

# The Canadian Railway War Board on the Canadian Railway Situation.

The Canadian Railway War Board has issued a booklet "The Canadian Railway Situation," containing the following information:—

The first railway problem was finance; the second was construction; the third was salesmanship—the getting of traffic; the fourth, forced by the exigencies of war, was railroading.

In the organization of any Canadian railway, there are three main divisions: One department stirs up, builds up, and persuades traffic to use the lines of that

and cars.

This is the first unit of the first part of railroad operation: maintenance of way.

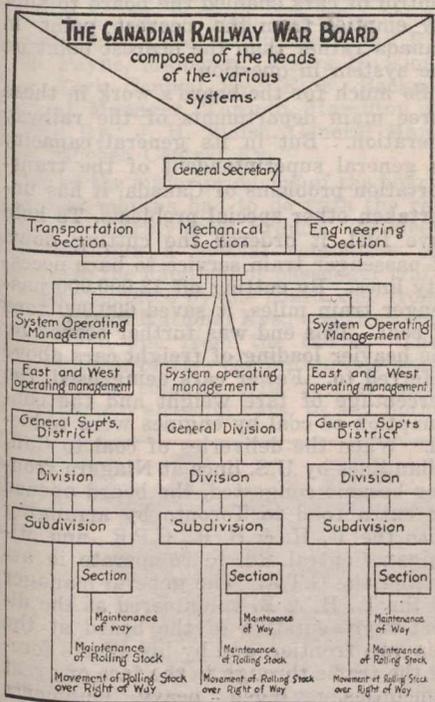
The railway station symbolizes the first unit of the third part of railway operation—the movement of trains over the line. It is less significant as a building that as a sign that here two trains on a single track line may pass one another, and that here the trainmen receive their orders.

The sub-division, or district, as it is called on some lines, marks the beginning of officialdom, and the first unit of command in the second department of railway operation—locomotive and car repair shop. Maintenance of way is represented by the road master and the master of bridges and buildings; maintenance of rolling stock by the locomotive and car foremen; movements of rolling stock over right of way by a dispatcher. Cars may move from end to end of the continent. Locomotives are limited to the length of the sub-division or district, on which they are stationed. This sub-division may contain 15 or 20 stations and sections, and extend 90 to 120 miles or more. At each end are facilities for repair and replenishing of locomotive and car supplies.

A division may contain few or many sub-divisions. Its three departments are controlled by resident engineer, master mechanic and chief dispatcher. Over, or in some cases beside them, is a general

his constantly changing family of cars—freight and passenger. In his office he has deputies, the dispatchers and telegraphers. Along the line, on subdivisions, are his outer deputies, the station agents and their telegraphers. On his train sheets are recorded the respective positions of the locomotives as he and his staff move them and their cars one after another, and one past another, between the ends of the division. These sheets show passenger trains dropping and taking up travellers, mail, luggage, and express. They show, also, the way freights setting out full cars to be unloaded or empties to be filled, or leaving l.c.l. shipments on the station platform, or picking up full cars to be forwarded to the next division. There the chief dispatcher will pass them to the next, who will pass them to the next, and so on as far as that car must go. So emptied cars also, to be disposed of as the call for them may dictate. To this chief dispatcher come telegraphic reports once a day from his outside deputies, recording the orders placed by shippers for empty cars, or the empties on hand, or both. If the empties at a certain point are sufficient to supply the orders, local switching movement is sufficient. If the empties must be brought from another point on that division, the chief dispatcher's orders are issued to the necessary way freights to pick up and move said empties to the designated point.

When there are more empties than



company. It advertises, sends solicitors, and by various means, fosters new industries on its lines. It is called the traffic department. Next stands the department that keeps books, counts cash and arranges loans or investments. It is called the finance department. The third is the operating department.

The actual movement of traffic on any railway requires three main kinds of work: The upkeep of the roadbed; the supply and maintenance of locomotives and cars; the moving of the latter over the former with speed, safety, and economy.

Here, then, is the first unit of railway operation—the section. It varies in length from 4 miles to 6 miles. It is commanded by a section foreman. In winter he has one or two helpers. They watch the track for major defects, weak or broken rails, obstructions on the right of way. In summer he has from 4 to 7 men, replacing worn ties and rails, "shouldering up" the ballast, keeping grass and weeds from encroaching on the ballast, maintaining culverts and ditches to carry off rain or overflowing streams. As soon as the frost leaves the ground, the section gang begins replacing ties—a tie lasts from 6 to 10 years only. Low spots are forced up, by driving thin, flat pieces of wood (shims) between rail and tie. New rails replace worn rails. The precise spread between the rails is checked and corrected. The outer rail on a curve is kept properly lifted (aligned) so as to offset the side-thrust of engines



The movement of coal into Canada from the United States is shown roughly above. The heavy lines indicate the ports of entry, and the light lines the general area covered by each main coal distributing center. The heaviest traffic crosses the frontier at Niagara, a strategic point which was ably protected from congestion in the winter of 1917-18 by the personal efforts of one of the members of the Administrative Committee, appointed for the purpose, F. F. Backus, General Manager, T., H. & B. The heavy movement of coal comes in the hardest operating season—winter. The co-operation of importers in taking delivery of their stock in the summer of 1918, was of great assistance to the board in keeping a safe margin of track room.

officer co-ordinating their work: a divisional superintendent. Here is the first senior official in the department of train control—the chief dispatcher. The resident engineer has his road masters and masters of bridges and buildings in the sub-divisions. The master mechanic has his locomotive and car foremen representing him in the sub-divisions. But real authority in the movement of trains is not found below the chief dispatcher.

A chief dispatcher finds and distributes, collects and disposes, passes out to the next divisions, or receives from them in turn—cars. The resident engineer having provided the right of way, the master mechanic having contributed the engines, the chief dispatcher moves, by means of the latter over the former,

orders for them within any division, or vice versa, the chief dispatcher is supplied or relieved, as the case may be, by the authorities outside his district.

The superintendent is meantime patrolling his division, co-ordinating and directing the work of resident engineer, master mechanic, and his chief dispatcher.

Next above the division comes a general division, or general superintendent's district. Here the master mechanic has become district master mechanic, the engineer is district engineer, and the chief dispatcher is now car service agent or superintendent of transportation. The latter is a magnified chief dispatcher. The actual movements of trains do not concern him now, but the juggling of