

FAINT TRAILS IN THE WASATCH

81. Iris and Emerald mines

Iris and Emerald were the names given to two of fifteen claims filed by a large group of San Francisco men in the summer of 1871. While the claims were spread over an area from Bald Mountain to Twin Lakes Pass, eight of them were concentrated south of the budding city of Alta, on the hill between Collins Gulch and the south fork of Little Cottonwood. The man who seemed to be behind these claims was Daniel C. McGlynn, a San Francisco street contractor. What brought him to Utah to engage in mining is not known, but once here he remained to superintend the development of the claims. In October of 1871 the Emerald Hill Mining Company was incorporated in San Francisco and all claims were transferred into it. As a result, the hill where the Emerald and Iris claims were located, soon became known both as Emerald Hill and Iris Hill.



Fig. 1. The Iris shaft's dump is high on the north side of Greeley Bowl. This view is as seen from the Catherine Pass trail parking area on the Albion Basin road.

By the end of the 1872 season the Iris shaft, located high on the ridge on the north side of Greeley Bowl, had reached a depth of 200 feet. The company then started a tunnel on the north side to reach the lode at a depth well below the shaft. While work proceeded on the tunnel, not much was reported until July 1875. At that time, when it had a length of over a thousand feet, word leaked out that a vein of fine ore had been struck. The company had gone down 40 feet on the vein and in the process had taken out 100

tons of good ore. Almost immediately the owners of the company began constructing a rail tramway from the tunnel to the bottom of the canyon and started driving another tunnel on the south side of Alta City, all under the direction of a new superintendent, Patrick Kerwin. By the end of the year the tramway was completed, and a new company, The Iris Mining Company, was formed to take over the operations. A boarding house was constructed and plans were made to install a water driven air compressor to allow the tunnel work to be done with air drills. This was said to be a good company to work for as they paid their miners \$3 per day plus board, and paid promptly when the wages were due. Yet it was questioned how the company could do all the work it did without much in the way of returns. The company continued operating through another year until, in late summer 1877, it practically shut down after the death of former superintendent and principal owner, Daniel McGlynn. During this time much of superintendent Kerwin's effort had been to get the machinery for the air drill installed and running. A water right was secured on the stream in the south fork of Little Cottonwood Canyon, where a dam was built to create a reservoir. Pipes were run about a half a mile down to the tunnel site, carrying water to provide motive power. The machinery was ordered and shipped, but before it reached the mine all activity came to a complete halt. A suit in the Third District Court, James Cullinan vs. the Iris Mining Company, was ruled in favor of the plaintiff by default. The property of the company was seized by the United States Marshal and in November of 1878 was sold at public sale. It went for \$100 to the highest bidder, that being Patrick Kerwin, the company's superintendent. Still, it marked the end of the company's operations at Alta.

In spite of this dismal ending the company had provided a much needed service to some of the Alta residents after the catastrophic fire that destroyed the town in August of 1878. The Iris boarding house, being located outside Alta city, was not affected by the fire, so Superintendent Kerwin opened the doors of his facility to some of the destitute residents, giving them room and board during their period



Fig. 2. Waste rock dump from the Iris lower tunnel is on the south slopes above Alta, in the lower left portion of this photo. The Rustler Lodge stands at the upper right.



of recovery. After the town was rebuilt the Iris reservoir and pipeline provided water for both culinary and emergency use.

Unlike the Iris claim, the Emerald was patented, with the result that its survey is on record and can be used to plot its exact location. The patent was issued in April 1896, long after the company's activities had ended, but the Iris Mining Company, albeit dormant, still existed. Only one other of the original claims received a patent – West Point, located on Bald Mountain at the head of Collins Gulch, extending down toward Germania Pass. It is certain the Iris was Emerald's close neighbor because the Iris shaft and tunnel are described in the Emerald's survey. The latter extended from a point on the east side of the south fork stream and ran in a southwesterly direction 2800 feet up the north slope of Greeley Bowl to its termination just over the crest looking down into Collins Gulch. While it had a discovery shaft that was worked to

Fig. 3. Location of points of interest to the Iris and Emerald claims are shown on this aerial photograph. For reference purposes, Alta is at the top of the figure, with the Goldminers Daughter Lodge at the left. The Albion Basin road is at the upper right and the road into Collins Gulch in on the left. The Emerald claim runs from the south fork stream on the right, up along the north slopes of Greeley Bowl. Along its length is shown the discovery shaft, a cabin and the Iris shaft. The first Iris tunnel is high on the south slope above Alta, near the left end of the Emerald claim in this figure. The portal of the Emerald tunnel is above the right end of the claim, with the long diagonal line indicating the intended path of the tunnel. The company's boarding house was located above and to the right of the tunnel, with the deep gorge known as the Snake Pit separating the two. The Iris lower tunnel is above the center of this figure. The positions of points of interest were recorded on site, except for those marked with an asterisk, whose positions were calculated from survey data.

some extent, it appears most of the company's efforts were expended on the Iris shaft and tunnel. In 1875, when the strike was reported in the first Iris tunnel, it was also said the company was starting two other tunnels. One of them was the Iris lower tunnel, the other a tunnel intended to go under the Emerald discovery shaft. The Emerald Tunnel site was recorded early the next year. When the Emerald claim was surveyed for patent, in mid-July of 1876, the tunnel was shown on the survey map, but nothing was said about its extent, nor was it included as improvement work required to justify the patent. However, in 1880 a visitor to Alta reported the tunnel had been driven 600 feet with numerous crosscuts, without reaching the desired lode. The portal of the tunnel was located on the west side of the south fork, about where the stream drops into the deep gorge later known as the Snake Pit. The company's boarding house was on the east rim over the midpoint of the gorge, less than 300 feet from the portal of the tunnel across the gorge. A trail descended into the gorge, crossed the stream, then climbed to the tunnel site. Early photographs show a trail heading up canyon from the house site, suggesting the route to the Iris shaft crossed the stream above the gorge. While it may seem unreasonable to have the boarding house so inconvenient to all the Iris and Emerald tunnels and shafts, it must be recognized that for safety from avalanches, the house site is probably the best that could have been chosen in the immediate vicinity.

With all activity on the two mines halted, and the two men who directed most of the development having died, Daniel C. McGlynn in 1877 and Patrick Kerwin in 1899, it would seem the story of the Iris and Emerald was at an end. But that was not the case. The rest of the story and its contribution to Alta's history will be told in the next Faint Trails episode.

FAINT TRAILS IN THE WASATCH

82. Iris, Emerald and Rustler mines

After the Iris Mining Company, which was discussed in the last episode of this Faint Trails series, failed in 1878, the prospectors moved in, leaving Iris and Emerald Hills riddled with prospects, a few of some significance, but most of little consequence. However, the Iris upper tunnel was destined to become a part of



Fig. 1. The line of the tramway to the Iris tunnel, later the Rustler tunnel, can be seen in this photo. The tunnel is at the base of the large snowbank over halfway up the slope. The road crossing the picture goes into Collins Gulch.

Alta's heritage. In 1893, only five years after operations by the Iris company ended, two Alta miners, Joseph J. Burnswood and John Bettess, filed four claims on Iris Hill, one of them named Rustler. While the exact locations of the four claims is not known, the Rustler was the highest one, probably overlapping or even relocating the long idle Iris claim. At any rate, the two men immediately took custody of the dormant upper Iris tunnel to work their claim, then sold shares to local investors. By the end of the year they had shipped seventeen tons of ore down the tramway the Iris Mining Company had built in 1875. This was a tracked tramway using three rails, the center one shared by cars going in both directions. At the midpoint the tracks separated for a short distance to allow the cars to pass one another. This technique was used in 1873 by the Reed and Benson company in the South Fork of Big Cottonwood Canyon and continues to be used in funicular tramways today.

Since the 1890 years were not kind to the mining industry only minor shipments were reported for the Rustler during the rest of the decade. In December 1898 the Rustler Mining Company was incorporated to hold the four claims. Then the mine was put out on lease. During the next ten years the owners turned their attention to more promising mines in the district, ignoring the Rustler Mining Company to the extent that its charter was revoked in 1910. As might be expected, by this time the old Iris tunnel up on Iris Hill had become known as the Rustler tunnel.

During the first decade of the twentieth century another event occurred. In August of 1901 Charles J. McGlynn and his wife visited Salt Lake City, staying at the Cullen hotel. This man was a nephew of Daniel C. McGlynn, the son of John A. McGlynn, and the sole surviving male heir of the two men. Daniel McGlynn, it will be remembered, was instrumental in the early formation of the Emerald Hill Mining Company and as a result held one-sixth of the

company's stock. John McGlynn had been less heavily involved, but still held about one-sixteenth of the company's shares. Both men died during the 1870 decade, leaving behind the near empty shell of the mining company in the Wasatch mountains of Utah Territory. Then in 1896 the patent for the Emerald claim, which had been applied for twenty years earlier, was issued to the Iris Mining Company, the successor to the earlier Emerald Hill company. This surely was a wake-up call, a reminder that the corporate shell held some mining properties that could have some value. It was a possibility Charles McGlynn did not ignore. Hence his 1901 visit to Salt Lake City.

Accompanied by a local miner, McGlynn visited Alta to survey the site of the activities of his forbears, activities that took place at a time when he was still a small child. The newspapers took a different view, saying, "trouble is brewing at the Rustler-Iris group for the possession of which a long missing claimant has just appeared," and predicted that there would be trouble before the visitor returned to his home. But there was no trouble. The McGlynn continued traveling east to Saint Louis, stopping again at the Cullen several weeks later during their return to San Francisco.

Ten years later, in March of 1912, the old Iris Mining Company, which still existed in California, shook off thirty-five years of dusty inactivity and became active long enough



Fig. 2. The stone wall supporting the base of the Iris tramway is practically hidden by vegetation.

to elect new officers and dispose of its property. Charles J. McGlynn appointed himself president and his wife, Margaret T. McGlynn, secretary. They then sold the company's property, that being two patented mining claims in the Little Cottonwood Mining District, West Point lode and Emerald lode, to their nineteen year old daughter, Ruth McGlynn.



