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General James W. Denver—An Appreciation

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The national House of Representatives was recently visited by a distinguished former member, the Honorable Matthew R. Denver, of Wilmington, Ohio. During four of the six years of his service in this body, I served with him. We lived at the same hotel. While I always had an admiration for his manly character and ability, I felt especially close to him because our superbly beautiful capital city of Denver was named in honor of his distinguished father, General James W. Denver.

General Denver was Governor of the Territory of Kansas when the little settlement on the bank of Cherry Creek was founded in October, 1858, and that afterward became our capital city of Denver. The town was at that time within the Territory of Kansas and General Denver was a very efficient and popular Governor. He was also a Member of the Thirty-fourth Congress. He had both a thrilling frontier career and a heroic military service record. I have always looked upon him as one of the most intensely patriotic and truly great western characters of his generation.

In the judgment of all Coloradoans the little settlement of prospectors has become the most modern, symmetrical, and beautiful city of its size in the world. There are many reasons that account for this. I need mention only one feature which cannot be duplicated by any other city of its size on this planet. No other city of over 300,000 population has as few frame houses in it as the city of Denver. Another reason for the distinction of our capital city is that there are only three large cities in the United States that are named in honor of an individual: namely, the city of Washington, named in honor of our first President; the city of Cleveland, named in honor of Moses Cleveland, a great frontier engineer, who located, surveyed and platted that city; and the city of Denver, named in honor of General Denver. None of those men ever lived in the city that bears his name. But they were three of our greatest pioneer Americans, eminently worthy of all the distinction that posterity is giving them.

*Congressman Taylor, honored and beloved veteran of the national congress and for thirty years able representative of his Colorado constituents, presented the substance of this article as an "Extension of Remarks" in the House on June 28, 1939.—Ed.

I believe that the following sketch I have prepared is substantially accurate:

James William Denver was born near Winchester, Frederick County, Virginia, October 23, 1817. His grandfather, Patrick Denver, was one of the United Irishmen, in the rebellion of 1798, and in 1799, fled to America, to save his life. He and his family arrived in the United States on the day that General Washington was laid to rest.

In 1804 he and his son Patrick, Jr., located in Frederick County. Patrick, Jr., was first a lieutenant and later a captain in the war of 1812. He married Jane Campbell, of Scotch ancestry, whose family also contained men distinguished for military service. In 1831 Capt. Patrick Denver, Jr., moved his family to Ohio, and in the spring of the following year located at Wilmington, later removing to his farm adjoining the town. James W. was the eldest of eleven children, and his early life consisted largely of the hard labor of the older children on a farm. He attended the common schools until he was fourteen, when he was forced to give his whole time to the farm work, but continued his studies at home. The hardships endured by him brought on a severe illness when he was twenty-one, and he then studied surveying, and for a while worked with the county surveyor.

In the spring of 1841 he went to Missouri, seeking employment in the surveys of public lands in that State, but failing to obtain a contract, he taught school for a year. At the close of the term he returned to Ohio, and took up the study of law in the office of Griffith Foos. He also studied at the Cincinnati Law School, from which he graduated in the spring of 1844. He first opened an office at Xenia, an adjoining county seat to Wilmington, where he also edited the *Thomas Jefferson*, a Democratic paper in that town. The following year he returned to Missouri, opening a law office at Plattsburg, and later at Platte City. He continued in the practice until April 9, 1847, when at the age of thirty years, he organized a company for service in the Mexican War, the men averaging six feet in height. He was commissioned captain of Company H, in the Twelfth Regiment, United States Volunteers, Infantry. Placed under the command of General Pierce, afterwards President, he joined General Scott at Pueblo, and took an active part in the battles of Contreras, Churubusco, Molino del Rey, and Chapultepec, which culminated in the fall of the city of Mexico. During this time he was prostrated for a period by yellow fever, contracted at Vera Cruz.

At the close of the war Captain Denver returned to Platte City, where he continued the practice of his profession for a few years, and also bought and edited the *Argus*.

In 1850, following the gold discoveries in California, he went overland with a small band of followers to that State, on this occasion he also took charge of the first overland mail. He and his company of thirty-four lost the most-traveled route and reached California by the then unknown route of Wyoming and the Snake River. Death overtook eight members of the company, and Captain Denver read the burial service before the poor victims were laid to rest beneath the trackless sands of the desert. It is highly probable that the sufferings on this journey made such a deep impression on his mind and created such a close sympathy for those

JAMES W. DENVER
Original painting by Juan Menchaca, in the State Museum, Denver. Made from a photograph of General Denver taken when he was thirty-eight years of age.

similarly situated that it had a major influence on the regrettable event in later years of his duel with Edward Gilbert.

In September he reached Sacramento, going later to Trinity County, where he engaged in trading between Humboldt Bay and the mines. Thus engaged, he was forced to travel over the mountains, enduring the severest hardships and danger with unflinching courage and dauntless energy.

In the fall of 1851, the people elected him one of their Senators in the State legislature. While a member of that body he introduced and secured the passage of a bill empowering married women to control their own estates and businesses—the first bill

of the kind passed in this country, and the substance of which has since been adopted by all the States of the Union.

It was in 1852, while the legislature was in session, that word came that thousands of emigrants who attempted to cross to the Pacific coast were in desperate straits, stranded by heavy snowfalls, hungry and dying in the Sierra Range. Governor Bigler asked the legislature to appropriate $2,500 to organize rescue trains and relief parties to meet this situation.

The money was quickly raised and Governor Bigler designated Captain Denver to have charge of the relief expedition. The Governor personally escorted the party through the capital city. The day after the expedition left the city an article appeared in the *Alta California*, a newspaper of the opposite political party, founded and edited by Edward Gilbert, a man of Denver's own age. Gilbert had been in trouble with John Nugent, editor of the *San Francisco Herald*. This first trouble was adjusted without a recourse to arms, and it was reported that Nugent had the best of the adjustment, which embittered Gilbert. Captain Denver, having gone on the relief expedition, did not hear of the Gilbert article for several weeks. The article itself was very sarcastic, and critical of Governor Bigler and the entire scheme of relief, stating that it would be of no avail, of much expense to the State, and was intended only to enhance the political popularity of the Governor. About a month later a card appeared in the Sacramento *Democratic State Journal*, signed by Denver and 10 other members of the relief train, in which they stated that they "had read with indignation a statement of the *Alta California*, in which it is made to appear that Governor Bigler had made himself ridiculous," and so forth, and added:

> We are well satisfied that none but a personal enemy could imagine any such thing, and that enemy must be of the smallest possible caliber, who could descend so low as to pervert facts—

And so forth. Gilbert returned to the attack on July 26, reiterating his criticisms of June 26, and adding:

> If any gentlemen attached to the train, or any other friend of the Governor, desires to make issue upon the matter they know where to find us.

Denver replied on July 29 that he would be with the relief train during the summer, and on the first Monday in January next, he expected to be in Vallejo. This called forth a personal letter from Gilbert to Denver, both of whom were former soldiers and experienced men with firearms, in which Gilbert stated that he was the author of both articles, and concluded by saying:

> I find it my duty to demand from you a withdrawal of the offensive and unjust charges and insinuations which you have made.

Denver immediately replied that—

> Not one word of the cards you allude to can be withdrawn by me until the articles calling them forth have been withdrawn by you.

The following further account of the duel is taken from the *San Francisco Post*, of October 5, 1895. It also appears in *The History of the Bench and Bar of California:*

> The affair had by this time assumed a serious phase. Gilbert sought out his friend, Henry F. Teschemacher, and requested him to tender a challenge to Denver. Teschemacher was a man of the highest standing, afterward being elected mayor of San Francisco. On the receipt of the challenge Denver named Vincent E. Geiger as his second.
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> At sunrise on Monday, August 2, the duel took place. It was one of the most beautiful midsummer mornings, and as the rays of sunlight filled the sky, nature seemed to awaken everywhere, and soon the world was filled with joyous sounds, which little befitted the tragic scene about to be enacted. The preliminaries were quickly arranged, the distance named being 40 paces. As the principals came upon the field and faced each other, they met for the first time. Both were unflinchingly brave men—Denver willing to make peace or fight to the death, and Gilbert possessed of a stubborn determination that nothing but blood should atone for what had passed.
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> Denver's second won the word, and the first interchange of shots followed. Both men missed their marks; both stood uninjured. The sun was now well up, and in the full glory of the newborn day the two men stood waiting for the second shot. The word was given and almost immediately Gilbert fell. General Denver was uninjured. All quickly gathered about Gilbert as he lay apparently unconscious on the ground. General Denver was never molested for the part he took in the unfortunate affair.

