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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.

## DR. COOK AND THE NORTH POLE.

To set a question mark, however small, against the message from Dr. Cook, announcing that he had reached the North Pole, would be to betray a spirit of ungenerous and captious criticism. The conditions of complete isolation which must necessarily surround the man who launches himself, with two native helpers, into that uncharted sea of eternal silence and frozen desolation, are such that the waiting world to which he returns—if he ever return—must needs accept his story of a successful quest without expectation of absolute verification or disproof. For the theoretical point which we call the North Pole lies, as was generally supposed, and as Dr. Cook has now proved, in a vast field of eternally drifting ice. Any monument set up by the explorer at the exact axis of the earth in attestation of his crowning triumph, would be carried steadily down over the dome of the world, to be ultimately lost in the more southerly seas, or cast up, with other flotsam and jetsam, on the northerly coasts.

In the interests of scientific accuracy there will, of course, be a subsequent verification, as far as it is practicable, of the distances covered and of the observations of the sun as taken, during this wonderful journey; but this investigation will not be made because of any doubt as to the actual presence of Dr. Cook, on the twenty-first of April, nineteen hundred and eight, at the North Pole.

The man who can look Death full in the face throughout all the cruel sufferings of a two years' search for the secret of the frozen North, is built upon lines too noble to admit of the slightest subterfuge or misrepresentation; and there are certain features of Dr. Cook's expedition, notably the total absence of ostentation in the manner of his setting out, which should at least have sealed the lips of those who have received the news of his success with outspoken incredulity.

Most of the great achievements of science, whether in the way of invention or discovery, may be regarded as the total result of the separate efforts of individual men. To some one among the many it has been reserved to win the coveted goal and have his name written forever above its portals; and he above all others realizes, and is only too glad to acknowledge, how greatly his success is due to the unrewarded labors of his predecessors. Each unsuccessful seeker for the North Pole gathered his quota of valuable experience, and the facts as thus recorded have been of priceless value to those who came after. Dr. Cook, himself an Arctic explorer of no little experience, will be the first to acknowledge his indebtedness to that splendid band of men, beginning with Sir. John Wiloughby in 1553 and ending with Peary, who blazed the way for his own magnificent success.

## THE TRANSATLANTIC RECORD.

It has been stated, and with much truth, that the degree of perfection of a country's transportation facilities may be taken as a fair measure of its industrial and commercial development; and from the very first it has been realized that the value of any system of transportation is dependent very largely, and in some cases primarily, upon its speed. Hence, there has been a constant effort to obtain the highest possible speed compatible with consideration of safety and reasonable economy. Because of the old-time dangers and the, to many people, present-day inconveniences and discomfort of ocean travel, the attainment of high speed has been nowhere so eagerly striven after as on the great oceans which divide continent from continent, and particularly on that

three-thousand-mile stretch of water which lies between the old world and the new.

The contest for what has popularly come to be known as the "Blue Ribbon" of the Atlantic has always possessed a certain fascination for the public, both for those who frequently make the crossing and those who never go at all. The interest dates from the days, in the early forties of the last century, when the "fliers" of that time were fighting it out between themselves at a speed of ten knots, down to the present day of turbine-driven liners that can reel off their 650 knots a day at speeds of twenty-five to twenty-six knots.

When the first line of steamships to cross the Atlantic on a regular schedule of sailing was established, now some seventy years ago, it took about fourteen days to make the trip from Liverpool to Boston. The first vessel to cross in less than ten days was an American boat, the "Pacific" of the famous Collins Line, which performed the feat in May, 1851. It took another twelve years to reduce the passage below nine days, the "Scotia" making the passage in eight days and three hours, in 1863. To the Inman, now the American Line, is due the credit of bringing the passage below eight days, a feat accomplished in 1869 by the "City of Brussels," in seven days, twenty-two hours, three minutes. The seven-day limit was first passed by the "Alaska" of the Guion Line, which made the trip in 1882, in six days, twenty-two hours; and seven years later, in 1889, the "City of Paris" of the Inman Line, now the "Paris" of the American Line, brought the record below six days, by making the crossing in five days, nineteen hours and eighteen minutes.

It was not until the advent of the steam turbine that the record was brought below five days, the "Lusitania" accomplishing this feat in 1907 by crossing to the westward in four days, nineteen hours and fifty-two minutes. In the two years that have intervened since then, changes have been made in the propellers of both boats, which have considerably increased the speed; and on her last trip, concluded on September 2nd, the last-named vessel, crossing at an average speed of 25.85 knots, covered the Atlantic course in four days, eleven hours, and forty-two minutes, thus bringing the record for the first time below four days and a half.

The question has been raised as to whether this high speed is not gained at too great a cost. For it is a fact that both the "Lusitania" and "Mauretania" burn on an average about one thousand tons of coal per day. The answer is that, although the aggregate consumption is large, the amount of coal burned in proportion to the size of the vessel is no larger and indeed not as large as that burned by the other fast Atlantic liners of less total displacement. Thus the "Deutschland," of 23,500 tons displacement, when steaming 23.5 knots, burns about 570 tons per day, which is over one-half the consumption of the "Lusitania," whose displacement is nearly double that of the "Deutschland," and whose sustained sea speed is about two and a half knots greater. Moreover, there is a large and ever-increasing number of people who, either for business reasons or because of a dislike of ocean traveling, are perfectly willing to pay the higher rates which are necessary to make these high-speed vessels pay. Furthermore, the advantage in the acceleration of mail service, alone, is probably in itself sufficient justification for cutting down the time of transit between New York and London by twenty hours, as compared with other routes. For the adoption of Fishguard, on the west coast of Wales, as a port of call, and the installation of a service of fast steamer trains between that port and London, made it possible for the mails and passengers, on the last trip of the "Mauretania," to leave New York at 10 A. M. on Wednesday and reach London at twenty minutes past 7 on the following Wednesday evening.