Fig. 3. The east end of Emerald or Iris Hill as seen from the Albion Basin road shows two waste rock dumps. The one on the right was the Emerald discovery shaft, while the one on the left was worked by the Alta-Emerald company in 1912.

The next step was the formation of the Alta-Emerald Mining Company, a corporation in Utah. The incorporators were Charles, Ruth and Florence McGlynn of San Francisco, plus two men, a realtor and a lawyer, from Salt Lake City. Florence McGlynn was Ruth's older sister. The company then received the Emerald mining claim from Ruth McGlynn in exchange for stock in the company. Charles McGlynn, as president and general manager, immediately engaged an experienced miner, Dan J. Wheeler of Placerville, California, to act as superintendent and take charge of the operations at Alta.

Work that began late in August of 1912 was concentrated in the old Emerald tunnel. It had been idle almost thirty-five years, and as might be expected required considerable cleaning and retimbering. Several weeks later Superintendent Wheeler found such good looking ore in the old discovery shaft up on the east slope of Emerald Hill that it was decided to move operations up there until the advent of winter, at which time they would move back to the tunnel. While reports implied operations took place in the old discovery shaft, on-site examinations suggest the 1912 work was done through an incline shaft about 100 feet south of the discovery. Numerous promising reports appeared in the press during September and October, then the Alta-Emerald company disappeared behind a veil of silence. It is unlikely anything was done in the Emerald tunnel that winter since the tunnel's location, on the west slope of the gorge known as the Snake Pit, was a most dangerous one during the months of heavy snow.

Nothing more was heard about the Emerald mine the following year until late in 1913 when Dan J. Wheeler filed suit against the Alta-Emerald Mining company to recover unpaid wages. He won the suit by default, the defendant failing to appear, and the company's property was sold at public auction to satisfy the judgement. Wheeler was the highest bidder, but almost immediately transferred the bill of sale to two local attorneys, who, two years later, sold the claim to the Albion Mining Company, thus ending the more than four decade saga of the Iris and Emerald mines.

Today there is little remaining of the Iris-Emerald operations. The Emerald tunnel in the Snake Pit is no longer visible, but the site of the Iris boarding house, later replaced by the Alta and Hecla boarding house, can be seen on the east side of the gorge. The waste rock dumps for the two Emerald shafts can be seen on the east slope of Iris Hill, as well as the dump from the original Iris shaft on the north side of Greeley Bowl. The upper Iris tunnel became the Rustler tunnel, whose dump is easily visible high on the slope across the canyon from the Alta Lodge. The only remnants of the tramway are stone walls at the lower terminal and the line of its route running up to the mine, visible only during the short period

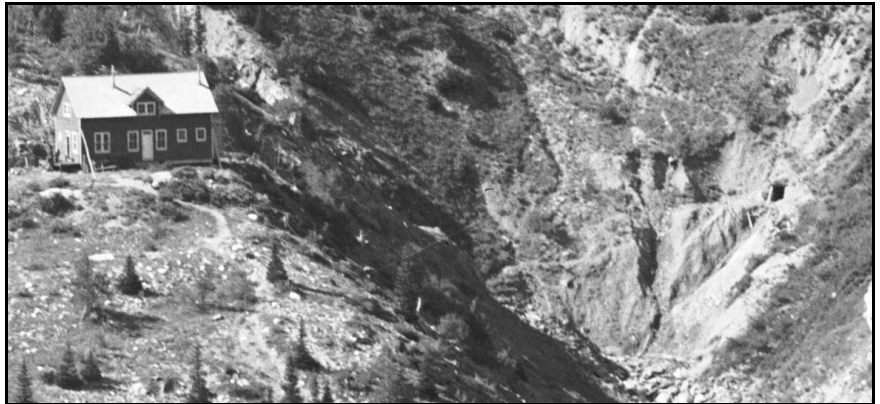


Fig. 4. The portal of the Emerald tunnel is seen on the west slope of the Snake Pit gorge, at the right side of this photograph, taken in August 1915. This was only three years after the Alta-Emerald company repaired and retimbered the tunnel, intending to resume mining operations there. The building on the left was a boarding house built by the Alta and Hecla Mining Company in 1909 on the site of the original Iris-Emerald boarding house. A trail went down into the gorge, crossed the stream flowing out of Albion Basin, then climbed to the tunnel.

between spring snow melt and the rapid growth of vegetation. The Rustler mine gave its name to the slope, the ridge behind it, the Rustler Lodge below it, and the Rustler ski lift that operated during the late 1940s. The slope, well known to Alta skiers, hosts the long popular High Rustler run.

FAINT TRAILS IN THE WASATCH

83. Albion Mine - Part I

If a number of people were asked where they think the Albion mine was located, the chances are most, if not all, would say in the Albion Basin above Alta. And for good reason. The name Albion does not appear many places in the Wasatch and the Albion Basin is very popular, both for its late summer wildflower display and for its scenic wonders, as well as the short hike from the campground up to the lake with a strange name. What these people might not guess is that the Albion Basin did not receive its full name until many years after operations drew to a close at the mine. It was not until the middle of 1945 that the Albion name was applied to the basin above Alta. Before that time it was known as the upper basin, the south fork of Little Cottonwood Canyon, or simply the south fork. The manner in which the Albion Basin, as well as many other sites in Little Cottonwood Canyon, received their names would make a story in itself. But that must be left for another time; the subject here is the Albion mine.



Fig. 1. The Albion mine as it exists in the upper southwest corner of Albion Basin. This was originally the Wellington mine of the early 1870s, with its shaft located at the top of the upper dump and its tunnel at the lower dump. An Alta Ski Lifts road now crosses the top of the tunnel dump, but the original Albion Mining Company road followed the same alignment. The flat in the foreground is the site of the early Wellington boarding house that was destroyed by an avalanche at the end of 1876.

The ancestry of the Albion mine goes back to August of 1870 when the Wellington claim was filed. Located high in the southwest corner of the south fork of Little Cottonwood Canyon, the mine drew enough interest that the following year it was sold to a San Francisco investor, who immediately sold half of the mine to David E. Buel and Isaac C. Bateman. These two men had traveled west during the gold rush days, later meeting and joining forces in Nevada. They went on to become involved in mining ventures throughout the western states, gaining a considerable expertise in the reduction of ores. In 1870 they appeared in Utah where Buel erected a smelting works at the mouth of Little Cottonwood Canyon, followed by another in Bingham Canyon. The first one became dedicated to working ore from the Flagstaff mine, later becoming the property of that company. Another smelter, built by Jones and Pardee on Tanner Flat early in 1871, worked ore from the Emma and other mines until October of that year when it was purchased by Buel and Bateman to process ore from the Wellington mine. In January of 1872 the Wellington Mining & Smelting Company, incorporated in San Francisco, assumed control of the Wellington properties.

At this point all work on the mine took place through an inclined shaft, located at the top of the upper dump seen in Figure 1. In November 1871 a house and shed were erected near the shaft to allow work to continue throughout the winter. With steep

slopes towering overhead, it was not a particularly good place to be throughout the winter. This was demonstrated the following April, when an avalanche came down from the summit of the mountain at the very moment eight day-shift miners were going from the cabin to the mine. They were carried some 500 feet to the bottom of the hill and beyond. Seven of the men survived, but the eighth, the shift foreman, did not.

By the end of 1872 the mine's incline shaft had reached a depth of over 200 feet. While plenty of ore was in sight, the problems of hoisting the waste rock and ore, and dealing with increased water in the shaft prompted the company to start driving a tunnel about 250 feet below the collar of the shaft. This was followed by the erection of a large two-story boarding house, 18 by 46 feet in size, on the flat below the mine. In spite of these signs of progress, the year 1874 found the mine only sporadically operated. Then the company ceased operations and left the mine to be operated by leasers. The reasons for this change were never completely explained. Some claimed the ore which initially was of a high grade had changed to a product that would not smelt well and was refused by the buyers. However the leasers who took over did quite well and continued to do so for several years that followed. Then, on New Years Day, 1877, an American Fork miner came over to Alta, passing the Wellington mine on his way, but noticed nothing. On his return later in the day he discovered the boarding house had been covered by a snowslide. He carried that news back to Alta, and a party of rescuers went to the scene. Their efforts continued into the next day before they found two men still alive in spite of having been entombed

in the tightly packed snow for five days. They also recovered the bodies of another man, a woman and a child. A fourth man was not found until the snow melted the following July. One of the men found alive died two days after being rescued, but the other man returned to work a lease on the mine later that year.

In January 1880 the Wellington claim was relocated as the Albion by Charles M. Brough and James Watson. It is not known why they chose the name Albion, although Watson had immigrated from Scotland, a country whose name is related to Albion in Celtic languages. Also Albion was an historic name for the entire island of Great Britain. Watson was a miner who had worked in the Wellington mine two years earlier as a leaser. Brough was a miner in Alta as early as 1871 and over the years was involved in a number of well known Alta mines. During his tenure in that camp he had his name on at least sixty-seven claims. He and his family lost their Alta

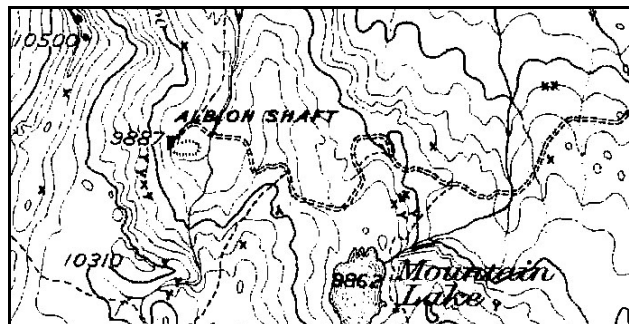


Fig. 2. This segment of the 1907 USGS map shows the road to the Albion mine at that time, the same road used years before when the mine was known as the Wellington. Mountain Lake is known as Cecret Lake today.

home in the 1878 fire that destroyed the town. He remained, however, and in 1880, when the Albion claim was filed, he was the Little Cottonwood Mining District's recorder. While Brough and Watson may have had intentions of working the mine themselves, two events interfered and the Albion was put out to leasers.

