The Government and the Railroads

The Coördination of Two Hundred and Sixty Thousand Miles of Railroad for the Winning of the War

By J. Bernard Walker, Editor of the SCIENTIFIC AMERICAN

WHEN the President, through the Secretary of War, issued the proclamation and order by which a Director General took over the railroads of the United States, the immediate result in the stock market was a rise in values of the securities of the railroads. No finer vote of confidence in the government was ever voiced by the financial interests of the country, particularly when it is considered that General Order Number One particularly stated that all transportation systems covered by the proclamation would be operated as a national system of transportation, the common and national needs being in all instances held paramount to any actual or supposed corporate advantages, and that all terminals, ports, locomotives, rolling stock and other transportation facilities would be fully utilized to carry out this purpose without regard to ownership.

Of the many problems which government control of railroads raised for immediate solution, none were greater than those of public opinion and railroad opinion. Without a united public acquiescence in necessary inconveniences, and a feeling of real confidence in the need of the order, little constructive work could be done, and it is obvious that without railroad coöperation, the welding of many private interests into one public interest would be a slow and difficult task—and speed was an essential.

It was highly important that the railroad executives learn willingly and quickly to grasp the entirely new standpoint that all the railroads now constitute a single system to be operated so as to secure the maximum of transportation with the minimum of waste, and that even though the course of readjustment causes a particular railroad to lose certain sorts of traffic, this must be disregarded as an insufficient reason against the readjustment, if in other respects it is in the public interest.

There were those who prophesied failure, believing that the fear of permanent government ownership would cause many roads to lend less than a full measure of coöperation, in the hope that government operation would thus be a failure. They were wrong. The railroads have coöperated and the many different lines of this country stand today as a united single system, not because of the order or the organization effected since it was issued, but because of the patriotic spirit of coöperation with which the railroads have met a revolutionary situation.

It was obvious that the government must keep the existing personnel to operate the roads. Neither efficiency of operation nor public interest permitted any other course. Yet it was also natural that the general public would to some extent distrust the railroad manager trained in the competition of commerce when he became a government agent of a part of a government road which might, nevertheless, some day become a private road. The public naturally is apt to regard the high railroad official as imbued with the attitude of private management, no matter how disinterestedly those managers may be endeavoring to represent the public interest and nothing else.

Therefore, in outlining the policy of organization and the exercise of government authority, the three Regional Directors, who have charge of the three divisions into which the country has been geographically if arbitrarily divided for organization purposes, are making no changes which primarily affect the public, without the knowledge and sanction of the Director General.

The public has met the inconveniences which the mobilization of the railroads for war work has produced in a splendid spirit. The primary reason for the government taking over the roads was to end an intolerable

congestion, speed up freight, and move material and men—quickly. This has necessarily meant a curtailment of passenger trains, a revision of schedules, and inconveniences to the traveling public.

But no passenger trains have been discontinued without much careful thought—those changes in passenger schedules which have been made were necessary to enable the government to deal more effectively with war needs and war problems of paramount importance. Local and individual interests could not be permitted to stand in the way of the supreme need of the nation, which is to use all the facilities and resources of the country to win the war.

This winter's breakdown of passenger service in the East did not make a pleasant impression on the public; and official curtailment undoubtedly added both to this feeling and to the hardship. But the elimination of unnecessary passenger train service released much motive power, skilled labor, track and terminal facilities for the handling of coal and food and other supplies essential to the life of the people as well as to the successful prosecution of the war.

as far as possible, the financial side of railroad operation has not been interfered with. A delicate and well adjusted machine is best left alone until entire attention can be given to it, and at present much larger problems occupy the stage.

Not least among them is that of labor.

For some time there has been a growing spirit of unrest among railroad employees, in which has been blended a dissatisfaction with wages, with hours, and with some of the many phases of the relation of the employer to the employee. With many of the resulting disputes, in some cases ending in threats of strikes or lock-outs, the public is familiar. Many of these complaints and demands were brought to the attention of the Director General shortly after the assumption of the operation of the railroads by the government. They came in all forms, from various classes of railroad labor organizations and from various groups of unorganized employees of the railroads.