The History of the Bench and Bar of California also contains the following history of the duel by an eyewitness, W. A. Cornwell, written in 1880, namely:

> The State, learning of the distress of the emigrants, provided means for their relief; and the duty of dispensing it was delegated to the secretary of state (Denver).
>
> This was prompt and humane, but it was bitterly criticized and sharply assailed by Gilbert. Denver is clear-headed, sound mind, sensitive and brave. He retorted and his retort was terrible. Gilbert, who was a member of Colonel Stevenson's New York regiment, challenged Denver, and the parties went upon the field. The weapons were rifles of short range, and I assert, as a witness, that no man in the tide of all the centuries, ever displayed a more dauntless temper than Denver. He knew that Gilbert was a brave soldier, and that he was reckoned to be a deadly shot. Nevertheless, Denver reserved his fire, and purposely threw away his own. Happily, Denver escaped unhurt. Every effort was then made by the seconds and by mutual friends for peace; Gilbert was informed that his antagonist wished to clasp hands, but Gilbert refused the request in terms which showed his friends that he had determined to kill Denver. The principals returned to their positions.
>
> "Now," said Denver in a tone I shall never forget, "I must defend myself." And at the word Gilbert fell pierced through the heart.

We have gone into the matter of the duel at length for the reason that while it could not be avoided, yet with the prejudice of the laymen, it probably had a deciding influence when General

Denver was prominently advocated for the Presidency in 1876, and in later quadrenniums. Although he was later repeatedly honored by Governors and Presidents, and rendered many valuable services to his country, yet it did result in unjust censure from persons not informed of the particulars, just as General Jackson was criticized under like circumstances. Students of the history of the time realize that Denver had no alternative other than to meet the issue. He threw away his first shot, hoping to satisfy his challenger, and after that pursued the only other course left open to him, the course of self-defense.

He was in reality compelled to fight that duel. No courageous man could do otherwise. He would have been forever branded as a coward if he had refused to fight. While duelling was a terrible custom, it was a sign of the times in California in those days, and no man with courage, self-respect, or hope of any future, could refuse to fight when he was challenged. No man ever questioned General Denver's honor, his courage, or his conscientious devotion to public service.

After the conclusion of the work of the relief expedition he was appointed Secretary of State for California, and served as such until November, 1855. In the fall of 1854 he was elected to the Thirty-fourth Congress, and took his seat in December. As chairman of the Special Committee on the Pacific Railroad, he had an important part in introducing and framing the legislation, subsequently adopted, providing for the Union Pacific Railroad.

Perhaps his most important work in Congress, that which is the best remembered by his western constituents, is the blow he struck at the scheme of plunder relative to California land claims; and to him and his reports and debates, more than to all other men, are the people of the great West indebted for the magnificent system of law applying to the Pacific States and Mexican territorial acquisitions.

At the close of his congressional term, and at the beginning of President Buchanan's administration in 1857, he was appointed by the President as Commissioner of Indian Affairs. At the time this office was not only of much importance, but was also exceptionally hard to execute. He filled the duties thereof with great success, to so great an extent that after his services as Governor of the Kansas Territory, the President reappointed him to the commissionership.

In December, 1857, special duties took him to Kansas. When Governor Stanton was removed from the office of Secretary of the Territory, Denver was appointed to that position. He assumed the duties December 21, 1857, and as no Governor had been appointed to fill the vacancy, he became the acting Governor of the Territory. Kansas at that time included one-third of the territory that later

became the State of Colorado. On May 12, 1858, the President appointed him Governor.

The most eminent men had been his predecessors as Governors. Among them were Governors Reeder, Woodson, Geary, Robert J. Walker, Wilson Shannon, and Stanton, all of whom had wrought faithfully, but in vain, on the work of pacification, and had either thrown up the task in despair, or had been removed for inefficiency. The legislative bodies of the Territory only served to promote and augment, upon political grounds, the riotous violence and disorders of the country. The army was useless; and it was the constant practice of these insurrectionary bands to warn the Governors themselves, and all well-meaning officials, threatening them with death if they attempted to interfere with them in their lawless acts.

The prospect was unpromising, and might well appall the stoutest heart; but General Denver came promptly and cheerfully upon the field and with the aid of his California experience soon gathered around him the wisest and best people of the Territory. He fully realized the causes and extent of the crimes prevailing, and the different organized bands, or brotherhoods, and their leaders, with the objects by which they professed to be governed.

After proper proclamations, the language of which was not to be mistaken, he moved actively through the Territory, regardless of threats, restoring order, courage, and confidence everywhere, giving to the people the power of concentration, self-reliance, and self-protection. Thus by his steadfast, manly presence, his sound judgment, fearless nature, and cheerful, but determined spirit, in less than twelve months he was able to resign the office and leave the Territory with an established civil government. But with the influences at work on the slavery question, and with the two sections of the country lined up for and against, the national civil strife could not be postponed.

Although General Denver advised against the Administration policy in Kansas, he fully retained the confidence of the President, and upon his resignation as Governor, he was reappointed to the office of Commissioner of Indian Affairs. That this is true is shown by the following letter:

Washington, March 13, 1859

My Dear Sir: It is with sincere regret that I accept your resignation as Commissioner of Indian Affairs. Your conduct in that highly responsible office has received my cordial approbation as well as that of the Secretary of the Interior. It will be difficult to supply your place.

But I cannot consent to sever our official connection without expressing my lasting obligation to you for the able, discreet, firm, and successful manner in which you performed your duties as Governor of Kansas under the most difficult and trying circumstances.

Wishing you health, prosperity, and success throughout life, I remain.

Yours very respectfully,

Hon. J. W. Denver JAMES BUCHANAN.

The *Washington Union* of November 9, 1858, said editorially:

> Gov. J. W. Denver, having resigned the executive office of Kansas, much to the regret of the administration, and we doubt not of the whole country, has resumed his position as Commissioner of Indian Affairs.
>
> Of all the persons who have successively filled the governorship of Kansas, Mr. Denver is the first one who has succeeded in giving general satisfaction to the people of the Territory and of the Union at large. He is probably the first Governor, also, who has resigned the office with the regret of the whole country. His administration has been at once firm, decided, and peaceful. The law has been enforced, violence has been subdued, and order thoroughly established. His course has been firm, straightforward, and upright, commanding the respect alike of Kansas and the Union. His conduct has been characterized by good sense and good faith; his measures have been just in themselves, and in accordance with the instructions of the Federal administration, between whom and himself relations of the most perfect harmony and confidence have subsisted throughout. His administration has been as unambitious as it has been successful, and he has won the highest reputation for ability and capacity of all the Governors of Kansas, simply by a quiet, firm, and unostentatious discharge of the duties of his office. We do not recollect that Governor Denver has made a single stump speech during his whole administration. The telegraph has had a few of his formal progresses through the Territory to herald, and no "sensation" bulletins concerning him to retail to professional agitators in the East. The universal sentiment of the country in regard to Governor Denver, we dare say, is one of regret that he was not Governor of Kansas long before, and that he cannot be its Governor while she continues to be a Territory. It will be difficult to fill Governor Denver's place.

The settlements which later merged into the town bearing the name of Denver were instituted in 1858-59, while he was Governor of the Kansas Territory, which, as stated, included approximately one-third of what is now the State of Colorado. A number of little settlements had sprung up, populated by miners and Indian traders. It was barely in evidence in 1858. In that year a few log cabins mingled with the smoke-browned tepees of the Indians on the present site of Denver, at the joining place of Cherry Creek and the Platte. This had long been a favorite camping ground of the Arapahoes and other tribes.