The first event happened in January of 1881 when Alta was badly damaged by avalanches that extended all the way down the canyon. Those who chose to leave, about fifty in number, took the safest route, which was through the Alta tramway's snow sheds where they would be protected from further snowslides. Brough, with his wife and two children, was in that group. Several times as they worked their way down through the dark interior of the sheds, they came upon a place where their shelter had been crushed. Brough, who had foreseen such

a possibility, was carrying an axe that he used to chop an opening in the wooden shed so the group could emerge and walk across the snow surface to the other end of the damage. More chopping provided an entryway into the darkness where the difficult journey was continued. When they reached Wasatch a train was provided to take them into the city. Some, the Brough family included, never returned to make their home in Alta again. One might imagine that his wife, who had lived in Alta since the early spring of 1874, might have refused to put herself or her children back into that dangerous place. Charles M. Brough remained in Salt Lake City only a short time before moving to Ogden where he held a number of responsible positions, including a two-year term as mayor. However, he continued to be involved in the Albion's affairs for another twenty years.

The other event that interfered with Brough and Watson's possible intentions was the fact that Watson had taken a contract to extend the Buckland tunnel, located on the north slope above the Emma mine. He worked that job for several years until 13 February 1885 when Alta was struck by another massive avalanche that destroyed three-fourths of the town and killed sixteen people. James Watson was one of the victims.

Among the Albion leasers over the years was Henry C. Wallace, a long time Alta resident, miner and business man. He and Brough knew one another from their association over the years, and their stature in the mining community caused them to know many other prominent men in the mining realm. One of those was William Hatfield, a well known businessman and miner from Eureka who had done much to guide the Swansea mine into prominence. As early as 1896 Brough had convinced Hatfield to invest in the Albion claim. At the end of July 1898 these three men, Wallace, Brough and Hatfield, incorporated the Albion Mining Company. They were joined in this endeavor by Brough's son, Charles H. Brough, who was not a miner, nor in any way involved in mining. He was just completing his doctorate studies at Johns Hopkins University, yet his father drew him into this incorporation and, in fact, arranged for him to receive over 40 per cent of the subscribed stock while he, the father, received only 2 per cent. The younger Brough had no further association with the company.

The activities of the Albion Mining Company will be described in the next episode of this series.



Fig. 3. View toward the east from Albion mine dump, seen in the foreground. The Wellington boarding house that was destroyed by the fatal avalanche at the end of 1876 was located on the flat beyond the dump. The faint line of the road used by the Wellington and early Albion operations can be seen going up the distant slope in the center of the photo. The Alta Ski Lift company's road is on the right, and a Sugarloaf ski lift tower is seen on the horizon.

FAINT TRAILS IN THE WASATCH

84. Albion Mine - Part II

In January of 1881 when Charles M. Brough and James Watson filed their Albion claim they also filed three additional claims in the immediate vicinity. Two of them, Bauer and Metallic, were located directly above the Albion, while the third, Climax, was located immediately below. The latter claim was the most important of the three, for while the Albion encompassed the old Wellington shaft, the tunnel that had been driven to drain the shaft and access the deeper rich ore deposits had its portal on the Climax claim. As a result, when the Albion Mining Company was incorporated in 1898 only the Albion and Climax claims were transferred into it. By that time the tunnel had attained a considerable length and a shaft had been sunk below the tunnel level, following a rich vein of ore. As might be expected, this shaft also accumulated great quantities of water, although drifts off the shaft above the water level provided access to pockets of ore.

By the time the Albion Mining Company was incorporated only the Albion claim had been patented. The impending incorporation was well known and may have been the reason another miner stepped in and nine days before the incorporation filed two claims, the Utonian above the Albion and the Utah Volunteer below, the latter completely encompassing the Climax claim. The miner, Joseph J. Burnswood, who has appeared in several previous articles in this series, immediately had a crew of men removing a large amount of ore in preparation for shipment. When the Albion people learned of this action, William Hatfield, who would be president of the new company, and a squad of men went to the site and drove off the trespassers. It was reported that rifles and shotguns were involved. The ore was then shipped to the benefit of the company. Of course, all these actions resulted in law suits, the final result being Burnswood selling his claims to an intermediary, who in turn sold them to the Albion Mining Company.

The new company immediately built a boarding house, as well as made other surface improvements. It is not known where the boarding house was located, but in later years the company had a two-story house down in the basin, near the present day Alf's Restaurant. The distance between that building and the upper tunnel and shaft make it unlikely it was the building constructed in 1898. The boarding house was followed by the installation of machinery, consisting of a hoist capable of raising 3500 pounds from a depth of 1000 feet and a mine pump that could handle 200 gallons of water per minute. Both were installed at the shaft inside the tunnel, said to have been 700 feet from the portal. The company then made regular shipments of ore, even in the winter when it was taken to Alta on bobsleds. During

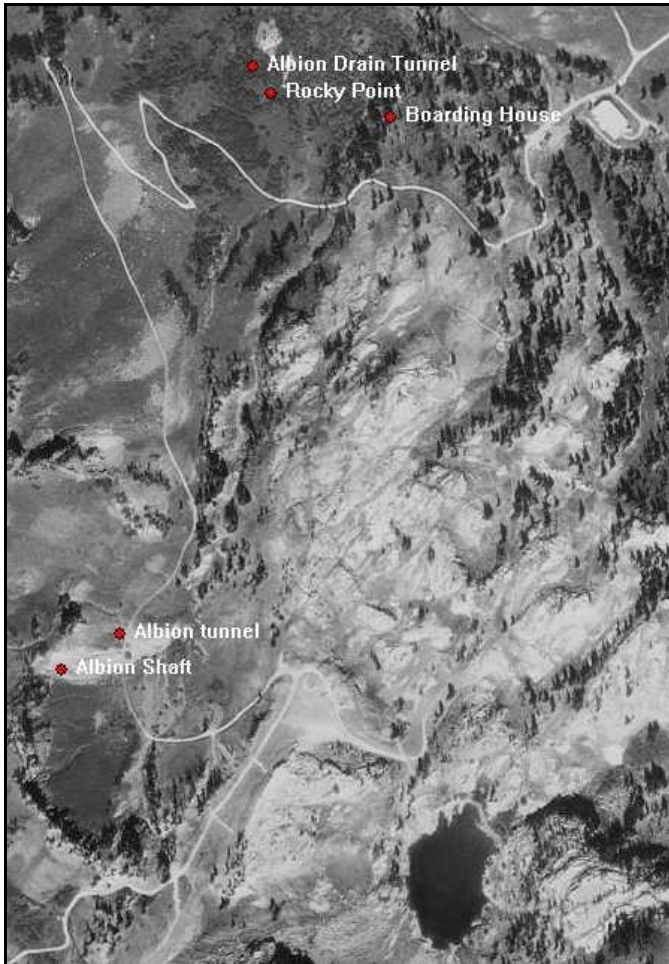


Fig. 1. This aerial photograph shows the Alta Ski Lifts road from Alf's Restaurant in the Albion Basin, seen at the upper right corner of the photo, and going up past the Albion tunnel and shaft, a distance of about 1.4 miles. The location of the drain tunnel and boarding house is also shown. The Albion company's road between the upper and lower tunnels followed the same general route at the upper end, but took a more direct route down the lower steep slopes as seen in Figure 2. Cecret Lake is at the lower right.

the year 1900 five hundred thirty tons of sacked ore was shipped from the property, yielding considerable amounts of lead and silver, as well as 89 ounces of gold.

In March of 1901 a big strike was made at the 160 foot level in the shaft, followed by a failure of the pump. Before repairs could be made the rapidly rising water level was well above the strike. This incident convinced the management that additional drainage had to be provided, and a decision was made to drive a long drain tunnel starting about 3,000 feet away from the upper tunnel, and 700 feet lower. It was also arranged to harness the stream flowing past the new tunnel's site to generate electricity for power drills. The dam and pipeline installed

by the Iris Mining Company nearly three decades earlier were salvaged to drive a power plant located near the confluence of South Fork and Grizzly Fork streams. Meanwhile operations at the upper tunnel and its shaft were continued with the expectation that the ore it yielded would cover the expense of driving the lower drain tunnel. That was too optimistic, for a stock assessment was levied almost immediately, and was followed by six more in the next three years.

Late in 1904 the tunnel, now in about 2,000 feet, began draining water from the upper workings in large volumes, creating a gushing stream. The water level in the shaft below the upper tunnel began to drop as much as eighteen inches a day. While removing the water enabled full operations to be resumed in the upper tunnel and shaft, it would be the beginning of January 1907 before a connection was made between the new tunnel and the old workings. Now that the company was in a position to enjoy the benefits of the long tunnel, it was faced with a new crisis, the Panic of 1907 that caused many banks and businesses to fail throughout the country. The Albion Mining Company, like many others, ceased operating. Except for some work by leasers, nothing more happened with the company's properties and all appearances were that the company was dead.

Eight years later, in the spring of 1915, it was announced that operations were to be resumed on the property of the Albion Mining Company. By this time only William Hatfield remained of the original incorporators, although his son, H. T. Hatfield, was secretary and treasurer for several more years. The new general manager was George H. Watson, the man who was in the process of accumulating mining claims in the vicinity of Alta and would ultimately control most of them before the mining era ended. In 1915 he was president of the South Hecla Mining Company which had two major tunnels, Quincy and Dwyer, at the lower end of Collins Gulch. He seemed to have an obsession about working all mines under his control through one of those tunnels, abandoning their previous surface workings, or leaving them to be worked by leasers. As a result the long

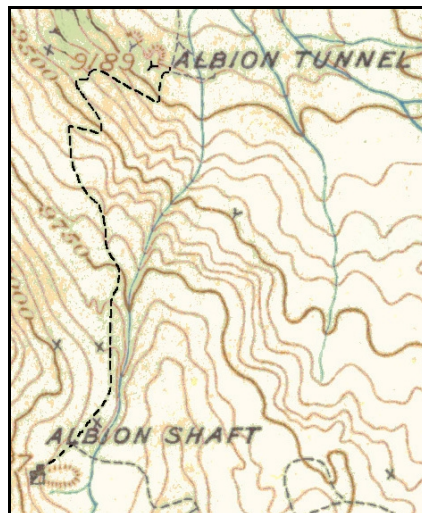


Fig. 2. The Albion company's road from the shaft and upper tunnel down to the drain tunnel is shown on this segment from a 1907 USGS map.