It would have been the worst possible policy to disregard these symptoms of unrest merely because the power of the Nation stood behind the present government control of railroads.

But the shaping of so big a thing as a government policy towards the many hundreds of thousands of its railroad employees takes time, and cannot be intelligently done without complete information. That information is now being gathered. Pending it, the Government has done everything it could do to impress on the railroads, from their presidents to their section hands, that in this time of great stress the attitude of every employee should be determined by the supreme need of the hour—duty to his country first of all. The Director General has everywhere emphasized the necessity for devoted and loyal service by every man in this emergency. Every railroad employee is now in effect a Government employee and as much in duty bound to give his best service to his country as if he wore the uniform of the United States Army and occupied the trenches at the front. Every unnecessary delay in a train movement vitally affects our soldiers and sailors and seriously impairs our ability to defend our rights and our liberties. Every man whose neglect or indifference causes such delays may be responsible for the loss of the son of some noble American mother or father. It is as serious to the country for any railroad employee to be a slacker in his work as it is for a man to

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A group of steam locomotives built for the United States government

A huge electric locomotive built for service in the Alleghany mountains

It is as impossible to weld many railroad systems, hitherto competing each with the other for business, into one smoothly working whole, without at least financial damage to some private interest, as it is to make an omelette without breaking eggs. But every effort has been and is being made, to cause as little inconvenience and trouble as may be. Thus, no changes in the present methods of accounting as prescribed by the Interstate Commerce Commission are required. Accounts were closed on December 31st and opened January 1st, 1918, in the same manner as they have heretofore been handled at the close of one fiscal period and the beginning of another; and in the same manner as they would have been handled had the Government not taken possession of the roads.

It has been necessary, for obvious reasons, to require that no operating revenues be expended for payment of agents employed to affect legislation, for employing attorneys not doing necessary legal work, for paying the expenses of agencies constituting associations of carriers (unless approved in advance by the Director General), or for any political purpose or for the influencing of any election affecting any public measure. But,

be a slacker in the Army or in the Navy.

But while depending for the present upon patriotic coöperation of the railroad army to enable government control to accomplish those things for which it was instituted, the Director General does not lose sight of the fact that the question of wages and hours is a pressing one, and one which has two sides.

Thoroughly to understand both sides, a Railroad Wage Commission, consisting of Franklin K. Lane, Secretary of the Interior; Charles C. McChord, member of the Interstate Commerce Commission; J. Harry Covington, Chief Justice of the Supreme Court of the District of Columbia, and William R. Willcox of New York, has been appointed for the purpose of making a general investigation of the compensation of persons in the railroad service, the relation of railroad wages to wages in other industries, the conditions respecting wages in different parts of the country, the special emergency respecting wages which exists at this time owing to war conditions and the high cost of living, as well as the relation between different classes of railroad labor. This Commission has begun its labors and will make its report to the Director General, giving its recom-

recommendations in general terms as to changes in existing compensations that should be made.

Pending a disposition of these matters by the Director General, all requests of employees involving revisions of schedules or general changes in conditions affecting wages and hours, are to be held in abeyance by both the managers and employees. Wages, when determined upon, will be made retroactive to January 1st, 1918, and adjusted accordingly. Matters of controversy arising under interpretations of existing wage agreements and other matters not relating to wages and hours will take their usual course, and in the event of inability to reach a settlement will be referred to the Director General.

One labor question had to be met at once—the matter of railroad organizations, or labor unions, as they are commonly called. It was met exactly as the same question has been met by the government before—by the inflexible rule that no discrimination can be made in the employment, retention or conditions of employment of employees because of membership or non-membership in any labor organization.