Indeed, all the land over which the gold seekers were roaming belonged to the Indians, and settlements were started without titles. It was not until the Indians gave up their rights by treaty, some years after the first towns were started, that the white settlers were secured in actual ownership.

Following his resignation as Commissioner of Indian Affairs in 1859, General Denver returned to California and was nominated as Democratic candidate for United States Senator, but was defeated by two votes. He remained there in the practice of his profession until the outbreak of the Civil War, when he enthusiastically espoused the Union cause. On August 14, 1861, he was, without any

solicitation on his part, appointed by President Lincoln as brigadier general of volunteers. His first duties were to organize the troops of Kansas—a very difficult task, as everything there was in a chaotic condition. After great labor this was done and he was ordered to report to General Rosecrans in West Virginia. He served on a court-martial commission at Clarksburg, and then on a board of examiners at Beverly. Thence he reported to General Halleck at St. Louis and was put in command of the military district of Kansas. In a letter to the Honorable E. M. Stanton, Secretary of War, General Halleck speaks thus of his appointment to the district of Kansas:

> In detailing General Denver for the command in Kansas I followed the advice of the officers of General Hunter's staff. They gave it as their opinion that he was best suited for the place, and as I had very little personal acquaintance with him, I felt bound to follow the best advice I could obtain. Subsequent information convinces me that it was good and that a better selection could not have been made. There are few, if any, enemies in Kansas, and the qualities most required there are administrative. I think General Denver would preserve peace on the border and enable me to send most of the Kansas troops into the field, where they might be of use. As it now is they are really worse than useless, for they compel me to keep troops from other States on the Missouri border to prevent these Kansas troops from committing murder and robberies.

In a short time he was relieved of this command and ordered to report to General Halleck at Pittsburg Landing, Tennessee. He joined General Halleck in time to take part in the advance on Corinth, and was put in command of the Third Brigade of Sherman's Division, consisting of the Forty-eighth, Fifty-third, Seventieth, and Seventy-second Regiments, Ohio Volunteer Infantry, with position on the extreme right, beside Gen. Morgan L. Smith's brigade, and next that of Gen. John A. Logan's brigade. In this short siege he was noted, as shown in *Official Records*, volume X, for the firm and steady manner in which he continually carried forward his brigade, generally in advance of the others; so that, through woods, underbrush, and across fields, in the face of the enemy, he arrived inside their deserted works on the morning of the 30th of May, at the very time that General Smith entered down the opened road, being the first of the Union Army to enter Corinth.

On the 16th of the same month, during the advance, being informed that the enemy had entered the woods between his main force and the skirmishers, he ordered forward two companies to reinforce them, and took command in person. He was highly praised by General Sherman for his gallant advance and the able manner in which he handled his men, and their own steady behavior.

Leaving Corinth the army went to Memphis, where he was put in command at Fort Pickering, then being built. Here his command was increased to a division, consisting of three brigades. After various movements of the army, in Tennessee and Mississippi, hav-

ing had his division increased by the addition of other regiments so that he had under him no less than 30,000 men, he relieved General Logan at La Grange and assumed the command and control of all the railroads in that part of Tennessee. This was the most important and difficult part of his military service. In an enemy's country, and having command over such an extensive field, his duties were very exacting and trying, but such was his executive ability that all moved without a jar or break. Such was his humane and just conduct that the people of those parts to this day remember him with reverence and love. It was a trying duty for him, in April of 1863 while in this command, to sever his connections with the Army, yet the necessities of his private affairs at home were such that he was forced to resign and return to his family.

In 1870, and again in 1886, General Denver accepted nominations as the Democratic candidate for Congress in the Ohio district which included his home town of Wilmington, but was defeated by narrow majorities in districts which, because of postwar feelings, were strongly Republican. In 1876, and again in 1880, he was prominently mentioned for the Democratic nomination for the Presidency, having many strong adherents in all parts of the country.

General Denver was of splendid physique. He was 6 feet 7 inches in height, broad-shouldered and deep-chested, carrying his 260 pounds with ease. His manners were genial, though dignified, and he was easy of approach, always interested in humanity and its affairs. He was especially kind and friendly to children and to those in trouble, whom he was always ready to assist.

Following his Civil War experience he was engaged in the practice of law in Washington, D. C., while retaining his home in Wilmington, where his farming and banking affairs were situated.

In 1873 he took an active part in organizing the Veterans of the Mexican War, and continued as President of that organization until his death. It will be of interest to add that a splendid oil painting adorns the State Museum building at Denver and also the quarters of the Kansas Historical Association. At Nebraska City, Nebraska, at the "Old Morton Home," there is a "Denver Room," and at the head of the stairs an oil painting, showing General Denver in conference with the Indians. In the town of his youth, Wilmington, now a city, a fine modern hotel, erected as a municipal project, bears his name, with an oil painting displayed in the parlors.

On November 26, 1856, General Denver was married to Miss Louise C. Rombach, of Wilmington, and to this union four children were born, viz.: Mrs. Katherine Denver Williams, who for many years was president of the Clinton County Red Cross, active in

all public works and charities, who died in 1937, leaving one son, James W. Denver Williams, and two grandsons; Col. J. W. Denver, Jr., who died in 1898, an executive in the Clinton County National Bank, of Wilmington, which was founded in the year 1872 by the Denver-Rombach business interests; Mrs. Mary Louise Lindley, of New York City, who still survives, with two children; and Matthew Rombach Denver, who is, and has been for many years, at the head of the Clinton County National Bank & Trust Co., and the allied manufacturing interests in the city of Wilmington. As indicating the political heritage from his famous father, he has been chairman of his Democratic County Executive Committee for more than forty years, and has been delegate to eight Democratic National Conventions, four as representing his Congressional District and four as representing the State of Ohio at large. He is a worthy son of a great father. He has also represented his Congressional District in Congress for three consecutive terms, the District being strongly Republican, and retiring without defeat. During his service in the House of Representatives he was a member of the powerful Rules Committee. He has also served a term as President of the Ohio Bankers Association. The present head of the family was married October 24, 1900, to Miss Veda Slack, daughter of a prominent Wilmington family, and they have one daughter, Mrs. Virginia Denver Williams, who resides at Portsmouth, Ohio, having three children, a daughter and two sons.

General Denver's career was ended by death August 9, 1892, at Washington, D. C., just as the sunset gun told of the day's decline, and a gentleman at his bedside remarked, "What a fitting time for a soldier to die." His body lies in beautiful Sugar Grove Cemetery, Wilmington, Ohio.

Colorado and the Surveys for a Pacific Railroad

S. D. Mock*

Colorado in 1860 was a young and sparsely-settled territory with probably less than 35,000 inhabitants. That fact, however, did not prevent Colorado from developing grand ambitions to have the Pacific Railroad, for some time contemplated, pass through its borders enroute to the west coast. Even the Civil War, then about to begin in the East, did not deter Colorado in this ambition. In fact it was during the course of that war that the outcome of that ambition was to be determined.

The first actual survey for a transcontinental railroad route through Colorado was made in 1861 at the instance of the visionary William Gilpin, then governor of the Territory. Earlier, he had advocated a more northern route across the mountains, but now as governor of Colorado he reversed himself. With his customary enthusiasm he blandly announced:

> Our Territory will be bisected, East and West, by the grandest work of all time, constructed to . . . draw, to and fro, through the heart of the American Union, the travel and commerce of all nations and all continents of the world.[1]

This was a large order, and to secure its fulfillment Gilpin undertook the survey which was designed to prove to the skeptical the logic of his contention. The reports consisted of two separate parts: a topographic survey of the territory; and a suggested route across the mountains which the railroad might do well to utilize. The former is said to have been produced by calling in the mountaineers and others who were familiar with the country, and having their descriptions set down by the Surveyor-General of Colorado.[2] The latter part of the survey seems to have been the report on a wagon route across Colorado made by Captain E. L. Berthoud at the instance of the Central Overland California and Pike's Peak Express Company in the summer of 1861.[3] The complete survey was forwarded by Gilpin to Secretary of State Seward in Washington, and shortly thereafter the national House of Representatives called for this report in connection with their debates on the Pacific

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[1] *Council Journal*, Colorado Territorial Legislature, 1st session (Denver, 1862).