Fig. 3. The Albion drain tunnel's portal is at the top of the large dump on the west side of the south fork. The dump is readily visible from the road into Albion Basin. The smaller dump to its left is from the Rocky Point tunnel, also part of the Albion Mining Company's property. The company's two story boarding house is seen at the far left.

Albion drain tunnel that had reached its goal just before operations were halted, was thereafter worked only by leasers. Instead the company started a drift from the Quincy tunnel and driven in the direction of the Albion upper lodes. While work continued on this drift for many years with only small shipments of ore from small mineralization deposits struck en route, the Albion company did receive considerable royalties from leasers at the drain tunnel, who were extracting large quantities of ore and making numerous shipments. In 1917 Watson became president of the Albion Mining Company and steered it to its ultimate destiny to be absorbed and vanish in the maze of his mining companies that followed.

Today little remains of the Albion Mining Company's operations, save the waste rock dumps at the drain tunnel and the shaft and upper tunnel. Nature has reclaimed the company's trails and roads between the various sites, but the Alta Ski Lifts company's road from Alf's Restaurant at the base of the Sugarloaf ski lift follows the general route of the original road between the lower and upper sites, except it makes several long switchbacks to avoid the steep grades of the Albion company's road. When it reaches the site of the upper workings, it goes across the top of the tunnel's dump.

FAINT TRAILS IN THE WASATCH

85. South Columbus Mining Company

The South Columbus Mining Company's tunnel and surface workings were located on the south side of Little Cottonwood Creek in Alta, immediately south of the Alta Lodge. That it is little known today, more than a century after its formation, is probably due to the fact that it operated at that location for only a little over three years before merging with another company and relocating its operations to a different site. While it did not contribute much to Alta's mining wealth, it is interesting because its very existence was the result of two seemingly unrelated mining activities, one of them dating back to the early 1870s.

The Howland Tunnel, discussed in an earlier article in this series, was established through a claim filed by William H. Howland and fourteen other men on 25 March 1872. On the very next day the same men filed a claim for the Aetna Tunnel & Mining Company. The Howland Tunnel's reported direction would take it under the length of Emma Hill and all the promising mines located there. In addition to providing drainage, deep access and transportation for those mines, it was also expected that many previously undiscovered lodes would be discovered as the tunnel progressed. With such possibilities, the Howland Tunnel received much attention by the press. On the other hand, the Aetna Tunnel, located on the opposite side of the canyon, was to run in a southeasterly direction, eventually reaching the vicinity of the Wellington mine. Although that mine was as rich as many of those on Emma Hill, it was a long distance away, with few producing mines en route. Hence, the Aetna Tunnel was largely ignored by the press.

Within the first year and a half the Aetna Tunnel was reported to be in 175 feet. Then both tunnels suffered from lack of funds, and when funding did appear, the Howland Tunnel received more attention than the Aetna. The little work that was done was sporadic and without great result. In 1891 a miner posted a claim stating it took in the well-known Aetna tunnel, adding that it had not been worked for many years. After that time the tunnel appeared to have been forgotten. Later references suggest it had been driven 336 feet, although a South Columbus official later said it was 240 feet at the time the company was organized.

The other event of importance was the incorporation of the Bingham Centennial Mining Company in January 1903. One of the incorporators, J. Alexander Jacobson, held a one-year lease and bond on six patented claims in the West Mountain Mining District, known as the Centennial group. He became vice president and manager of the company. Jacobson was a brother of Tony and Alfred O. Jacobson, who had formed the Columbus Consolidated Mining Company at Alta during the previous year.

The few reports about the company were very favorable, stating that veins of milling ore were found in the tunnel, as well as pockets of shipping ore. The latter caused them to run a drift, expecting even more rich ore, but that failed to materialize. Convinced that he would find good ore if he had more time to extend the drift, Jacobson tried to get an extension on the lease and bond. When that failed, he closed the operation.

During this time brother Tony Jacobson had made at least two visits to inspect the Centennial group mine. Although his reports were generally favorable, hindsight suggests he was more interested in the corporation than the corporation's mining properties. At the first annual stockholder's meeting manager Alexander Jacobson outlined the activities of the previous year and, with the approval of the directors, decided it would be to the best interests of the company if they would abandon Bingham entirely and transfer operations to Alta. He reported he had negotiated the purchase of six claims on the south slope above Alta. Those claims, incidentally, had been recorded by William Dwyer, an associate of Tony Jacobson, during the first half of 1903, at a time the Bingham Centennial company was still working its mine in the West



Fig. 1. Remains of the South Columbus mine dump is seen here just below the center of the photo. The tunnel was located to the left of the upper end of the dump. The Alta Lodge is seen through the trees at the lower right. The mine dump near the top of the photo is from the Quincy tunnel.

Mountain district. At that same annual meeting the directors chosen for the new venture included Tony Jacobson, who also was designated president. Alex Jacobson continued as vice president. The day after the meeting the articles of incorporation were amended to change the company's name to the South Columbus Mining Company.

When operations began at Alta, they were located at the old, almost forgotten, Aetna tunnel. It was at an advantageous location because it went into the hill under the claims now belonging to the South Columbus company. Or perhaps the claims were located to make best use of the existing tunnel. The company soon had three shifts of miners working in the tunnel. In anticipation of using compressed air for the mining tools, pipelines were laid to the Columbus Consolidated compressor house. By mid-year, when the Columbus power plant at

Hogum Fork was completed, the Columbus Consolidated company was able to supply compressed air to the South Columbus, allowing the first use of powered tools. That advantage was short-lived, however, because the big air compressor failed at the end of its first year of operations, shutting down operations at the Columbus mill and mine, as well as at the South Columbus and Alta-Quincy, all of whom were dependent upon air from that source. After the compressor was repaired the air pipes to the South Columbus froze, depriving the company the use of its power tools for another two months. The following spring the air pipe was replaced with one twice the size to avoid further problems with freezing. As the tunnel was extended farther into the hill, and in spite of notices of promising mineralization, nothing was found good enough or in sufficient quantities to ship. The company was living on assessments levied on its stock. At the end of July 1905 Tony Jacobson resigned from the board. At the time he said he did not have the time to devote to its responsibilities. Later it was reported he had wanted to go after deposits known to be in the company's ground, but, he said, the crowd was too slow. 'The crowd' probably meant some of the people who came with the company when it moved over from Bingham, one of them certainly being his brother. Alex Jacobson was vice president of the South Columbus during the 1904 year, but after that his name no longer appeared in connection to the company.

Another possible reason for Tony Jacobson's resignation might have been the poor financial status of the company. The articles of incorporation limited the amount of assessment money that could be collected during a single year. With little more than half the 1905 year behind it, the company had reached that limit with its assessment number ten. The directors then made an unusual proposal that the stockholders make voluntary contributions to allow the company to operate through the rest of the year. Understandably little work was done through that winter.

In July 1906 Tony Jacobson returned to the South Columbus in a manner that gave him complete control. He had enlisted the aid of associates in the eastern states to allow him to buy a controlling interest of company's stock, some of it being treasury stock, which also placed a substantial amount of cash into the company's coffers. Almost immediately he stressed the fact that years ago the upper tunnel on the company's ground had exposed ore bodies of tremendous value, that being the old Iris tunnel, later known as the Rustler tunnel. He put a force of men to work cleaning out and ventilating the tunnel. Pipe was ordered and an air line was run up to the tunnel site. Presumably the old tramway was still available for use, although nothing was reported about that.

Jacobson's plans went far beyond exploiting the upper tunnel. Only a few months after his return, before much could be done up there, reports were released about an impending merger of the South Columbus with its close neighbor, the Alta-Quincy Mining Company. The new company was to be called the South Columbus

Consolidated Mining Company. While the merger had been negotiated far in advance, the new company was incorporated in November 1906. Operations were then moved to the Alta-Quincy's tunnel and nothing more was reported about the old South Columbus tunnel. In almost three years of its existence, the South Columbus Mining Company accomplished very little other than driving its tunnel to a 1400 foot length, and causing grief for the stockholders with its multiple assessments. The merger placed the South Columbus into a new, more prosperous chapter in its life, which will be the subject of the next episode in this series.



Fig. 2. This aerial photo shows the site of the South Columbus Mining Company's tunnel. The hiking trail crosses the top of the dump, only 140 feet east of the lower terminal of the Rustler tramway, both indicated by dots in this figure. The Gold Miners Daughter lodge is at upper left.

The merger placed the South Columbus into a new, more prosperous chapter in its life, which will be the subject of the next episode in this series.

Today there is little to be seen of the South Columbus Mining Company's operations. The site of the tunnel and surface facilities can be found, if one knows where to look. The tunnel, of course, has collapsed and the waste rock dump has been leveled, or hauled away to be used as fill elsewhere. There is an Alta City hiking trail running east and west on the south side of the stream, as is shown in Figure 2. This trail crosses the remains of the waste rock dump of the South Columbus mine, indicated by the right-most dot in the figure. The left-most dot is where the trail passes the base of the Rustler tramway, about 140 feet west of the mine. If one were to follow the tramway route up the steep slopes toward the Rustler tunnel, rusted and broken remains of the 2½-inch pipeline that was to provide air for tools in that tunnel can be found.

