Real Railroad Efficiency.

The following is an address delivered by Samuel O. Dunn, Editor of the Railway Age Gazette, at a dinner under the auspices of the Railroad Y. M. C. A. of St. Louis, August 15. It gives an excellent review of the railroad situation and is worth the attention of all Frisco employes.

The developments which have occurred in the world since the present titanic struggle between all the great nations of the earth began, have given to railways an entirely new place in warfare.

It was fully realized when the conflict commenced that railway transportation would play an important part. It seemed to all military authorities, however, that the war could last only three or four months. It was therefore assumed that the principal work of the railways would be done when they had aided in mobilizing armies already organized and in concentrating munitions and other supplies previously prepared.

The wholly unforeseen duration and magnitude of the struggle have set at naught all expectations. It has become, not merely a series of fights between armies, like previous wars, but a supreme, pitiless test of the brute strength and courage, the scientific skill and resourcefulness and the economic efficiency and endurance of whole peoples.

In every successive stage of this awful trial of nations railway transportation has become a more important factor in failure or in success. General Joffre has said that "the battle of the Marne was won by the railways of France." He has also characterized this as "A railway war."

Why is it "a railway war?" First, because, without railways it never could have grown to the proportions it has: second, because having once assumed anything approaching its present magnitude, it could not without railways have lasted as long as it has; third, because on the efficiency of the railways of the various combatants, will largely depend the final outcome.

The struggle could not have attained the magnitude it has and lasted as it has except for railway transportation because without such transportation it would have been impossible to have massed such huge numbers of men within comparatively restricted areas, to have transferred them swiftly by hundreds of thousands from one front to another, and to have supplied them with munitions, supplies and foodstuffs drawn from the entire globe. The outcome of the conflict will depend largely upon the relative efficiency of the railways of the combatants because upon this will depend their relative success in continuing to supply their armies with the means of living and fighting, and their ability to put men, munitions and supplies precisely where they are the most needed at the crucial moments.

Napoleon said that God always fought on the side of the heaviest battalions. A hearer questioned this, calling his attention to the fact that he himself repeatedly had defeated armies greatly outnumbering his own forces. The great emperor replied that this did not disprove his statement, as he always maneuvered so that, regardless of disparity in total numbers, he always had the most men at the point where the decisive fighting occurred. Napoleon had to rely upon the efficiency of the legs of his soldiers for the success of his maneuvers. Railway engines and cars to a large extent are the legs of armies now; and the efficiency with which they are operated mainly determines who has the most men and supplies at the points where battles are lost and won.

The railways, together with the ocean steamship lines, are, besides, the lines of communication which connect the forces of destruction at the front with all the

near and remote sources of production from which are supplied everything used at the front for any purpose whatever. A clogging or impairment of the transportation systems of either side would be highly dangerous to it. A breakdown of the transportation systems of either side speedily would bring that side to its knees. If the ruthless submarine campaign should render it impracticable for us to send adequate men, munitions and foodstuffs to Europe we would not be a factor of consequence in the war. A similar result would follow if our railway system should break down, for men, munitions and foodstuffs must be taken to the seaboard before they can be taken to Europe.

The matter is even more fundamental still. In a country such as the United States, in which militarism has been unknown, immense armies must be newly raised and trained when war comes, and navies must be greatly increased; and every officer and man who enters the army or navy must be carried repeatedly by the railways before he finally comes into contact with the enemy. Cantonment and other training camps must be provided; and every pound of material which enters into their construction and of supplies that is sent to them must be carried by rail. Many naval, transport and merchant ships must be built, and the railways must handle all the material for them. Vast quantities of munitions and supplies must be manufactured; and the railways must not only handle them after they are made, but must move all the raw materials with which they are made. Finally, and in addition, the railways must handle the ordinary commercial traffic of the country, for if the products of the forest, the mine, the factory and the farm are not moved to market, the consumer will have to pay excessive prices, and perhaps go cold and hungry, the producer will be injured or ruined, the entire prosperity of the country will topple over, and that financial strength, on which we must rely for the money with which to carry on the war, and which is as necessary as, and is absolutely requisite to, military strength in modern war, will be destroyed.

