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# Leadville

Lewis A. Kent



8-1 WQ  
(Leadville)  
Kent







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# LEADVILLE.



THE CITY. MINES AND BULLION PRODUCT.  
PERSONAL HISTORIES OF PROMINENT  
CITIZENS. FACTS AND FIGURES  
NEVER BEFORE GIVEN TO  
THE PUBLIC.

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BY L. A. KENT.

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DENVER, COLO.

DAILY TIMES STEAM PRINTING HOUSE AND BLANK BOOK MANUFACTORY.

1880.

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## PREFACE.

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THE universal demand for reliable information regarding Leadville and the Carbonate Mines has prompted this book. The writer has resided in Leadville almost continuously since September, 1877, and from his correspondence and newspaper work here, is intimately acquainted with most of the subjects herein treated. The facts and figures relating to bullion product and mines are compiled from the records of the books of mill men and mine owners, and are therefore entitled to absolute credence. One paramount object has been to demonstrate to non-residents that there are abundant opportunities existing in and about Leadville for thousands more of people to better their worldly prospects by a residence in the mining counties surrounding the Carbonate Metropolis. No exaggerations have been allowed to creep in to influence others to try their fortunes here, but if conviction shall follow the plain statement of fact, hundreds of people, the coming year, will be benefited thereby, and the immense mineral wealth of this section of country be more rapidly developed, and bring comfort to many households throughout all the States in the Union.

As this work has been prepared more particularly for persons not familiar with mining and milling, all technical and scientific words and phrases have studiously been avoided, and if some persons cavil thereat the general reader is spared an infliction, and all blame can attach to

THE AUTHOR.

WOR 20 JUN '34



# INTRODUCTORY.

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A MOST IMPORTANT CHAPTER FOR A THOROUGH UNDERSTANDING OF ALL SUCCEEDING CHAPTERS.

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TO FORM a correct idea of Leadville, the reader who has never visited the present flourishing city, must expect to be somewhat startled at this plain narrative of fact, and at the same time not look for a succession of magical achievements.

Other mining towns have, for a time, had as rapid a peopling, with a few fortunes amassed quite as suddenly. Yet there are distinctive features peculiar to Leadville, without counterpart in any other mining camp.

It is not the intention of the writer to "boom" the Great Carbonate Camp upon the reader, but by general statement and subsequent detail of facts and figures, prepare him to realize the surprising present status and dazzling future possibilities of this remarkable city and the inexhaustible mineral deposits in her vicinity.

It is a singular fact noted thus early, that Leadville has not produced a genuine Coal Oil Johnny. From the hundreds of fortunes almost instantaneously acquired here by as many individuals, no possessor has developed the glittering spendthrift qualities of the coal-oil idiot. On the contrary, it is absolutely true, that while more fortunes have been made in a quicker period than ever before recorded of any mining camp in the world, the benefits to owners have been more substantial.

Greater length, depth and continuity to the deposits of ore, less expensive methods of extraction, cheaper cost of reduction, excessive profits and brighter indications of permanence, the history of mining cannot elsewhere exhibit.

No other camp has ever, in the same space of time, accorded to so many thousands of people pronounced

pecuniary benefit; changing straightened circumstances into comparative competence, and bringing to numberless households the comforts of home and relief from the grinding pressure of hard times or the pinchings of poverty. Not only Colorado, but every state in the Union, has representatives here to testify to the truth of this broad assertion.

Three years ago the "Carbonate" was a stranger that at its own home had ever been treated with contumely in so persistently demanding recognition by crowding out the gold from the sluice-box of the gulch miner. Chance led to a realization of its great value, and though an attempt was made to keep the discovery a secret, it became known, and spread abroad so rapidly, backed by the incontrovertible logic of figures ranging up into the millions of dollars, as to revolutionize the business of mining, raising it within two short years to the dignity of a legitimate profession.

The abundance and richness of the ore peculiar to this region alone, has at last conquered the proverbial timidity of capital, making it venturesome in the extreme by the almost certain return of principal along with gigantic accruing profits.

Leadville mines have capital seeking them, and not the reverse, as formerly.

The records show that in the aggregate every dollar of original investment has been received back with interest an hundred fold. This, of course, will not apply to recent purchases, but will do so within the coming years.

Two years ago the mention of a continuous body of ore of five or ten feet in thickness, was read with distrust, but now any deposit of less depth is looked upon as only an ordinarily promising prospect.

To more clearly understand the description of mines and their "output" from "development work only," the reader must continually bear in mind the one essential fact that the ore deposits here are an immense flat or undulating *bed*, having a covering of "wash" (sand and boulders) or a strata of porphyry rock or body of iron, varying in thickness from forty to one hundred or more feet.

Now imagine this covering to be entirely stripped off, and you have the ore lying similar to the deep black soil every one remembers to have seen in the meadows and

river bottoms back in the "states." Imagine further this bed of soil to be ten miles in length by four miles in width, with long ditches seven feet wide by six to fifty feet in height run in upon it, and that each ton of dirt so taken out is milling ore rich in silver and lead, and you have an exact idea of the meaning of "development work" as performed in the mines of Leadville. Now at intervals of each fifty or one hundred feet along these parallel ditches have trenches cut across from one to the other, and you have squares like upon a checker-board, and which in mineral beds are termed pillars of ore, or "reserves" standing in the mine. Next take a tape line, measure the sides of these squares and their height, and, knowing the weight of a cubic foot of the material, compute the tonnage of the whole mass. In mining phraseology this is termed so many tons of "ore in sight," which by sampling from all parts of the pillar to obtain a general average of value, gives so many dollars of "ore standing in sight in the mines."

As a rule there is very little "barren ground," or material entirely worthless encountered in the carbonate mines here after the regular deposit has once been reached, and therefore it is plain that immense reserves are left standing for further extraction, and an enormous body of valuable ore produced by this system of exploitation or "opening the ground" to develop the extent and continuance of the great mineral deposits of this unparalleled section of country. Four by ten miles are not given as the actual area of these ore deposits, for new "strikes" continue to be made which enlarge the limits of mining ground into broad belts girding the mountain sides and summits for more than one hundred miles in length, through Summit, Park, Lake, Chaffee and Gunnison Counties.

When these beds are all dug out, carbonates will be exhausted, but will some one tell us the date at which the work can be completed? Will any eastern man affirm that, with less than fifty thousand residents in these five broad counties, the best claims are all taken up, and that there is not room for thousands of men to obtain valuable mines by the same prospecting work which has given to others the rich properties which have electrified the world!

These necessary general remarks will familiarize the reader with mining terms in our description of mines, and



also fit him to comprehend the enormous output such deposits are capable of without there being the least exaggeration in statement, and to believe rationally that there is no mushroom growth to the present populous city of Leadville, or fears for her continued and permanent prosperity.

# LEADVILLE AND LAKE COUNTY,

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GENERALLY TREATED AND COMPARISON BETWEEN THE  
YEARS 1877 AND 1879—IT WON'T DO TO SKIP THIS  
CHAPTER.

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FROM a perusal of the foregoing chapter the reader will naturally infer that a town of bustling character would keep pace with the growth of mines of so extraordinary yield.

To satisfy this expectation, without entering upon the details to be given subsequently, a comparison is here instituted, showing Leadville as it was in 1877 and is at the close of 1879.

Just two years ago the town had a population of three hundred souls, mostly miners, and not over one dozen families; a year later, six thousand residents and two thousand houses; to-day there are thirty-five thousand inhabitants and all the concomitants, conveniences and elegancies belonging to the most enterprising city of the age.

In 1877 the product of the mines was less than half a million, in 1878 over three and one-half millions, and in 1879 more than treble that amount, the exact figures to be set forth in a future chapter.

From a hamlet to an incorporated town, and to a city of the second class in the space of two years, is Leadville's present record. From an obscure mining camp ensconced between two lofty mountain ranges, far beyond railroad facilities, with no settled lines of postal or business communications, she has battled successfully against all obstacles, and attained the proud pre-eminence of the most wealthy and populous city of the State. The county, from the eighth rank of mineral producers, rushed forward in

one year to the first in product, and the second year heralded forth her prolific resources by more than doubling the entire yield of all the other counties of the State.

The march of improvement has also lifted the county of Lake from an insignificant position in political influence beyond that attained by the most populous county in the twenty years' growth of the State. Yet this is not all. The signs of the times point unerringly to a no distant date when the population of the city of Leadville will surpass the aggregate of all the cities of the State, and the county of Lake all the counties of the State, even as they have now outstripped them all in the production of wealth in the precious metals.

The immensity of the change wrought in two years is vividly shadowed forth in the following letter :

LEADVILLE, COL., December 20, 1877.

