

vator. The design of the columns & windows, which give a very fine view of the harbor, is very attractive, & the appearance of the room is enhanced by the winding staircases that descend to the floors below. The office in one of the towers on this floor will be devoted to the commercial telegraph department, specially for business that will naturally come from people passing through the building; while the apartment in the west tower will be used as a parcel room. In the eastern wing of the main floor are the offices of the General Superintendent, & across the hall are those of the Local Treasurer, as well as those of the Accountant, Purchasing Agent & Car Accountant. The Local Superintendent's & the train despatchers' rooms occupy the east wing on the intersol floor, while in the main building is a bonded-warehouse for ship's stores. The officials of the steamship service will also be on the intersol floor, with offices overlooking the Inlet. All these are fitted with vaults & the other arrangements are of the most convenient kind. The corridor of the ground floor will be one of the features of the building, & every convenience will be furnished there for passengers coming in & going out. Two huge stairways lead from it to the main floor above, & all the fittings are very artistically arranged. In the west wing will be the Dominion Express office & the offices of the Land Commissioner & Auditor, while in the east wing a restaurant with smaller rooms attached, conductors' & baggage rooms, besides another bonded-warehouse for foreign baggage will occupy the space. The 2nd floor will be occupied by the Engineer's department, the 3rd as a telegraphic department, the 4th & 5th have not yet been allotted. The building is replete with modern conveniences. It will be heated by steam & the same plant will operate an electric generator, which will supply all the Co.'s offices on the wharves & elsewhere. There are a hydrant & hose appliances on each floor. The grounds will be neatly arranged in front of the building. There will be a retaining wall on the east side, & on the west it will be on the slope of the street, capped with granite & an iron fence. Along the track front & western end, there will be a covered walk 15 ft. wide. British Columbia material has to a large extent been used in the construction of this building, which is 200 ft. long by 80 ft. width. Even taking its size into consideration, the quantity of material is remarkable. Sixty-five carloads of stone were brought from Calgary, while 3,000 yards of granite were used. There are 13,500 yards of plastering in the building, & the 240 squares of slate were obtained from B.C. quarries. Two million bricks were used, these being purchased in Victoria.

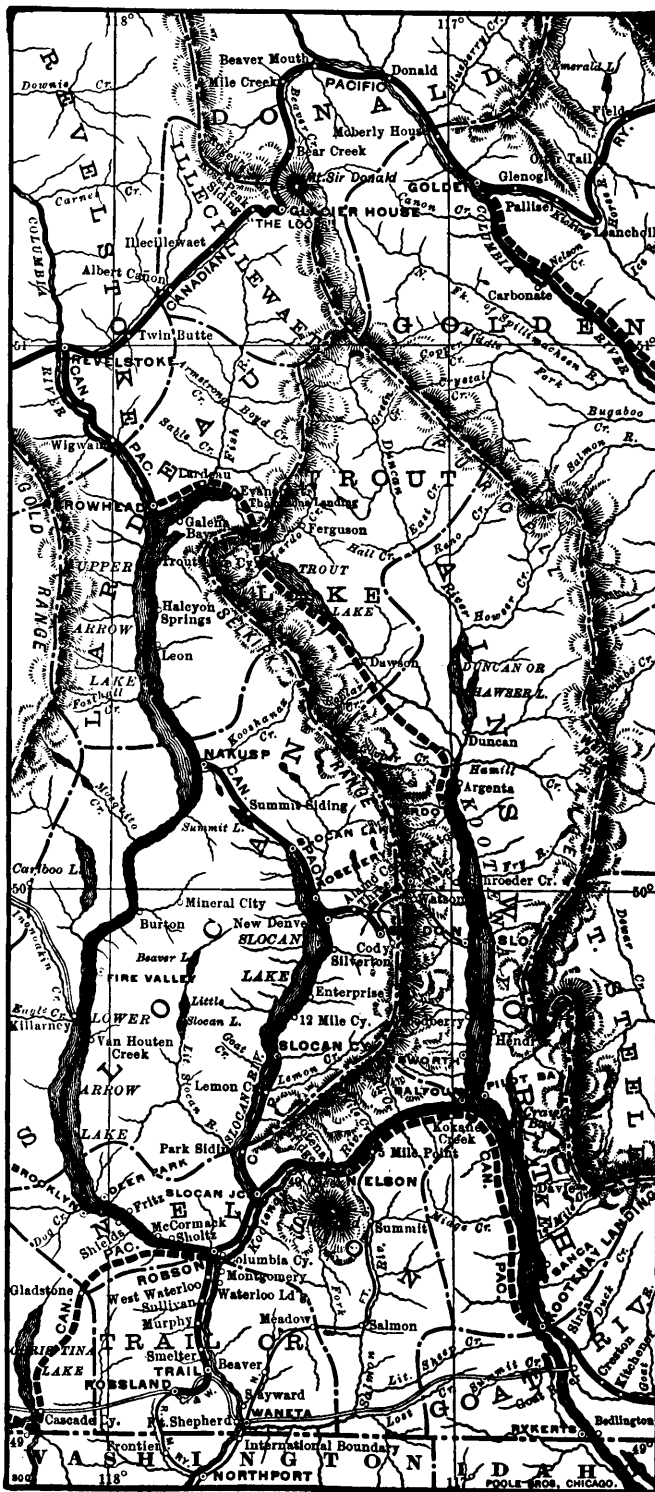
New Westminster.—Work on the station building is progressing satisfactorily. If the city will grant certain concessions, it is said the Co. will make extensive improvements on the water front, including additional tracks, & a stone sea wall.