In short, this is a "railway war" because it is the first war in history in which railways have played a part second in importance only to those played by armies and navies. It is our great good fortune that this fact was recognized in this country by our government and by the leaders in our railway affairs from the very moment that the United States entered the war. In consequence, in less than a week after war was declared a revolutionary step was taken to enable our railways to play their part. I refer, of course, to the adoption by the chief executives of the railways at a meeting in Washington five days after war was declared of a resolution to eliminate their competitive rivalries and operate all lines so as to secure the maximum efficiency—not for the individual railways themselves, mark you,—but for the government and the people. With characteristic energy and promptitude the heads of the railways there and then appointed a committee of five of their own number to supervise the operation of all lines in carrying out this resolution; and from that time to this moment no agency, government or private, in any way concerned with the war has rendered more energetic, unselfish, loyal service to the government and the people of the United States than the railways.

The committee of five, to whom the managers of all the railways delegated the function of supervising the operation of all their lines, has come to be familiarly known as the "Railroads' War Board." Many persons give the credit for the increases in efficiency and the various achievements of the railways since the war began entirely to this board. I would not say a word to detract from the praise given to the Railroads' War Board.

It is composed of five of the hardest-working, ablest, and most patriotic railway officers in America; and they have assumed and are successfully bearing a responsibility and a burden such as were never assumed and borne before by any other body of men in the history of railway transportation But, gentlemen, after all, the main credit for what has been done, is being done and will be done, by the railways, belongs to the railway managements and the railway employees of the country as a whole, from and including the War Board down through the chief executives of the individual lines to the humblest track walker.

The War Board was created voluntarily by the managements of the individual railways. Every shred of authority it has was given by them and can be taken away by them. No railway has to obey any order issued by it. The increase in the efficiency of the railways has been due to the correlation of their activities through this voluntary organization and to numerous constructive suggestions offered by the War Board and cheerfully and energetically carried out by the individual managements; and also to tremendous efforts which have been put forth on their own initiative by the managements and employees of railways in all parts of the country.

One of the most useful and indispensable functions which the War Board and its sub-committees have performed has been that of acting as an intermediary between the government departments and the large shipping interests, on the one hand, and the railways, on the other, and of bringing about the good understanding and close co-operation between them without which it probably would have been impossible for the railways to have done what they already have done, much less the greater things they will have to do before this war is over, if the United States is to exert its full strength in the conflict and at the same time remain prosperous.

Those who have not followed developments closely may naturally ask what have been the specific achievements of the railways in the war thus far? Before we can satisfactorily answer that question we must survey the conditions which prevailed in the railway field before our country engaged in the great struggle.

When the war began in Europe in August, 1914, our railways had just finished the most unprofitable fiscal year they had passed through in fifteen years. The next twelve months were even worse. During the two years ended on June 30, 1915, the sidetracks were crowded constantly with idle cars, and as lately as August 1, 1915, the number of idle cars was 260,000. Traffic and earnings had declined faster than it was possible to reduce operating expenses, and in October, 1915, all records for mileage of railways in the hands of receivers were broken.

Under such conditions expenditures for maintenance and for new equipment necessarily were drastically curtailed, employees were laid off by thousands, and both the physical properties and the organizations were reduced to a condition tending to unfit them satisfactorily to handle a largely increased traffic. And then suddenly, and almost without warning, in the fall of 1915, there came an increase in traffic which never had been equalled in the history of American railroads. Not only had the financial situation of the railways for some years rendered it impossible for them to prepare for this huge increase in traffic, even if it could have been foreseen, but it was accompanied by developments which rendered increases in facilities after it came extremely difficult to make. The prices of all kinds of equipment and supplies suddenly advanced to new high levels; manufacturers of such equipment and supplies were so overwhelmed with foreign orders, mainly from the governments of the belligerents, that it soon became impossible to get delivery

promptly on domestic orders; wages advanced, and it became impossible to get enough labor.

In spite of this situation the railways succeeded in handling the traffic pretty satisfactorily until the summer of 1916. Then a severe congestion, due to the enormous increase of export business, developed at the Atlantic ports; in the fall it became impossible to fill all the orders for freight cars; and in the winter and spring of 1916-1917 the unfilled orders for cars broke all records, in spite of the fact that the railways in every section of the country were actually moving a vastly larger tonnage than they ever had before. Since the managements of the railways have been severely criticized by some for not having met "normal requirements," it is well to call attention to the fact that in the calendar year 1916 they handled approximately 66,600,000,000 more ton miles of freight traffic than in any previous year, an increase of almost 25 per cent.