L. A. KENT, ESQ., DENVER. COL. :

DEAR SIR—Your letter has just been received, and in reply I beg leave to state that owing to "some excitement" regarding "carbonates," the placer mines have been somewhat neglected, but, as near as I can estimate, the product in round numbers will be \$100,000. Respectfully yours,

H. A. W. TABOR.

The gigantic strides of the last two years are, in a general way, understood by every intelligent newspaper reader, but will be more particularly comprehended by every one who attentively peruses this pamphlet, and the conviction become settled that great opportunities multiply here as well as in the surrounding counties for thousands more of industrious, thrifty men, with or without capital. As yet there is no defined limit to the extent of these great carbonate deposits, and he who imagines that 1880 will not develop increased sources of wealth, is simply unable to read aright the plainest indications. The ground for over a hundred miles on both sides of our two mountain ranges has only been gophered in scattering localities, and there is ample room for all who have nerve, muscle and honest willingness to conquer fortune. The industrious laboring man of the east or west, unless trammelled by the care of a large family, need not fear to plant stakes in or within fifty miles of Leadville, for it is the universal belief here, founded upon the solid result of the prospecting pick, that the coming

year will open up many camps capable of honorable rivalry to the world-renowned parent, Leadville.

The capitalist who has not visited the carbonate metropolis, or does not do so in 1880, will look back upon a blank chapter in the history of his chances for remunerative investments.

That there is no buncombe in these suggestions, alike intended for the poor and rich, let your acquaintances now living here bear witness to the writer.

## LEADVILLE'S LOCATION,

ALTITUDE AND CLIMATE—DON'T FAIL TO READ CAREFULLY.

Leadville, Lake County, is a little to the north and west of the center of the State of Colorado, and eighty miles in a direct line to the southwest from Denver, the Capital City of the Centennial State. The city is situated upon a broad plateau, sloping gently to the west, to the north of California gulch, three miles from its junction with the Arkansas river, bounded and sheltered on the east by the lofty foothills of the Mosquito range, and protected on the north and south by the same natural barriers against the fierce winds of winter, which, sweeping over the low pass in the main range of the Rocky Mountains, are conducted down the course of the Arkansas Valley, leaving the city free from the full force of the storms, and receiving only the shattered blasts which force their way through and over the wooded hills enclosing the limits of the city. From this extensive basin an uninterrupted view of the summits of the snowy range to the west is visible for over a hundred miles, offering to all who have time to contemplate, the grandest expanse of sublime mountain scenery afforded by any city on the continent.

### ALTITUDE.

Leadville, were it not for enclosing mountain ranges, could look down upon all sister cities of the United States from her commanding position ten thousand two hundred feet above the level of the sea; yet with the one exception, as noted, to the west, her horizon is more circumscribed than any city of her size in America.

## CLIMATE.

The outside world has been regaled with absurd stories regarding the unhealthfulness of the climate of Leadville, and our own citizens are now merely beginning to understand that with proper precautions there can be no healthier city.

The native purity of the rarified atmosphere is unsurpassed, but the consequent increased requirements of lung power at such an elevation have been thoughtlessly ignored by the great majority of persons rushing hither, and the result has been fatal to the lives of many, who, possessing the knowledge their fate has taught us, would not have fallen victims by causes so easily prevented or altogether avoided.

Persons with weak lungs or settled pulmonary diseases should remember that they are courting death by residence in any altitudinous locality, and such a move should either be avoided, or else the most watchful of safeguards be thrown about such an individual.

The robust and vigorous constitution equally demands protection against the great change from a dense to a rarified atmosphere, until thorough acclimation enables the system to adapt itself to the new and excessive strain. The experience of two years has taught imperative sanitary lessons, which, once deeply inculcated and obeyed, permit all ordinarily sound persons safely to reside at an elevation equal to ours, and also forbids deviation therefrom, "except at owner's risk." One, two or three heavy suits of flannel underwear, well protected throat and feet, abstemious use of stimulants of all kinds, moderate indulgence in intoxicating beverages, care after exposure, steady habits and a well regulated diet, are now accepted as the simple but imperative adjuncts to healthful life in Leadville. More clear, calm, bright days, taking the year through, are experienced in Leadville than in any other locality in the State.

Owing to our sheltered position at the base of lofty hills, a protracted wind storm is of the rarest occurrence. The snow fall is little greater (oftener less) than in the valleys beyond the mountains, and extreme cold days are fewer than in Denver and other towns upon the plains, and far less than in all cities and towns between Chicago and Boston.

TEMPERATURE.

To Mr. H. Huber we are indebted for the following tables, comprising the months from December, 1878 to November, 1879, giving: 1. The maximum temperature of every month. 2. The minimum. 3. The maximum daily changes of temperature in every month. 4. The mean temperature of every month, for the hours of 7 a. m., 1 p. m., and 3 p. m. 5. The mean of daily changes of temperature in every month:

Month.	a. Degrees Fahrenheit. Freezing point at plus 32°.					Mean daily changes.
	Temperature.		Mean Temperature.			
	Maximum.	Minimum.	7 a. m.	1 p. m.	3 p. m.	
December, 1878.	plus 43°	minus 10°	plus 5-9°		plus 10-9°	
January, 1879.	" 41°	" 11°	" 7-9°		" 11-10°	
February	" 42°	" 13°	" 17-10°		" 21-8°	16°
March	" 56°	plus 14°	" 24-20°	plus 40-20°	" 29-6°	18°
April	" 58°	" 10°	" 24-6°	" 42-6°	" 32-9°	21-2°
May	" 66°	" 27°	" 33-4°	" 26-6°	" 41-2°	21-7°
June	" 72°	" 30°	" 40-10°	" 61-8°	" 47-3°	21-4°
July	" 77°	" 41°	" 46-0°	" 65-7°	" 53-4°	20-5°
August.	" 76°	" 28°	" 41-2°	" 61-7°	" 52-3°	25-0°
September	" 69°	" 30°	" 36-5°	" 61-5°	" 47-1°	26-6°
October	" 66°	" 18°	" 30-2°	" 56-8°	" 37-8°	

Month.	b. Degrees (Centigrades.) Freezing point at 0°.					Mean daily changes.
	Temperature.		Mean Temperature.			
	Maximum.	Minimum.	7 a. m.	1 p. m.	3 p. m.	
December, 1878.	plus 6°	minus 23°	minus 14-5°		minus 11-7°	
January, 1879.	" 5°	" 24°	" 13-4°		" 11-6°	
February	" 6°	" 25°	" 13-3°		" 5-9°	8-0°
March	" 14°	" 100	" 4-1°	plus 4-6°	" 1-7°	10-0°
April	" 14°	" 120	" 4-1°	" 6-0°	plus 0-4°	12-0°
May	" 19°	" 30	plus 0-0°	" 13-0°	" 8-5°	12-7°
June	" 22°	" 100	" 4-0°	" 16-6°	" 8-5°	11-9°
July	" 25°	" 50	" 7-8°	" 13-0°	" 11-9°	11-4°
August.	" 24°	" 20	" 5-0°	" 13-0°	" 11-3°	13-9°
September	" 20-5°	" 10	" 2-0°	" 16-0°	" 8-4°	14-8°
October	" 19°	" 80	minus 1-0°	" 13-8°	" 3-2°	

The above given figures show that in the months of December, January and February (also November) the temperature remains below freezing point; it very seldom rises above it. The lowest temperature of the three winter months is almost the same, from  $42^{\circ}$  to  $45^{\circ}$  below freezing point.

In March, April and October the morning and evening temperature remains below freezing point. The temperature at noon, however, rises above it. The lowest temperature of these months is from  $14^{\circ}$  to  $22^{\circ}$  below freezing point. Snow and rain storms often occur.

May is warmer than the three last named months. It brings mild days, but the nights are often cold and frosty. The morning temperature is seldom above freezing point. Of the same character, only a little warmer is September.

June, July and August bring us very moderate summer weather. The temperature never reaches  $80^{\circ}$  Fahrenheit, but in June and August it sometimes goes down to the neighborhood of freezing, and even below freezing point. July is the single month in which it never froze last year.

In summer and autumn the daily changes of temperature are greater than in winter and spring. There they vary from  $20.5^{\circ}$  to  $26.6^{\circ}$  in monthly means, and from  $33^{\circ}$  to  $37^{\circ}$  in maximum; here they are more steady, changing from  $16^{\circ}$  to  $18^{\circ}$  in mean, and from  $28^{\circ}$  to  $32^{\circ}$  in maximum. These latter changes are about the same as they exist in the healthiest parts of the European continent.

I have to add some short remarks about our barometrical conditions. The limits of the air pressure are 20.4 inches mercury in maximum, and 19.8 inches in minimum. The middle pressure is about 20.1 inches mercury. The middle pressure on sea level is 30.0 inches, and therefore the pressure in our altitude is only  $\frac{2}{3}$  of that on sea level.

As in all mountainous countries, the changes of air pressure are more frequent and more sudden than in plains and in lower altitudes. The mountains are the battlefield of the wind, and especially the highest ranges which are extending in a north-south direction west and eastward of Leadville exercise a great influence on them. They change their temperature by cooling the warmer air brought from the plains, condense their moisture, and cause rain or



snow fall. They often change the direction of the air streams which strike the mountains from different sides.

The prevalent wind is that from the north-west. It very often increases to long-lasting storms. The most violent but shorter storms, however, come from the south-west, and especially in winter this wind brings the heaviest snow falls with bitter cold.

