

cars has here become a very serious matter. Just as the chief dispatcher receives reports of cars wanted and cars available from the stations on his division, so the car service agent or superintendent of transportation receives reports from his chief dispatchers. If he can balance his empty cars with his cars wanted, so much the better. Otherwise he obtains extras or disposes of his surplus at the direction of the next highest order of car control official.

Two or more general divisions or general superintendents' districts may constitute a system. If it is called a system, the three main departments are controlled now by a general superintendent of motive power and car building, a chief engineer, and a general superintendent of transportation. A vice president, or two vice presidents, co-ordinate the three. In the case of transcontinental

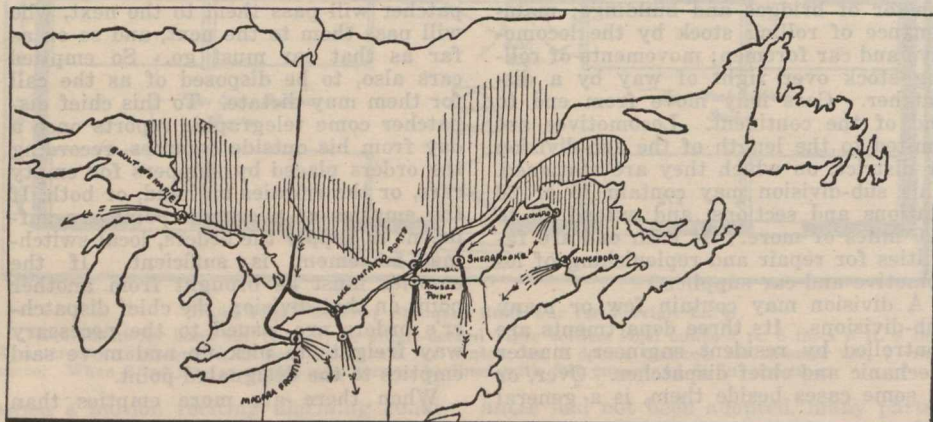
eye a clear picture of the economic machinery of the Dominion.

The final unit of railway operation in Canada is the Canadian Railway War Board. Consider Canada as a railway division. The Canadian Railway War Board is the superintendent of the division. A special committee takes the place of the resident engineer and deals with questions of maintenance of way. For example, take the matter of a supply of rails for renewal purposes. The board was finally able to obtain an order from the Dominion Government for sufficient steel to renew the sections of line in greatest need.

Another committee represents the master mechanic, whose concern is chiefly with locomotives and other rolling stock. The board has provided locomotives to lines or parts of lines lacking power to carry special loads. It has su-

pulpwood or other materials, could not replace Canadian cars as grain carriers—the Canadian standard of repair being higher and better observed. Vigorous measures were taken to effect the return of Canada's 22,000 "lost" cars from the congested U.S. lines. In a few months the number "lost" had dwindled and it is normal today. The board undertook to persuade shippers to pack cars more skilfully, and thereby make better use of car space. As a result, the average load per car rose from 21.74 tons in Jan. 1917, to 26.71 tons in Nov., 1918. This represented a saving in cars, in track room, in tractive effort, in locomotive, and in fuel. The centralized control of cars enabled the board to supply empties from the nearest point in Canada rather than the nearest point on the system in question.

So much for the board's work in these three main departments of the railway operation. But in its general capacity as general superintendent of the transportation problems of Canada, it has undertaken other special problems. To help save fuel, it ordered the cutting down of passenger train service to bare necessity lines. By cutting off 12,000,000 passenger train miles, it saved 600,000 tons of coal. This end was further served by the heavier loading of freight cars above referred to. Fewer cars being used, the percentage of tare weight and the consumption of coal by engines were reduced. When the deliveries of coal to Canadian lines by U.S. lines at Niagara frontier became congested, the board opened an extra road to Toronto by arranging with the T. H. & B. R., C.P.R., and Michigan Central Rd. to co-operate in assisting the G.T.R. The general manager of the T. H. & B. volunteered as the direct representative of the board at the Niagara frontier, and by his efforts forced the traffic through in the face of great difficulties. When heavy shipments threatened to overwhelm one line be-



The above sketch is intended to indicate in a general way the areas from which the heavy movement of Canadian forest products is drawn; and the frontier points at which they cross into the United States.

lines, two or more general superintendents' districts constitute only an eastern or western lines. The district master mechanic is here superintendent of motive power and car building; the district engineer is now assistant chief engineer; the car service agent is now superintendent of car service. A secondary vice president controls these three. The final operating unit of a transcontinental system lies under a senior operating vice president, whose three chief aides are: the chief engineer, the chief mechanical engineer, and the general superintendent of car service.

Just as the chief dispatchers report their car supply to the car service agent, and the car service agent or superintendents of transportation, report these reports to the superintendent of car service, or general superintendent of transportation, so these in turn pass on the car situation every day to the general superintendent of car service. This is a complex and difficult office. Knowledge of trade conditions, of weather, of probable developments of traffic, influences this high officer in the strategic disposition of his empty cars. Loaded cars have definite moves to make. The empties must be shifted to let the loaded cars pass to the points where they are most likely to be wanted. He must decide whether to allow more cars to leave his lines for foreign lines. He must observe where they are bunching, and where they are thinly scattered. He must work his empties westward in the summer to be ready for the grain in the fall. So with the overseas export freight movement, and the movement of mine and forest products. He must have in his mind's

pervised the locomotive power situation, arranged loans, exchanges, and even the sale of locomotives between Canadian roads.



The movement of wheat across Canada begins in the late summer and proceeds throughout the winter. It will be seen from the above map that indirect routing is practically impossible in this as in all other Canadian traffic.

The chief dispatcher of a division, or general superintendent of car service on a system, has his counterpart on the board in its transportation section. Like the dispatcher supplying cars to the stations in his division, the board's transportation section protects the car supply of the Dominion. The first measure taken in 1917, when car shortage was felt severely for the first time in recent years, was to stop the drain on the Canadian supply by refusing to allow Canadian goods for the United States to be loaded into Canadian cars. The shipper was supplied instead with returning U.S. empties. These, while sound enough for

tween Toronto and Montreal, or on any other route, the board instructed the sister lines to share the load. In the west, a breakdown in the service from the Drumheller coal fields was minimized by sending prompt assistance from the other railways; and the chance of this embarrassment recurring was removed by adding special trade facilities in the summer of 1918.

In the labor field, trouble was prevented by the prompt application of the so-called McAdoo scale of wages (the U.S. scale), practically as soon as it was applied in the U.S.

To ensure the amicable adjustment of