It was at the very time when the railways were having the greatest difficulties they had ever experienced in handling their traffic that the United States declared war against Germany. In every other country which had entered the war there had been very great increases in railway traffic and it was evident to government officials and railway officers that this would be one of the results in the United States. Since our unpreparedness was greater than that of any other country we would have greater preparations to make for doing our part than any other, and the effect probably would be to produce more railway traffic than had been the case in any other country. If so, how were the railways to handle it? They were overwhelmed with business already. How could they handle a large additional amount? They had neither time nor funds with which to make large increases in their facilities. If they were to handle successfully the largely increased traffic it was evident that they must greatly augment the amount of traffic handled with every yard, every track, every locomotive, every car and every employee. It was with two objects, first, that of giving the government the fullest and most loyal support of which they were capable, and, second, that of so increasing their efficiency as to enable them to handle the vastly increased freight traffic which they anticipated, that the managers of the railways formed the organization composed of the War Board and the various sub-committees of different kinds reporting to it, which have been created in all parts of the country.

As time has gone on developments have shown that the policy adopted, that of making a concerted, tremendous drive to increase the utilization of all existing facilities, was even more wise and necessary than was at first realized. This is not merely because the traffic has increased even more rapidly than it was expected to, but because the difficulties of increasing facilities have become much greater than was anticipated.

I have referred to the fact that the prices of railway equipment and supplies of all kinds have advanced greatly. A steel hopper bottom freight car which three years ago cost $800 today costs $2500. A Mallet locomotive which three years ago cost $36,000 today costs $102,000. Not only, however, has equipment become so much more expensive, but it has become the duty of our railways to their country and to humanity to get along with just as few new locomotives and cars, especially the former, as they can, in order that our locomotive and car builders may make as many as they can for our allies. The transportation system of Russia has practically broken down. One of the main things needed to enable that country to stay in the war is to provide her with 1,000 locomotives from this country before January 1, and with 2,000 next year. England and France

also will need within the next year 1,000 locomotives from this country. Now, the locomotive plants of the United States have a maximum capacity of only about 5,500 engines a year. If the railways of the United States should procure all the new engines they would need to handle their huge traffic in the same size carloads and train loads it has been handled in heretofore, there would not be enough engines to send to England and France, and especially to Russia; and if that should be the case, those countries would not be able to carry on the war with their maximum possible effectiveness. Russia might break down entirely, and in consequence the war would be prolonged, and it would be necessary for us to send hundreds of thousands, and perhaps millions more of our American boys to fight and die in the trenches than would otherwise be the case. So you see that, as I said, it is the patriotic duty of our railways to get along for the present with just as little new equipment as they can, and it is the patriotic duty of every railway employee and every user of railway service to help them do it; and the best way to limit the amount of new equipment is to get the very best and largest use out of the equipment already available.

Now, then, what has actually been accomplished by the railways under the direction of the War Board? Their achievements have been many, but in the time at my disposal I can give you only a partial list of the more important.

(1) They have pooled their box cars, thereby depriving the individual lines of the control over their own property and placing them at the disposal of all lines to be used or the benefit of the country as a whole. They have adopted new car service rules to bring about more free movement of the available car supply and have given their commission on car service authority to order cars moved from any point where they may be to any other point where they may be more needed. In the exercise of this authority, the Car Service Commission has ordered the transfer of 106,000 freight cars, chiefly from eastern to western and southern roads, and had reduced the accumulations of cars at eastern terminals and seaports from 145,000 in February to about 60,000 on July 1.

(2) The railways have given preference to the movement of fuel and materials that enter into the manufacture of steel, as well as materials entering into the manufacture of articles for government purposes, thereby helping the government to expedite its preparations for participating in the war. In the first three months after the Railroads' War Board was organized May, June and July—the railways handled 635,057 carloads more coal than they did last year, an increase of 28 per cent.

(3) They reduced the number of unfilled orders for cars from 184,000 on May 1 to 77,000 on July 1. That this reduction in the "car shortage" was due entirely to increased efficiency in the use of equipment is demonstrated by the fact that while in May the number of unfilled orders for cars declined 30 per cent the amount of freight traffic handled actually increased 16 per cent. During the month of May the roads handled 16 per cent more ton miles of freight than they did in May, 1916, with practically the same number of cars and locomotives. They were able to do this because in May, 1917, they handled an average of 1,205,852 ton miles of freight with each freight locomotive in service, an increase of 15½ per cent as compared with their performance in the same month of 1916, and they handled an average of 16,098 ton miles of freight with each freight car in service, an increase of 14 per cent over their performance in May, 1916. They have increased the average miles per car per day, the average tonnage per loaded car, the average miles per locomotive per day, and the