FAINT TRAILS IN THE WASATCH

86. Alta-Quincy and South Columbus Consolidated Mining Companies

The Alta-Quincy Mining Company was incorporated on 10 September 1903 by five men from Park City. Two of them were bankers and another was the mine superintendent at the Daly-West mine in Park City. The final two were young men, Alexander Colbath and Lewis A. Jeffs, just beginning their career in mining. Colbath, it seems, was the person most responsible for the company's formation. He was the son of Lemuel U. Colbath, a man who had sixteen years of mining experience before settling in Salt Lake City in 1870, and then went on to become superintendent of a number of mines over the years, gaining the respect of all who benefitted by his knowledge. Hence, the young Alexander Colbath had received an abundance of mining genes at his birth. His mother, incidentally, was Carrie Simons Colbath, who before her marriage took a ride in the newly constructed Vallejo tramway at Alta, causing a stir of interest among the many young women in Salt Lake City who heard about her venture. She was The Lady in the Ore Bucket. It is interesting and fascinating how in historical research names and events keep reappearing, often in a new context, giving a multidimensional view of past activities.

At an age of nineteen Alex Colbath enlisted in the Utah Cavalry, which was organized to take part in the Spanish-American War in the Philippines. His company was sent to California for training, but the war ended before they could be shipped overseas. Instead they were sent home where, on the day after Christmas 1898, the soldiers were mustered out of the service, having served only eight months. Colbath then went to Park City where he worked in the Silver King and Ontario mines, as well as becoming involved in social and political activities. It was in Park City where he became acquainted with Jeffs, a young mining engineer from Michigan. Early in 1903 the two of them rented the Hempstead cottage at Brighton, giving them a convenient base to investigate local mining possibilities. It didn't take long to make a choice; in August of that year Colbath purchased four claims at Alta from Charles Collins and filed eight claims on adjacent land.

Charles Collins was an old time miner and resident of Alta. He ran the Alta Lodging House in the earliest days of the mining camp, was involved in a number of mining companies, and briefly was manager of the Flagstaff mine. After Alta City burned, he built the Colorado lodging house and saloon on the newly located main street. He continued prospecting into the new century and amassed a number of claims known as the Collins Group in the gulch that took his name. It was this group of claims that Colbath bought in 1903. Collins was placed in charge of them for the new owner and continued to direct the miners who had been working for him. However, this arrangement was short-lived, because on the 20th of August, only ten days after he sold the claims, while working at one of them he suffered a heart attack and died.

With Colbath as superintendent, the company began driving a tunnel to develop its claims. It was located near the northern boundary of the Ben Harrison claim, one of the four purchased from Charles Collins. This was the lowest point of all the land encompassed by the company's twelve claims. It is not definitely known if this was a new tunnel or one that had been started by Collins. The surveyor cited two tunnels on the Ben Harrison claim, but neither was at the proper location. On the other hand, a newspaper report on the Alta-Quincy company cited its new tunnel. At any rate, work progressed rapidly on this tunnel, which would become one of two major avenues of access for many of the mining lodes under the south slopes above Alta. While it was known as the Alta-Quincy tunnel for a short time, it took on the name of the Quincy tunnel during its years of use until the mining era came to an end.



Fig. 1. The waste rock dump from the South Columbus tunnel remains at the left side of this photograph, taken in 1913. The large dump left of center and its extension to the right is from the original Alta-Quincy tunnel, later known as the Quincy tunnel. The large boarding house, also shown in Figure 2, is surrounded by the dump from the Dwyer tunnel, whose portal is behind the building. Collins Gulch runs up to the left. (Salt Lake Mining Review photo)

Although Lewis Jeffs was a principal in the formation of the Alta-Quincy company, he became involved in other enterprises in the Little Cottonwood district and was a representative of the Jeffs family in Michigan, heavy investors in Utah mines. He also was an incorporator of the Alta-Superior Mining Company the same month the Alta-Quincy was formed, and was a director of the Columbus Consolidated Mining Company six months earlier. There is no evidence he played an active role in the development of the Alta-Quincy properties. On the other hand, Alexander Colbath continued as its superintendent for several years until Tony Jacobson, with the backing of New York and Salt Lake City investors, resumed control of the South Columbus and engineered a merger of that company with the Alta-Quincy. By that time Colbath had other interests both locally and in other mining camps and left the company he had steered since its incorporation.

The South Columbus Consolidated Mining Company was the result of the merger, it having been incorporated on November 6, 1906, with Tony Jacobson as its president, and his brother, A. O. Jacobson, as vice-president. He immediately moved the South Columbus operations to the Alta-Quincy tunnel, using it to develop both the South Columbus and Alta-Quincy ground. He also started driving a second tunnel only 450 feet away from the Quincy tunnel, but about 150 feet lower. It became known as the Dwyer tunnel, named after William Dwyer, a pioneer of the Alta camp who had been a Jacobson associate for a number of years and continued as a field man at Jacobson interests in Nevada. This tunnel became the second major points of access for mines on the south slope above Alta. During the 1907 season a large boarding house was constructed near the Dwyer tunnel using the same plans used for the Columbus boarding house completed two years earlier. This structure was complemented by a large compressor building, a machine shop, blacksmith shop and ore bins.



Fig. 2. This photo shows the South Columbus Consolidated Mining Company's base of operations as they appeared in August of 1915. By that time the South Hecla Mining Company had taken over the properties. The large mine dump at the upper left was from the Quincy tunnel, while the dump to the right of the three-story boarding house was from the Dwyer tunnel, whose portal was behind the buildings. The large compressor house is behind the boarding house, while snow sheds extend over the dump to ore bins and dumping areas. The building in the foreground overlooking Little Cottonwood stream was said to have been built for Tony Jacobson to use as his Alta summer residence.

That same season saw the mine shipping ore both by teams and wagons and by the Continental Alta aerial tramway running from Grizzly Gulch to Tanners Flat. The tramway had a loading station where it passed the Columbus Consolidated mine, about 2,000 feet away from the Quincy tunnel. Although repeated news releases announced new and promising ore bodies, only that of shipping grade found its way down the canyon. Much of the ore in the mine was of a lower grade requiring concentration before it could be profitably shipped to the smelters. A test made in the Columbus Consolidated mill showed this could be done, yielding one ton of shipping grade from three tons of milling ore, but that mill was fully occupied with its own ore. A lease was taken on the Continental Alta mill at Tanners Flat to handle the South Columbus ore, only to discover that mill did not have the required grinding capability. The company continued sending shipping grade ore down the canyon while it stockpiled that of lower grade. When metal prices fell shipping was curtailed while development work continued. Finally, in August of 1909 it was found necessary to levy a five cent assessment on the company's outstanding stock to remain financially solvent. This might have been accepted by the stockholders two years earlier when the stock was listed at \$2.75 per share, but by the time of the assessment the stock price had dropped as low as fifteen cents a share. Many stockholders chose to forfeit their stock rather than pay the assessment. Some 30,000 shares were allowed to become delinquent and were sold for a small fraction above the assessment amount. As a result, at the next annual meeting of the company an entirely new board of directors took control, none of whom had been involved in the company's activities before that time. The one name that stood out was that of George H. Watson, who became president of the company and manager of the mine. This was the first big step in his multi-decade effort to build a mining empire in the Little Cottonwood district. In 1906, at 23 years of age, he entered the mining business as one of the incorporators and secretary and treasurer of the Alta and Hecla Mining and Milling Company, formed to work a group of five claims in the south fork of Little Cottonwood Canyon, a short distance south of Alta City. The president of the company was Herman Bamberger, a Salt Lake banker and financier. Watson's association with Bamberger was fortuitous, for he enjoyed that man's support through the formation and merging of mining companies for nearly twenty years, until the older man's death in 1924.

Within a year after the formation of the Alta and Hecla company, Watson became the company's manager. In another year the company bought the adjacent Lilburn Mining Company with its three claims. Although he had no previous mining experience before moving to Utah in 1902, Watson was learning fast. One of the techniques he used over the years was to buy large blocks of a company's stock at an assessment sale, then make big promises to the remaining stockholders and acquire proxies in order to gain control at the next annual meeting. That may well have happened when he took control of the South Columbus Consolidated Mining Company. Within a year of his ascension to power, he merged the South Columbus and Alta & Hecla companies into a newly formed South Hecla Mining Company, with himself as president and Bamberger as vice president. And so the South Columbus companies faded into the past, their properties becoming building blocks in George H. Watson's budding mining empire in the Little Cottonwood district.

FAINT TRAILS IN THE WASATCH

FTW 87. Prince of Wales Pipeline Trail

In 1875 the Prince of Wales mining company expanded its operations by installing machinery to enhance the productivity of its mine. At its shaft, high in the east bowl of Silver Fork, it placed a large horizontal boiler and a steam driven hoisting engine, both enclosed in a two story building providing sheltered working and living space. Another boiler was installed at the Wellington tunnel, some four hundred and fifty feet down the slope, to drive an air compressor. Boilers are useless without water, so the company filed a claim on three springs high in Grizzly Gulch, not far below Twin Lakes Pass. They called them Flat Spring Nos. 1, 2 and 3, names not in common use then or now, but probably describing their location on that alpine flat. The springs were developed and another boiler, this one a small vertical boiler, and steam-driven water pump were installed, housed in a suitable shelter appropriately known as the Prince of Wales pump house. A two-inch pipe line was put in place, going up the north slope two-tenths of a mile and gaining about 350 feet in elevation, then turning and following a contour line to the pass between Grizzly Fork and Silver Fork, and over to the mine. The pipe ran a total distance of nearly one mile, buried all the way except for a few spots where burial was not possible. The



Fig. 1. The boiler that provided steam for the fifteen-horsepower engine that drove a pump to move water from the adjacent springs to the Prince of Wales mine nearly a mile away still remains on the flat a short distance below the Twin Lakes Pass. Parts of the pumping machinery while away the years with the boiler.

importance of the pump house and its pipeline cannot be overemphasized, for the operation of the mine depended upon their continuous operation. They served for years until the company ceased active operations, and probably ran sporadically in later years to serve leasers. But all that ended in 1914 when an avalanche destroyed the surface buildings at the shaft, leaving only remnants, some of them still to be seen today.

