economical, and the labour was suitably trained. A normal daily output at the ramming face is about 130 rft. of channel.

Shape and spacing of the expansion and contraction joints was given due consideration. The most satisfactory and economical material for sealing the joints was found to be bitumen. The width of each joint and the number of joints was kept as small as possible. At first, "v" shaped wood form joints appeared to be suitable but at the latter stage "Y" form was found appropriate due to its ability to be withdrawn easily from the consolidated concrete with the added advantage of less space left to be sealed compared with the "v" type of form. The type of work was entirely new, with no past experience as a guide to decide on appropriate spacing of contraction and expansion joints. The first arrangement was to provide two longitudinal joints on the canal bed, running parallel, and at a distance of 4 ft. from toe of the side slope. Main cross joints were to be spaced 44 ft apart to run right across from top of the one side slope to the top of the other. Length of the joint per running foot of canal with this arrangement, was approximately 4.6 linear foot. Provision of midway joints in the side slope was discontinued because appreciable cracks were not noticed after laying of the concrete. During the winter of 1924-1925 hair cracks were observed in the bed slab and more serious cracks were noticed in the lining laid at the commencement of operation. In the work done since October or November 1924, practically no cracks have appeared either in the bed or side slope. The cracks on the side slopes of the earlier work were not found to be from contraction of concrete but due to subsidence or other movement of the made up earth behind the concrete lining.

Due to a high content of lime, concrete made form Darabri kankar has different contraction and expansion characteristics from those of cement concrete. It takes three months to attain the maximum strength. Slow setting of lime concrete tends to relieve internal stresses and helps to adjust to the local severe weather conditions during the hardening process. Observation of completed concrete work has revealed no signs of expansion or contraction cracks. Friction between earth and concrete is sufficient to overcome any stresses near the bottom of concrete due to temperature variation. In view of relatively low heat conducting properties of 6 inches thick concrete,