However much this may please those who do not approve of unions, or displease those who find in them a great power for good, there seems to have been little commotion caused by this ruling. The new spirit of patriotism makes it possible to realize that the government now being in control of the railroads, the officers and employees of the various companies no longer serve a private interest. All now serve the government and in the public interest only. The officers and employees have grasped this spirit of the new era. Devotion to country, determination to perform the imperative duties of the hour while the life of the nation is imperiled by war, is obliterating old enmities and making friends and comrades of former antagonists. Coöperation, not antagonism; confidence, not suspicion; mutual helpfulness, not grudging performance; just consideration, not arbitrary disregard, of each other's rights and feelings; a fine discipline based on mutual respect and sympathy; and an earnest desire to serve the great public faithfully and efficiently, mark the new spirit and purpose for which the Director General is striving and which is spreading with gratifying rapidity to every part and branch of the national railroad service.

One very important ramification of government control of railroads is the attempt to extend transportation facilities by increasing the use of inland waterways and other water bodies. The present emergency is to be solved by any means of transportation which will get goods to the seaboard, or from mine to factory, in the least possible time, with the least possible expense and the use of the least possible number of men.

Hence the appointment of a Committee on Inland Waterways is of real importance. It is now making an investigation and will as soon as practicable report a definite plan describing the extent to which and the manner in which additional use may be made of the internal waterways for the economical and expeditious movement of traffic of the country so as to relieve or supplement the railways under existing war conditions. While the entire waterway and transportation situation is to be scrutinized, only those waterways that will effectively afford national relief will be included in the plan to be presented. In addition, the recently created

Marine Section of the Division of Transportation is supervising the operation of the shipping under the control of the Director General and also giving special attention to coördinating the relations between all other shipping (including that on the Great Lakes) and the railroads.

The program now being followed in running the vast network of American railways as one system is not only to be considered in the light of expediting freight through a pooling of resources, terminals, cars and locomotives. If it is not a constructive program, which will continue the progress of the individual roads towards that ideal which all railroaders have for their systems, it must in

The Director General feels strongly that there should be no abatement in safety work but that there should be centralized supervision, not only to insure proper practices but also in order that each railroad may promptly secure the advantage of experience which other roads have had in the development of safety work.

To this end the Safety Section of the Division of Transportation was created, and Mr. Hiram W. Belnap appointed Manager, with office in the Interstate Commerce Building, Washington, D. C. The Manager of the Safety Section has supervision over the safety work on all railroads, utilizing such safety organizations as are already available and suggesting such others as are desirable, in addition to his present duties for the Interstate Commerce Commission as Chief of its Bureau of Safety.

The decision, in the hands of authority, as to what is and what is not an essential to war purposes is of paramount importance. No industry but feels itself vital, and any industry prevented from exercising its capacities to the fullest degree, may well be excused for feeling aggrieved if government control of transportation interferes with its labors. Yet inconveniences, and what at the time may seem apparent injustices, are inseparable from running the railroads for the good of the nation as a whole. The responsibility of placing an embargo upon shipping of any kind is a great one. The use of this power as a means to a good end can only be compared to its power for evil if misused.

On account of the severe weather, particularly affecting railroads crossing the Alleghenies, the Director General this winter authorized an embargo upon all freight except food, fuel and certain war munitions and supplies, upon the Pennsylvania Lines east of Pittsburgh, Baltimore and Ohio east of the Ohio River and the Philadelphia and Reading, for the purpose of enabling those lines, the heaviest bituminous coal carriers, to continue specializing upon coal for the double purpose of supplying the acute conditions in New England and the Harbor of New York and elsewhere, and providing empty cars for mines and coke ovens.

But no embargoes will be placed upon any class of goods or affecting any roads, at any time, which can possibly be avoided; and no locality need fear that the government will become a Juggernaut, riding unheeding over the necessities of any, of its people, merely because it has the power.

It is impossible to say what the future will bring forth. The Director General is planning as much for the future as is possible; but in an era when no man knows today what tomorrow may

see, too far-sighted a policy may be a detriment and not an asset. Nevertheless, there are certain things which are being considered, very carefully, and many investigations that are being made under the authority of government control, looking to improvement in transportation conditions. Among them may be mentioned a very careful consideration of the many facts bearing on the discontinuance of additional passenger service to save coal, labor, locomotives and shop capacity for freight service, while giving due weight to local passenger necessities and the need, if not the easy convenience, of the traveling public.

