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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.

## RAILROAD ACCIDENTS HERE AND ABROAD.

The truly horrible head-on collision that occurred a few days since in Canada, in which twenty-eight people lost their lives, serves as a shocking reminder that in the matter of safety of railroad travel we have a great deal to learn on this side of the water. Nor is it to the point to argue that because a railroad passenger has to travel so many million miles before his single chance of being killed comes round, railroad travel is as safe as it can be made. The true test of perfection of our railroad safety appliances is to compare our accident statistics with those of some other systems—to take the highest standard of attainment, and endeavor to live up to that. During the past year on all the railroads of the United States, 167 persons were killed in railroad accidents (collisions, derailments, boiler explosions, etc.) and 3,586 passengers were injured. During the same period on British roads not a single passenger was killed and only 476 were injured in railroad accidents. If it be argued that we have nearly 200,000 miles of track in this country as against 22,000 in Great Britain, it must be answered that the liability to railroad accidents increases with the density of traffic. That is to say, the risks of collision, etc., are greater the greater the number of trains that pass over a given stretch of line in a given time. Now, here again statistics prove that the density of traffic over English roads is far greater than that over our own, so that when we have taken this into consideration, we find that the difference in safety of travel is even more marked than the mere statement of the relative total number of persons killed and injured would suggest.

Our railroads have done much of late years in the way of introducing the block signal system, and yet, as was stated recently in our Transportation number, out of nearly 200,000 miles of track, not more than 25,000 miles or about one-eighth is so equipped. Two of the most prolific causes of accident are the use of single track for trains traveling in opposite directions (it was on single track that the recent collision occurred) and that most unreliable system of safeguarding a stopping train by sending back a rear flagman. The first condition we can only hope to remove gradually as the increase in density of traffic warrants the laying of double track; but it is obvious to the most unobservant passenger upon our railroads that, half the time, rear-flag safeguarding is worth very little in protection against rear collisions. Too frequently when the stop occurs the brakeman is engaged at his duties forward in the car and there is a loss of time before he can find his lantern or pick up his flag, reach the rear of his car, drop off, and proceed a reasonable distance down the track. The chance of his being unable to catch his train, if he proceeds back too far, is a natural inducement to the flagman to limit the distance between himself and the rear of his train, a tendency which very effectually defeats the object for which rear flagging was instituted.

One reason of the remarkable immunity from accidents in Great Britain is the fact that the matter of safety appliances is regulated by the Board of Trade under the able presidency of Colonel York, who has made a life-study of his task; and because of the absolute powers conferred upon him, the risk of injury has been reduced to a minimum, and, as the result shows, the risk of death was last year absolutely eliminated. If American railroad men are asked to explain the difference in results between the two countries, they point to the fact that in Great Britain signalmen, and railroad employes generally, remain in the service of the company and at one particular class of work for many consecutive years of service, and, consequently, attain remarkable skill and accuracy. Traffic conditions in Great Britain, moreover, are less variable, whereas in this country the volume of traffic varies greatly with the season of the year, and during the rush attendant on the moving of western crops, for instance; it is necessary to take on a large number of temporary employes whose services are discontinued when the rush season is over. Moreover, there is no

question that the sanctity of human life is held very much more sacred abroad than here. We are, or seem to be, willing, for the sake of lower cost and larger profits, to take those risks of life and limb whose results are seen in the long list of injuries and fatalities that are a conspicuous feature of our annual railroad statistics.

## PROPOSED INCREASE OF OUR NAVY.

It was inevitable that the present international complications over the Venezuelan affair should very forcibly direct the attention of the people of the United States to the question of the present strength and needed increase of the navy. It was just seven years ago that the affairs of this South American republic involved us in a very definite announcement of the Monroe doctrine, and contemporaneously with that incident it was brought home to the people of the United States that to maintain the position so definitely stated, it would be necessary for us to possess an adequate naval force. Even stronger argument than this was afforded by the Spanish war, which bequeathed to this country some widely-scattered foreign possessions, and rendered us vulnerable to foreign attack, where, before the incident, we might, by virtue of our isolation, have considered ourselves practically secure. It has been the invariable experience in the history of this country that naval appropriations can only be secured, or secured in adequate degree, under the menace of such international complications as are too obvious to be overlooked.

In view of the fact that the present Congress will probably deal with a liberal hand in granting naval appropriations, it becomes increasingly necessary to make sure that the ships authorized are of the type that is most pressingly required. While keeping a watchful eye upon the trend of design among foreign navies, and incorporating the best elements of these designs, we should, above all things, have an eye to our particular necessities—to the nature of the duties which will be required of our ships in view of the altered international conditions brought about by the two Venezuelan incidents and by the Spanish war.

When we commenced the construction of our new navy, we held no possessions not included within our Atlantic, Gulf and Pacific seaboard, and hence our first battleships of the "Oregon" type were very properly designed as "coast-defense" vessels. They were of moderate size, and coal-carrying capacity and speed were sacrificed to extremely heavy armor and armament. We had no designs on the sea coast or foreign possessions of other nations; and we wished to possess a naval force that should suffice for duties of a purely police or protective character. To-day, however, we find ourselves in close commercial and military touch with the whole world. Porto Rico to the east, Honolulu and the Philippines to the west of us, lie exposed, by virtue of their insular position, to the attack of any future enemy. Should it be our misfortune to be involved in another naval war, our battleships and cruisers can no longer elect to lie within easy reach of coaling stations, drydocks or repair yards. They must be prepared to steam far and fast, and arrive at a distant field of conflict with a reserve of fuel in their bunkers, and with a large enough ammunition supply to enable them to fight a successful engagement without having to steam back to some friendly port to replenish coal bunkers and ammunition rooms. At the same time it is desirable that our ships, when they meet the enemy, should be able to steam at a uniform speed, maneuver with equal facility, and present, ship for ship, an overwhelming superiority both for attack and defense.

