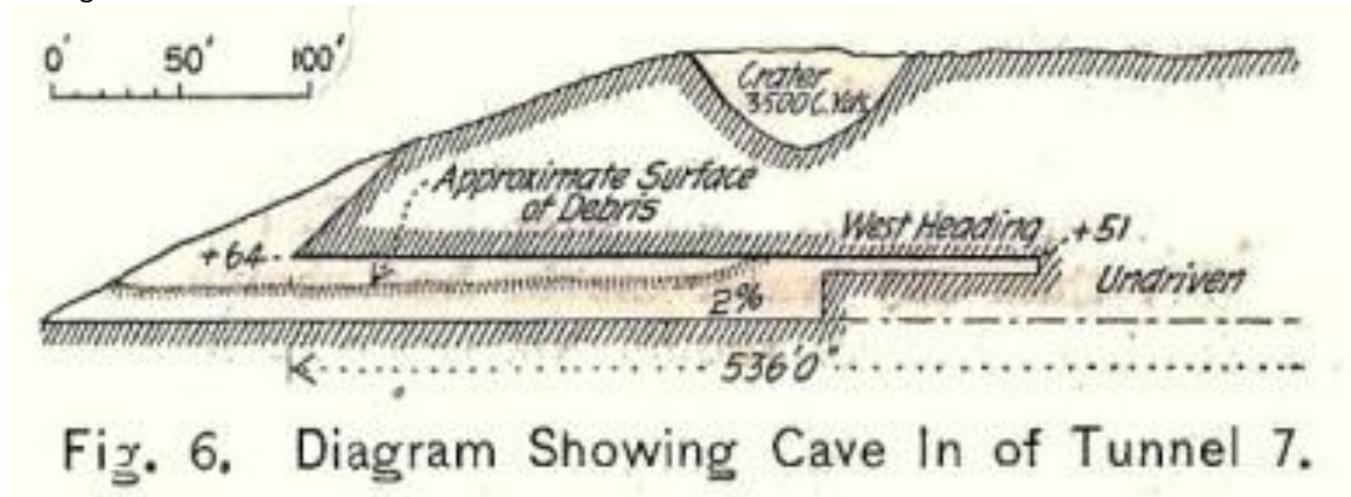


## Cave-in on the E&MC Ry!

E&MC Ry Chief Engineer R. B. Fisher described the construction required to negotiate Robe Canyon as the “most interesting” part of the overall project, necessitating six tunnels to penetrate rock outcroppings along the river’s edge. But it was Tunnel #7, several miles upstream from the canyon, which proved to be the most difficult tunneling task. The Oct 5, 1993 issue of Engineering News had Fisher’s article:

“Another point of some interest beside the canyon was tunnel No. 7. The stratum through which this tunnel was attempted to be driven is a sort of a mixture of sand and clay. At first when going under, it seemed to be firm, and remained so for several hours, being liable to flake off, however, at any time without giving notice. As the tunnel was driven it remained dry for some distance: but the sand settling down on the lining seemed to loosen up the overlying material and soon water began dripping through. When is about 150 ft. from the west end, a considerable stream of water was encountered, which was stopped with some difficulty. At a little over 200 ft., after several days’ rain, the tunnel showed signs of weakness. It had been timbered with hemlock, the only timber in the vicinity. This hemlock is a pulpy wood, and under the pressure the wall plates, originally 12x12 ins., were pressed down to 4 ins, thick in places. A crown beam 12x12 ins. Was laced longitudinally under the middle segments with supporting posts as the tunnel was driven. The timbering was 2 ft. between centers. As this did not seem to be strong enough, it was determined to timber solid.”

“Before these timbers could be introduced, however, the lining failed, being forced in just back of the breast wall. The failure occurred very suddenly one morning and the material rushed in, filling the whole tunnel up to the spring line, for a distance of over 200 ft., and being forced out 190 ft. beyond the portal (Fig 6). Boulders of a yard or more were carried through. A crater was left in the surface of the ground some 75 ft. across and 40 ft. deep having a volume of 3,500 cu. yds. This crater subsequently partially filled with water. It was supposed by the writer [Fisher] this freak was caused by hydraulic pressure in some way, as no ordinary conditions would cause a portion of the earth to convert itself into a gigantic sausage mill in this manner. “



Stories abound about the cave-in while building the E&MC Ry and the men it killed (often described as Chinese rail workers). Well, the E&MC Ry didn’t use Chinese labor, and no one was killed in the cave-in, the foreman having ordered everyone to safety before the catastrophic event.