Rarified atmosphere is the one great obstacle to be surmounted by the tenderfoot, and it should receive his immediate and constant attention. Old residents here are as healthy as those of any of the so-called sanitariums of the world.

# LEADVILLE'S EARLY HISTORY.

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THE TOWN ORGANIZATION—THE FIRST MURDER—FIRST WATER WORKS—FIRST FIRE COMPANY—FIRST CENSUS, AND GENERAL OUTLINE OF MUNICIPAL PROGRESS.

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It is a fact not generally known, but nevertheless true, that along the southern limits of Leadville a number of log houses have stood and some of them been occupied continuously since the great gold excitement in California gulch in 1860. But as the gulch diggings were worked out and richer returns obtained higher up the stream, the main settlement clustered about the present Oro City, and when Postmaster H. A. W. Tabor moved his store and transferred the postoffice from "Old Oro" to Oro City, the lower town fell into decay and became too poor to retain even its name, until the great carbonate excitement came and attached it a suburb to the world-famed city of Leadville.

The site now occupied by the city has been claimed and staked off as placer ground, but not worked for all these intervening years, and hence the placer patent squabble for title to the lots now so valuable for business and residence occupancy.

In 1876 the "heavy sand" which the gulch miner had cursed so heartily each season for clogging up his sluice-boxes, was tested and found to be more valuable for silver and lead than the rapidly decreasing bulk of yellow metal, and immediately a local excitement resulted and prospecting for carbonate leads became the rage.

In September, 1876, August R. Meyer bought the

first ton of carbonate ore, and during that year shipped out by ox teams three hundred tons of ore to St. Louis. This ore did not pay for handling, owing to the great expense incident to the long haul to so distant a market, but the grade rapidly increased as development progressed, and the shipments of March and April, 1877, though only fifty tons, were very rich in both silver and lead.

The receipt of such ores at St. Louis created much favorable comment, not only because of their unusual richness, but also on account of the absence of refractory ingredients, and the consequent economical methods requisite for immediate reduction. Thus the camp had from the start substantial foundations for the excitement which began to spread regarding it, and it thus far stands prominently forth as the only mining region in Colorado which has not had its season of flush times and subsequent depression. The St. Louis company were not slow to take advantage of the glittering possibilities of this new Eldorado, and their smelting works here were nearly completed before the camp had been honored with a name.

Up to the close of 1877 no definite name had been decided upon for the present carbonate metropolis, and at that date the postal facilities were crude enough. Oro City and Malta had postoffices, and letters for persons known or supposed to be in or about the "sand" mines were sent to the store of the pioneer merchant, Charley Mater, and there tossed into a cigar box until their owners applied for them.

On the 14th day of January, 1878, a meeting of the prominent men of the settlement was called to assemble in Gilbert's little wagon shop, on the present corner of Pine and Chestnut streets, where Robinson's block now stands, to take steps for a

#### TOWN ORGANIZATION.

Eighteen citizens responded to the call, and a sharp debate ensued regarding the choice of the name of the town, for the incorporation of which, by petition to the governor, (Jno. L. Routt,) the meeting had been convened.

Charles Mater, the pioneer merchant, suggested "Carbonateville"; Aug. R. Meyer, the pioneer ore buyer and sampler, urged "Harrison," in honor of Hon. Edwin Harrison, of St. Louis, the pioneer smelter of the camp; W. H.

Bradt, Gilbert and others, favored "Agassiz," but finally J. C. Cramer, after consultation with all present, proposed the name "Leadville" as more appropriate to designate and perpetuate the significance of the massive lead deposits which characterized the camp. Nelson Hallock seconded this motion, and it was carried unanimously.

Leadville then boasted about seventy houses, shanties and tents, and a scattered population not exceeding three hundred.

Governor Routt, on the 26th day of January, issued his proclamation for an election to be held on the second Tuesday of February, resulting in the choice of H. A. W. Tabor for mayor, Charles Mater, Wm. Nye, and Joseph C. Cramer, trustees, and C. E. Anderson, clerk and recorder.

There having been a tie vote between Frank Gay and W. C. Norman for the remaining trusteeship, a vacancy was declared, but not filled, because a new election was to be had on the 1st of April following.

At the first meeting of this Town Board, T. H. Harrison was appointed Marshal, T. J. Campbell, police magistrate, and A. K. Updegraff, town attorney.

At the second election, in April, 1878, H. A. W. Tabor was re-elected mayor, J. C. Cramer, clerk and recorder, and Wm. Nye, John Carroll, R. J. Frazier and R. T. Taylor trustees.

Wm. K. Kennedy was appointed town attorney, and ordinances immediately drafted for the general government of the town. George E. Geegge, the pioneer druggist, received the office of treasurer, and George O'Connor that of town marshal.

#### THE FIRST MURDER.

On the night of April 25th, Marshal George O'Connor was brutally murdered by James Bloodsworth, a member of the police force, who mounted a horse and escaped, and has since successfully eluded arrest for so foul a crime.

At a special meeting of the Board the next morning, Mart. Duggan was appointed town marshal at a salary of one hundred and twenty-five dollars per month, to be assisted in the preservation of peace and good order by four regular policemen at one hundred dollars per month each.

On the 14th day of May a petition to build water

works was presented to the Board, but failed to pass at that time because of an empty treasury.

On the 22d of May a petition to open Harrison Avenue was carried unanimously; the land having been donated to the town by the Leadville Improvement Company.

#### THE FIRST WATER WORKS.

It is amusing to recall the first crude system of water supply, out of which has grown our present magnificent water works, it being neither more nor less than a two-inch pipe laid from the Starr ditch above the Harrison Reduction Works, down Chestnut, then the main business thoroughfare of the town, to Spruce street. The fall was about fifty feet, and being designed more particularly for domestic purposes, was of little account in case of a fire, although better than no water at all. These pipes have never been taken up, and the plugs may yet be noticed sticking up through the sidewalks in several places.

#### FIRST FIRE COMPANY.

The first fire company was organized on the 25th day of June, 1878; and styled the Harrison Hook and Ladder Company, in compliment of Hon. Edwin Harrison, who donated the truck and ladders.

The "Tontine," kept by Frank Pettipier, was at this time the fashionable restaurant of the town; the "Grand," the first-class hotel; Phil. Golding's Cabinet the high-toned saloon; the Coliseum and Comique, the theaters, and Hall and Coleman's the boss public sporting resort. Dance houses, open gambling, and countless saloons were in full operation, and yet, under the iron hand of Marshal Duggan and the police and county officers, good order was maintained, and the visitor looking at the sights of the town by day light or gas light was forcibly impressed with the conviction that law was in the ascendant, and the majority of rough appearing men were honest, law-abiding citizens, ready to assist in quelling any attempt at ruffianism.

On October 23d, 1878, another move was made for the establishment of permanent and effective water works. Several propositions had been laid before the Board, and a special election ordered to vote for or against issuing bonds for this much-needed improvement. The result was four

hundred and eighty-one votes "for" to three "against" the bonds. At this election Wm. R. Owen and George H. Fryer were elected to fill vacancies in the town Board caused by the resignations of Carroll and Frazier.

The present Leadville Water Company began work immediately, although their contract with the board had not been fully consummated.

#### FIRST CENSUS.

By resolution of the Board, passed on December 24, 1878, E. M. Hawkins was authorized to begin the work of taking the census of the population of the town of Leadville, and number the houses on all streets within the town limits. Forty days were granted him in which to complete the census, and ninety days for numbering the houses. This duty, so far as concerned the census, was finished and reported on the 5th day of February, 1879, and was as follows.

"Total population in the town limits, 5040; total white population, 4954, and 86 colored. Total number of American born citizens classified as follows: English extraction, 179; Irish, 382; Scotch, 42; French, 45; Italian, 21; Swiss, 12; German, 322; Mexican, 9; Swede, 46; Norwegian, 8; Polish, 7; Denmark, 10; Russian, 2; Isle of Man, 5; Welsh, 17; Spanish, 2; Bohemian, 2; Chinese, 0.

The total disbursements of warrants issued by the town Board of Leadville for the fiscal year beginning April 1st, 1878, and ending April 1st, 1879, were, as shown by the report of the clerk and recorder, \$20,795.42, with outstanding warrants amounting to \$11,300.60. The total saloon licenses issued aggregated \$7,719.95. The total of fines from police court reached \$1,817.20, and the grand total of moneys paid into the treasury during the year, \$10,722.35. The disbursements from all funds reached \$10,642.25, leaving cash in the hands of the treasurer of \$80.10, and on account of taxes from the county treasurer, \$1,587.95, or a total for the city government to begin upon of \$1,668.05.

The growth of the town had been so rapid that on the 25th day of February a movement was inaugurated for the incorporation of a city of the second class, by the appointment of Wm. R. Owen, Dr. R. T. Taylor and Attorney

Kennedy a committee to confer with Governor Pitkin as to the necessary steps to be taken to carry out this intention. The governor issued his proclamation for an election to take place on the first day of April, 1879. At this date Wm. H. James was elected Mayor, John W. Zollars, treasurer, M. J. Murphy, E. C. Kavanagh, John McComb, Samuel McMillen, J. P. Kelley and John D. Monroe the Board of Aldermen.

