Roumania, the Grand Duke of Luxemburg, the Prince of Austria, and other persons of eminence who are stopping at the seaside re-