

Pay Dirt in Colorado:

A year in the life of Ben Stanley Revett and the Twin Lakes Hydraulic Gold Mining Syndicate, Ltd., of London, England

By Carmen and
Larry Piekenbrock

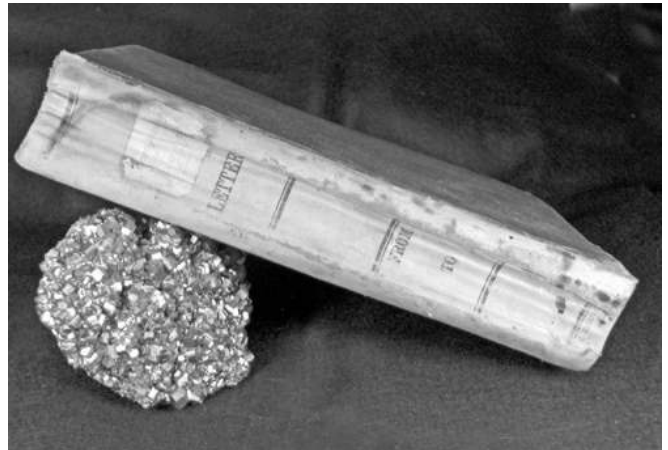
Ben Stanley Revett is relatively well known for introducing the mining technique of dredging to Colorado at sites near Breckenridge in 1898, but before that he gained placer experience working at, and then managing, a hydraulic operation on the Arkansas River. Revett was born in India, of British parents, and came to the United States in 1884, the same year he began working for the Twin Lakes Hydraulic Gold Mining Syndicate at Granite, Colorado.¹

The syndicate's 1889 mining season, the year Revett took charge, is revealed in letters written by Revett, and by his assistant W. B. Burtis. This correspondence has been preserved through copies they made using the letter-press copy method. Revett called them "press copies," and they are contained in a bound copy book of nearly five hundred tissue-paper pages. These copies were produced by transferring ink from a hand-written or typed original, dampened with water, to a piece of thin tissue paper by pressing them together with a hand press. This volume's survival gives us a chance to examine some details of the Twin Lakes mining operation, and of Revett's management of it.²

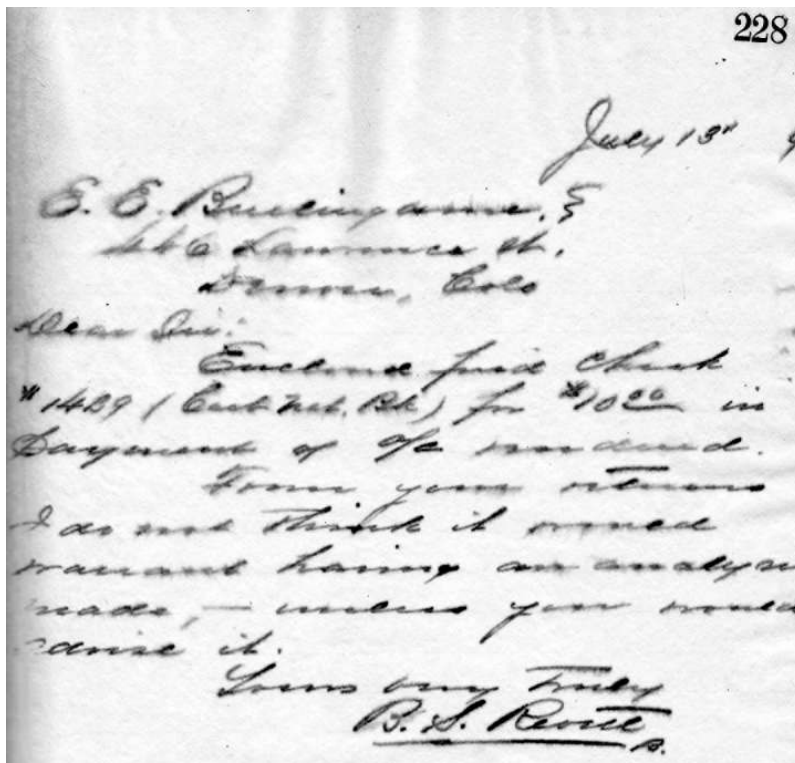
The letter press also copied the mine's printed letterhead, which first appears on a letter dated 5 October 1889, showing that it was in blue ink. Some red highlights and underlining, especially in the accounting records sent to the London office, also are present in the press copies.

These letters tell us that before becoming manager, Revett was paid \$120 a month, \$10 of which was his share of the housekeeper's room and board. On 12 July 1889, he wrote a letter to the syndicate's secretary in London to confirm becoming manager of the mine. His appointment was for a year, effective 1 May 1889, at a salary of \$250 a month, plus a 2 percent commission on all sales of gold.