# CITY ORGANIZATION.

## DIFFICULTIES WHICH BESET THE COUNCIL, AND THEIR TRIUMPHANT SOLUTION.

### SPECIAL MENTION OF IMPORTANT EVENTS.

The City Council at its first meeting elected C. J. Murphy clerk and recorder, Chas. I. Thomson, city solicitor, J. B. Stansell, police judge, Frank McGuire, street commissioner, F. F. Brune, city engineer, and P. A. Kelley, city marshal. The bonds required of these officers were fixed as follows :

City Treasurer,	- - -	\$50,000
Street Commissioner,	- - -	10,000
City Clerk,	- - -	5,000
City Marshal,	- - -	2,000
Police Judge,	- - -	1,000

The officers of the new city government entered upon their duties with commendable zeal and promptitude, finding affairs in a wretched condition, with an indebtedness of \$14,527, and no source of revenue except from licenses and fines, the total levy of the year previous being only \$3,000. Many subjects of grave importance demanded immediate action at their hands. Many complicated questions had to be decided, such as the opening of thoroughfares through ground upon which business and residence houses had been built, creating alleys, reconciling conflicting surveys, establishing grades, making sidewalks, removing buildings standing in the streets, removing garbage which threatened to depopulate the city, providing a revenue for current expenses, grading the miry streets, obtaining water for fire purposes, caring for the sick, and many other matters of moment requiring judgment and tact, and consuming the



entire time of the Council. That mistakes should have occurred is natural, but the present handsome and healthful appearance and condition of our city as well as her financial standing, are evidences that in the main, the actions of the Council have been wise and efficient.

The police force of the city was made to include a marshal, captain of police and thirteen regular officers. Liberal salaries were voted as follows: City solicitor, \$175 per month and fees; marshal, \$180; captain of police, \$150; street commissioner, \$150; fire warden and regular policemen, \$100 per month each. The office of private detective was created, and such officer placed under the immediate orders of Mayor James. The Council, during its first month of official duty, paid out over \$4,000 for street grading, constructing bridges, and cleaning streets and alleys of the reeking filth which had accumulated, and laid the foundations for the present well regulated city which is beheld in open-eyed astonishment by every new-comer.

On May 9th the records show thirty-three saloons to have been licensed, and the city treasurer reported a balance of \$7,842.21 on hand.

City Clerk Murphy was dismissed by the Council on the 5th of August, after an impartial trial on the charges of incompetency and neglect of duty, and Hon. Wm. M. Clark, ex-secretary of state, appointed to fill the vacancy thus created.

Under contract with Hall & Sullivan, Harrison Avenue, State and Chestnut streets were graded, and eight inches of "slag" from the smelting works deposited thereon and covered with gravel. The cost of this excellent and lasting improvement was \$35,253, divided as follows: Harrison Avenue, \$22,740; State Street, \$7,036, and Chestnut Street, \$5,477, of which amount the city will recover from property owners on these streets, \$30,088.

#### FIRES.

During the latter part of the month of May extensive forest fires were raging through the mountains and in the dense pine woods up to the limits of the city, giving some authenticity to the widely circulated reports that Leadville had been destroyed by fire. For many weeks the air was dense with smoke, and the white ashes, wafted for miles

distant, dropped down upon our streets like a miniature snow storm. At one time the city *was* in imminent danger, and a change in the direction of the wind would have reduced the city to ashes, and accordingly Mayor James issued the following proclamation :

MAYOR'S OFFICE,  
LEADVILLE, May 24, 1879. }

WHEREAS, The city of Leadville is now almost surrounded by fires burning in the woods near the city limits, and in consequence of the high winds prevailing, there is great danger of the city.

Now, therefore, I, W. H. James, mayor of the city of Leadville, do call upon and request all citizens, whenever an alarm of fire is given by ringing of the bell of the Methodist church to immediately place themselves under the direction of J. C. Cramer, Chief of the Fire Department, to assist in extinguishing said fires.

W. H. JAMES, Mayor.

With the exception of timber, cord wood, an occasional cabin and shaft house, this great danger was averted, and the woods so thoroughly divested of undergrowth and rubbish as to preclude the possibility of a like occurrence for many years.

In June, 1879, a fire broke out in the Coliseum theater, on Chestnut Street, opposite the Grand Hotel, and for a time it seemed that the city was doomed to destruction, but by the heroic efforts of the fire department and streams from the water works, the flames were subdued, but not until one man had been burned to death and another seriously injured.

Again, upon the evening of the 10th of September, a block of buildings between the great dry goods houses of Daniels & Fisher and Owen & Chittenden, on Harrison Avenue, opposite the Clarendon Hotel, was entirely destroyed by fire, and property to the amount of \$25,000 consumed. The stillness of the atmosphere permitted the copious streams from the water works to drown out the fire, and a second time preserve the city.

#### STREET RAILWAYS.

A number of propositions have been submitted to the Council, and franchises solicited, but thus far the city authorities have steadily refused to grant the right of way. Some of these companies were organized for the purpose of transporting ores from the mines to the smelting establishments, and others for street railways for passenger traffic

only. On the 8th of October the Council settled the matter definitely by adopting a resolution offered by Alderman Kelley, that no right of way should be granted along Front Street until applied for by some railroad which had been built up and into the city limits, and that then such road must have previously gained the consent of property owners on the north side of that street.

On October 15th the City Finance Committee reported to the Council as follows: "After careful examination we agree that about \$50,000 should be raised by taxation. The total valuation of property in the city, as shown by the assessment roll, is \$2,433,327.

"To raise the necessary amount on this will require about two per cent. We have, therefore, made the tax levy at two per cent., which will give a revenue of \$48,666.54."

#### FIRE LIMITS.

The approach of winter, and the scarcity of building materials other than native lumber, caused the regulations regarding fire limits to become a grievous burden to very many citizens, and the Council was besieged with scores of petitions for permits to enlarge buildings and construct new ones. Brick could not be obtained, and many applicants were too poor to use such costly material, and either needed improvements must be prohibited, and building cease, or the permits be granted, and the fire limits be disregarded. The ordinance was finally amended so that in the discretion of the Council permits might be granted. The safety of the city lies in the efficiency of the water works and the vigilance of the scores of private night watchmen employed by merchants and property holders.

#### MUNICIPAL PROGRESS.

Under direction of the present Council the fire department has developed into its present state of efficiency, the water works been extended, and the city provided with gas. A Board of Health has been created and a city physician appointed for the care of the indigent sick.

A central fire station and new city hall 25x100 feet in size and two stories high have been built at a cost of \$5,100, and a fire alarm bell weighing 1500 pounds purchased and placed in position. The Gamewell fire alarm system has

been adopted, and seventy miles of telephone wires connect the principal business houses, smelting establishments and prominent mines with the general office in the Clarendon Hotel Block. The grading and opening of streets have been effected at a cost to the city of \$50,000. A new jail has been finished, and an addition made to the old one for sleeping apartments, to receive all destitute persons who apply for shelter there. The poor, when sick, are provided for at the Sisters' hospital and the city pays for each patient cared for at the rate of seven dollars per week.

The Council has liquidated the debt of \$14,527 bequeathed it by the Town Board, and paid \$50,000 as before stated, for needed improvements, besides keeping city warrants close to par value.

The mayor estimates that at the close of the fiscal year on the 1st of April, 1880, the city will be not only free from indebtedness of whatever nature and the city warrants worth dollar for dollar, but also that there will be at least \$20,000 on hand in the city treasury.

# FRYER HILL,

AND THE MINES CONTAINED WITHIN ITS BOUNDARIES.

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THE VULTURE MINE, AND HOW FORTUNES ARE MADE,  
DODGED, OR LOST IN LEADVILLE.—FACTS OF INTEREST  
REGARDING THE CRYSLITE AND OTHER PROPERTIES.

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FRYER HILL is as widely known as Leadville itself, but its limits are not thoroughly understood even in this region, and persons frequently speak of mines as upon Fryer Hill, when in fact they are not even contiguous thereto. In times past, this county was noted for its rich placer diggings, and therefore the gulches were honored with names, and the worthless ridges were designated simply as lying between certain well-known gulches. Printer Boy Hill, at Oro City, Breece Hill, and a few others are time honored names, but Iron Hill, Carbonate Hill and Fryer Hill have been christened since the discovery of carbonates.

The gulches on either side are the natural boundaries of a hill, and properly speaking, Fryer Hill should be all that ridge of high ground lying between Big Evans gulch to the north, Dry Stray Horse gulch to the south, the county road to the west, and the flats to the east, at about the line where the old trail and present wagon road crosses from Dry Stray Horse into Big Evans. The line of the ridge within these limits is unbroken, but the circumstances attending the naming of the hill abridged its western limits.

For some time after the discovery of carbonates, experts had taught the people to believe that there were three great mineral belts extending across the ridges between Empire and Stray Horse gulches. The upper was the Long & Derry and the Dyer belt, the center, the Iron

mine group, and third and last the Carbonate, Morning Star and Argentine group.