Freight solicitation, also, is having careful attention.

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A typical example of congestion during the severe weather of the past winter

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A New York terminal; where freight is transferred from rail to water

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Loading freight from the cars directly into the steamer

the end collapse. Whether government ownership of public utilities is a good thing or a bad one, whether it will be a success or a failure if tried as a peace and not a war measure, are matters which cannot be discussed here. But if this present control of railroads is to be a success, it must further, not hinder, the normal development of transportation means, as well as transportation of war materials and men.

Thus, most of the larger railways devote much care, attention, time and money to the matter of safety of operation, not only because it is less expensive to run a safe road than a dangerous one, but from a genuine desire to serve the public as well as possible. This work, so far from being hindered or stopped, is to be extended.

miscellaneous parts. A chairman was designated for each group, and the fundamentals laid down in the general specifications issued by the Quartermaster Corps in the spring of 1917 were used throughout as a guide.

Each group laid out its unit to accomplish the best results possible from the specifications. So completely unselfish were the contributions of the members that there were incorporated valuable features which had been intended, by the several companies represented, for use as the basis of future sales. The idea on which the divisions worked was to produce the most reliable truck possible, and preference was accordingly to be given to all points in which greatest reliability was certain. Thus, while the truck was designed to give the best economy possible, it was deemed of greater importance that the motor be one that would run with certainty on the worst fuel possible. Above all it was considered of surpassing importance to have a truck of great going ability. This meant a truck that could meet with ease heavy grades and bad going, and that would display conspicuous ability to get over soft ground.

Creating the "Liberty Truck"

After spending the month of August in discussion on design and the various elements which enter into the making of a truck, the various groups started to lay out the Class B design on September 1st. This truck, while rated at three and a half tons, was to be built to take a load of five tons. A schedule committee was formed, consisting of the chairman of each of the parts groups and officers of the Quartermaster Corps. Starting September 1st, the drawings of all parts were to be done by the 10th, all the parts were to be completed by October 1st, and the two sample trucks were to be run on their own power by October 10th.

The performance on this trying schedule was one of the finest mechanical achievements of the war. On September 10th the drawings were practically completed and many of the dies and patterns begun. On September 28th the first motors were running and the great majority of parts completed. The assemblers of the trucks received their parts about October 1st, and on the 8th the trucks were making short test runs. Two days later the trucks started for Washington—one from Lima, Ohio, the other from Rochester, N. Y. They came through without developing any mechanical defects, and one of them accomplished its journey without the use of a wrench. On October 19th they were formally delivered and accepted by the Secretary of War in a very impressive ceremony. They were afterwards presented for inspection by President Wilson, who expressed great admiration for the speed of delivery and the results.

Many interesting obstacles were overcome in turning out these standard trucks. The pattern for the crank case was produced in seven days, although a job which usually takes from three weeks to a month. The cylinder pattern, the making of which ordinarily requires over three weeks, was likewise completed in five days. The crank-shaft dies were sunk in seven days, although this operation usually requires three weeks. During the time these jobs were under way there was such congestion in the express service that many parts were delayed or lost in transit. One company's purchasing agent carried crank-shafts in his Pullman car so as to be certain of delivery.

The schedule committee laid down the month of January as the time when production must commence. On January 17th, at the annual banquet of the Society of Automotive Engineers, word was received that the first five trucks were that day completed. By May 1st the trucks will be in production of over a thousand per month, and this figure will rapidly increase until a rate is attained of over 60,000 per year.

Since the delivery of the first samples of the Class B truck, Class A 1½-ton and Class AA ¾-ton trucks have been designed,

completed and delivered in Washington. These trucks and many of the parts therefore were completed in even shorter time than that taken by the Class B truck. The smaller trucks follow closely the design of the larger model. These trucks can be considered the last word in design and efficiency for military purposes. As an illustration of what has been attained, the engines develop over ten per cent more power at normal speeds than present models, while they have ten per cent greater economy.

