that they have seldom found gravel that paid to work below two feet in depth, and that by far the best returns were got by scraping around the larger boulders, or by working the top twelve or eighteen inches, and below that the gravel was too poor for a man with a rocker to make anything at all.

Now, placer miners seldom discover a gold-bearing river bar or creek without sinking on the same in the hope of finding richer ground below or on bedrock, and large sums of money have been spent by Kamloops people in sinking shafts on well-known, gold-bearing creeks, but these operations so far have all been strikingly disappointing, no better values than those at the surface having been found.

These experiences naturally lead to the conclusion that gold is very sparingly distributed in the immense sion of the great trough-like valleys of the Fraser and Thompson, rich gold-bearing deposits must have been formed along these rivers."

"That the rich placers of the Cariboo date from this period."

"That a thick rib of the Cordilleran glacier must have followed the valleys and the pre-glacial river gravels must have been either removed or disturbed, and no pre-glacial placers have been found as yet either on the Fraser or Thompson."

"In the succeeding period when these valleys were refilled while in the flooded state, a certain amount of gold was brought into them in the drift and from further denudation of the rocks, but this gold was naturally very unevenly distributed."

"When the frost-glacial erosion of these valleys be-



THE NEW DREDGE, CONSTRUCTED AFTER THE NEW ZEALAND PATTERN, NEARING COMPLETION. (The Photograph also shows the river at high water).

mass of gravels which partly fill the valley of the North Thompson, and that the river and creeks in washing away this gravel, concentrate this gold in their gravely beds. It should be pointed out that over nearly the lwhole course of the North Thompson, from its junction with the Clearwater river to Kamloops, the river does not run on bedrock but is cutting its way through the drift-filled valley of its fire-glacial representative. The immense amount of gravel washed away by the present river in cutting this new channel will fully account for the great enrichment of the river bed.

As this subject was carefully studied by the late Dr. Dawson, I will briefly quote his opinions and conclusions as set forth in Part B, Annual Report—Geological Survey of Canada, Vol. VII, pages 321B-329B. The learned Doctor's conclusions may be summed up in the following quotations : "That during the original erogan the rivers again concentrated the gold as they cut down through the drift filling, and the lowest and latest river channel will be the richest."

Judging from Dr. Dawson's deductions, and the experience of the old placer miners, the expectations of profitable gold dredging must be built on the basis of the gravel at and near the surface being the richest, and on the probability of the gravel below this being poorer in gold and not richer. The small islands and low-lying flats, shaded in the map, although covered with dense growth, are likely to yield profitable ground as well as the river bed itself. There is great probability that at the low cost at which gravel can be handled by a dredge that the low distribution of gold throughout the benches, may be sufficient to make working very profitable. The highest returns, however, ought to be got from the river and larger creeksbetween their high-water marks.