*The volume of office copies of letters written
by Ben Stanley Revett in 1889.
(Authors' collection.)*



*The mine's letterhead as recorded on the top of a page in the copy book.
(Reproduced from the copy book in the authors' collection.)*



*Example of a letter written in
Revett's name by W. B. Burtis,
Revett's assistant, this one to E. E.
Burlingame, an assayer in Denver.
(Copy book, authors' collection.)*

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July 12th 9

V. H. Smith Esq
Secretary
The Twin Falls Hydraulic Gold Mining Syndicate
London.

Dear Sir:

I now beg to acknowledge the receipt of your letter of June 4th confirming my appointment by the Directorate of this Syndicate at the terms stipulated in my cablegram of May 24th which are as follows:

My appointment dating from May 1st 1889 to April 30th 1890. —

my remuneration as Manager of this Company's Mine being fixed at Two hundred and fifty dollars a month (\$250⁰⁰00) with two per cent commission on all sales of Gold made during my administration.

Sincerely hoping my efforts may be successful, & satisfactory in every way. —

I am, my dear Sir
Very truly yours
Drumhauley Revett Manager.

Letter by Revett, 12 July 1889, confirming his appointment as manager.
(Copy book, authors' collection.)

W. B. Burtis, the assistant Revett hired, arrived at the mine on 26 June. His handwriting is more difficult to read and his copies are generally fainter. He signs Revett's name, as required, with a small subscript "AB". Revett paid Burtis \$150 a month, the same amount as at his previous job with the Colorado and Utah Railway Company.

The Mine

The syndicate's mine, one of the more profitable placer mines in Colorado, was near Granite.³ It lay mostly in Chaffee County, but also somewhat in Lake County, to the west of the Arkansas River. Leadville, in Lake County, lies to the north, and Buena Vista, in Chaffee County, to the south. Revett described Granite as "a Godforsaken hole in the dreary winter months."⁴

In 1889 the tracks of the Colorado Midland Railroad ran through Granite about where Highway 24 runs today, as seen in the foreground of the photograph of Granite below. On the east side of the Arkansas lay the tracks of the Denver and Rio Grande Railroad, best identified by the boxcar and what may be a depot just to the north of it. The cart is probably sitting on the road that ran between the mine and the town. None of the buildings in this photograph appear to relate to any of the buildings in Granite today.

If you drive to the mine west of Granite, you can look down several gulches that appear to have been placer mined. One author says "there are many small gulch placers" in the area.⁵ You will also encounter the sign that overlooks the "pit," as Revett called it even in 1889, where most of the placering occurred. A cemetery lies near the sign.



The town of Granite, Colorado, from the Mining and Industrial Reporter, September 1897. (Courtesy of the Denver Public Library, Western History Collection, X-8755.)



*The sign commemorating the Cache Creek Placer, as it is often called.
(Authors' photo, October 2006.)*

The mine's office was probably on this hill. Revett described how "all water for washing floors, clothes, for retorting, watering [the] mare, etc. has to be carried up from the well." He used an old ditch to bring water to the office and house, and he built in a wooden bathtub, saying he believed that the time saved more than paid for its construction.

You must walk beyond the Cache Creek sign to the south to enter the mining area. This area was placered and hydraulicked from 1860 to 1911, and then intermittently until 1918. Author Erl Ellis, using numbers provided by Revett, summarized the production of the mine from 1869 to 1900. The mine produced approximately \$10,000 a year for the first six years, then averaged from \$25,000 to \$40,000 a year, except for 1886, when it produced nearly \$80,000. Ellis' total production figure is \$940,000.⁶

In his letters in 1889 Revett provided three totals. For the poorer year of 1888, he gave a total of \$29,317, and for 1889, \$37,840. For the six years the syndicate had owned the mine, 1884 to 1889, Revett estimates a total of nearly \$270,000.

At today's price, the mine produced nearly \$1.5 million in gold in 1889.

The letters describe the mine as having "light gravel banks with mixed clay and decomposed granite bed rock." Revett had the black sand analyzed, hoping to sell it to the Colorado Coal & Iron Company in Pueblo. He sent E. E. Burlingame, an assayer in Denver, thirty-five pounds of "white clay from the south side of the gulch and a brown clay from the north side," but the letters do not contain the results of these samples.

Water

The need for water dominates the letters. On 3 April 1889, Revett wrote to the syndicate in London that the weather was "wonderfully mild, still no snow & outlook for water bad, such a winter has never been known, in the recollection of the oldest inhabitants." But on 17 April he wrote that "since the 6th it has stormed & snowed more than all the rest of the winter together." These comments also speak to the uncertainty of Colorado weather.

Revett maintained and expanded a system of flumes, trestles, ditches, a tunnel, and two reservoirs to bring water to the mine from Lake Creek, from Clear Creek, and from the Lost Canyon–Cache Creek drainage. He wrote that the Cache Creek Ditch, which brought water from Lake Creek to the mine, was fourteen miles long.