“As it was impossible to rebuild this tunnel after the disaster within the time specified for completing the road, a temporary line, was built around it using 18° and 24° curves. The line has been operated with these now for some months during construction, using a single guard rail and plenty of rail braces. The tunnel is now being reconstructed with the masonry lining, shown in Fig. 7.”

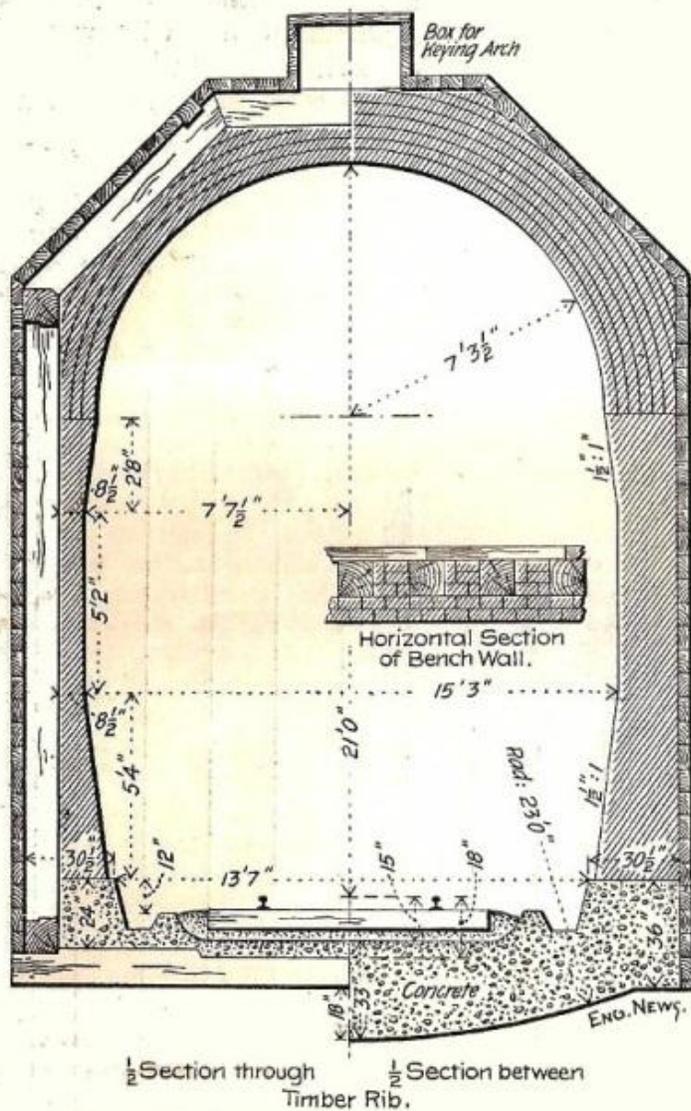


Fig. 7. Masonry Section Adopted for Tunnel 7.

When Fisher wrote those words in Aug 1893, it's quite likely that he fully expected Tunnel 7 to be completed as planned, using concrete. That never came to pass, so the railroad operated until its demise using the very sharp turns described. You too, can follow those sharp curves, as you drive on Mountain Loop Highway between Wisconsin Creek and Schweitzer Creek – careful, they're sharper than they look!

Fisher ended his technical article with a "softer" description of the rail line: "**There are views of great scenic beauty all along the line, the most striking thing being the nearness of the walls of the canyon. The gorge is narrow and the tourist can, as it were, touch as well as view. There are walls and slopes of mountains all along above the canyon; sometimes near, sometimes off a mile or so, nearly all wooded to the summit. On the upper part of the line, however, the peaks are so high, so steep and craggy that timber disappears in many places. Not even the snow can lie here, but comes coursing down in slides. The only animate thing that can stay there is the mountain goat. At Monte Cristo on the left comes Glacier Creek, on the right "76" Creek, both fed from the same glacier, high on the mountain slopes.**"