[2] Sylvester Richardson, "History of Gunnison County," Bancroft MS (copy in University of Colorado "Historical Collections"). According to this report the map was "very nearly correct," which if so was certainly a triumph in view of the general obscurity which hung over most of Colorado west of the frontal ranges. Unfortunately, the map seems to have been lost in Washington. *Cf.* David Parker, *Calendar of Papers in Washington Archives relating to the Territories* (Washington, 1911), 124.

[3] *Cf.* statement of Governor John Evans in *Rocky Mountain News*, January 15, 1863.

Railroad bill, then almost ready for final action.[4] In spite of Governor Gilpin's confidence it does not appear in the debates that his survey appreciably affected the railroad deliberations of Congress.

For present purposes the most important feature of the Pacific Railroad Act of 1862 as passed by this session of Congress was the provision that the railroad should start at some point on the one hundredth meridian and between the Platte and Republican Rivers in Nebraska Territory.[5] To suspicious Coloradoans this was ample proof that the "Chicago influence" was in the ascendency; and that meant that their railroad destinies were in unfriendly hands.

A word about the "Chicago influence" and its relation to Colorado is in order at this point. Thus far no actual steps toward the location of the Pacific Railroad west of the Missouri River had been taken except by a group of practical railroad men, headed by Henry Farnam and Thomas Durant of the Chicago, Rock Island and Pacific Railroad and its Iowa subsidiary, the Mississippi and Missouri.[6] They, however, had had surveyors in the trans-Missouri West as early as 1853 to determine at what point on the Missouri River they should terminate their Iowa Railroad in order that they might have direct connections with the Pacific Railroad when it should be built. And out of these surveys, continued intermittently until after the passage of the railroad act of 1862, had emerged one significant fact: a conviction that the Platte valley was destined to be the line upon which that Pacific Railroad would be built.[7] Just what crossing of the mountains would be utilized by a railroad built up the Platte valley was not as clear, but (and this was the crux of the matter) it was generally believed that the selection of the Platte route meant a crossing to the north of Colorado.[8] A main line from St. Louis would have given Coloradoans more assurance that their "central" route would be selected for the transcontinental road. Politicians from Missouri and Kansas, understandably enough, seconded Colorado's claims for the Berthoud Pass route.[9] But during the Civil War even a central route was likely to be thought to lie too far south.[10] The Republicanism of Chicago was a proven quantity; that of St. Louis was not.[11]

Consequently, although the selection of the Platte route had not

[4] *House Ex. Doc.*, 37 Cong., 2 sess., no. 56.

[5] 12 *U. S. Stat. at Large*, 489-498.

[6] For a more detailed account of this phase of the story see J. R. Perkins, *Trails, Rails and War: The Life of General G. M. Dodge.* (Indianapolis, 1929), *passim.*

[7] *Ibid.*, 54; Grenville M. Dodge, *The Transcontinental Railway* (New York, 1899), 43.

[8] *Cf.* statement signed "Civil Engineer," in *Colorado Republican*, April 8, 1862.

[9] *Cf.*, for example, *Cong. Globe*, 38 Cong., 1 sess., 2376.

[10] On the closure of the Arkansas River route during the war *cf.* Wilbur Stone, "Mexican Land Grants," Bancroft MS, *loc. cit.*

[11] John P. Davis, *The Union Pacific Railway: A Study in Railway Politics, History, and Economics* (Chicago, 1894), 97-98.

been unexpected in some quarters,[12] a storm of bitter vituperation arose in Colorado when news was received of the form in which the Pacific Railroad bill had passed Congress. Chicago was damned; the "northwestern clique" was denounced; the "active brains" of the plot to defraud Colorado of its rights were censured; and Nebraska, favored by the decision, was petulantly charged with profiting at the expense of Colorado.[13]

It is against this background that the second survey of a Colorado railroad route was undertaken, this time by Gilpin's successor as governor, John Evans. Evans was one of the government-appointed "incorporators" of the Pacific Railroad, and this survey was made to provide him with some favorable ammunition with which to bombard his colleagues on the Board of Incorporators.

Late in June, 1862, Governor Evans called a mass meeting in Denver City Hall to discuss the practicability of the Berthoud Pass for a wagon road and railroad. A subscription to defray the costs of the survey was begun, but money came in slowly. Nevertheless, F. M. Case, Surveyor-General for the Territories of Colorado and Utah, started his work in July.[14] By mid-August his final report on the Berthoud Pass route was in the hand of Governor Evans. It was none too favorable.[15] In addition to the fact that the grades over much of the ascent would be the maximum allowed under the Act of 1862 (116 feet rise to the mile), there was the even more discouraging finding that even then a tunnel, three and one-half miles through solid granite, would be needed to overcome the more than 11,000-foot elevation of the Pass. An interesting indication of the working of John Evans' mind (he was a "plunger" in the best sense of the Western tradition!), as well as the speculative character of this venture, may be found in Case's reply to a proposition from Governor Evans:

> I might say in this connection, that there would be a *possibility* of striking rich gold lodes in the construction of the tunnel . . . yet, I would not like to undertake the construction of the tunnel with the understanding that I should take this "possibility" in "part payment."[16]

But favorable or not, John Evans and his report on the Berthoud Pass route were on hand when in September, 1862, the "Incorporators of the Pacific Railroad" met in Chicago. Evans is reported to have "worked like a beaver to secure Pike's Peak a

[12]For example, note the very successful prognostication of railroad events made by "Civil Engineer" in *loc. cit.*

[13]*Colorado Republican*, June 9, July 10, August 7, 1862; *Rocky Mountain News*, June 7, June 14, 1862.

[14]*Colorado Republican*, July 10, 1862.

[15]The full report is given in "Report of F. M. Case, Division Engineer," *Report of Thomas C. Durant, . . . to the Board of Directors in relation to Surveys Made Up to the Close of the Year 1864* (n.d., n.p.), Appendix "B."

[16]"Report of F. M. Case," *op. cit.*

good hearing",[17] but for all that he secured nothing beyond the following moral support:

> *Resolved*, That the development of prosperous settlements in Colorado, Utah, and Nevada Territories . . . has furnished one of the greatest desiderata to the construction and maintenance of the Pacific Railroad, and encourages us in our efforts.[18]

Actually, the Incorporators accomplished very little beyond the minimum formalities required by law, but at least the meeting did mean that the great Pacific Railroad project had been formally commenced.[19]

Henry Farnam, of the Chicago railroad Republicans, at once sent engineer Peter A. Dey out to examine the chances of building a road to Salt Lake. Just how skeptical Dey was of a Colorado route can be seen from a letter he wrote at the time:

> I am going out as far as Denver, probably to Salt Lake . . . Governor Evans of Colorado urged the Berthude Pass on the convention, which he proposes to reach by sixteen miles of one hundred foot grade and a tunnel of three miles, and descend into the Middle South Park. From there he proposes to jump into the Uintah mountains, the highest range west of the Rockies, and roll down thence into the Basin.[20]

In Colorado he met Captain Berthoud, "who had a pass back of Denver, which he thought was available." But Dey was not taken in, later reporting that the "chances of getting through over there did not seem sufficient to me."[21] Then having seen enough to formulate this opinion, he detoured northward via the Cache la Poudre, crossed Cheyenne Pass, and headed for Salt Lake through what later became southwestern Wyoming.

On his return Dey wrote Grenville M. Dodge, then in the Union army:

> The trip was full of interest and I learned enough to satisfy myself that no railroad will—at least in our day—cross the mountains south of the Cache la Poudre and probably not south of the Cheyenne Pass.[22]

Apparently a Colorado route would get little encouragement from Dey!

In September of 1863 the purchasers of Union Pacific stock met in New York to set up the corporation which was to undertake the actual construction of the eastern section of the railroad. Durant and the Chicago group were successful in capturing the project; General Dix, an associate on the Mississippi and

[17]The *Alta California*, quoted in *Weekly Rocky Mountain News*, December 4, 1862.

[18]*Report of the Organization and Proceedings of the Union Pacific Railroad Company* (New York, 1864).

