

A Science Service Feature

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? WHY THE WEATHER ? Mailed March 23, 1934

INSULATION PROBLEMS

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Two interesting problems in insulation have been solved in connection with the building of the Hudson Bay Railway, according to a recent article in the Journal of Geography. In one case the problem was to keep something cold; in the other to keep something warm.

Problem number one presented itself when it became necessary to build the last 98 miles of the road, terminating at Churchill, over boggy land known in Canada as "muskeg." Efforts were made in vain to spread enough ballast on the bog to keep the tracks level when trains ran over them. Finally a young rodman suggested that the ballasting be done in winter, when the muskeg was solidly frozen. More than two thousand men toiled day and night through the winter of 1928-29, facing blizzards that raged for weeks together and enduring bitter cold. The plan was successful. The road was finished by the end of March, and the bog under it remained firm in summer because the insulating layer of gravel prevented it from thawing out. It is now permanently frozen ground.

The other problem was to secure a water-supply for Churchill in winter, when the temperature sometimes falls to 65 below zero. This was accomplished by running a pipe-line, above ground, from a lake three miles distant and surrounding the piping by a layer several feet thick of peaty material from the muskegs. This material is an excellent insulator and keeps the water from freezing in the coldest weather.

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