In May he had two men at work on the Cache Creek Ditch shooting boulders out and repairing cribbing. On “the Clear Creek Waterway,” as he called it, he had seven men at work cleaning out the ditches “at both ends,” repairing a trestle, and caulking. They also had to “cut 700 feet of ice out of the tunnel.” He estimated that they would have water running after ten days of work, on 28 May.⁷

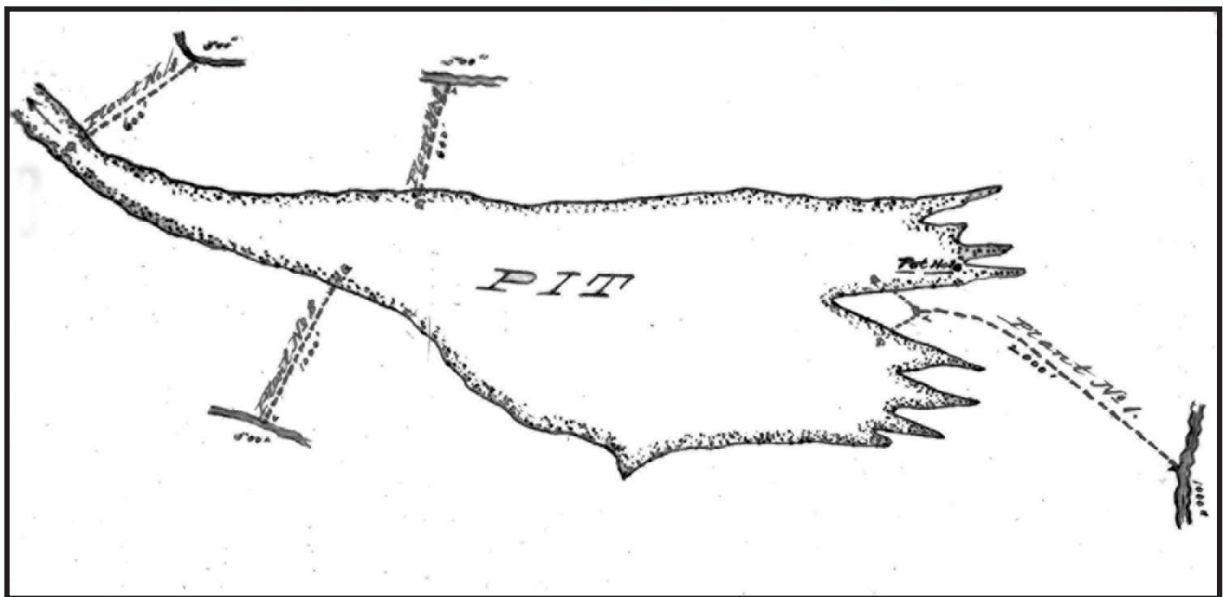
On 8 August, Revett wrote of the Clear Creek Waterway that

we have had the entire water of the Creek running through the flume, giving us a full head of 18 inches. . . . On Tuesday the 4th Inst. Mr. Giebfried a ranchman came over and made a complaint that we had all the water and that he had none for irrigating purposes, and must have a

third of our water. I told him that we would do our best to meet his requirements, but that he must not waste a drop or we would take it away from him and let them [*sic*] sue for it. I consequently had to reduce our water to 14 inches and reduced my force by eight men. . . . We are now running 14 inches by day and when Mr. Giebfried is in bed and asleep 18 inches to get both reservoirs full for [the] next day’s run.

Also in August, Revett had to build an “impounding dam” to prevent any of the mine’s debris, “detritus” he called it, from reaching the Arkansas, which was too low to carry it onward.⁸

A sketch from the copy book representing the “pit” they were working in 1889, reproduced below, anticipates the installation of giants for hydraulicking the following season. Revett wrote of “the Pot Hole” that “the ground has caved in, all water seeping out of the banks, running into it in a stream, & back into this enormous pot hole or sink . . . and nowhere can I find a place where this water has egress down the Gulch.”



A sketch of the pit in 1889, showing the four hydraulic “plants” that Revett wanted to use in 1890.

The sketch was sent to Joshua Hendy in San Francisco in August 1889.

(Copy book, authors’ collection.)



Part of the area placer mined west of Granite, Colorado, foreground, as it looks today. (Authors' photo, October 2006.)

Revett wrote that he had been told that a previous owner of the mine had “endeavored to bottom it several times, but never succeeded in doing so, on account of the heavy & incessant flow of water.”

The Gold

A letter dated 31 July [p. 25] advised the German National Bank in Denver that Revett was shipping his third gold bar, weighing 147 ounces. At his instruction, the bank forwarded it to the assayer, Burlingame, and deposited the proceeds into the syndicate's account in Denver. Revett wrote in another letter that he estimated the weight of each bar in his office before shipping it, knowing the final certificate would be somewhat different. He requested duplicate certificates be-

cause he had to forward one to the London office.

The authors have summarized the company's bullion shipments of the 1889 season as much as is possible from the information contained in the letters. The fineness of some bars is mentioned. The gold was 847 and 840 fine for bars one and two, but dropped to 824 fine for the eighth bar. The letters indicate the source of some bars. “Pit Number One” is the best-producing area.