[19]The main task had been the providing for the opening of books for stock subscriptions in various cities. *Ibid.*, 21. On the general subject of the meeting see Perkins, *op. cit.*, 124-126.

[20]Perkins, *op. cit.*, 124.

[21]*House Report*, 42 Cong., 3 sess., no. 78, 239-240 (testimony of Mr. Dey).

[22]Perkins, *supra cit.*, 126.

Missouri Railroad, was elected president, and Durant himself was chosen vice-president.

With that matter attended to safely, Durant presented the reports of field surveys already made under his own responsibility.[23] He reported that engineer Dey had been instructed to begin surveys in the Lodge Pole Creek and Cheyenne Pass region—*i.e.*, north of Colorado. When taken in conjunction with one of Durant's orders to run those lines first "which they have already found most practicable," this statement corroborates the belief that at the outset the possibility of a Colorado route was not regarded seriously.

The report itself was concerned with three "partially examined" routes: the Cheyenne Pass, the Cache la Poudre, and the Berthoud Pass. The first lay outside of Colorado entirely; the second passed through the north-central portion only; and the last "bisected" Colorado. The Lodge Pole-Cheyenne Pass route was favored strongly; the distance, Omaha to Salt Lake, was estimated thereby to be less than 960 miles. Concerning the Cache la Poudre route the report was less sanguine. It would require "heavier grades and more curvature . . . and cost probably twice as much per mile," besides increasing the distance some sixty or seventy miles. Little attention was given to the Berthoud Pass route, beyond the inclusion of the report made by F. M. Case in 1862 at Governor Evans' instance.

The report, did, however, mention one difficulty with the Cheyenne Pass line: while it did meet the local business needs of the Medicine Bow iron range and the Green River coal fields, it did not meet the needs of the Denver gold regions and

> To any one who has watched the mighty trains that are constantly thronging this road, . . . the conviction must come that it should be built there if possible.

But in spite of this, the report regarded the technical difficulties of the Cache la Poudre route so seriously as to make the accommodation of this region unlikely except by a branch from the main line. Colorado was not interested in a mere branch line.

In December, 1863, ground was broken on the Union Pacific at Omaha, and Durant took the opportunity to pledge that

> A thorough examination of the country in the vicinity of Denver . . . is to be made by competent engineers, at the earliest practicable time.[24]

But with ground broken, the project in the field immediately lapsed. Instead, attention was directed to Congress, where an effort was being made to liberalize the Act of 1862. Not until the Union

[23]The statements concerning this report are from "Preliminary Report of Engineer Dey," *Report of Organization and Proceedings of the Union Pacific Railroad Company*, Appendix I.

[24]*Report of Organization*, 53.

Pacific gained its point for an increased subsidy, in the Pacific Railroad Act of 1864, did it again show signs of life in the field.

That year three full surveying parties were placed in the mountains to locate a crossing.[25] The main party was detailed to survey from Camp Walbach (in the Wyoming Black Hills) to the Laramie Plains and Bridger Pass. A second party was to work eastward from Salt Lake to a connection with the first party. And the third, under F. M. Case (he of the 1862 survey for Governor Evans), was instructed to secure information on Colorado mountain passes available for the railroad. Only the last report need be detailed here.

After a summer in the mountains of Colorado Case could list six passes which *might* be "possible or practicable:" Boulder Pass, Berthoud Pass, Hoosier Pass, a pass at the head of the North Fork of the South Platte, another at the head of Taryall Creek, and the route up the Cache la Poudre.

Several of these routes were thrown out by Case without very much formality. He did not even visit Boulder Pass: the 11,900-foot elevation, he felt, and the 6,300-foot rise from the base of the mountains made that unnecessary. Berthoud Pass was dismissed with the inclusion of his 1862 survey and a few remarks dictated by his "further experience in the geology and climatology of Colorado." And it does not appear (though the evidence is inconclusive) that he visited the pass at the head of the North Fork of the South Platte.[26]

In the case of the pass at the head of Tarryall Creek his examination was more thorough. While his directions are again vague, it seems he contemplated a route up the South Platte to Tarryall Creek, and thence through the South Park to the Creek's source in the range beyond. The divide was to be crossed by Georgia (or Breckenridge?) Pass, and thence down Indiana Gulch and the Blue River to the present Breckenridge. But on his own admission he merely examined the route from the main pass to the Blue River on the western slope. Since he "judged" the descent on that part of the route to have been between 150 and 200 feet to the mile, he ventured to "think" that the road could not be built here within the terms of the railroad act of 1862.

Case's next move was to reconnoiter eastward across the range at Hoosier Pass. On the basis of the profiles which he made of the pass, eighteen miles on the western slope and forty-eight on the eastern, Case could state:

[25]*Report of Thomas C. Durant . . . in relation to Surveys Made up to the Close of the Year 1864* (n.d., n.p.). Case's report is excerpted from this report. Appendix "B."

[26]The report probably referred to Webster Pass. *Cf.* also the resumé of Case's survey given by J. L. Williams in *Senate Executive Document*, 40 Congress, special session of the Senate, no. 2.

> In the matter of grades, I do not hesitate in the opinion that there is no route in Colorado with so easy an approach, on both sides of the main range of mountains, as this route.

This of itself was rather encouraging. But beyond that there was the matter of a two and one-half mile tunnel; and the fact that 76 miles of westing from Denver could be secured only by 145 miles of location; and that the snows fell deeper here than anywhere else in Colorado (someone—he couldn't remember who—told him that in the winter of 1861-1862 thirty-seven feet of snow had fallen in the Pass!). And finally, Case reported, there was the obstacle of the Platte canyon which seemed so formidable that he concluded to abandon the survey rather than attempt to "pack" over such rugged terrain!

Having ascertained so much as this, Case moved northward to the Cache la Poudre route. With this part of his work he was not satisfied, claiming that the shortness of time prevented him from doing justice to the route. But he did draw up some profiles, and on the route as a whole he reported:

> I think I can get a fair line with lighter grades from La Porte to the Laramie Plains than are shown by any line yet surveyed over the Black Hills.

He was able to report also that the high point of this line would be 593 feet lower than Cheyenne Pass, the stickler on the Lodge Pole line in southern Wyoming.

When the report is examined as a unit, the fact that Case's surveys were little short of superficial stands out baldly. And yet this can hardly be laid at the door of the engineer; he had been assigned a large territory to cover in one season. Consequently, only a superficial examination could be given lines which were likely to prove impracticable. Some routes could not be visited at all.

In fact Case's report quashed all hopes of a Colorado location except in connection with the Hoosier Pass, the Cache la Poudre, and the Berthod Pass routes. Of these, the last-mentioned could hardly be regarded as a possibility in view of earlier rejection; and the Hoosier Pass route had too many serious objections to make it even as much of a possibility. Thus the Cache la Poudre route appeared to be the only likely candidate left out of the six routes Case had deemed worthy of mention.

The following year (1865) another surveying party, this time under the direction of engineer Evans, was sent out to investigate the Cache la Poudre route. Evans' report agreed substantially with that of Case, but his emphasis was less upon the lower elevation of this as compared with the Cheyenne Pass route and more upon the extra 54 miles it entailed.[27]

[27] *Report of Thomas C. Durant . . . in relation to the Operations of the Engineering Department . . . to the Close of the Year 1865* (n.d., n.p.).

At the same time this check-up was being made, another party, under engineer Reed, was engaged in attempting to find a route across the Utah mountains via the Uintah river, and thence eastward through the valleys of the White and Yampah (Bear) rivers in northwestern Colorado. It was an effort to discover "a better route than the one surveyed last year"[28] to the north of Colorado territory; and if a "better route" could have been discovered it would have meant that Colorado might still hope to be "bisected" by a fortieth parallel railroad line. But the survey of this region, in spite of some favorable findings, resulted in a negative report.[29] This route would have to be abandoned. A western outlet for the Berthoud Pass was lacking even if the difficulties of the eastern approach could have been conjured away.