Fortunately, in our latest battleships and cruisers of the "Connecticut" and "Tennessee" type, we have vessels which amply fulfill these conditions. Ship for ship they are probably more powerful than those of any other fleet. They carry an unusually large supply of ammunition and coal, and their speed, while not so high as that of some of the latest foreign ships, is, we think, ample for carrying out the naval policy outlined above.

When we come then to the question of the immediate needs of the future, we think that Congress cannot do better than authorize a certain number of battleships and cruisers of the exact type of these, our latest designs. To insure this desirable uniformity, or in other words, to insure that we shall possess at least one homogeneous fleet of battleships and another of cruisers, every vessel in each fleet being identical with the others, it would be well for Congress to follow the admirable German method and authorize an extensive shipbuilding programme to cover a certain number of years. A total number of ships, say a dozen battleships and eighteen or twenty cruisers, should be authorized at once, with the understanding that a certain proportion of these, say two battleships and three cruisers, are to be laid down each year, and the money necessary for that year's construction voted regularly for the purpose.

Only by such a method can we insure, first, that our

navy shall grow by regular increments, and not by spasmodic effort; and secondly, that the ships as they are completed, shall form homogeneous fleets with the material advantages which are to be secured by such homogeneity.

## TRAFFIC CONGESTION IN MANHATTAN.

In the public agitation over the congested condition of street-car and elevated-railway travel in the city of New York, it is difficult to secure a dispassionate expression of opinion from those who have suffered from the present intolerable condition of things. As between the traveling public on the one hand and the transportation companies on the other, it should be remembered that there is something to be said on both sides. That the present crowding is dangerous, distressing and productive of an enormous loss of valuable time; that it is irritating to the men and positively humiliating to the women passengers, no one who has witnessed the crowding during the recent holiday season in Manhattan and Brooklyn can for a moment deny. At the same time it is but just to the two transportation companies concerned, namely, the Metropolitan Street Railway Company and the Manhattan Elevated Company, to remember that the trouble has arisen just at the very time when both corporations were spending vast sums of money either in the enlargement or the reconstruction of their systems. The Metropolitan Street Railway Company has been steadily engaged for four or five years past in abolishing horse cars and equipping its lines with electrical traction. The Manhattan Elevated Company is in the midst of installing electrical traction on all its lines, and had this equipment been completed before the advent of the holiday season and the winter storms, the company would have been able to handle the crowds that flock to its lines with reasonable dispatch and comfort. Add to these facts that the travel in New York city is increasing by leaps and bounds, and we think that even the most aggrieved patrons of the roads must admit that there is something to be said on the side of the Manhattan companies in extenuation of the present congestion.

At the same time the companies must remember that the traveling public of New York that is now clamoring so loudly for redress is, and for years has been, known as the most patient and long-suffering in the world. Visitors from the metropolitan cities of Europe have time and again expressed their astonishment at the uncomplaining way in which the New York traveler endures the inconveniences of travel in the city. This being so, it may be taken for granted that when the public does give voice to its grievances with a unanimity and earnestness such as characterize the present agitation, it does so because it has very good reason to believe that the conditions are much worse than they need be. Now, while it cannot be denied that the transportation companies are doing a great deal to accommodate the growing traffic, we are also satisfied that they could, in some respects, do a great deal more.

In the first place, the demand of the citizens that a larger number of cars or trains be run between the rush hours of travel is a perfectly reasonable one. If there were a more frequent schedule during the late morning and early afternoon hours, there is no question that many of the traveling public would delay their entrance to the city, or hasten their exit, who now prefer to avail themselves of the more frequent service of the rush hours. There is absolutely no excuse for crowded cars between the rush hours. The policy of the companies has been apparently to reduce the number and frequency of trains or cars between the rush hours to a point at which these cars shall be filled not merely with seated, but with standing passengers. For this they should be called sharply to account. The public is fully justified in its complaint before the Railroad Commissioners against the too great reduction in the train service which takes place during this part of the day.

It is claimed by the management of the two roads that the frequency of cars in rush hours is governed by the number of cars that can pass certain intersecting points, or junction points on their systems in a given time. One of these points is at the intersection of the Broadway and Sixth Avenue surface lines at Thirty-fourth Street. In a conference between the Metropolitan Street Railway Company and the chairman of the Merchant Association's Committee on Franchise and Transportation, the committee made the very sensible suggestion that to avoid this intersection of traffic, north-bound Broadway cars should be turned into Sixth Avenue and north-bound Sixth Avenue cars into Broadway at Thirty-fourth Street. It is probable that at other points of intersection on both elevated and surface lines, re-arrangements of travel having a similar object in view, could be made. Another reform by which the frequency of trains and cars could be considerably increased would be by sandwiching in more short-distance trains among those which run the full length of the city. It is true, some sandwiching