

nd of the tunnel at a speed of about  
minute with a capacity of 10 yd. per

divers to an inclined 36-in. conveyor  
ing, run by a 50-hp. motor at a speed  
minute, which elevates the stone to a  
t. above the ground and discharges  
with transverse chutes on both sides  
the stone may be loaded into cars on  
ack below, and also with a longitudinal  
which, if the transverse chutes are  
ne may be delivered to the last con-  
as a 36-in. belt 240 ft. long, run by a  
a speed of 400 ft. per minute, to the  
ck, where it terminates about 28 ft.  
vel with a hopper provided with a  
l chute 20 ft. in maximum length.  
; 180°, is supported at the outer end  
tackle, and is thus enabled to reach  
500 or 600-yd. barges moored to the  
? the dock.

#### Magnitude of the Plants

cu. yd. of concrete and 700 tons of  
was used in the construction of this  
as designed and constructed by P. K.  
g general plans prepared by the Edi-  
olls Co., Stephens-Adamson Manufac-  
is-Chalmers, and others. The quarry  
hands of the Tomkins family for 75  
its present stage of development un-  
der the direction of Walter Tomkins, president  
Cove Stone Company.

#### The Lovett Grinder

Copper Co., after extensive experi-  
Lovett grinding machine, has decided  
l installation. The machine consists  
disks running face to face in a hori-  
The bottom disk rotates about its  
top disk reciprocates across the face  
disk. The material to be ground is  
hole in the top plate. The top plate  
ons, secured in a harness, which main-  
with the lower plate simply by their  
ome middling on which an extraction  
et mineral was usually obtained was  
nachine. After grinding in the Lovett  
raction of 71% in direct mineral was  
ed going to this machine contained  
l through 200 mesh (ordinary num-  
the product contained 63% through  
nary number 26.4).

ss show the following output from  
s, Queensland, for the month of May.  
5537 tons yielding bullion 4745 oz.,  
yanide works treated 9206 tons, yield-  
3 oz., value \$38,400; smelters treated  
g gold 1640 oz., value \$33,600; silver  
\$1050; lead 21 tons, value \$1480; al-  
z., value \$310; copper ore 2 tons, and  
ate 17 tons, yielding bullion valued at  
oz., value \$19; copper 3½ tons, value  
1, value \$31; slag 15 cwt., value \$210;  
being \$154,463.

## The Re-Awakening of an Old Placer Camp

By ERNEST G. LOCKE

Twenty years ago American cañon, in Humboldt county, Nevada, was the scene of great activity. Hundreds of Chinamen were working the gravels, and recovering millions in gold dust, of which fact ample evidence remains in the hundreds of shallow shafts, and the piles of worked gravel spread over not less than two miles of the river-bed. The first discoveries were probably made by white men, but they proved indifferent to the riches at their hands, so the ground was leased to a Chinaman on a royalty basis. It is said that this Chinaman brought in hundreds of his countrymen to whom he sub-let the ground in blocks 20 ft. square. Each lessee sunk a shaft to the pay-streak and mined out the ground comprised in the lease. Thousands of piles of tailing attest the energy with which work was conducted. An old Chinaman still living on the ground—the last of five hundred—states that each block of ground 20 ft. square produced from \$1500 to \$3000 in gold-dust and nuggets. The source of the gold has not been definitely traced, but it is believed to have originated in a range of porphyry hills through which the old river cut its bed, and the remains of which can now be examined still carrying gold contents varying from a trace to \$15 and \$20 per ton. In my mind, there is no doubt that these porphyries provided the placer gold of American cañon, and of the several other cañons lying north and south, which also produced the yellow metal.

#### Production of American Cañon

It is a difficult matter to endeavor to make an estimate of the aggregate amount of gold taken out of American cañon. Chinamen are secretive as to their gold, but it is said that the Wells Fargo & Co. Express has a record of several millions of dollars worth carried out by it. F. L. Ransome gives a reported output of ten millions, and others believe twenty millions to be nearer correct. However, it is certain that the extraction has been good from an area represented by only two miles of river bed, which was the extent of the gold-bearing gravels.

In working the gravels down the river the bed-rock was porphyry up to a certain point, where it changed to limestone. The pay-streak lay on a false bedrock of clay, generally about 60 ft. from the surface, being shallower at the upper end of the diggings and increasing in depth at the lower part. A shaft nearly 200 ft. deep was sunk through gravels to the limestone. The pay-streak, however, still retained its position at about 70 ft. from the surface; little or no gold was found below the false bedrock, and none on the limestone.

About half a mile below this shaft the gold spread into a fan-shaped deposit and gradually was lost. The cañon continued, so why did not the gold? It is believed by many that the lower part of the old channel with its gold gravels was faulted and carried northward for about 2000 ft., the upper portion being tilted up to a steep angle. Some time after

this occurrence a flow of lava came from the mountains to the west and filled and concealed this faulted part of the channel.

This portion of the gold river channel, unnoticed by a generation of prospectors, has recently been discovered, through portions of the gravel having rolled down the hillside from under the lava. There can be no doubt of it being an old river channel—the north rim of the channel (limestone) is visible in several places, but the south rim is buried under the lava; in between, the gravel outcrops at one point, and has been uncovered at several places by pick and shovel. A shaft, now down 130 ft., is projected to go to bedrock, and a tunnel is being driven under the lava toward the south rim. All of this work is in washed gravel, sand, and boulders—pannings show that the gravel contains fine colors of gold, some cinnabar, plenty of magnetite, and cubes of hematite; in fact, the porphyry gravels are exactly the same as those worked by the Chinamen in American cañon, there can be no doubt that the same hills were the source of both.

Such being the conditions, it is confidently anticipated that when bedrock is reached and the old river channel cross-cut from rim to rim, rich returns will be had.

American cañon is situated a short distance from the new camp of Rochester, the head of the cañon being no more than one mile north of Newel hill; the diggings are about three miles down the cañon, and many now look forward to seeing there the life and battle of a successful gold district.

#### Operation of the Great Boulder Mill

From the annual report of this Kalgoorlie company, the following is abstracted:

During the year 1912, a total of 193,451 tons (2240 lb.) of sulpho-telluride ore was treated in the sulphide mill for a return of 59,284 oz. of bullion by amalgamation, worth approximately \$213,924, and 98,249 oz. of bullion by cyanidation worth approximately \$354,850. Also treated 14,467 tons of old tailing for 1204 oz. of bullion, worth approximately \$4885, making a total for the year of 158,738 oz. of bullion produced, worth approximately \$573,159.

The loss of mercury per ton of ore treated in the sulphide mill has averaged 0.178 oz. The loss of cyanide has been 0.9 lb. per ton of ore treated.

The average assay value of the residue of the ore treated during the year is 1.60 dwt. per ton of 2240 lb., and the average assay value of the residue of the old tailing dump is 1.37 dwt. per ton. Costs were \$1.92 in the sulphide mill and 82c. per ton in the cyanide plant, a total of \$2.74 per long or \$2.44 per short ton.

Dividends paid by gold mines on the Rand during the first half of 1913 total \$19,200,000, while those from outside districts, diamond, coal, and tin mines made a total of \$21,600,000.

During the month of July the Elmore vacuum plant, at the mines of the Sultjelma company, Norway, produced 850 tons of copper concentrate.