“Hydraulic” appears as a source of gold because the syndicate had one “pipe line” or “hose” operating in 1889. In a letter written 8 August, Revett recorded that

we have changed our pipe line that we may better work north in quest of the western edge of the ‘Pot hole’ paying

Gold Bar Notes				
Bar (fineness)	Ship Date (page no.)	Ounces	Yield (by source)	Sq.Yards of Bed Rock Cleaned Up (by source)
Bar No. 1 (847)	July 3 (200)	72.235	\$1,329.98	1,400 (Pit No. 1)
Bar No. 2 (840)	July 19 (255)	241.61	\$4,000.00 (estimated)	("adjoining pits" to Pit No. 1)
Bar No. 3	July 31 (283)	147.36		
Bar No. 4 (304)	"Total shipped to date" Aug. 8 (300)		\$8,839.39 "plus mint charges"	
Bar No. 5	Tells London on Sep. 1 (329)		\$4,533.72 (\$2,333.72) (\$2,200.00)	1906 (cleanup No. 5) 1800 (cleanup No. 6)
Bar No. 6	Sep. 7 (350)	256.36 (estimated)	\$4,294.70 (\$3,003.75) (\$1,293.95)	1955 (Pit No. 1) From flume
Bar No. 7	(392)	269.61 (estimated)	\$4,647.39 (\$2,519.00) (\$2,128.30)	2290, Pit 1 north side 1950 from "boom out"
Bar No. 8 (deduced)	Oct. 12 (388)	345.35 (estimated)	\$5,759.92 (\$3,752.00) (\$2,007.92)	"hydraulic" "South Side" Pit No. 2
Bar No. 9 (deduced)	Nov. 5 (416)	307.78 (estimated)	\$4,875.20 (deduced)	
Bar No. 10 (deduced)	Nov. 6 (417)	268.62	\$4,474.99	
A summary of the gold bars produced during the 1889 mining season, based on information from letters in the copy book. "Estimated" is Revett's term, "deduced" is the authors' term. ⁹				

our way with a margin of profit. . . . Not caring to go to the expense to move the cumbersome distributor back, I had a taper pipe made to which we clamp our hose, this is doing most effective work, and demonstrates what can be done with hydraulic pressure, as though it has only 55 feet hydrostatic pressure, it throws a stream from a 3 Inch nozzle that will knock a man down 75 feet distant, and through which stream it is impossible to drive an Iron Bar.

In the summary of the Gold Bars, what stands out is the slow start and the strong finish—the first bar, recorded on 3 July, weighed 72 ounces, while the tenth bar, of 6 November, hefted at 268 ounces. The silver paid the mint charges, but Revett mentioned silver only once, and then to talk about the fineness.¹⁰ He preferred to have Burlingame determine the fineness of the mine's gold

and silver, because his determination was higher than that of the Denver Mint. Some bars were processed at the Mint, however.

Gold was valued at \$20.67 an ounce, and Colorado gold averaged 820 fine, making it worth \$17.15.¹¹ For the bars for which we know the number of ounces and the amount received, that total being 1,689 ounces, Revett received an average of \$16.60 an ounce. The largest gold nugget found in the mine, according to Revett—presumably during his six years there—weighed three-and-a-half pennyweights, or one-sixth of an ounce.

In most of his letters, Revett recorded “ground cleaned up” in square yards, while it is more common to see this figure in mining data expressed in cubic yards. In a letter to the syndicate, he compared cubic yards and square yards, based upon gross proceeds of the mine for the years 1884 to 1889, rejecting some comparisons the London office apparently made. These numbers provide a



Granite, looking toward the hill on the west behind which the placer mine was located. Note the road that goes up the side of the hill and turns west to reach the mined area. (Authors' photo, October 2006.)

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July 31st 9

J. A. Cooper Esq/
 The German National Bank
 Denver Colo. —

My dear Sir:

By to-morrow's D. & R. G. Express I
 ship Bar 3 of Gold Bullion weighing 147²⁶/₁₀₀
 Kindly send the same to Mr. E. E. Burlingame
 as you did Bar 1, getting Duplicate Certificate
 as you have always done heretofore and
 placing the proceeds to the credit of my
 Syndicate, & oblige.

My dear Sir
 Very truly yours
 Ben Stanley Jewett. —
 Manager. —

A letter to the German National Bank regarding shipment
 of a bar of gold bullion. (Copy book, author's collection.)

glimpse into the differences from year to year, and probably betray the poor job done by the mine manager who immediately preceded Revett. The best year was 1886.

In another letter to London, Revett provided the square yards of bedrock cleaned for the season, by "pit," or presumably by locations similar to the "plant" locations for the giants indicated in the sketch of the pit. The total for the year came to 33,075 square yards, with 620 square yards of "old bedrock recleaned." Later, he indicated that they cleaned up their "last bedrock on the evening of the 28th of October."

The Men

Revett recorded on 10 December 1889 that the mine's peak employment occurred on 25 June, when, for one day, he had fifty-one men on

the pay roll. As the season came to a close, he reported that he employed men to dig a new supply and waste ditch at \$2.25 per eight-hour shift. He paid a blacksmith \$3.50 a day because, he said, he could not get one to stay for less. He paid a carpenter \$3.25 a day, in part because the carpenter had his own chest of tools. Revett raised a man's pay by twenty-five cents a day after putting him in charge of pole dam construction. He also paid a \$29 bonus to each of two ditch tenders, who were usually paid \$2.75 a day in Colorado.¹² Revett did not indicate how much he was paying the men, nor for how many hours, when they were working twenty of twenty-four hours during "night sluicing," which began 4 June and ended 5 September in Pit Number One.