Rosland Branch.—The narrow gauge portion of the Columbia & Western Ry. from Trail to Rosland, B. C., 13.6 miles, was built in the winter of 1895-6. Its peculiar features were its steep grades & sharp curves, rising

2,300 ft. from the wharf track at Trail to the railway ore bunkers at Le Roi mine, Rosland. The grade on all tangents was 4% & the curves were compensated .04 per deg. The maximum curves were 25 degrees, of which there were 38, whose aggregate length was approximately 3 miles. There was a switch-back between Smelter Jct. & Trail, &

nal trestles have been filled & the others strengthened. The grading was done during Sept., Oct. & Nov., 1898, by Winters, Parsons & Boomer, contractors. Track laying was deferred until the spring on account of the severity of the winters in that locality, when it was done by the Ry. Co. The work was done under the immediate direction of F.

P. Gutelius, Superintendent of the Co.'s Rosland branch, to whom we are indebted for the data of this article. He was General Superintendent of the road under the old management & had charge of its original construction. The entire work of grading & track laying was completed without delaying traffic for an hour, except that all freight & passenger trains were scheduled to run at night. The new track, which follows the same general alignment & has the same grades, is laid with 6 ft. ties & 60 lbs. steel rails, the material for which was delivered along the track by narrow gauge work trains, & by laying towards Trail, the supply point for track material, these trains were able to deliver the material just ahead of the tracklayers in the day time. The system of renewing out of face was adopted, thus allowing joint ties to be properly placed & rails to be full spiked as new track was being laid. By this method a gang of 40 men would remove 2,500 ft. of old track & replace it with standard track in a day. The greatest record for any one day was 3,800 ft. Upon the new track a 3rd narrow gauge rail half spiked was laid. Each evening the track so laid was connected to the undisturbed narrow gauge track, over which the narrow gauge trains were run during the night. The operation of narrow gauge trains on one 28 lbs. rail & one 60 lbs. rail was not attended with any difficulty or accident, so that to the successful use of the one 28 lbs. rail in maintaining the narrow gauge track must be attributed the ease with which the change in gauge was executed. Rails were cut for standard gauge switches for all spurs, passing sidings & switch-backs, although temporary narrow gauge switches were laid as the work progressed, except in case of Smelter Jct. yard where the tracks were arranged for use of both gauges. Here a combination switch was used. On June 14 the entire standard gauge track was laid except the substitution of standard for narrow gauge switches, of which there were 14. On June 15, Roadmaster Sullivan divided his 100 trackmen into 6 gangs, & the work of changing the switches was started at 7 o'clock, after all the narrow gauge equipment was unloaded & taken to Smelter Jct., where it was stored. At 13 o'clock the first passenger train started from Smelter Jct., arriving at Rosland at 15 o'clock. The train consisted of a consolidated locomotive & 2 passenger cars, rounding successfully the thirty 20 degree curves, whose aggregate length is nearly 3 miles. These curves are laid with gauge widened 1 in. & with only 1 in. elevation to outer rail. No guard or check rails are used & running rails are laid on service tie plates with 3 spikes in each, which are holding the track to gauge without the use of rail braces. Passenger trains are run up & down this incline at the rate of 12 miles an hour & freight trains at 8



C.P.R. LINES IN KOOTENAY DISTRICT, BRITISH COLUMBIA.

another at Tiger Gulch. The track was laid with 6 ft. ties & 26 lbs. steel rails. The cuts were 10 ft. wide & embankments 9 ft. wide. The line was sold to the C.P.R. Co., which has just completed the widening of the gauge, or rather the reconstruction of the line, whereby the maximum curvature is reduced to 20 degree cuts made 16 ft. wide, & embankments 14 ft. wide. Four of the 11 origi-

nal trestles have been filled & the others strengthened. The grading was done during Sept., Oct. & Nov., 1898, by Winters, Parsons & Boomer, contractors. Track laying was deferred until the spring on account of the severity of the winters in that locality, when it was done by the Ry. Co. The work was done under the immediate direction of F.