

all purposes for traffic for years to come, without material increase in the cost of operating. The Atchison, Topeka & Santa Fe, and other roads crossing the Rocky Mountains have grades equal to or exceeding this one.

I also examined the section of the proposed permanent line around which the temporary line has been built, and especially, as you requested, the large rock slide immediately east of the long tunnel through a spur of Mount Stephen. All of the slide, except about one hundred and fifty feet in width, seems to have been formed from gradual accretions, as the face of the solid rock forming the cliffs south of the line has weathered and worn away. There is no evidence of any recent movement that could not be guarded against. Bushes of various kinds grow on the old and gradually accreted portion. The one hundred and fifty feet of this slide, above referred to, is the track of a small stream that comes out from under a glacier about one thousand feet above the grade line. This glacier extends up Mount Stephen nearly, or quite to the summit, the upper portion being hidden from view by a projecting spur of the mountain. This small stream is gradually accumulating debris from the glacier, and in times of extreme summer heat when the largest amount of snow and ice is being melted, a flood of water rushes down this slide, carrying with it the accumulated debris, into the valley below, with great force. A truss bridge one hundred and fifty feet in length, can be built over this slide through which these accumulations can be passed with safety.

But the temporary line around this place is so well built, and promises to answer present purposes so well, I should think it unwise to expend any money on the intended permanent line until the traffic really demands it.

From the summit of the Rocky Mountains, I went by