When questioned about hiring his assistant, Burtis, without first obtaining permission from London, Revett protested vehemently and listed



Photograph by C. W. Erdlen, taken "between 1890 and 1900," of a "miner running a hydraulic 'monitor' nozzle, Granite, Chaffee County, Colorado." (Courtesy of the Denver Public Library, Western History Collection, X-60084.)

“Mine Staff” for the years from 1884 to 1889 to show that two people was the lowest number employed during all of those years. It is possible, too, that Revett was paying Burtis more than the board in London approved.¹³

Revett listed himself as being one of the “Mine Staff” in the five years previous to his becoming manager. Revett probably did not have schooling in mining, but he did apprentice for seven years in shipbuilding on the River Clyde in Scotland. The authors believe that the letters support the probability that when Revett arrived in Granite in 1884, he knew wood and water very well and learned placer mining by experience, and by traveling and consulting.¹⁴

The Plan

Revett wanted to operate four hydraulic plants during the 1890 mining season. The hydraulic elevator he wanted would have been at the Pot Hole, the best producing area, with forty inches of flow of bedrock water. He stated that Plant One commanded one thousand miner’s inches of water with a vertical head of 195 feet. After the split, visible in the sketch of the pit, one can assume that each line commanded five hundred miner’s inches of water, as did Plants Two and Three, under vertical heads of eighty and seventy-five feet respectively. Plant Four commanded four hundred miner’s inches with a vertical head of 165 feet. Revett indicated that the average height of the pits’ banks was fifteen feet, but he asked a company in Denver for a quote on a “hydraulic elevator . . . to lift a vertical height of 30 feet.” While Revett did receive some hydraulic giants, there is no evidence that he operated a hydraulic elevator at the Cache Creek placer mine.¹⁵

The authors believe that the two hydraulic nozzles at Granite, Colorado, shown to the left, could be the giants that Ben Stanley Revett wanted in 1889. As close together as the two nozzles are, they could be Plant Number One, putting them either in or above the pit and near the Pot

Hole. The water should be from Lake Creek, having come through the Cache Creek Ditch.

The Costs

The accounting records copied in the copy book are incomplete and their disappearance after May appears to coincide with the arrival of Burtis, leading to the hypothesis that there was at least one other copy book. Glimpses into the expenses of the mine are still provided by the corrections and explanations that Revett placed in his letters to the syndicate, but as the books were being kept on a month by month basis, and the months when the most men were employed are those missing, it is impossible to estimate a yearly total for expenses for 1889. Some interesting numbers are available, however.

Revett estimated the cost of the “New Plant” of giants to be \$7,500. In May he asked the syndicate for \$5,000 for repairs, to include a new ditch. The syndicate sent him \$2,500, which he reluctantly accepted “considering what work there is ahead of us before we can possibly clean up.” He estimated \$500 for repairing the “Old Reservoir,” but then advanced the estimate to \$550 because “the bank has eroded as the frost has got out of the ground, increasing the size of the cavity.” In July he had to borrow \$1,500 from the German National Bank, which did not hesitate to loan him the money to meet his June payroll. Interestingly, in January Revett had been able “to advance \$5,000.00 to the American Company for the development of their property,” although whether this advance was returned is not evident in the letters.

In addition to managing water and recovering gold, Revett had to deal with other issues. He successfully appealed the mine’s Lake County tax assessment for 1888 before the county commissioners. He worked on the syndicate’s lawsuit against the Colorado Midland Railroad, which was appealed to the Colorado Supreme Court—apparently to have the initial judgment thrown out so

Year.	Value Per Cubic Yard	Value Per Square Yard
1884.	36 1/2 Cents	\$ 2.09
1885.	31 1/2 "	\$ 1.37 1/2
1886.	49 1/2 "	\$ 2.61 1/2
1887.	31 1/2 "	\$ 1.69 1/2
1888.	18 1/2 "	\$ 0.80 1/2
1889.	24	\$ 1.16 1/2

An excerpt from a 6 December 1889 letter, from Revett to the syndicate, comparing cubic yards and square yards based on gross proceeds. (Copy book, authors' collection.)

v. Amount Bedrock cleaned during season is as follows:			
Pit No. 1	20,852 square yards		
Pit No. 2	7,637 "		
Pit No. 3	4,566 "		\$3,075
Amount of Bedrock exposed in 1889.			= 32,455
Therefore the Old Bedrock reclaimed =			62,069 Yds.

An excerpt from an 18 December 1889 letter, from Revett to the syndicate, providing information on square yards cleaned up. (Copy book, authors' collection.)

operated and owned this property. —

1884. Mr. J. T. Van Wagoner Mr. J. W. Jaycox
Mr. Chamberlin, Mr. Watson, L. Barnard & self.

1885. Captain Harvey, Mr. C. Matthews, J. Garrison & self. —

1886. Captain Harvey, J. Garrison & self.

1887. Captain Secombe, C. Cander, J. Weston,
Mr. Parrish 4 days a month & self. —

1888. Captain Secombe, Mr. Parrish & self.

1889. P. S. Revett & Mr. Burth. — The least

An excerpt from a 12 October 1889 letter to the syndicate listing previous managers and assistants. (Copy book, authors' collection.)