Late in 1865 Peter Dey, Chief Engineer of the Union Pacific, resigned as a result of trouble with Durant. Grenville M. Dodge was induced to accept the post, but only after he had made it clear that he would tolerate no interference from "railroad masters in New York." In spite of Dey's very considerable accomplishments in the sifting of routes—indeed the practical elimination of several—Dodge reported that when he took charge no one had any idea where the road eventually would be built.[30]

Probably, however, the question was not quite so unsettled as Dodge intimated. In later life Dodge claimed that his surveys for Farnam during the 1850s had already shown him where the road inevitably would have to be located.[31] And then, too, there is the matter of the close association between Dodge and Dey: Dodge knew Dey's studied conviction that no Colorado route was practicable.

However that may be, Dodge did provide one further survey of the Colorado region. Engineer Brown was instructed to run a preliminary line up the Republican River to Fort Morgan and from thence up the Platte to Denver.[32] With this task completed, Brown gave the mountains west of Denver one more examination. An experimental line was carried from Denver to Golden, where it connected with the line up the north fork of Clear Creek run by the Colorado Central Railroad.[33] Apparently hopeful of selling their right-of-way to the Union Pacific, the Colorado Central cooperated with these surveys in every way possible.

[28] *Ibid.*, 3.
[29] *Cf.* report of J. L. Williams, *op. cit.*
[30] Perkins, *op. cit.*, 198; Dodge, *How We Built the Union Pacific* (Washington, 1910), 16.
[31] *Cf.* the very positive statements quoted in Perkins, *op. cit.*, 199, and in Dodge, *Transcontinental Railways*, 43.
[32] *Report of the Chief Engineer with Accompanying Reports of Division Engineers for 1866* (Washington, 1868).
[33] The Colorado Central had been incorporated in 1864, probably in part as a result of the possibility the Union Pacific might utilize the Berthoud Pass line.

The party seems to have crossed the range by way of the inevitable Berthoud Pass, and to have gone as far into Middle Park as Hot Sulphur Springs. Engineer Brown also examined several other passes, including Argentine, Quail, Jones, and Vasquez, over none of which, he reported, could a railroad be built within the terms of the railroad act of 1862. In November he was joined by Dodge, and when they were very nearly marooned in Boulder Pass by an early blizzard, Dodge was definitely finished with that route. In fact, he was done with any fortieth parallel route, for engineer Evans' report of that same year confirmed Dodge's own favorable opinion of a variant of the old Lodge Pole route to the north of Colorado. A final reconnaissance that fall with Consulting Engineer Seymour and Government Director J. L. Williams resulted in the selection of a route for recommendation.[34]

Williams, in his report to his superior, the Secretary of the Interior, spoke of the impracticability of the Berthoud Pass line, but stressed especially the superiority of the Lodge Pole over the Cache la Poudre line. The choice then, had been between these two routes and not between a Wyoming line and the desired Berthoud Pass route. But Director Williams did recommend that:

> Though the topography of this mountain region forbids the passage of this national thoroughfare directly through the mining regions of Colorado, yet the transverse valleys favor a connection by way of a branch. Adopting the Cache la Poudre route, the proposed branch . . . would be 53 miles long, or by the Lodge Pole the branch would be lengthened to 113 miles, but the main line shortened by 37 miles. The paramount claims of through commerce seemed . . . to give preponderance to the short main line.[35]

Dodge, in his report to his superior, Durant, dealt mainly with three points: the utter impracticability of the Berthoud Pass line; the excellence of the Lodge Pole line; and the question of a branch line to Denver.[36] He had little to say about the Cache la Poudre route, possibly because the relative unfavorableness of the Berthoud line afforded a better foil for the presentation of the advantages of the Lodge Pole route.

Three years of rather extensive surveys in the Colorado region had served only to fully corroborate Peter Dey in his claim that the railroad would not "cross the mountains south of the Cache la Poudre and probably not south of the Cheyenne Pass." At least Colorado had had its fair day in court.

The blow finally fell as Dodge had wished it. The Committee on Location and Construction, to whom Dodge's report had been referred, unanimously recommended the "adoption of the Lodge Pole Creek line crossing the mountains on the Lone Tree and Crow

[34]Report of J. L. Williams, *op. cit.*
[35]*Ibid.*, 22.
[36]*Report of the Chief Engineer . . . for 1866.*

Creek divide line." It also stated that in making this recommendation it was understood the branch line to Denver should be included in the project.[37] The report was accepted by the Union Pacific Board of Directors. The Secretary of the Interior was so informed.[38] The thing was done. Colorado had lost its fight for the main line of the Pacific Railroad.

[37]*Ibid.*, 23.
[38]*Sen. Ex. Doc.*, 40 Cong., special session, no. 2, 24-25.

The School at Bailey, Colorado

MARTHA A. MORRISON*

On Election Day, 1884, as the new school teacher, I alighted from the train at Bailey. That year Grover Cleveland was elected President of the United States. While women were voting in Wyoming, in Colorado they could only vote in school elections, a privilege most of them neglected usually. Of course all the men were in town, and most of them were down to see the train come in. Even so, there was not a very large crowd.

Mr. and Mrs. Bailey were still keeping the log hotel. Mrs. McGraw, whose husband had died recently, was the owner of the store; she had a little boy who was too young to attend school. Mrs. Entrikin, Mrs. Bailey's sister, took me in as a boarder and I enjoyed my stay with her. Fred Walther was the station agent and took his meals there. There was also a Mr. Morrow who was there off and on. He later married Mrs. McGraw. I also remember meeting a Miss Trousdell who lived on a ranch somewhere near, who was a warm friend of Mrs. Entrikin.

Mrs. Entrikin's house was part log and partly frame. The kitchen and dining room were in the frame part and the dining room was papered with several thicknesses of newspaper for warmth. Pictures and stories could furnish entertainment. I remember her dog was a very important member of the family, and a friend who knew her later has told me that at that time all of her pets, chickens, dog, etc., bore the name of Dickens' characters.

It is sad but true that my memory is much more vivid of some of the people and the scenery, than it is of my school or my success as a teacher. Probably there is a reason. The school house was on a hill back of the hotel. When everyone was present I had seven pupils, but I do not remember their names, excepting that Lucy Jones was the foster daughter of Mr. and Mrs. Bailey. Five of the children belonged to a family that had moved into town so that the

*Miss Morrison lives in Denver today.—Ed.

children could attend school, but the boys were not inclined to attend regularly. One of the little girls told me one day, "I wish I was back on Crow Creek, where paw is a-bachin." I wanted very much to help the children learn, but by the time my three months were out I gave up teaching school, deciding that my talents, if any, lay in some other line.

At Thanksgiving time I had to go to Fairplay, the County Seat of Park County, to take the Teachers' Examination and get my certificate. I was successful and also enjoyed a visit with an old friend. It was many a year before I passed through Fairplay again.

I am sure we had some kind of a Christmas entertainment, but cannot give any details. There are memories of trimming the room with kinnikinnick and evergreens.

I never knew just where Crow Creek was, but on my way from Mrs. Entrikin's to the school I passed a little grave, carefully fenced, by the side of the road and was told that it was of a child belonging to the Crows. I remember them as pioneers who had "struck it rich" and had built a big house in Denver. Mrs. Crow was studying French, anticipating a trip abroad, but unfortunately the strike did not last and she never went. She did make use of her big house in keeping boarders for a number of years, and made no complaints. Even during their brief prosperity she was not ashamed to admit their habits brought on by poverty.

Mrs. Bailey and Mrs. Entrikin were sisters of Father Dyer, a well known pioneer Methodist minister, who became mail carrier, in order to preach to lonely miners. The story of his life must have been very interesting and worth recording.[1]

I still have a charcoal sketch of the scene looking down from Mrs. Entrikin's, but fear it proves that I had no more talent for art than for teaching.

One afternoon Mr. Bailey took Lucy and me down to his ranch, and showed the devastation the railroad had made in his plans. He said his people had come into Kentucky with Daniel Boone through the Cumberland Gap and had settled there. As the years passed, the families grew up and settled and others came in, until they felt it was too thickly settled. At the close of the Black Hawk War, some of the younger generation emigrated to Wisconsin, where they lived for twenty years or more. Even there people kept coming and settling, until there were too many people inside of ten miles. Then, too, there was talk of a railroad. Then came the news of the discovery of gold near Pike's Peak, so he and his wife turned their faces westward, bringing with them Mrs. Entrikin. They endured the long, slow journey in the covered wagon over the plains, with freighters for safety. After reaching Denver they

[1]See his *The Snow-shoe Itinerant* (Cincinnati, 1890).—Ed.

pressed on toward the mines, and settled where the road came down to the Platte, after following the easier canyon of Turkey Creek. Here they built the log hotel.