As to the possibilities of the future, it can safely be predicted that the question of bringing the transatlantic record below four days, is one of finding some new form of motive power. It will never be accomplished by the turbine-driven ship. Whether the producer-gas engine can be developed to a point of compactness and efficiency that will enable it to perform the feat, is a question which the future must decide.

## ECONOMIC LOSS OF OVERCROWDING.

That the present overcrowding in the congested and poorer districts of our cities is to be condemned on humanitarian grounds goes without saying. The suffering which results therefrom, the multiplied miseries, not merely of the poor, but of a considerable section of the artisan class, of the tenement districts forms one of the most tragical phases of modern city life. All of us who have given any thought to the matter, are convinced of this; but it is reserved for the social economist to show that the discomfort, suffering, and death directly resultant from overcrowding, represent also a great annual monetary loss.

The method of stating the evil results of disease and accidents in dollars and cents has come into

vogue of late years, and although the practice has been made the subject of some criticism and ridicule, we consider it is justified on sound economic grounds. A recent analysis of this character is the statement issued by the Committee on the Congestion of Population, which estimates that the annual economic waste in this city from certain preventable diseases has reached the high figure of between \$37,000,000 and \$41,000,000. This estimate is based on the loss of time of the wage earners through illness and death, which are traceable largely to congestion of population. The Health Department has made the following classification of preventable diseases: Typhoid fever, pneumonia, broncho-pneumonia, diphtheria, smallpox, cerebro-spinal meningitis, diphtheria and croup, measles, scarlet fever, whooping cough, diarrheal diseases, tuberculosis pulmonalis. The committee argues that if the above diseases are preventable, and the economic waste of the community in the way of loss of wages, etc., amounts to \$40,000,000 a year, it would be the part of wisdom to make a more careful study of the predisposing conditions, and particularly of means to prevent overcrowding.

In arriving at the above estimate, it is considered that the prospective earnings when death occurs between the ages of 20 and 69 have an average value of \$2,000 for men and of \$1,000 for women. For the four years from 1905 to 1908, it is estimated on the above basis that the waste from death, due to certain preventable diseases in New York, may be conservatively estimated at over \$95,000,000, and that the economic waste from sickness due to these same diseases may be placed at over \$71,000,000, making a total economic loss of over \$166,000,000.

## THE ELIMINATION OF GRADE CROSSINGS.

Although the advent of the automobile has attracted public attention in a most tragical manner to the peril of railroad grade crossings, the loss of life among the users of automobiles represents only a certain proportion of the annual number of fatalities due to this cause. The time will come when our increasing regard for the sanctity of human life will lead, either to a total abolition of crossings at grades, or to such an ample protection as will place the responsibility for accidents of this character almost entirely upon the highway traffic, whether pedestrian or vehicular.

There are at the present time in New York 10,544 points at which railroad tracks encounter public highways, and at 1,698 of these points the crossings at grade have been removed. The protected crossings number altogether 3,676, distributed among the different railroads according to the following percentages: Long Island Railroad, 51; New York Central, 43; Delaware, Lackawanna & Western, 42; Erie, 31; Delaware & Hudson, 30; New York, Ontario & Western, 30; Lehigh Valley, 20.

During the last five years the different railroads, with the assistance of the State and municipalities, have been actively engaged in reducing the number of grade crossings on their lines by either elevating or depressing the tracks. These grade crossings have been reduced in certain percentages of the total from 22 on the Long Island Railroad down to 10 on the Delaware & Hudson Railroad.

The work outlined by the Long Island Railroad Company includes the removal of 14 grade crossings on the line to Manhattan Beach, 45 grade crossings on the Bay Ridge line, the elimination of some very dangerous crossings on 14 streets by the construction of a tunnel under East New York Hill, and the removal of some 203 grade crossings in Queensboro. During the last Legislature a bill authorizing the city to share the expense of removing these last-named crossings failed of passage; indeed, for the first time in many years, the Legislature at its last session failed to make any appropriation for continuing the work of grade crossing removal in this State. Up to the present time, the Long Island Railroad has spent \$12,500,000 in improvements involving grade-crossing elimination, while the city's share in the improvements involved the expenditure of \$3,750,000. The company is prepared to spend an additional \$6,000,000 in getting rid of the 203 crossings at grade which still remain in Queensboro, provided the city would continue its former policy of contributing one-half of the expense.

In view of the fact that grade-crossing removal not merely eliminates a most serious menace to public safety, but that the elevation of the tracks results in a quickening and all-round improvement of the train service, it would seem that there are very good reasons why the Legislature should enable the city to continue its former policy of contributing to a work which may be justly considered as a public improvement. The city, of course, should never have allowed the tracks to be laid through the streets at grade in the first instance. On the other hand, a large proportion of the mileage, now lying within city limits, was surrounded by open country when the rails were first laid.