for the ordering and building of equipment in such numbers and variety as the traffic demanded and an intricate system had to be devised for maintaining and operating such vehicles under war conditions, as well as furnishing facilities, whereby such a system could be used to the best advantage of the army in general.

The chart on this page shows such an organization, which during the war worked with the perfect precision desired. It was arranged on the army division principle, viz., each army having at its head an assistant director of light railways (A.D.L.R.) reporting to general headquarters (G.H.Q.) and co-operating with the Assistant Director General of Transportation (A.D.G.T.) at army headquarters.

The A.D.L.R. was in charge of all track construction, maintenance and operation in 1917, and under him there was a light railway construction engineer (L.R.C.E.) on the track side, and a superintendent of light railways (S.L.R.) on the operating side. The latter had a complete staff

Lieutenant R. S. Richardson.
Traffic Officer, 13th Canadian Light Railway Operating Co.

of officers under him, and the officers commanding operating and work shops companies reported to him for duty. (See chart showing company organization on this page).

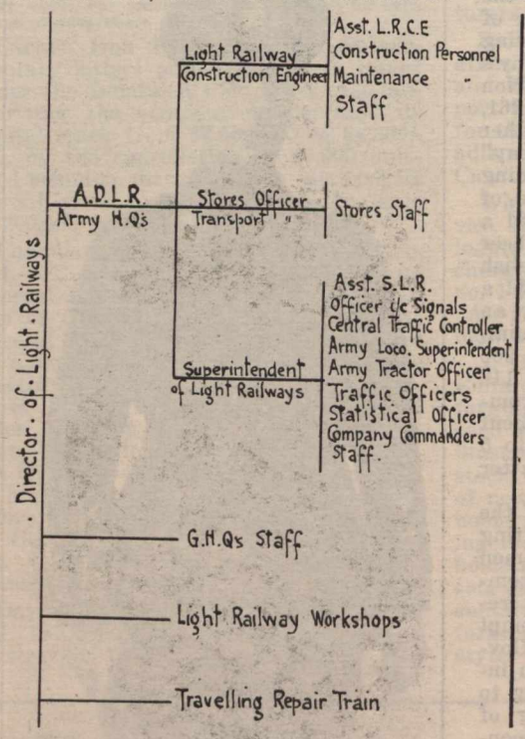
In March, 1918, there were approximately 32 operating companies, 6 army A.D.L.R. staffs, General Headquarters staff, and thousands of men in the line of communication work shops; all skilled railway men, drawn from the British Isles, Canada, the United States, Australia, South Africa, New Zealand, India, South America, and from all corners of the earth. Adding to these attached unskilled labor and personnel employed on construction, both skilled and unskilled, the number of all ranks on the roll of the British light railway system would run well over a six figure total.

Light Railway Trackage in general commenced from a point where the standard railways ceased, and continued to their connection with the trench tramway systems. Overlapping naturally occurred where the enemy had retreated, allowing standard gauge railheads to be advanced, but this was advantageous, as it provided more than one railhead where tonnage could be transferred from the standard gauge, thus relieving the cars, which were always in great demand, much more quickly. Operating companies generally located their camps and terminals away from railheads, ammunition dumps, and hospitals, in order to avoid bunching of targets liable to attract enemy shelling and bombing. The terminals consisted of inbound and outbound working yards, storage yards, car repair tracks and power terminals. Tracks were run to the railheads, and laid along transhipping sidings, where ammunition, stone, supplies and other tonnage was transhipped direct, and hauled by yard locomotives to the classification yards. The main line generally ran forward to points where it connected by a Y to a forward lateral track running parallel with the line, and about 2 or 3 miles behind it. From the forward lateral, tracks ran at right angles again, forward to the trench tramway systems, at sufficient distances apart to suit the requirements of the army, and wherever possible they were connected together at the foremost or most easterly point, thus providing loops where traffic could be run in any direction, in case one of the forward branches was broken by shell fire. Spur tracks were run from the main line, lateral and forward branch lines, to battery positions, field dressing stations, stone dumps, R.E. yards, camps, ammunition dumps, casualty clearing stations, salvage dumps or wherever tracks were required, and passing tracks were built at all stations and intermediate points east, having branches forward of the forward lateral. The forward lateral of where necessary. A forward storage yard was also necessary, to which point steam locomotives handled cars in daylight for night delivery by tractor power.

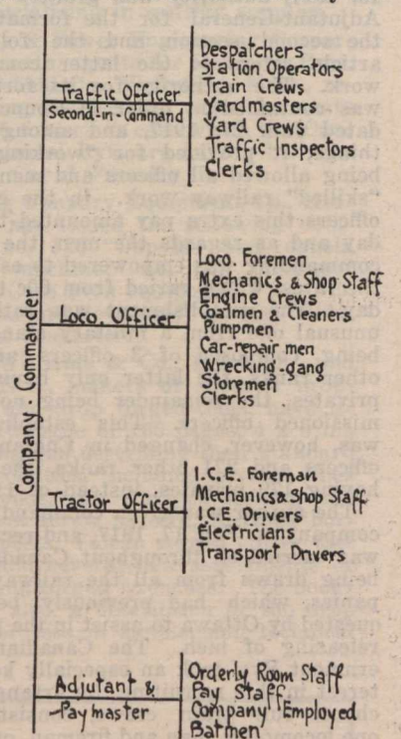
Just previous to the launching of the great German offensive in Mar., 1918, on some parts of the front, there was a forward, intermediate and back lateral, connected by main tracks running west and same lateral of other systems to the one army system was connected with the north and south, with the result that there was a continuous track 153 miles long, behind the entire British, Belgian and Portugese fronts, connecting with the French system on the south. The purpose of this international line was to move shock troops rapidly to whatever point of the firing line the great drive was to be directed, and it proved itself of immeasurable value to the allied forces during the offensive, until it was broken through on the Somme. Even then reserves were rushed from the north along its route to near Arras, where it connected with a back lateral running as far south as Bucquoy Village, behind Achiet-le-Grand.

Telephone System. (See chart on page 633). To maintain and install a telephone system with a war on is not an easy task, but it had to be done, otherwise traffic could not be moved promptly and in volume, or communication maintained internally and externally. The light railway telephone system originated at G.H.Q., and ran to a "super control," situated at an intermediate point behind the armies. From "super control," separate lines were run to each "central control," and from there to the "district controls." By this telephone system super control handled the distribution of power and cars between armies, and central control between operating companies. Lines also ran connecting all central controls together and district controls in the same manner. Corps light railway offices were connected by separate wires to central controls and the latter to army headquarters and trunk lines.

From district controls two traffic lines were run wherever there were tracks, one known as the block to block line, connecting with all stations, and the other as the through reporting line, connecting main stations or report centers. Each station was equipped with a telephone box, having a lever which could be moved to either side when conversing with adjoining stations, or left in a



Light Railway System Headquarters Organization.



Light Railway Company Organization.