Many hard-headed, stubborn old prospectors, who scoffed at expert theories, ventured to dig outside these scientific limits, and among them was George H. Fryer. Very many of us remember that "experts" at that time regarded George as possessed of more grit and muscle than brains and judgment. When he struck mineral he styled his claim the "New Discovery," as a permanent backhanded compliment to those who had sneered at him, and they retaliated by styling his ore of too low grade to pay, and his location beyond the mineral belt. Others followed the example set by Fryer, and the discovery of rich ore by Rische, Hook and Tabor, in the Little Pittsburg created a genuine furore, and the locality began to be termed Fryer Hill, in honor of the original locator, George H. Fryer, and it has since retained the name. The part of the ridge west of the New Discovery mine was termed Lime Hill, and the Vulture mine, located in the little depression between the two, regarded as the dividing line.

Lime Hill, therefore, would include a part of the Vulture, the Colorado Chief, Pandora, Last Chip, Hope, Solid Muldoon, American Eagle, Fairview, Kit Carson, Little Eva and other claims.

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### FRYER HILL.

Beginning with the New Discovery, it includes along its center the Little Chief, Dives, Little Pittsburg, Winnemuc, Amie, Climax, Dunkin, Matchless and Robert E. Lee.

On the south slope of the hill, and jutting against the above named claims, at all kinds of irregular angles, and extending in part across Dry Stray Horse gulch, are the Union, Gambetta, Dolphin, Swansea and Pittsburg. On the Big Evans slope of Fryer Hill are the Crysolite, Carboniferous, Eaton, Hercules, Buckeye, Hazard, O. K., Cryptogram, Deer Lodge, Virginius, Montana and Union Emma. The base of Fryer Hill, measured from Dry Stray Horse, along the west side line of the New Discovery, through to Big Evans gulch, is a distance of twenty-five hundred feet, and from the east side line of the Robert E. Lee about one thousand feet, and the length between these lines about a

quarter of a mile. Within this area are the famous Fryer Mines, which, until recently, have produced more than half of the great bulk of ore which has given Leadville fame throughout the civilized world. This one great deposit is (with occasional breaks) continuous, and mining operations show it to vary from five feet to forty feet in thickness, or if we regard the porphyry intervening between bodies of ore as immense boulders or "horses," then the upper and lower beds of mineral are to be taken together as one and the same deposit which, in some instances, would more than double the thickness, and bring the average up to a standard which precludes the possibility of exhausting this ore deposit within the present century.

The claims on Fryer Hill are almost certain to develop into mines if sinking is persevered in, and after mineral is once reached there is always plenty of it, and of good milling grade. The shafts on the side of the hill towards Big Evans have been greatly annoyed by the heavy flow of water, and expensive pumping apparatus will have to be employed before these mines will become paying properties.

#### THE VULTURE.

The telegraph wires on Tuesday evening, Oct. 23d, bore to the acting cashier of the Bank of Leadville, instructions to pay to J. C. Langhorne the sum of eighty-three thousand, three hundred and thirty-three dollars and thirty-three and one-third cents, signed by H. A. W. Tabor. This was the first payment upon the purchase of a one-third interest in the Vulture mine, and like payments are to be made upon the 15th day of January, and the 15th day of April, 1880, to complete the sum of two hundred and fifty thousand dollars. One per cent. per month is to be paid upon deferred payments.

The first installment of cash was paid over to Mr. Langhorne. The Vulture has had various owners, and without specifying their names in detail, we will give a list of sales made at different times, to show how fortunes have been lost, dodged, and made, in this single property.

The entire claim was purchased in the early part of 1878 from Munn & Co., for four hundred and fifty dollars. In November, 1878, P. N. Moore and W. B. Page sold their undivided one-third interest for nine thousand dollars, and

upon the following day these purchasers (Breck and others) sold the same interest to Jno. Borden, M. Field, and H. A. W. Tabor for eleven thousand, five hundred dollars. C. B. Rustin, owning a two-ninths interest, sold the same to Jno. H. Talbutt for six thousand dollars, and upon the next day Talbutt sold out this with another ninth he had previously held, for the sum of eighteen thousand dollars, to Borden, Field and Tabor. Upon the day following, Borden, Field and Tabor offered twenty thousand dollars for the remaining third of the mine held by J. C. Langhorne, Thos. L. Darby, J. W. Johnson, and At. Rennick.

Some of the parties not desiring to sell at that figure, the interest was offered Tabor & Co. at twenty-five thousand dollars under a protest from J. C. Langhorne that he preferred to decline his share of the money and retain his one-twelfth interest in the mine. Mr. Tabor asked until two o'clock the following day to conclude the purchase at the price named. But as no time would be granted, the sale fell through.

Marshall Field and John Borden also sold their interests in this mine, in connection with other contiguous properties held by them, to the Crysolite Silver Mining Company, represented by A. J. Mackey and H. A. W. Tabor, but the price paid for the Vulture interest has not been made public.

The Vulture mine has yielded two hundred and fifty thousand dollars' worth of ore at a cost of extraction of forty-one thousand dollars.

The gentlemen who sold their interest for sixty-two thousand and five hundred dollars each, also received up to that time their proportion of the yield, and bore their share of the expense of operating the mine. Each of them now has a competency, whereas less than one year ago they were comparatively poor men.

One of these lucky gentlemen, thirteen months ago, was willing to sell his interest in the Vulture for one hundred dollars, but undoubtedly to-day he believes the Vulture a handsomer bird than the great American eagle, while those who sold out at picayune figures will hold an undying grudge against the carrion fowl.

One fact connected with the first sale of the Crysolite and Carboniferous mines is significant. The original



locator was known as "Chicken Bill," and an unlucky chicken he proved. He salted the mines, sold them for two thousand dollars, and among his cronies boasted of successful rascality; but now he laughs on the other side of his face, for had he sunk honestly down thirty feet deeper he would have struck rich mineral and been one of the Bonanza Bills or Kings of the Carbonate camp.

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### THE BUCKEYE.

At a depth of one hundred and fifteen feet in the new shaft a fine body of iron has been struck and followed down for fifteen feet. It is mixed with carbonates, and assays twenty-three ounces to the ton. The bottom of the shaft is still in carbonate sand and iron, and the showing is fine for developing the usual Fryer Hill bonanza. The shaft is perfectly dry, a very unusual thing on this side of the hill, where most all other shafts have been flooded and work impeded. The owners are J. S. Sanderson, Sumner & Son, Dr. Sutherland, of Colorado Springs, R. H. Hill, of Chicago, Daniel Smith, Robert Esser and F. R. Walden, who naturally feel much elated over the prospect of soon having a quantity of milling ore to sell.

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### CLIMAX.

Its location is a good one, being on Fryer Hill, adjoining on the west the Amie, Little Pittsburg, and Little Chief mines; on the east the Dunkin, Matchless and Robt. E. Lee; while north and south adjoining are good paying properties. In short, the Climax is in the very center of a group of mines, all of which have been and are immense producers of high grade silver ore, and from present indications and developments the Climax promises to become the equal of the best of them. Ore was first struck in No. 1 shaft, at a depth of 94 feet, which proved to be of a high grade, and from 4 to 6 feet thick at the shaft, widening out rapidly in the drifts, especially those running to the south and east. This shaft was continued down, passing through a body of porphyry, when another fine body of mineral was struck which proved to be 10 feet deep; the ore pitching to the N. and east, one hundred feet north; a large working shaft was then sunk, mineral was struck at a depth

of 135 feet, and found to be 15 feet in thickness, a drift was run southerly and connected by a winze with the upper level. There are four shafts sunk upon this property, with extensive drifts run upon fine bodies of rich mineral. In shafts Nos. 3 and 4, a very large body of high grade ore has recently been encountered, and returns from the smelters range from 220 to 300 ounces in silver per ton. The mine is in shape to produce from 25 to 40 tons of milling ore per day. The average value of the ore is equal to that of any mine on the hill, and with the reserves in sight in the present workings, and by proper and energetic development for the future is capable of ranking among the first on Fryer Hill as an ore producer. The mine is provided with a fine shaft house 70x40 feet, and an engine of fifteen h. p. over the 155-foot shaft. The capital stock of the Climax Mining Company is \$2,000,000, divided into 200,000 shares of \$10 each. The officers of the Company are:

David A. Wells, President.  
 Saml. A. Strang, Vice President.  
 Wm. Bond, Treasurer.  
 Wm. B. Allen, Secretary.

The Trustees are:

Hon. David A. Wells, Norwich, Conn.  
 Samuel A. Strang, New York.  
 William Bond, New York.  
 William H. Hays, New York.  
 George A. Thorne, New York.  
 Theodore Berdell, Leadville, Colo.  
 Nathaniel Witherell, Leadville, Colo.

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#### L. P. C. M. CO.