While the destructive avalanche did not reach as far as the pump house, time and scavenging has left only the boiler and parts of the pump to be seen today. The pipeline has left an interesting and popular trail, and if one looks up the north slope above the naked boiler, it is possible to see the line of the buried pipe going up to the pipeline trail.

To reach this trail one can start at Twin Lakes Pass and drop down on the west side to an old construction road heading in a northerly direction. A short distance up this road a trail goes off in a northwesterly direction. Depending upon the time of the year and the amount of use it has had, the trail may not be very obvious. Sometimes a rock cairn is found there, sometimes not. But an old metal fitting for a backstay cable sticking up out of the road is an indication that the trail has been passed. The road remains from the installation of an early power line to Alta that has since been replaced.

Once found, after passing through some stunted trees the trail is easily followed. On its way up the slope it crosses the dump of a small unidentified prospect. As recently as the 1960 decade it was possible to find crystals in the hole, but they have been picked out over the intervening years. Farther up there is another, bigger unidentified prospect, easily missed due to its location behind rock outcrops. Although this route is the way to reach the pipeline trail, it is actually an old mining trail, used to access the prospects seen along the way, as well as providing a route to the City Rock discovery site, which will be seen shortly. About two-tenths of a mile from the trailhead the pipeline is reached. If one is

looking for it, it will be obvious where the pipe comes up from the pump house down below and turns to follow a contour line. Also, this far the trail has been climbing, albeit gently, but now it becomes level. The line of the ascending pipeline is marked C in Figure 2.

A very short distance farther along, about 300 feet, the trail crosses above a dump and collapsed tunnel. This is the City Rock discovery tunnel, point D in Figure 2, the beginning of a major mining operation. It is on the City

Rocks fissure, which runs up and over the crest of the Honeycomb cliffs and into Honeycomb Fork. In the other direction the large City Rock middle tunnel dump can be seen below. The Topeka tunnel and Cleve tunnel, farther down and out of sight from this view point, are all on the line of the fissure, and were the basis of the City Rocks Mining Company, and later the Michigan-Utah Consolidated Mining Company.

As the trail continues through rocky outcroppings, one might reflect about the difficulties the miners faced while trying to bury the pipe along this route. At one place the pipe is exposed and held in place with steel rods driven into the cliff. Then, two-tenths of a mile from the City Rocks discovery tunnel, the trail crosses above a large dump and collapsed tunnel. In fact, the pipeline went above the portal to the tunnel, but the tunnel's collapse and the wear and tear of the years took down both the pipe and the trail, the latter now crossing on a very narrow path. This was the Darlington "cut and level shaft," as described by the surveyor of the Darlington claim. That there was a cut is obvious by the remains of a stone wall that once led to the portal of the tunnel, but what the surveyor meant by "level shaft" remains to be explained.

Continuing on the trail, one passes several more large workings, one of them being the tunnel of either the Johnson or Regulator claim, worked by the legendary John S. "Regulator" Johnson. The trail finally comes to an end overlooking the pass into Silver Fork. The pipeline continued in a northerly direction to the mine, but has not been followed by hikers over the

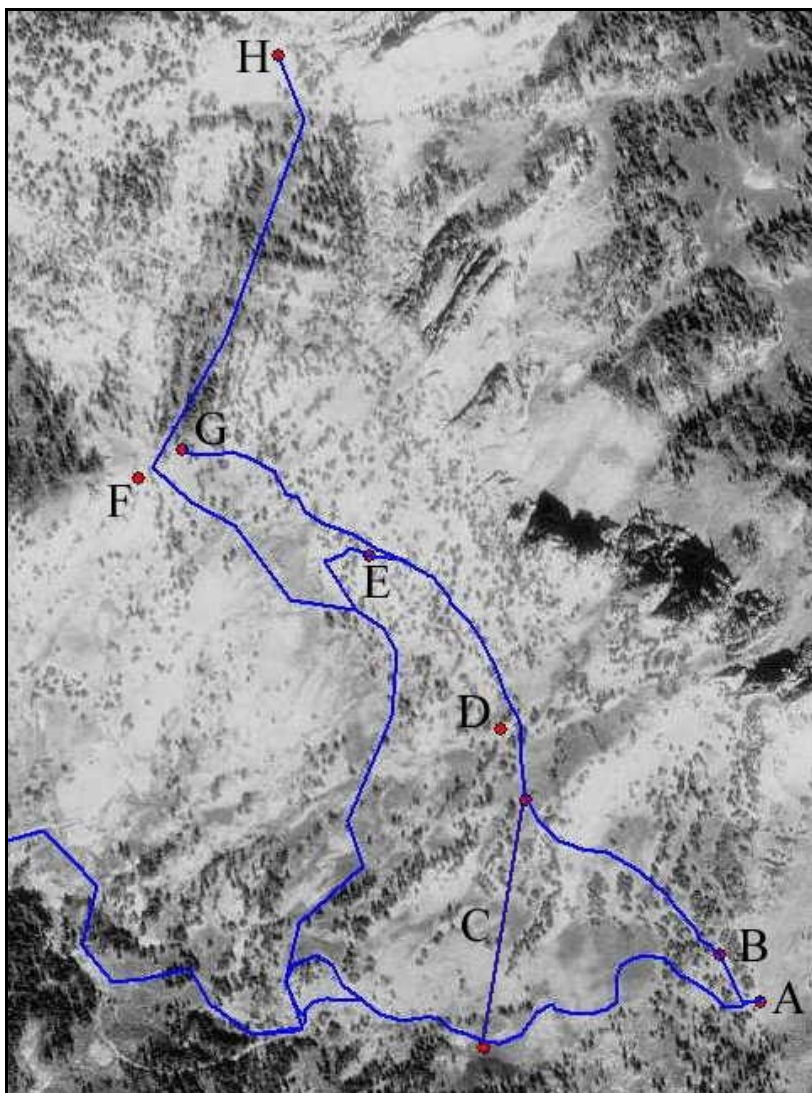


Fig. 2. On this map the Grizzly Gulch road enters on the left. The Prince of Wales road runs up to the mine at H. The Prince of Wales Pipeline Trail runs from B to G, the first point being where the trail leaves an old construction road, and G being the apparent end of the trail above Silver Fork Pass. Other points are: A is Twin Lakes Pass, C is the route of the ascending pipeline going up from the pump house, D is the City Rock discovery tunnel, E is the Darlington "cut and level shaft," and F is U.S. Mineral Monument No.1 in the center of Silver Fork Pass.



Fig. 3. Drain plug on the Prince of Wales pipeline is above the Silver Fork pass, where the pipeline turned north toward the mine.

years, so there is no trail. But from the west side of the Silver Fork bowl, with the proper lighting, the route can be seen. At the apparent end of the trail at the pass a drain plug for the pipeline can be seen. If at first it is not found, keep searching, it is there.

The descent from the end of the trail to the Prince of Wales road is steep, but not too difficult, although one does have to contend with loose rocks and gravel. There is an easier way down if one goes back to the Darlington "cut and level shaft" at point E in Figure 2. As this site is approached from the south a trail can be seen dropping down to the top of the tunnel's dump. At the opposite end of the dump a faint road goes through some trees, then drops down the slope, joining several faint roads from nearby workings, and finally joining the Prince of Wales road some distance below the Silver Fork pass. No loose gravel here.

FAINT TRAILS IN THE WASATCH

FTW 88. Prince of Wales Surface Installation

The last episode of this series discussed the Prince of Wales Pipeline Trail, explaining how the mining company pumped water up to the mine for use by the boiler. Having described that, it behooves us to examine how they used the water and the steam generated with it. Almost everyone who has hiked in the Wasatch has at one time or another visited the Prince of Wales mine and has seen the boiler and adjacent machinery. Much of what is there has suffered disassembly and scavenging, but there is enough remaining to allow one to appreciate the extent of the mine's surface works, especially when considering the fact that it was constructed in 1875 at an elevation of 10,000 feet and accessible by many miles of very poor and steep mountain roads.



Fig. 1. The boiler at the Prince of Wales mine generated steam for the thirty-horsepower engine and hoist that lifted ore and other material out of the shaft and lowered men and material. The hoisting machinery is to the right of the boiler. The shaft is covered by a metal grate seen in the background.

background in Figure 1, but now pointing in the wrong direction. The miner operating the hoisting machinery, known as a hoist man, would hang a weight from the end of the arm to hold the poppet in place. When the steam pressure rose to a point where the poppet would be raised, it allowed steam to escape, thereby lowering the pressure. The poppet was, in fact, a safety valve, but the size of the weight hanging on the arm would also regulate the steam pressure that could be generated. Simple, but very practical and effective. The heavy brass or bronze poppet was still in place in the 1960s, but was easily lifted out once the arm was swung out of the way. Too easy. It escaped into someone's souvenir collection.

The hoisting machinery, with cable drum and thirty horsepower steam engine, rests between the boiler and the hillside. The beauty of this machine is usually overlooked and unappreciated by visitors. While scree and large rocks hide some of it, there is enough exposed to visualize the details of the installation. The entire assembly was built by the Ames Iron Works in Oswego, New York, it being their model number 8. The engine used the Stephenson valve gear, which in



Fig. 2. Overall view of the steam engine and hoisting drum. The Johnson bar control and disassembled cylinder are at the right, flywheel in the background and cable drum in the foreground.

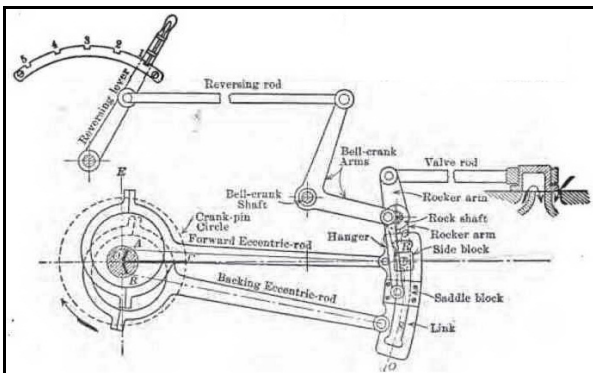


Fig. 3. Stephenson Valve Gear schematic.