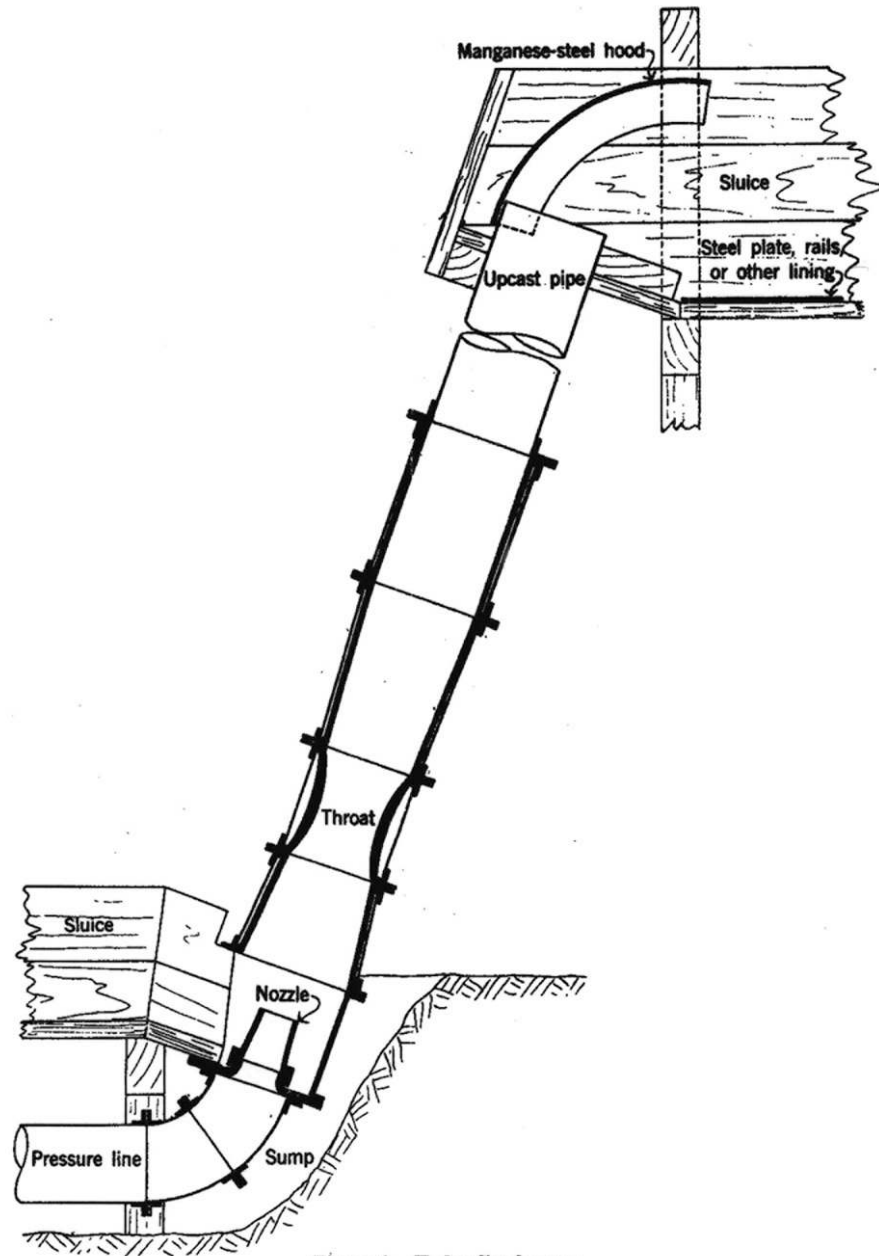


Figure 6.—Hydraulic elevator.

Diagram of a hydraulic elevator. When the water being forced upward reaches the throat, the narrowing causes a decrease in pressure on the Venturi Principle, resulting in material being drawn into the upper sluice out of the sump from the lower sluice discharge.

(From U.S. Bureau of Mines, Information Circular 6787)

that the syndicate could pursue higher damages—even though the Midland had already put some men to work to correct the railroad's blockage of the Arkansas River. Revett had the assistance of the Denver and Rio Grande Railroad, but on 29 September 1889 he wrote to London that even though the D&RG had proof that the Colorado Midland's rock fill had narrowed the Arkansas River on the surface by 30 percent, they could not speak to the depth of the river, concluding: "So that does us no good."

Revett also copied by hand for the syndicate the rejection letter from the U.S. Department of the Interior, sent to the land office in Leadville, of the syndicate's application for patent on the Capricorn Placer Claim. He informed London that "as aliens we cannot take up or acquire land except by purchase . . . and a recent act of Congress compels applicants of patents to declare they are not procuring them to sell to aliens."

The company had time to appeal, but more rejections were to come; next was the Unicorn Placer. Revett also wrote to the syndicate: "The American Company contend that the only Title this Syndicate has to this claim was conveyed by Mr. Van Wagenen, without the authority of the Twin Lakes Consolidated Mining Company, and the conveyance was illegal and consequently null & void."