THE HEAVIEST MINING COMPANY EAST OF THE ROCKY MOUNTAINS.—PRINCELY DIVIDENDS PAID MONTHLY TO STOCKHOLDERS.—THE PRODUCT OF A SINGLE MINING PROPERTY LARGELY IN EXCESS OF MANY PROSPEROUS MINING COUNTIES.—OVER TWO PER CENT. PAID MONTHLY UPON THE SELLING VALUE OF THE STOCK.

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The Little Pittsburg Consolidated Mining property has been so frequently described in detail through the columns

of the press of the entire country, that repetition is unnecessary information for intelligent readers of the public journals.

There are, however, many general topics of interest connected with the history of the property and its present management which can be perused with profit to every one.

#### A CONTRAST.

Agriculture has for many centuries been regarded as the foundation of a nation's prosperity, and the most legitimate and reliable of all business undertakings. Mining has, however, in very recent years, made gallant strides towards the standing of a legitimate business, equal in all respects of certainty of remunerative returns, with as little of hazard to capital, as the time-honored surface tillage of the soil. The farmer must now, as in all the ages of the past, risk the sprouting of the seed sown, and take the same chances of immunity from floods, hail, drouth, hurricanes, bugs, worms, rust, smut, grasshoppers and all other known accidents and causes of failure, to reap the reward of labor and investment. With good crops come the great uncertainties of transportation, the tricks of the operators, home and foreign consumption, and many other matters which must regulate the prices at which the farmer must estimate the losses or profits of the year's labor.

The miner seeks in the ground for his crop, also, but he finds it less subject to the caprice of the elements, and less liable to become damaged and worthless upon his hands. The market for ores is not so fluctuating, and the precious metals have a more even and standard value, dependent upon less contingencies. The profits of mining by improved mechanical appliances and greater knowledge of better methods of ore extraction and ore treatment, have increased an hundred fold, while the chances of failure and loss have decreased in like ratio.

The area of mining ground, in all countries where both mining and farming are carried on, has increased more rapidly than that of farming, and its depth and continuance been developed until some sections have become marvels of richness in product, with the certainty of as steadily yielding an annual product as the choicest farming lands in the fertile valleys below them. As to the yield per acre

there can of course be no comparison; yet the contrasted value as between the two products in these states exhibits heavy gains in favor of the business of mining, and the latter is now absorbing more attention, and receiving greater encouragement from capital in localities where thousands of acres of tillable land need only the same stimulant to produce the most bountiful harvests.

The Little Pittsburg Consolidated Mining property is a strong example of the prevalent desire for investment, the remunerative employment of capital in bulk, the great profits arising from mining, and the certainty of a yield continuing steadily for many years to come.

The surface area of this ground is only about twenty acres, and the thickness of the present shipping ore deposit ranging from four to forty-two feet has a general average of twelve feet in thickness. Yet even this does not represent the entire extent of ore limits, since by recent development of the discovery shaft of the New Discovery mine a second contact and deposit of mineral vein matter fifty feet in thickness has been disclosed beneath the floor upon which the above mentioned ore body rests. This shaft is now one hundred and sixty-two feet deep, or one hundred feet below the first mineral body exploited by the original owner—George H. Fryer. The steady downward progress of this shaft will ultimately reveal the possible existence of a third or more deposits of ore in the depths of this famous hill.

#### DEVELOPMENT AND RICHNESS.

This property is now being developed by nine different shafts, over eight of which are improved steam hoisting apparatus. The deepest shaft is two hundred and twenty feet deep, and worked by a powerful engine.

The present general average depth from the surface, of shipping ore, is one hundred feet, and the average value of the same, as shown by three hundred control assays, made from May 5th to September 1st, is one hundred and two ounces in silver, and twenty-six and one-half per cent. in lead. This includes iron running as low as twenty-seven ounces in silver, and is undoubtedly the highest average, in bulk of ore, of any mine in the the known world, of which we have any record. To illustrate the value of ore more

particularly, mention is made of four fifty-ton lots of sand taken from No. 4 shaft on the New Discovery, where the first drift was started on the 10th day of July last. The first lot of fifty tons netted a little over thirteen thousand dollars; the second and third nearly thirteen thousand dollars, and the fourth eleven thousand, nine hundred and eighty-seven dollars. About one hundred thousand dollars have been extracted from these new workings since the date above noted. The ore is very rich, averaging over two hundred ounces, but the vein thus far is narrow, being only about twelve feet in thickness. In this part of the mine the shaft and drifts show some of the most exact and substantial timbering to be seen in the entire property.

#### DIVIDENDS.

In the month of September \$150,000 were disbursed to the stockholders in dividends, and in the month following \$100,000 were paid, and an equal amount carried to the surplus fund. In September the stock was quoted at \$25 per share, or a selling value of \$5,000,000. The dividends, therefore, in September were three per cent., and in October two per cent. on selling value.

The par value of any stock has very little to do with its actual value, which at any date is simply that for which it can be cashed or hypothecated.

The stock of this company has been quoted at \$35 per share, but could not be bought at that figure, as holders prefer to retain shares which pay such dividends monthly. Supposing the owners of stock to have purchased at \$25 per share, the showing is good enough for our purpose, with the dividends at \$100,000, for if such dividends are maintained for twelve months (and there is no doubt of this ability) then the sum of one million, two hundred thousand dollars, or nearly one-quarter of the value of the property will have returned to the stock holders in the form of dividends. Where, outside of mining, can capital look for such per cent.? Capital in mass, that is, in one or more millions, is so conservative as to cheerfully accept three or four per cent. per annum. In this case, where the capital is fixed at twenty millions, six per cent. per annum is being realized. But now comes the query, is this a safe investment for the principal upon which such handsome per cents. are realized?

We answer this interrogatory by stating that the present condition of the mine holds out the prospect that many millions, even beyond the full par value of the stock, may be extracted without exhausting the ore bodies. That such will become an absolute fact no one can say, but judging the full area of mining ground yet untouched by the prospecting pick at a small fraction of the richness of that already opened, such a result is not improbable. When it is known that the wonderful product thus far has been taken from prospect drifts in scarcely four per cent. of the territory owned by the company, and that all the reserves are standing untouched in the mine, and that contiguous properties on all sides of the Little Pittsburg Consolidated mines are yielding rich returns from massive ore deposits, it is only fair to conclude that the greater portion of untouched ground contains bodies of ore of equal extent and richness. The farmer estimates his crop by the past yield of his land, and breaks new ground of similar character in the confident hope and expectation that it will be as fruitful as that before tilled by himself and by his neighbors adjoining his end and side lines. Everywhere upon this property development has shown immense mineral deposits, although occasionally a drift has penetrated barren ground into paying mineral beyond. The question of a second and third contact has been partially solved here, and this must be taken into account in speculating upon the future yield of this property. In all businesses there are risks and hazards of some description, yet men do not falter on that account, but proceed as though the future was assured; and to our view the outlook for this great property has no unusual chances to take to yet have it equal to or above its par value per share.

#### THE COMPANY MANAGEMENT.

While there is evidence of liberality in all underground workings and surface improvements, there appears to be no lavish expenditure, but rather a watchful economy in consonance with solid, permanent work, which in the progress of time will prove to have been most judicious. The minutest item of expense has its record upon the books of the company, which are at all times open to the inspection of both officers and individual stockholders, and monthly

reports of receipts and expenditures are furnished, which concisely exhibit all transactions in detail.

The company employs the best available talent in its business management and in the underground workings of the mines, and thorough work and perfect satisfaction is the result.

The present steady output per day is 125 tons, although as high as 192 tons were recently sent to the surface in one day.

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### THE DUNKIN.

This mine, located on Fryer Hill, between the Climax and Matchless, is proving no exception to the general rule of rich mineral deposits in this famous hill. On the 5th of April last, W. H. Stotesbury, James McDonnell, Joseph W. Watson and C. C. Morgan purchased the property, and, upon the 7th, began the sinking of the new shaft, now known as No. 2 shaft. Upon the 26th of the same month, at a depth of one hundred and four feet, mineral was struck and continued to a depth of one hundred and seventeen feet. In doing this work two shipments were made, which realized money sufficient to pay all previous expenses, build a shaft house, and provide a steam hoister.

The ore body developed in thickness, and long since has enabled the owners to pocket the purchase money and a neat profit besides.

The mine is developed by three shafts, respectively numbered 1, 2, and 3. No. 1, the discovery shaft, is one hundred and seventy feet deep, upon a heavy body of iron. No. 2 is one hundred and sixty feet deep, and is the main working and producing shaft. Here at one hundred and ten feet from the surface a level runs to the east and another west to the Climax line, and connects with the old workings of that mine, and in these drifts, bunches of good ore were obtained, although porphyry and iron frequently intervened. Within a few feet of the Climax a sixty-five foot drift to the south shows a fine body of sand carbonates. Along the line between the Climax and Dunkin above this drift the old workings of the Climax disclose a large deposit of ore ranging from two to eight feet in thickness, and this south drift was pushed forward to cut this mineral body

and extract it. The east level is in eighty feet, and at its breast is a winze twenty feet deep to the lower workings. Here a great deal of ore has been stoped out from levels ranging in height from six to eighteen feet.