The Canyon of the Platte was so precipitous, he felt that he had reached a place that would be free from railroads. A couple of miles down the river was a pleasant opening, which he secured and there built a home, where they could retire from the hotel and enjoy his farm. But almost before he was aware of it the railroad had found its way through the canyon, and even ran between his house and barn, going to Bailey and on over Kenosha Pass to Fairplay, Breckenridge and "the Lord knows where." He was so disgusted with it that the thought comes of how he would now relish seeing it all torn out. He was an interesting character. While he was the owner of a complete set of "store teeth" he wore them only on Sunday afternoons and holidays.

Memory flickers at the end of the film, and I fear the teaching was not very profitable to the pupils. Good intentions alone are not enough to insure success.

Nathaniel S. Keith and Two of His Early Colorado Letters

To most students of Colorado history Nathaniel Shepard Keith is known as an early experimenter in the smelting of refractory ores. He came to Colorado in 1860 and at Black Hawk put into operation the Keith process for the reduction of gold ore.[1] After leaving Colorado in 1869, Dr. Keith's career was notable, as is indicated by the following article from the Philadelphia *Public Ledger* of January 28, 1925:

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[1]O. J. Hollister writes in his *The Mines of Colorado* (1867), 350:

"'The Keith Process' was patented by Keith, Behr & Keith, in September, 1862. It consists in bringing the finely-pulverized ore in contact with the flame of a furnace rapidly and economically, thus driving off the volatile substances, melting and aggregating the fine gold into larger and spherical particles upon which quicksilver readily acts. The advantages claimed for it are, complete oxydation and calcination at one operation; economy of labor and fuel; delivery of the ore in a finely-powdered state; all the gold left in particles of a globular shape and free from combination with other metals or minerals. The ore is pulverized, *dry*, by stone-breakers and ball-crushers. The furnace is made of brick, the fire-chamber lined with fire-brick and consumes one cord of pine wood in roasting thirty tons, which is the capacity per twenty-four hours of those furnaces now in use. The cost of the furnace is not above that of any other roasting furnace of equal capacity. After calcination the ore is scoured by being passed through a ball-pulverizer, when it is amalgamated by simple stirring or shaking. The cost of treatment is five dollars per ton. It saves from sixty to eighty per cent of the gold in ores free from galena. The latter it does not attempt to treat. It has been in more or less successful operation at the Mammoth Company's mill in Black Hawk for three years, and in 1866, four other mills adopted it, which we believe are all now running. The right to use it is sold for $5,000."

A. E. Mathews made drawings of the Keith Process in 1865. A lithograph of these is on exhibition among the Historical Society's collections in the State Museum.—Ed.

"DR. KEITH, ADVISER OF EDISON DIES

"Dr. Nathaniel Shepard Keith, who was 86 years old, was born in Boston, July 14, 1838. He received his education in Dover, N. H., and in New York, receiving degrees in both Science and Medicine. He never practiced the latter profession.

"Early in his career Dr. Keith became interested in the development of the mines in the western section of the United States, and in 1860 went to Colorado, where he spent nine years as a mining and metallurgical engineer, contributing much valuable data to the scientific world as a result of his researches.

"Little was then known, about electricity in its application to metallurgy, and Dr. Keith's experiments led to the growth of that important phase in the reduction and refining of metals. The centrifugal electrical amalgamating machine, which is now in common use in extracting gold and silver from ore, was his invention. Many other devices, invaluable to metallurgists, have been patented by Dr. Keith.

"In the early '80s Dr. Keith became a member of the advisory staff of Thomas A. Edison, when the noted inventor organized his first company. Dr. Keith's thorough knowledge of electro-magnetism and electro-dynamics proved a valuable aid to Edison in perfecting many of his earlier inventions.

"Dr. Keith again went into the West in 1884, settling in San Francisco, where he built the first electric lighting plant in that city. While in San Francisco he manufactured electric appliances as applied to the mining industry from 1884 until 1893. During this period he founded the *Electrical World*, now the leading electrical journal of the world, and was its first editor.

"From 1893 to 1897 Dr. Keith was in England, where he won recognition for his work in the development of electro-metallurgy there.

"Dr. Keith was the author of *Magnetic and Dynamo-Electric Machines*, published in 1884, as well as many articles on electrical and metallurgical subjects which have been widely read by members of the profession."

Dr. Keith's daughter, Harriet, who was born at Black Hawk and now resides in New York City, recently presented the State Historical Society two letters written by her father from Black Hawk in 1863. These are reproduced herewith:

"Black Hawk Point
Col. Terr. Jan'y 25th, 1863.

"My dear Wife:

"It is Sunday. When I left New York I certainly expected to be back spending the day of rest with my dear wife and little one. But here I am still, not knowing when I shall return; though it cannot be long ere I start on the long journey back to those I love most. I have tried all I could to return with that indian party of which I wrote in a previous letter. But they will leave the last of this week and I cannot possibly return without decided injury to our business.

"We have had a trial of the process which was decidedly successful, but I shall have to stay here for some time to come for various reasons which you will find explained in my letter to father of this date. I now think our fortunes sure, but it will take some few weeks yet before we can begin to realize anything substantial.

"You cannot imagine the excitement created by this process in the mining districts. We have been perfectly over-run with visitors from morning to night. Fastened doors, notices of 'no admittance' and all sorts of devices did not keep them away.

"We run the mill and furnace steadily for nearly twenty-four hours. From 2 o'clock on Wednesday last until past twelve the next day. Visitors, men and women, came from miles around to see the wonderful "desulphurizer." They came singly and in crowds, and brought their wives and families. Some came at night, at nearly twelve o'clock. All went away as pleased as though they had seen a display of fireworks.

"Though not quite finished the yield of gold will perfectly satisfy the most incredulous. The ore worked was from the Gregory lode and will amount to nearly eight hundred dollars to the cord; being six-hundred and fifty dollars more than the average yield by the present processes. Folks ought to pay us something for a process which will save them that much each and every day. Do not be downhearted, my love, for I will not stay any longer than necessary.

"I have received two letters from you the past week, and one from father. I am so glad to learn that your health is improving, even though but slowly. That has been my chief anxiety about home. Be as careful of yourself, my dear, as you can; take a little exercise at a time, but frequently. I pray God that your health will speedily be restored to you. It has never, since I have been here, been the case that I have let a week pass without writing at least a few lines to some one at home. I certainly know you all must be anxious to hear from me. For two or three weeks past I have been busy all the time, even working Sundays. To-day there is nothing special to do so I am sitting in the old Black Hawk Mill (you will see it in the picture, where I told you I sleep), writing to my dear wife. At the other end of the pine table sits a young man (Mr. Morgan) writing also to his wife in Connecticut. Mr. Lee is asleep on his bed. We have a warm fire in the stove, and I can assure you that we are quite cosy and comfortable.

"I have for some time past been playing the laboring man, and shall still until I get everything to working well:—and then I will play the gentleman of business, and receive all the money I can honestly get hold of.

DR. AND MRS. NATHANIEL S. KEITH
(Taken about 1862)

"My dear, supposing I should have to stay here for some months, how would you like to come out here. Mr. Kenyon on his return will bring out his wife and little child, and he has told me that he would most willingly take charge of you. If it so happens I will come as far as the Missouri River to meet you, and escort you to the high peaks of the Rocky Mountains. The weather here in Spring, Summer and Fall is most delightful, and I have not the least doubt but that the journey will be most delightful to you, and would be of vast deal of benefit to your health. You could come by easy journeys; not riding in the stages across the plains, but in a private ambulance, travelling only by day. Should such things happen I should travel with you across the plains and we should have a most happy time.

"Darling little baby how I do wish I could see her this moment, as also her dear mother.

"Give my love to everyone of the family.

