

## DREDGING FOR GOLD

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"PANNING OUT"

COINCIDENT with the decline of hydraulic mining for gold in the Great West of the United States, is the rise and development of a new process for recovering the precious metal from the alluvial bottoms and river beds which have heretofore been deemed inaccessible. It is the later and more perfect process succeeding the earlier and cruder one, and it makes available vast deposits of gold-bearing gravel which is beyond the reach of hydraulic mining.

Hydraulic mining is at once the simplest and most effective method of saving the bulk of the gold where the conditions exist for its use; but more or less loss occurs in the tailings. Hydraulic mining is the disintegration and washing down of a bank of auriferous gravel by means of a powerful jet of water, and the passing of the resultant water and debris off through a sluice-box containing riffles in which the gold is caught. Two essential conditions are necessary to successfully

operate this system:—First, the water must be available in large quantity and under heavy pressure; and secondly, there must be a "dump," or natural grade, for the water to run off and deposit the tailings without interruption.

These conditions are found in many places along the banks of rivers and creeks and in the valley sides, situated so that the water can be laid on by a ditch or flume, which taps the stream near its head waters, and, following down the contour of the valley at a gentle grade, is soon far above the river bottom, which has descended more rapidly. A pipe line carries the water down to a "giant" nozzle, which, by the force of a stream, sometimes as much as 6 inches in diameter, from a pipe-line 18 inches in diameter, and with a pressure of several hundred pounds per square inch, does tremendous execution in washing down whole hillsides and spreading them out in the valley below. This harnessing of the forces of nature is so simple and efficacious, so free from complication, and so cheap as to operating expenses, that handsome returns are obtained, notwithstanding its wastefulness.

This simple and attractive system soon began to decline for the reason that the localities favored by nature became gradually exhausted and worked out. Furthermore, the vast volumes of debris, washed down into the rivers and fruitful valleys below, became a menace to agriculture and other occupations, so much so that the United States Government appointed the "California Débris Commission" to investigate and regulate the conflicting interests. The proceedings of this commission, and the record of the strife between the gold miners and the land and navigation interests, furnish an interesting chapter in the history of American gold mining, particularly in California.