Sixty feet south from the winze is a splendid body of first-class ore four feet in thickness, which contains very little waste, and is milled in bulk without sorting. At the bottom of this winze a level runs northwesterly back to the shaft, striking it 135 feet below the surface, and through this thoroughfare the ore is delivered for hoisting, instead of being raised through the winze, as formerly. The main shaft will be deepened, and a third series of levels opened so soon as the prospect drifts now being extended determine the general trend of the mineral, and fix the grade and locality of two or more main levels through which all irregular ore shutes now exposed may be extracted and delivered to the surface more rapidly and more economically.

No. 3 shaft is one hundred and ninety feet deep, and has passed through bodies of iron and small streaks of mineral into porphyry at the bottom.

About twenty-three feet above the bottom a drift was started in upon one of these small ore streaks which has developed a fine body of mineral extending down to the other levels, and giving every indication of great extent and value. Notwithstanding an immense amount of re-timbering of the "gopher" drifts of the original owners, and the systematic development inaugurated and carried out under the present management, the daily output is from eighteen to twenty tons of excellent milling ore. The Dunkin is stocked at five million dollars, and is selling at one million, upon which fully two per cent. in dividends will be paid regularly each month while development is in progress. This is indeed a fine showing, and ranks the Dunkin as one of the creditable bonanzas of the camp.

The mine was sold on the first day of October for \$300,000, and the officers of the company are as follows:

H. H. Stotesbury, President and Treasurer; Hon. A. H. Rice, Vice President; E. O. Roff, Secretary; and the directors, Hon. H. A. W. Tabor, A. H. Rice, and John B. Alley, Boston, Mass., H. H. Stotesbury, J. H. Stotesbury, M. McLanahan, and E. H. Potter, of New York. The



Superintendent is Chas. L. Hill, and the Manager, Herbert A. Ford.

### THE CRYSolITE S. M. CO.'S PROPERTY.

This is the largest area of valuable mining ground under the control of one management in the entire carbonate district, and within the last two months has developed unparalleled resources. Its present showing is surprising even in this camp of mineral wonders, and ranks second to none on famous Fryer Hill.

In bulk and grade of ores every foot of progress made by development work discloses increasing resources, and forces the conviction of unsurpassed yield in the future that shall rival any equal area of territory in the world's history of silver mining. The properties held by this company lie in one compact body on the lower part of Fryer Hill, just west of, and contiguous to, the Little Pittsburg property and the Little Chief mine. The separate claims and extent of ground embraced in this great consolidation are as follows:

Crysolite.....	6.80	acres.
Carboniferous.....	10.25	"
Little Eva.....	10.33	"
Kit Carson.....	4.03	"
All Right.....	6.20	"
Fair View.....	8.22	"
Pandora.....	4.75	"
Colorado Chief.....	1.40	"
Vulture.....	7.84	"
Muldoon.....	6.63	"
Eaton.....	0.02	"
Total.....	66.57	"

Under the original owners there were 3282 feet of drifts, to which have been added by the present company since October 17, under the personal supervision of W. S. Keyes, 1167 feet of drifts, besides 300 feet of shafts and winzes. Evidences of practical skill and thorough system are everywhere apparent in the management in this great property. The "Roberts" shaft, 13.2x5 feet, provided with three separate compartments, being two cage ways and one pump and ladder way, built in the most exact and permanent manner, demonstrates that economy, safety and rapidity will characterize the future operations of the com-

pany. A 70 h. p. engine, flat ropes, cages, guides, &c., have been ordered from San Francisco, and are en route for service in this shaft, which is now 117 feet deep. At 115 feet down a station is being prepared for the first level, which will "bottom," i. e., come in beneath all present workings, and when connections shall have been made, all hoisting will be done from this shaft at one-third less expense than now. Hoisting is now being done from eight different shafts, four with small engines, and four with whim horse power, at a cost of \$1.50 for each ton of ore or waste raised to the surface. The cost of mining, timbering, dead work and prospecting has heretofore been \$10.50 per ton of ore extracted, and the new system will reduce this cost twenty-five per cent.

It is conservatively estimated that for every dollar's worth of ore extracted from exploit drifts, three dollars more have been left standing in the reserves.

One block of mineral, 100x65 and 20 feet in height, will yield over 16,000 tons, which, at \$60, amounts to nearly \$1,000,000. In another opening a body of ore is exposed which is 45 feet in height. From the east and west drifts horn silver specimens have been obtained, ten sacks of which are worth ten dollars per pound, and ore from these points, as shipped, yielded 200 to 500 ounces per ton. In still another portion of the mine is an ore body computed worth \$500,000.

The ore extracted and settled for to December 1st, is as follows: Vulture, 839 tons and 1,705 pounds, brought \$110,309.63; other claims, 4,151 tons and 152 pounds, \$272,076.75; between 1st and 15th December, Vulture 107 tons and 1800 pounds, brought \$16,299.99; other claims, 811 tons and 1830 pounds, \$48,032.57; or a total of \$446,718.94.

Ores delivered and not settled for, are: Vulture, 134 tons, 425 pounds, worth \$17,944.21, and the other claims 1,005 tons, 485 pounds, worth \$64,838.62; giving a grand total of 7,050 tons, 397 pounds delivered, of average net value on Vulture ore of \$133.70, and other claims, \$64.50. If we take the ore not settled for at the above average values, a total yield is shown of \$529,501.77, and average net profit on the entire amount of \$75.10 per ton. Previous to the transfer of this property to the present management the

yield, according to figures furnished by John Borden, of Chicago, was, Vulture, 3,100 tons, 1,235 pounds, which yielded \$287,645.54; other claims, 9,705 tons, 1,753 pounds, worth \$777,213.16, or 12,806 tons and 988 pounds worth \$1,064,858.70. This, with the yield under the present management, gives a total product of 19,856 tons, 1,385 pounds; of a net value of \$1,594,360.47. To fully exploit this property, the main galleries on first and second levels will have to be driven 3,000 feet, and not over 250 feet apart, with cross-cuts not over 100 feet apart, and to do this will require not less than five years. If third and fourth levels and cross-cuts corresponding to the above, are driven, then double the time will be consumed.

Thus it appears that the exhaustion of the carbonate beds in certain localities at least, is not so easy of accomplishment as many have supposed.

The Crysolite Mining Company of New York have filed articles of incorporation with the Secretary of State at Denver. Capital stock, \$10,000,000; shares, 200,000, at \$50 each; existence of the company, fifty years; principal office, New York; place of operations, Lake county, Colorado; incorporators, Horace A. W. Tabor, Drake McKay, Henry C. Gardner; directors for the year, John P. Jones, Daniel S. Appleton, Ulysses S. Grant, Jr., Henry A. W. Post, Wm. Borden, Horace A. W. Tabor, Wm. S. Nichols, Leonidas M. Dawson, Edward B. Dorsey, Arthur Sewell and Charles A. Whittier.

#### LITTLE SLIVER CONSOLIDATED.

The reader should remember that it requires months to open even a carbonate mine, and years to thoroughly exploit and timber up a mineral body which is worked simply by the pick and shovel process. After this preliminary exploration it may require many years to extract the ore bodies thus presented to view. Though the limits of Fryer Hill are circumscribed still the ground has not yet been fully prospected, and we confidently predict that 1880 will reveal in the Little Sliver Consolidated property another massive showing of ore, the equal of any of the great mines of this famous locality.

The Little Sliver has been consolidated with that por-

tion of the Union Emma which crosses it, and also with the American. The Little Sliver and American are full claims, 300x1,500 each. These are parallel properties lying just to the east of the Robert E. Lee Mine and west of the well known Scooper and Chieftain properties. The title has been quieted by mutual agreement of all parties interested in the mines surrounding, and from the locality a rich bonanza is sure to result from the vigorous operations now in progress. The shaft of the Sliver is 220 feet deep, with fifteen feet of iron and carbonates at the bottom. Work had to be suspended on account of the great inflow of water, compelling the purchase of new and more powerful machinery. For this shaft a forty-horse power engine is being provided, and a new two-compartment shaft is being sunk as rapidly as money and men can accomplish it, to reach the unequalled bonanza vein, known to be pitching from the Robert E. Lee into the boundaries of this property. It is believed that this ore body will be reached at a depth of 250 feet from the surface of the ground.

The American has two shafts, respectively 60 and 120 feet deep, both being upon the same iron stained porphyry which characterizes this hill. At present, development work is confined to the Sliver portion of the claim, except that the Union Emma shaft is being pushed down to tap the mineral bed now being mined upon in the Dunkin Mine. This shaft is now 110 feet deep, and must penetrate the ore shute passing out from the working of the Dunkin. This property lies in the basin or low ground bounded by Fryer, Yankee and Breece Hills, and will undoubtedly disclose an immense body of valuable carbonates, drawn from each of these great mother deposits. The owners of this prospective bonanza are Hon. Henry R. Wolcott, Hon J. C. Wilson, Eddy & James, Sidney Webster, of New York and Butler & Wright, the well known Denver attorneys.

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#### ROBERT E. LEE.