The army had the assistance of the Automotive Products Section of the War Industries Board. Through the agency of this board, the resources of the industry were brought to the aid of the government with the utmost rapidity. After the design of the Class B truck was well under way, the Military Truck Committee was formed as part of the Automotive Products Section. This Committee laid the foundation of the section which has charge of the production of military trucks, passenger cars, motorcycles, etc., under the Quartermaster Department.

Few contributions to the art of war ever attained importance in the pursuits of peace. It can, however, be said that these trucks have already had a profound effect on the design and requirements of commercial trucks, and that they are considered by authorities to be notable contributions to the art of motor transportation. Out of the discussion as to how to test this engine and this truck came the system of driving the trucks to the seacoast, thus training the crews, testing the trucks, and relieving the freight congestion, all at one blow. Inseparable from this activity is the great contribution that the motor truck is making toward the solution of our railroad problem in this country, by means of highway transportation. Military roads will soon be a fact; motor trucks will be our main defense.

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Just how much it should be discontinued or diminished, and what economies can be effected by the discontinuance or consolidation of numerous other railroad business activities, such as freight and passenger ticket agencies, offices and officers, are matters which will come up for decision in the near future.

Avoiding duplications of service; unification of purchases, either for the entire country or for sections; standardization of locomotives, cars and shop practices; curtailment of operating expenses; these and kindred subjects are all matters which have been put in competent hands for investigation. No move not mandatory for a pressing need—such as the embargo noticed above—will be made without due consideration of all sides of the question. The Director General feels very strongly that both railroads and public will respond the better to the unavoidable inconveniences and hardships, if they believe that government control is being exercised intelligently, carefully, and as Lucretia Mott would say, with "Truth for Authority, not Authority for Truth." To this end the Director General has sought to put the innumerable problems which press for immediate solution in the most competent hands, while reserving to himself the authority—and accepting the responsibility—which the President's order lays upon his shoulders.

So far as it is possible for one man to do, the government control of railroads is being exercised with but one thought in mind—that America's safety, America's ideals, America's rights are at stake. Democracy and liberty throughout the world depend upon America's valor, America's strength, America's fighting power and America's transportation system. We can win and save the world from despotism and bondage only if we pull together. We cannot pull apart without ditching the train. Let us go forward with unshakable purpose to do our part superlatively. Then shall we save America, restore peace to a distracted world and gain for ourselves the coveted distinction and just reward of patriotic service nobly done.

900,000 Tons of Hauling Power Lost by Motor Trucks Each Day

Warner Trailers Utilize This Wasted Power

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All good motor trucks develop an excess of power. When loaded to rated capacity, they can easily pull another load at least equal to the one they carry. When the truck is used alone this power is lost. But with Warner Trailers, motor trucks work at full capacity. And the cost of operating truck and trailer together is only slightly above that of running the truck alone. This, with a far more efficient method of hauling.

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With Warner Trailers, hauling costs show a gratifying decrease. The three greatest items of expense—labor, motor upkeep and gasoline—are cut in half.

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—the driver—does this in a minute's time. And Warner Trailers follow the trucks without further attention.

Built Like a Motor Truck

Warner Trailers are of sturdiest construction throughout. Built like a motor truck minus the power plant.

WARNER HEAVY DUTY TRUCK TRAILERS

TWO AND FOUR WHEEL TYPES

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return trip. This keeps the power plant working almost continually. In countless other ways, Warner Trailers make for economical, efficient delivery service.

Endorsed by Big Business

America's largest manufacturers are users of Warner Trailers. These concerns did not adopt them on unsubstantiated claims or without investigation. Their transportation engineers made a thorough study of Warner Trailers and their value in solving hauling problems.

A similar investigation will benefit you. We have more interesting facts on trailer hauling to lay before you. Write to us today for further information.

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