Canadian Railway and Marine World

August, 1918

Light Railways Along the British Front at Close Range.

By Robert K. Tomlin, Jr., War Correspondent of Engineering News-Record.

The primary function of the light railway is to deliver ammunition, troops, rations and supplies from standard gauge railheads to points near the front, and by so doing relieve the highways of the enormous burden of traffic which they used to carry. The accompanying sketch plan, fig. 1, which is purely theoretical and does not convey information as to any actual location on the ground, will show the general relation to one another of the parts of a light railway system for the battle-front, and the area in the rear.

In the extreme forward section, rope-ways or push trolleys may be provided, although many situations demand the packing of ammunition and supplies on the backs of animals or men. Where possible, spurs are run out to artillery batteries, to which ammunition is delivered, one carload at a time. Further to the rear will be noted the various dumps for ammunition and stores. The designation R. E. on the sketch means Royal Engineers, and when used in connection with supplies refers to such material as timber, sand bags, wire mesh trench revetment, barbed wire, corrugated iron covering for dugouts and huts, duckboards, etc. At the extreme left the letters C. C. S. signify Casualty Clearing Station, to which the wounded are brought back, on light railway cars.

The layout at the railhead, fig. 2, provides for the transshipment of material from the standard gauge railway to the light railway, for the assembly of cars into trains, and for the storage of ammunition, ordnance and supplies.

Fig. 1 shows also the loop system and cross connections which are characteristic of British light-railway practice. The idea is to have the loaded cars move forward on only one side of the loop, and the empties return on the other. Even where turnouts are built, the British endeavor to prevent even short haul train movements in opposite directions on the same side of a loop, and during my trip over the lines a non commissioner officer in charge of a gang building dug-outs was called to account for running a light push car forward on the track over which our train was making the inbound journey.

Although I saw some short sections of double track, the general practice here is to construct single track only, thus offering a smaller target for shell fire and cutting down the time needed for repair work if the track should be hit.

The mileage of light railway track per mile of battlefront varies within wide limits. In a quiet sector it may be as little as five miles, while in territory where there is much activity there may be a mileage of 10, 12 or even more per mile of front. A single track light railway weighs about 72 tons a mile for rail, connections and ties, while, as a rough average, 800 tons of ballast a mile is necessary, unless the ground is unusually bad. I was told that the grading, laying and ballasting of one mile of finished track requires, normally, about 2,400 man-days of labor. On some speedier work 1,760 man-days of labor per mile of track were recorded, while during the Cambrai "show"—every big engagement is called a "show" over here—a Canadian lieutenant colonel and his men laid 6 miles of track in 60 hours.

Repair work for all British armies at the time of my visit was involving the replacement each week of from 1,500 to 2,000 ft. of track broken by shell fire. This is an almost insignificant percentage of the total. In one army, however, 95 breaks in one day, due to shelling, were recorded, but this army has a greater track mileage than any other.

British Official Photograph

Fig. 4. Light railway construction at the British Front.

At the head of the organization which is assigned to light railways is the Director of Light Railways (D. L. R.) who reports to the Director General of Transportation (D. G. T.). A mere listing of the various rungs in the organization ladder, however, would fail to convey an adequate idea of its real character. It is only when you circulate through the headquarters offices, go out on the line among the men, and see the splendid work they are doing, that you obtain a true appreciation of the light railway forces. Both British and United States officers are all railway specialists, hailing from every corner of the world—men who have built and operated railroads in Great Britain, the U.S., Brazil, Canada, the Argentine, India, Mexico and elsewhere. The U.S. force on one section of the line, for example, had been recruited, whole companies at a time, from such roads as the Boston & Albany, Maine Central, New York, New Haven & Hartford, and Boston