1875 was an old design, having been invented in 1841 by two employees at Robert Stephenson's locomotive works in England. A schematic of this design is shown in Figure 3. There are two cams on the driven shaft, one for each direction of motion, each with a cam follower and an eccentric rod. The rods go to the upper and lower ends of a link, causing it to oscillate about a saddle block near its center. The link is also connected via a valve rod to the steam valve for the engine. However, the link has a slot so that it can be raised or lowered on the saddle block, changing the center of the oscillation. When the saddle block is at the center of the link the oscillation causes no motion of the valve rod, and the engine is not in motion. Moving the link up or down

causes the engine to run forward or reverse, with the displacement from the center controlling the engine speed. The position of the link is controlled by the operator using a Johnson Bar, a lever with locks for five positions, they being Full Forward, Slow Forward, Idle, Slow Reverse and Full Reverse, from one end to the other.

The Johnson Bar control is seen at the right side of Figure 2. An on-site inspection will show it has a semicircular fitting near the bottom with detents for the five positions. Further inspection will show the large cam followers around the cams on the crankshaft and the upper eccentric rod going back to the link. The lower eccentric rod is buried in Nature's debris. The link, shown in Figure 5 with both upper and lower eccentric rods attached, was raised or lowered by linkage from the Johnson Bar, linkage that is not seen due to being buried in the debris. The rod going off to the right is the valve rod, controlling the position of the steam valve. It moved back and forth by virtue of its being connected to the saddle block riding in the slot in the link. All this can be seen with greater clarity when viewed on site.



Fig. 4. This photo shows the crankshaft with the flywheel at the far end and the cable drum in the foreground. The cams, cam followers and one of the eccentric rods can be seen between the flywheel and crankshaft throw.

hardwood blocks between it and the spool, although the wood blocks have long disappeared. There was a brake lever linked to the free end of the metal strap that the hoist man could use to stop the drum's rotation and hold it in place even with a heavy load at the other end of the cable down in the mine shaft.

The rest of the Prince of Wales surface installation must be left to the reader's imagination. In Figure 1 the shaft can be located by the metal grate that covers it, seen in the background. There was a head frame over the shaft, built with heavy timbers. It was in line with the cable drum of the hoist, such that the cable ran up and over a sheave at the top of the head frame, then down the shaft. The head frame has long since fallen, but in the 1960s parts of it still rested on the ground with the sheave intact. Both have since disappeared through efforts of man and Nature. Next there was a building covering everything: boiler, hoisting machinery and head frame. It was reported to have been twenty by fifty feet in size, and two stories high. Those dimensions would have been at the ground, but the building was considerably larger than that for it had a roof that sloped up against the hill to allow snow avalanches to slide overhead without causing damage other than, perhaps, to the smokestack. The second story provided living quarters for miners and surely housed the tank holding water brought in through the pipeline from the pump house in Grizzly Gulch. That would allow water to flow to the boiler without additional pumping, and the heat from the boiler would have kept the water from freezing. Although this building was wrecked by a snowslide in 1914, portions of it remained for many more years, and as late as 1970 the ground was still littered with bits of lumber, a remembrance of its demise.

In addition to the large building, there was a snowshed that ran from it to the pass between Grizzly Gulch and Silver Fork to allow safe passage across the steep slopes prone to suffer from avalanches. The track for the ore cars must have run around the opposite side of the boiler from the hoisting engine, but still inside the building.

As of this time no photograph or drawing of these surface workings has been discovered. This is not too surprising for the early years of the mine's existence, knowing that the Prince of Wales was a closed corporation owned by the Walker Brothers and its operations were not often publicized. In fact, visitors were not generally welcomed. But in the late nineteenth and early twentieth centuries the mine was run by leasers, yet no photographs, even from those late years, have come to light. So we have only our imagination to allow us to see what might have existed in the past. Perhaps the foregoing discussion, however complex, technical or confusing it may seem, will allow the reader to see and appreciate more of what is there the next time the site is visited.



Fig. 5. This photo shows the link with the two eccentric rods coming in from the left. The valve rod runs off to the right to the steam valve. Notice the vertical slot in the link, allowing it to be moved up or down by linkage from the Johnson Bar, not seen here due to its being buried in the debris. When the engine is running the link continuously rocks back and forth, its vertical position determining the amount of motion transmitted to the valve rod.

FAINT TRAILS IN THE WASATCH

FTW 89. Vallejo Mine

Anyone who has hiked up the road to the Flagstaff mine on the north slope above Alta has undoubtedly noticed how it crosses the top of two sizeable mine dumps, only about 175 feet apart, before arriving at its final destination. These two dumps are remnants of the South Star and Vallejo mines, the latter being the lower of the two and the subject of this narrative. The South Star was an old mine, the location notice having been filed with the mining recorder in October of 1867. Actually, it was two locations, South Star and Titus, the former running 1600 feet southeast from the discovery point while the Titus ran northwest the same distance, each having eight 200-foot claims assigned to the various locators. The primary development was a shaft at the discovery point, located on the hillside above the South Star dump that is seen today.

When the Vallejo Tunnel Site was recorded almost four years after the South Star and Titus, in July of 1871, it claimed no land. Media reports stated the Vallejo took over the South Star, but that was not quite the case. What actually happened was that west coast speculators, specifically a man by the name of Joseph W. Haskin, started buying claims in Little Cottonwood Canyon early in 1871, with an emphasis on the very early claims filed in the mid-1860s. He had his eye on the South Star, but seemed unable to acquire any part of it until July of 1871, when he bought most of the first two claims of the South Star, including the discovery shaft. This was about all the land the Vallejo company possessed on the mountain. About a week and a half after the tunnel site was recorded the Vallejo Tunnel and Mining Company was incorporated in California. Haskin was not listed as one of the incorporators, but there is no doubt that he was instrumental in its formation. While he was not a miner, he did direct the company's operations during the remainder of that year. He was from Vallejo, California, hence the name of the mine.

Before the year 1871 came to an end an experienced miner took over as superintendent. He was Lemuel U. Colbath, who had worked many years in California mines, followed by more years in Virginia City, Nevada, before finally moving to Salt Lake City in 1870. After two years at Utah mines west of the Salt Lake Valley, he settled in at Alta where he spent more than two eventful years at the Vallejo mine. The first, most noticeable event was the construction of an aerial tramway from the mine down into Alta.

It was a wire rope tramway built by A. S. Hallidie & Company of San Francisco, based on Hallidie's patented design. While it was not the first tramway in Little Cottonwood, it was the longest, and certainly the most obvious since its large lower terminal and ore bin was located on the north side of the town of Alta. The tramway had thirteen towers and a fall of 600 feet in its 2340 foot length. It was constructed and in operation in only three and one half months, an impressive feat. Two weeks later it attracted the public's attention when the Salt Lake Herald printed an account of a young woman who climbed into one of the tramway buckets and rode it to the upper terminal at the mine. It stated her male companion suggested, in jest, that she



Fig. 1. The present road to the Flagstaff mine crosses the dumps of the Vallejo, then the South Star mines on its way to its destination. The road is also seen in the lower right. Mount Superior is seen in the distance.



Fig. 2. The northern part of Alta city in late 1873, extracted from a Timothy O'Sullivan photograph. The large building to the right of center is the ore bin and lower terminal of the Vallejo aerial tramway. Two of the tramway towers can be seen on the hillside above the city. (Library of Congress photo)

take the ride up the cable, but when she accepted he tried, without success, to discourage her. Although neither person was named in the article, nor later identified in the press, it can be stated that she was Miss Carrie Simons and her friend was none other than Colbath, the mine superintendent. A year later the two were married at the home of the bride's father. Little did she know at that time that over a century later she would be recognized as The Lady In The Ore Bucket.

The second big event after Colbath became superintendent was the incorporation of the Emma Hill Consolidated Mining Company, also in California. Its intent was to consolidate many of the mining claims on Emma hill into one company in order to settle title disputes without incurring costly legal actions. From all appearances this company was well accepted and highly popular, it having some thirty mines represented at its inception, including the Vallejo and Illinois. Colbath was reported to be the superintendent of both those mines, and later of all the Emma Hill Consolidated company's mines. Sixteen months later, however, the Vallejo withdrew from the Emma Hill Consolidated Mining Company, an unusual action since both were California companies involving some of the same people. But all was not well within the Emma Hill company. Most of the mines it held were very old claims, recorded in 1865, and of little value. But they were being used as the basis for litigation or protests against other miner's patent applications. The legal costs were to be paid with the proceeds of all the mines in the company, but very few of them had any earnings, so the costs had to be covered by the few profitable mines, the Vallejo being one of them. This may well be the reason for the Vallejo's separation from the parent company, but no explanation was ever published.



Fig. 3. Two men standing at the Emma mine are surveying a mid-1870s winter scene. Towers for the Vallejo aerial tramway stand on the hillside in the background. The view is looking down canyon. (Photo from A. Kelner collection.)

Relieved of the financial burden, the Vallejo enjoyed another year and a half of successful operation. The tramway allowed it to move ore from the mine down into Alta city during the winter months when most surface routes were closed by snow. Then in January of 1875 avalanches wreaked havoc at several places in the canyon. One of them smashed both the ore bin and boarding house at the Vallejo tunnel, and took down two of the tramway's towers. A number of miners were trapped in the tunnel for several hours, although they and others in the boarding house escaped with only minor injuries. Only one person was killed, the cook who was swept down the mountain; his body was not found until five days later. The tramway was repaired and back in operation within three weeks, but the reconstruction of the ore bin and boarding house was not completed until the end of the summer. Shortly after that the company began having trouble paying its bills and by the following spring it was reported that the Vallejo was closed due to lack of funds. About the same time James Tucker, an Alta merchant, filed a suit against the company for unpaid debts accrued for goods, wares and merchandise sold and delivered, as well as for money loaned during the winter. He also included a number of claims assigned to him by individual miners, including one for the superintendent, Lemuel U. Colbath. As was often the result in cases like this, the court's verdict was in favor of the plaintiff by default. The company's assets were attached by the U. S. Marshall and sold at public sale to a Salt Lake City lawyer, an intermediary for a newly formed company, the Alta Consolidated Mining Company. The lawyer transferred the certificate of sale to William S. McCornick, a prominent Salt Lake banker and one of the incorporators of the new company, who transferred the Vallejo properties into the new company when the Marshall's deed was issued. Thus in December 1876 the Vallejo mine entered a new era in its existence, one to be addressed in the next episode in this series.