The company's lawyer in Colorado, Mr. C. L. Thomas, assisted Revett on several matters, but the syndicate hired lawyers in Washington, D. C., for this case.

Ben Stanley Revett and the syndicate used coded cablegrams when they wanted to communicate more rapidly. Revett repeated, with translations, several cablegrams in his letters to the syndicate, and reproduced several others in the copy book. This could be because one cablegram was apparently lost and Revett had to ask the Western Union Telegraph Company to investigate. The copy included with this article is "deciphered," to use Revett's word, immediately below the coded message, indicating that CONTRAST meant

"have been sent today." Some words, such as CALIFORNIA, had to represent themselves.

The company, identified in the telegram as "Twin London," had its own code, as far as the authors can determine. This may have been because of problems with the security of the code itself—Revett mentioned that the standard code book used by mining companies could be obtained for five dollars in Denver. The speed of cables was obviously desired in a world without telephones, and privacy ostensibly the principal purpose for using codes. After the syndicate apparently complained about the cost of cables, Revett informed London that the charge had been raised to thirty-four cents a word at the beginning of 1889. The authors believe that saving money was another important goal of using codes.

The copy book also contains a pair of checks printed for Twin Lakes Placers, Limited, of London, England, the later owner of the Cache Creek Placer at Granite. These checks were printed to be used in the 1890s and drawn on the German National Bank of Denver.¹⁶

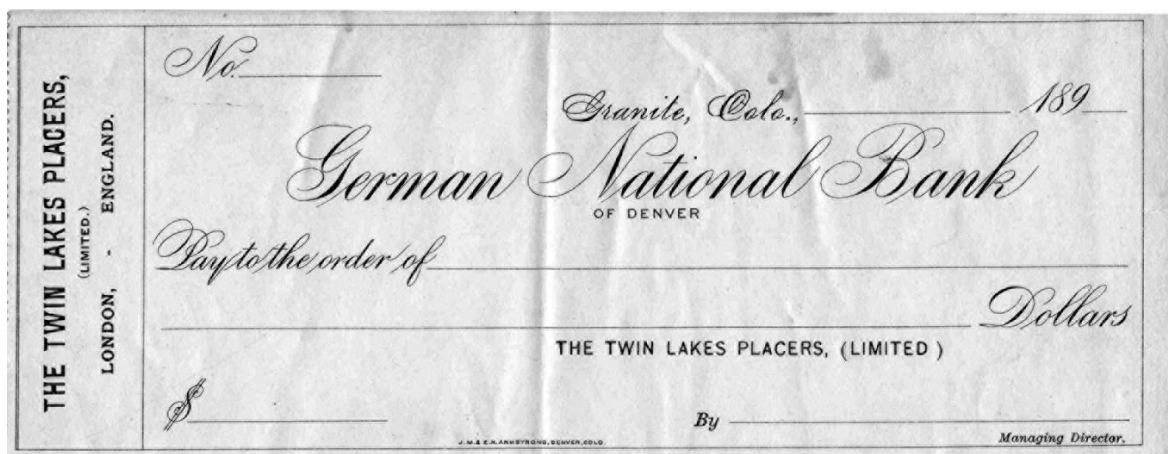
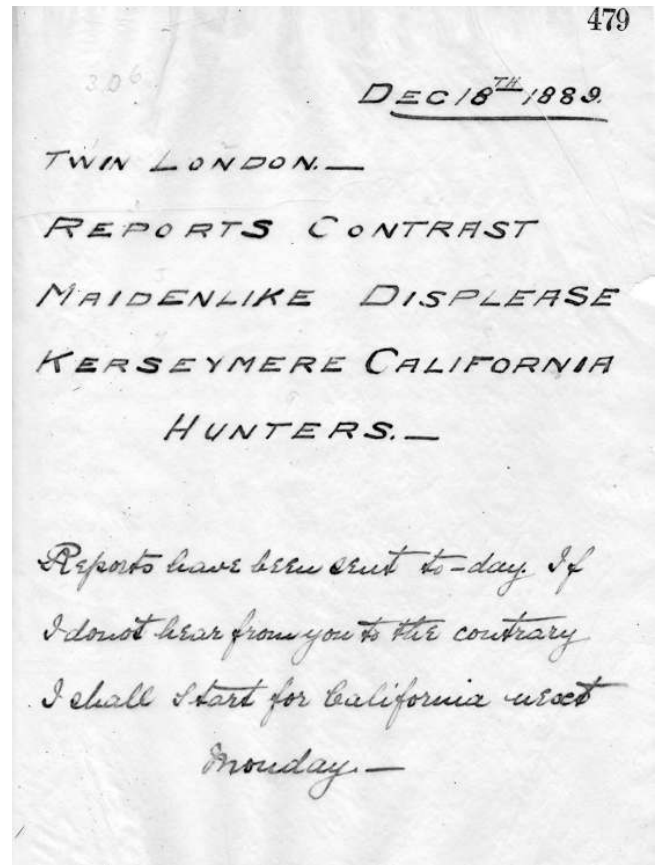
By December 1889, however, Ben Stanley Revett was preparing to travel to California to learn more about hydraulicking and hydraulic elevators, and maybe hoping to buy some hydraulic equipment. Presumably, he was glad to leave Burtis in charge of the mine, and no longer be the assistant who had to remain at the mine near the little town of Granite, that "Godforsaken hole in the dreary winter months." ■

Carmen Piekenbrock is an amateur rock hound, retired from the educational bureaucracy, with a background in teaching foreign languages. She actively participates with her husband in the field collecting of minerals and in ham radio.