"Keep my choicest and best love to yourself, and never give it away. Kiss little Anna thousands of times for her papa.

"Ever Your Loving Husband

SHEPPY. [Shepard]

"Mr. Kenyon will call upon you when he gets to New York. See him."

"Mrs. N. S. Keith,
New York City
166 W. 34th St."

Mrs. Keith came to Colorado in July, 1863, and the following letter was written jointly by Dr. and Mrs. Keith.

"Black Hawk Point
Colorado, Aug. 24th/63

"Dear Father and Mother:

"I suppose you think it very strange that we have not written to you before. Our excuse is want of time. We have both been very, very busy, Anna with the baby and with other duties, and Shepard with business. In fact S. has written but two letters since he left New York, and those were very short business ones. But here goes for a letter; though late better than never. We arrived here safely July 26th 1863 after a long journey of six weeks from New York City. The journey was alternately pleasant, disagreeable, uncomfortable, funny, instructive, amusing, and at all times laborious. We had hot, cold, rainy, hailly, windy, and in fact all kinds of weather except snowy. We met white, black, and red men:—honest men, jayhawkers, contrabands and "injuns." Did not have any special trouble, and but one or two scares. We saw wolves, buffalos, antelopes, jack-rabbits, prairie-dogs innumerable, deer, and birds of various kinds.

"The daily routine of business was about as follows:—But previously let me say that our company was comprised of fourteen men, five women, and four little children, of whom our darling little Annie was one. A few days out on our journey we were joined by a party of five men and one woman, all of whom we were partially acquainted with. Every man in the camp was called by the guard at three o'clock in the morning. All took a drink of hot coffee, cooked by the guard before waking the company. The mules were then harnessed, previously being fed with corn. About four o'clock we would start on our day's journey. At about ten o'clock we would stop, and turn the mules out to grass, and cook and eat our own breakfast, or dinner, just as you may call it. As the middle of the day was generally very warm, we would not

start again until about three o'clock, and oftentimes some later. We would generally make camp for the night at about seven o'clock. Oftimes earlier. Would then cook and eat our supper. We had a nice large tent. Some would sleep in that, and some in the wagons.

"Some afternoons we would have to make camp in a hurry to avoid being caught in a shower. The showers, or storms, of the plains are very severe. We have stopped under these circumstances, unharnessed our eighteen mules, tied them to the wagons, pitched our large tent, and be all secure from the storm in less than ten minutes.

"Anna, the baby and the nurse slept in the wagon, and had things very comfortable, considering the circumstances.

"Anna's health has improved wonderfully; especially when we take into consideration the care of the baby and the hardships of the plains.

"After all this and more, the recital of which would fill a volume, we are here in the mountains, over two thousand miles from home. It is rocky, and all up hill, or down hill. That is about all we can say of the face of the country. About twelve miles away we have eternal snow. Since we have been here there have been a number of snow storms up on the 'Snowy Range' as it is called. We can see snow from the top of our hills here any day. We have beautifully cool weather here, while you are sweltering in Pennsylvania and New York. Don't need any thin clothes here, but flannels the year around. Cool enough every night to sleep under two pair blankets; one pair the warmest nights. Too cool for flies, mosketoes, or bedbugs. Not one to be seen about the house. From where we live we look out and find ourselves in a basin like. High mountains rise up on every side. Dont see the sun until after nine o'clock, and it is out of sight at about three o'clock. Though of course it is light long before and after these times. We are about nine thousand feet above you, besides being two thousand miles away. Take it all and all this is a queer country.

"But here is *gold*. They dig this 'root of all evil' out of the ground. Some have holes in the solid rock three hundred feet deep, and still digging down. We are working away hard and fast to get the mill to run. It will be ready in about four weeks.

"We have the largest mill, the nicest machinery, the strongest mules, and the *prettiest women* of anyone in the territory. We dont have the luxuries of the East, but nevertheless are gradually making ourselves very cosy and comfortable.

"Anna will write a letter herself shortly. We expect a housekeeper in about a week and then she will have more time. It may be that Shepard will be on East this winter or coming spring, when he certainly will make you a visit. Tell Jim and Mary to write to

their brother and sister not forgetting their little niece, way out in the Rocky Mountains. Anna has received two letters from Mary and will answer them shortly. Tell Mary to send the baby's stockings to us by letter. The grenadine veil she may give to mother. Much love to Jim and Mary. Take much love to yourselves also, from

Your Affectionate Children

Shepard and Anna"

To Mr. & Mrs. A. T. Swan,—Hawley, Pa.

The following appeared in a Georgetown newspaper of August 20, 1904:

"Mrs. N. S. Keith, of New York City, but at one time a resident of Clear Creek and Gilpin counties, was in Georgetown during the past two weeks. The lady was accompanied by her three daughters, the Misses Virginia, Harriet and Ella Keith, all of whom were born in Black Hawk.

"Mrs. Keith was a resident of Black Hawk at the outbreak of the Civil War, and it was due to her efforts that the patriotic citizens of that camp were furnished with a flag, which did service during those exciting days. The flag was made out of old pieces of silks, neatly arranged, and the old timers of Black Hawk would not have traded 'Old Glory' with the finest in the land. Mrs. Keith still retains the flag in her possession, cherishing it as fondly as did the men who blazed the way across the plains and who later became residents of Black Hawk, Gilpin county, Colorado.[2]

"Mrs. Keith crossed the plains in a prairie schooner, with her husband, who was one of the recognized chemists of New York City. He had been sent to Colorado for the purpose of looking over the mining field with a view of constructing a number of mills for the treatment of ores. After some little time spent in Clear Creek county, the syndicate which Mr. Keith was representing ordered him to Black Hawk, in order to superintend the workings on the Mammoth property, then a big producer. A smelter, with a Keith furnace was erected and for a time plenty of mineral was found. In a few months, however, the ore shoot was lost, and as a result the mill and mine were abandoned. The family by this time had been increased and now consisted of husband, wife and three daughters. In the course of time their residence was changed, and since that time New York has been the family home.

"During the past few years Mrs. Keith and her daughters have been traveling extensively, having crossed the ocean a number of

[2]This flag was presented to the State Historical Society of Colorado by Mrs. Keith's daughters in November, 1939. It is of course a highly prized exhibit in the State Museum.—Ed.

times. The young ladies have been studying art with the recognized masters of Europe, and as soon as the winter season opens again another trip will be made to Germany, where they will complete their studies. While in Colorado many places of interest were visited, among those being the house in Black Hawk, wherein all three of the daughters were born. A trip was made to Argentine Pass, also to Gray's Peak, and other places. In speaking of the scenic wonders of Clear Creek county, every member of the party stated that they far surpassed anything to be seen in Switzerland and other foreign countries.

"Mrs. Keith and daughters left Monday afternoon for Manitou, but it is quite likely that they will visit Georgetown again, before leaving for New York. During their stay in this city they were guests at the hotel de Paris."

Inscription Rock

ELIZABETH KYLE*

A massive pile of red sandstone, covering an area the size of a city block, and as tall as a three story building, is an ancient landmark located about sixteen miles north of Fort Collins, Colorado. Still visible beside it are the deep ruts worn by the covered wagons of pioneers and gold seekers of early days.

INSCRIPTION ROCK

Like Pawnee Rock on the old Santa Fe Trail and Independence Rock on the Oregon Trail, near the Sweet Water in Wyoming,

*Miss Kyle lives in Fort Collins.—Ed.

Inscription Rock's smooth sides are decorated with initials and dates that were carved in the early sixties when emigrants with wagon trains and oxen headed for California and Oregon during the gold boom days used this spot for a camping place while their oxen grazed along the grassy banks of the little stream.

From the top of this mountain, set aside from the other foothills, the Indians scanned the plains in search of caravans of covered wagons, and for herds of buffalo and antelope, for this was a favorite hunting ground of the tribes of Indians from every part of the country. In stagecoach days, it provided an excellent hideout for outlaws who robbed stagecoaches and travelers.

Many old landmarks, like this one, are hidden away now, because highways have been changed; but the deep inscriptions in the century old register will remain as do the deep ruts that mark the old trail beside the mountain.