FAINT TRAILS IN THE WASATCH

FTW 90. Alta Consolidated Mining Company

As mentioned in the previous Faint Trails article, the Vallejo mine fell under the ownership of a new company in December of 1876. The Alta Consolidated Mining Company, as it was named, was formed by Salt Lake City businessmen with considerable experience in all aspects of mining. Their acquisition of this valuable mining property was not a spontaneous event, but rather a culmination of activities that took place over a period of about four years. During that time several of the men who would become principals in the company were acquiring segments of the South Star mining claim. The law suit that caused the Vallejo property to be sold at public sale has been previously mentioned; when the United States Marshal issued a deed for the property to Salt Lake banker William S. McCornick, it set off a rapid chain of events. A new, short-lived company, The South Star Mining Company, was incorporated and all the bits and pieces of the South Star claim that had been accumulated over several years were transferred into it. Less than three weeks later the Alta Consolidated Mining Company was incorporated and received the Vallejo mine from McCornick and the South Star properties from the South Star Mining Company. The latter company, having served its purpose, was allowed to expire.

It might be noted here that there was a great deal of confusion and misunderstanding relative to the South Star and Titus claims. During the life of the Vallejo company it was generally assumed that all of the South Star belonged to Vallejo, when in fact that was true for only about 400 feet, about one-fourth of the entire claim. It was only after the South Star segments were reassembled in the South Star Mining Company that the entire mine was joined with the Vallejo, albeit under the name of the new company. Meanwhile, the Titus, which had not been remotely involved with the Vallejo, was being worked simultaneously by a number of owners who did not always agree how the mine should be worked. Their disagreements escalated into legal and physical disputes that were widely reported in the newspapers, always with the mine being called the South Star and Titus, incorrectly implying the South Star was still a mine being operated under that name. Further, the Titus and Flagstaff claims crossed one another, causing each group to accuse the other of trespassing into their territory and stealing their ore. Newspaper reports of this conflict inevitably included the name of the South Star, dragging it into reports of this conflict. This sort of thing causes considerable difficulty in determining exactly what took place when researching these activities more than a century later. Ultimately Titus was absorbed by the Flagstaff operations and the Titus name faded into obscurity. However the South Star name remains with us, primarily because the tunnel, or tunnel site, on the present day road to the Flagstaff mine still carries the name. As a matter of interest, it might be worth mentioning what did happen there.

The South Star and Titus were recorded in October of 1867. While the miners may have worked it in the next few years, it was not until 1870 that newspapers appeared to report activities in the mine fields. A shaft was sunk at the discovery location, some distance up the slope above the tunnel site. Levi North, a settler in the Mill Creek area, and several of his sons contracted to take on this job. By 1871 it was reported the shaft was down 130 feet and a tunnel that had been started on the slopes well below the shaft was in 80 feet, presumably at the site we see today. The following year it was reported that both the South Star and the Titus had shafts, and the latter had started a tunnel to get below its shaft. While the location of this tunnel was never specified, it is believed it was the same as the South Star tunnel. No other tunnel in the vicinity of the Titus claim has come to light, either in the media or on site.

Getting back to the Alta Consolidated Mining Company, it must be mentioned that this was only the first of at least four mining companies that used the same name over a period of thirty-five years, the fourth having been discussed in a previous Faint Trails article (FTW78). In this particular case, there was one man who assembled the team and guided its actions toward the formation of the company and its successor through years of successful operation. His name was Joab Lawrence. He was not a miner, nor did he have any amount of experience with mining operations before he arrived in Utah. He was a business man, an entrepreneur, who had been engaged in steamboat companies on the Mississippi and Missouri rivers. In 1866 he co-founded the Mississippi Valley Transportation Company, a barge line between St. Louis and New Orleans and was one of its first presidents. Two years later he organized the Northwest Transportation Company to run a line of steamers on the Missouri River between Sioux City, Iowa and Fort Benton, Montana. These activities gave him the title of "Captain," which he carried for the rest of his life. In May 1871 he arrived in Salt Lake City and ten days later was one of the incorporators and president of the Eureka Mining Company of Utah. In the next few years his name appeared on the incorporation papers of many organizations, such as the Lincoln Tunnel Company, the Salt Lake and Echo Railroad, and the Salt Lake and Coalville Railroad. It is not known when he first visited Alta, or how he became interested in the Vallejo and South Star mines, but he associated with knowledgeable and successful men in Salt Lake City, most of whom knew of or had a part in the operation of the Vallejo mine. He certainly knew Lemuel U. Colbath, Vallejo's superintendent. In December 1876, when both the South Star and Alta Consolidated Mining Companies were formed, Colbath was one of the incorporators, although he soon moved on to other ventures.

One of the most important men contributing to the success of the newly formed Alta Consolidated company was the mine's new superintendent, Charles Read. A native of England, Read came to Salt Lake City in the 1860s

at the age of 17 and went to work in the Walker Brother's store. When the Union Pacific railroad construction created a boom at Ogden, he moved there and went into the merchandising business for himself. When the railroad was completed and mining activity increased in Little Cottonwood Canyon, he left Ogden and joined John T. Clasbey to build a store at the mining town of Central City. In Spring of 1872 they moved farther up the canyon into the large two-story Clasbey and Read building on Walker street in Alta. Being at the center of the mining activity, he became involved in some of the mines, having his name on about two dozen claims and gained enough mining expertise to supervise operations at the Alta Consolidated mine. However, it is suspected his success there had as much to do with his abilities as a business man as opposed to being a miner. Read was not one of the incorporators of the Alta Consolidated, but joined the company after it was formed. He became an important and close collaborator in Joab Lawrence's mining ventures at Alta over the years that followed.

During the winter of 1877 the new company employed a large force of men and made big shipments of ore, reported to be about 100 tons per month. This was made possible by the aerial tramway that continued to run and carry ore down to Alta while most neighboring mines were snowbound. During the following summer new cars were built for the horse tramway to Wasatch so ore could be shipped in bulk rather than in sacks, as was the standard practice for all mines in that day. Except for the period in the spring when there was considerable water in the lower workings due to snow melt, the mine had two years of successful and profitable operations. In June of 1878 Joab Lawrence and Charles Read, acting for an informal Joab Lawrence Company, took a bond on the property of the Alta Consolidated mining company, an unusual action because it was principals of the company who took the bond for their own property. As events transpired, it was a strategy to transfer the properties from a stock company and place them into private ownership. Since the two men were already running the company, the change caused scarcely a ripple in the operations at Alta.

Then on the first of August, 1878, Alta suffered a devastating fire that consumed the entire center of the city. Included in the losses was the Alta Consolidated ore house, which also served as the lower terminal of the aerial tramway, all but halting shipments from the mine. However, Lawrence and Read immediately put the company's men to work repairing the tramway and installing new machinery and hoisting works at the mine. By mid-October, two and a half months after the conflagration, the new machinery had been installed, including steam hoisting works that greatly improved operations at the shaft inside the tunnel, which had reached a depth of 175 feet. The tramway was back in operation, carrying ore to a newly built ore bin at the lower terminus. This ore bin has not been well described in the media, nor have photographs been found to show its appearance. It would have been in the same location as the old one, but with Alta's main street relocated in a north-south direction after the fire, the ore bin would have been on the east side of that street. It must have been a bare bones structure because a Salt Lake Tribune correspondent, writing with the pen name of Amos, stated, "When the time comes I hope [the present owners] will remember and regret that out of pure cussedness they marred the otherwise pleasant perspective of Alta by erecting an unsightly building in the centre of its principal street in which to anchor their endless cable. They probably borrowed the idea from the telegraph poles in Salt Lake City."

About this time two other men appeared who would play important parts in the company's operations. One was Micajah Burgess, a civil engineer who had been a surveyor for the Union Pacific railroad during its construction, then spent several years as a mining surveyor at Corrine before moving to Salt Lake City to become a Deputy Mineral Surveyor in the office of the Surveyor General. He went on to become the chief engineer for the Rio Grande Western railroad as it was built into Utah. His tenure with the mining company at Alta was brief, but significant, as shall be seen.

The other man was Moylan C. Fox, a native of South Carolina who came to Utah in 1875. He found employment with Joab Lawrence as a bookkeeper and was sent to Lawrence's mining properties in the Ophir Mining District where he learned about the mining business. He remained there until the middle of 1878 when he relocated to Salt Lake City and became involved with the Alta Consolidated properties at Alta. The following year he married Emily C. Lawrence, Joab Lawrence's daughter, and when the Joab Lawrence Company was incorporated in August 1879, he was one of the incorporators, as was engineer Micajah Burgess. At that time Fox subscribed for only five per cent of the company's stock, while Joab Lawrence and Charles Read retained eighty per cent. Within a short time the minority stockholders were bought out and the Joab Lawrence Company became a closed corporation with Lawrence, Read and Fox as the sole owners. Moylan Fox assumed more and more of the responsibilities of management of the company and became involved in other mining ventures, especially in the Park City area. Over the years he was variously listed as a mine superintendent, manager of mines, and capitalist. When Joab Lawrence died in 1888 Moylan Fox became the de facto executor of the Lawrence family estate and continued to serve in that function throughout the rest of his life. Fox died in February 1927.

The final chapter in this saga will appear in the next episode of this series.