Larry Piekenbrock is a semi-retired dealer in postal history and minerals for collectors. He is an active collector of Colorado minerals and micromounts, also interested in optical microscopy as it relates to minerals, and in electronics and computer technology.

The authors wish to thank Mark and Karen Vendl for their knowledgeable support and assistance.

*A a coded telegram sent by Revett. The decoded message appears underneath in Revett's hand.
(Copy book, authors' collection.)*



A copy of a blank check from the German National Bank of Denver included within the copy book. (Copy book, authors' collection.)

Appendix:

Based on correspondence in the copy book, the following companies (with personnel indicated) owned the Cache Creek Placer prior to and during Revett's term as its manager:

The Twin Lakes Hydraulic Gold Mining Syndicate, Limited (London, England), the company for which Revett managed the mine at Granite, Colorado, in 1889.

Mr W. B. Burtis, his assistant

J. Garrison, previous "Mine Staff"

Mrs. Glossop, housekeeper

J. Greenwell, employee

Captain Harvey, previous manager

F. Hastings, employee

Mr. Jaycox, previous "Mine Staff"

C. Jester, employee

J. O. Brien (Also O'Brien), employee

Mr. Parrish, previous "Mine Staff" (1884)

Percy, employee

Captain Seccombe, previous manager

G. Solomon, employee

V. H. Smith (also Mr. Smith), secretary in London

Mr Thomas, lawyer working closely with Revett

Mr. T. F. Van Wagenen, owner, previous manager

G. Walker, employee

One mention each of employees:

H. Harris

Hall

Campbell

R. Demasters

Gordon

The Twin Lakes Consolidated Placer Mining Company

Van Wagenen's start date with this company is given as 3 Sep. 1879 in Don and Jean Griswold's, *History of Leadville and Lake County, Colorado*, which also reports that he remained as manager of the "Consolidated Mining" version below until the property was "purchased by an English Syndicate."

The Twin Lakes Consolidated Mining Company

Mentioned in conjunction with the Van Wagenen & Morgan placer and the Capricorn claims.

Notes:

1. Mark and Karen Vendl, "Benjamin Stanley Revett and his Breckenridge Gold Dredges," *Mining History Journal* 10 (2003): 33-46. See also references below for biographical information on Revett.
2. The bound press copy book cited in the text and shown in the first illustration is part of the authors' collection of mining ephemera. Revett has been quoted verbatim except where indicated. A complete transcription of the letters in the copy book is available from the authors on a CD that also contains additional photographs, oral description, and further authors' notes on the people and places mentioned in the letters. The CD is available at: www.collectors-mall.com.
3. See references below for more detailed information on the location of the placers of the mine.
4. Revett to the syndicate's secretary in London, letter dated 12 Oct. 1889, copy book, authors' collection.
5. Ben H. Parker, Jr., "Gold Placers of Colorado," *Quarterly of the Colorado School of Mines* 69, no. 4 (Oct. 1974): 65.
6. Erl H. Ellis, *The Gold Dredging Boats Around Breckenridge, Colorado* (Boulder CO: Johnson Publishing Co., 1967), 29.
7. Today, Clear Creek runs into a reservoir, and Lake Creek is part of the Twin Lakes Reservoir system.
8. Pueblo and other water districts sued Twin Lakes Placers in 1910 to stop the company from polluting the Arkansas River.
9. Ben Stanly Revett says they found "bullets" covered with gold in the sluices, which he accumulated, and at the end of the season, he received an additional \$44.45 for the gold removed from them. Revett never indicated what he meant by "bullets."
10. Don L. Griswold and Jean Harvey Griswold, *History of Leadville and Lake County, Colorado: From Mountain Solitude to Metropolis* (Boulder: University Press of Colorado 1996), 198.
11. Will Meyerriecks, *Drills and Mills: Precious Metal Mining and Milling Methods of the Frontier West* (2nd ed.) (Tampa FL: Will Meyerriecks, 2003) 6.
12. Meyerriecks, *Drills and Mills*, 16.
13. A man named Van Wagenen managed the mine in 1884, a Captain Harvey in 1885, a Captain Seccombe in 1887, and, of course, Revett in 1889.
14. Ellis, *Gold Dredge Boats*, 28.
15. A miner's inch equals the volume of water that will flow through a one inch square aperture under water to a depth of six inches, about 2,250 cubic feet of water per day. While the definition varies by mining district, the accepted value for Colorado is that 38.4 miner's inches equals one cubic foot per second, making Plant One's thousand miner's inches equal 26 cubic feet per second. (Paul W. Thrush (comp.), *A Dictionary of Mining, Mineral, and Related Terms* (U.S. Bureau of Mines, Dept. of the Interior), (Washington, D.C., USGPO, 1968), 713.
16. Parker, "Gold Placers of Colorado," 68.