Leadville silver mines, in bulk and richness of ore, have astonished the world; and the grade of all ores treated by our smelters for the past year is higher than ever before recorded of any single mine, even since the first dis-

covery of the precious metals. But now comes the Robert E. Lee mine to produce ore in mass of such fabulous richness as to amaze the average citizen of Leadville. Figures upon which settlements for ore in ton lots have been made, must be accepted as correct, no matter how sceptical the reader may be, and therefore the following from the books of Eddy & James are presented, showing the assay value of separate and distinct lots, which were paid for accordingly:

1,412 ounces per ton.	2,858 ounces per ton.
1,517 " " "	2,825 " " "
2,878 " " "	5,405 " " "
882 " " "	10,306 " " "
520 " " "	3,014 " " "
708 " " "	707 " " "
1,028 " " "	

These lots represented a value of one hundred thousand dollars delivered in ten days, but there were also lots of lower grade (none of them being under one hundred ounces to the ton) received during the same period, aggregating twenty-five thousand dollars, or a total of one hundred and twenty-five thousand dollars.

From the 21st day of August to the 30th day of September \$250,000 was taken in ore from this mine. From the 1st to the 15th of October \$125,000 was mined. On the 15th of November over \$100,000 in ore was at the mill and on the dump. All of this was taken from one shaft, with a whim, one bucket of water being drawn for every two of ore.

Developments have recently demonstrated that this rich ore is no occasional pocket but a regular and continuous upright crevice, standing similar to a fissure vein, except that instead of encasing wall rock it is upheld by a massive bed of carbonate ore of lower grades. This crevice is now exposed in four different workings, giving a total length of 115 feet. Its width is from a few inches to two feet, and its depth yet unexplored. This is a very remarkable feature in a carbonate mine and is regarded with great interest by every one permitted to gaze upon it. The ore is immensely rich, often being mined out in the purest form known, carrying 87 per cent. silver. The average of the ore is from 280 to 580 ounces, though choice lots ranging from 2,000 to 7,000 ounces have been termed "second class" for the simple reason that there is a class so very

much higher. This second class ore as a rule, is found immediately encasing the narrow high grade crevice above spoken of, and is often several feet wide, and permeated with chlorides, distinctly visible to the eye and easily crumbled in the hand. The iron is frequently flaked with chlorides giving assays of 2,000 ounces and upwards.

On the 3rd of January, six out of the seven owners inspected the mine and gazed in wonderment upon the astounding wealth of recent developments. Mr. Sigafus, one of the owners, and resident manager of the mine, offered his partners his check for \$10,000 to be permitted to work for one hour upon a certain spot in the floor of one level where the rich crevice was exposed, agreeing to work with a pick only, and within lines drawn about a four-foot square. Pennock & Roudebush offered \$200,000 for the privilege of working twenty men upon a shift for thirty-six hours, in a certain other named locality, and own the ore they could raise to the surface in that space of time. Both these offers were declined. In the old workings from the bottom of the discovery shaft 160 feet deep, are drifts extending north and south 170 feet, and east and west 120 feet, showing ore everywhere without any defined top or bottom.

In the new main working shaft, fifty feet away, ore ten feet thick was encountered, and a drift thirty feet long run back towards the old workings. A third shaft is also down to mineral, and a fourth, further north, abandoned on account of water. Such a thing as computing the value of ore in sight with any certainty is impossible, but shrewd experts place the figures all the way from five to ten million of dollars. The iron overlying the carbonate ore has a thickness varying from 15 to 50 feet, and as shown by one shaft, 100 feet thick. The ore proper, varies from six to twenty-six feet, and where there are three sets of timbers, the bottoms rest upon mineral. This deposit is wonderful from its yet undeveloped extent, and fabulous for its richness. The future may yet show that the past is only a mild index to this unrivalled treasure vault. The fortunate owners are L. D. Roudebush, Irvin Howbert, Jas. M. Sigafus, Homer Pennock, B. F. Crowell, J. F. Humphrey and Jas. Y. Marshall.

## THE LATEST RICH STRIKE.

For some time past there has been a rumor of a heavy deposit of mineral having been found to the north of the Chieftain, upon the high ground next to Big Evans gulch. A request for permission to visit the mine, or to obtain its name and exact locality, met with a courteous but firm refusal. But finally one of the owners yielded to entreaty, and a visit to the "Little Monitor," just to the south of the milk ranch on Big Evans, was agreed upon. Being lowered down the one hundred and twenty-five feet shaft, we were pleased to find the strike one of great future promise. Passing through a drift running south into the hill, a six-foot body of gray sand, very similar to the Morning Star, was encountered, which pitched sharply to the east, leaving beyond, a massive deposit of hard carbonates, closely resembling the Scooper, intermingled with iron, reminding one of the Robert E. Lee dump and mineral deposit. At this point we descended a winze twenty feet, through solid carbonates intermixed with iron, and again followed a drift sixty-five feet south-west to its breast, through mineral.

This completes the development at this point, although other shafts on adjoining claims, with drifts extending from them, have developed the presence of like bodies of mineral, which give to the "Little Monitor" and "Boulder Nest," consolidated property, the very best indication of becoming one of the leading properties of the district, surrounded as it is, by such well known mines as the Andy Johnson to the east, Bevis on the north, and the Chieftain; Scooper and Baltimore on the south and southwest, lying midway in a direct line between the Robert E. Lee and Highland Chief consolidation.

The extent of development shows an immense mineral body, and forms the connecting link between Fryer Hill and Breece Hill. The dump of the Robt. E. Lee and that of the Monitor are almost identical in appearance, and although the ore body is not yet one of remarkable richness, in bulk, yet assays have run as high as fifteen hundred and eighty-three ounces.

This discovery is one of very great importance to the entire community, as well as to the owners, as it brings into prominence and value another locality which heretofore

has been looked upon with more or less disfavor, but which will now stimulate prospecting and revive the courage of those inclined to abandon ground where the flow of water has been the chief obstacle to vigorous exploration. North of Big Evans gulch will most probably feel the impulse of this new strike, and valuable and extensive deposits will be opened up in that section, despite water and depth of wash.

The owners will push the work of development, and we confidently predict that ere many months this property will add very materially to the daily ore output of the camp. The property is owned by W. H. Wilson and C. S. Hurd, of New York.

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### SCOOPER.

**GRIT AND PERSEVERANCE RICHLY REWARDED—TWO YEARS OF TOIL UPON LOW GRADE ORE SUDDENLY EXPOSES A BONANZA—AN ASSAY OF 17,100 OUNCES IN SILVER TO THE TON—MILL RUNS 706 AND 1,706 OUNCES IN SILVER PER TON—CAPITALISTS LOSE A HANDSOME INVESTMENT BY FAILING TO DEPOSIT THE FORFEIT IN SEASON.**

THE presence of heavy masses of iron or low grade ore is, in this camp, a never failing index to the existence of mineral of high milling qualities. Notable instances of this occurrence are the Iron Mine, the New Discovery, Joe Bates, the mines of Breece Hill, the Belcher, and others too numerous to particularize. But the most prominent among them all is the Scooper, as will be observed by the following history of the mine and the extent of work performed thereon before rich mineral in bulk was reached.

Most of the mines specified above were contiguous to paying properties, and their owners were encouraged to prosecute the work of development under the almost certain prospect of ultimately striking the same rich mineral deposits. No such encouragement cheered the plucky original owners of the Scooper. Situated high upon the ridge dividing Fryer Hill from Carbonate Hill, where until very recently no mineral had been found, and its nearest neighbor, the Argentine group, being distant nearly a quarter of a mile, the Scooper was deemed of little account, and in



fact a well grounded prejudice existed in relation to it. The owners never relaxed their persevering work to unearth the riches they believed their ground to contain, except to accept a situation on some other mine to obtain money to prosecute the work of development.

Work upon this property was begun early in November of '77 and continued to the present time. Geo. Washburn and Peter Klinefelter, the locators, have grittily stuck to the Scooper amid all manner of discouraging obstacles, which, one after the other, were surmounted, until to-day they have a mine second to none in the production of high grade ore, with the flattering prospect of there being an abundance of it.

The discovery shaft, four hundred feet from the west end line, has been sunk to a depth of one hundred and forty feet. In sinking this shaft, iron was encountered at thirty-six feet from the surface, and found to be twenty-eight feet in thickness, averaging fifteen ounces in silver to the ton, and the highest assay ever had, reaching only seventy-two ounces. Such mineral at that time had no marketable value, and the Scooper at once attained the rank of a profitless property. After passing this iron, the owners sunk through fifty-six feet of lime down into quartzite, and twenty feet into it. Going back to the body of iron, two drifts were pushed forward into it for seventy-five feet, but the grade still remained as low as that developed by the shaft.

Number 2 shaft, near the north side line, and distant about one hundred and twenty-five feet, was next begun and pushed down sixty feet to iron, and a drift run in upon it one hundred and fifty feet. The ore here also proved generally of low grade, although occasionally very rich gold specimens were found, and assays of two ounces to the ton obtained, but not enough to pay for shipment in bulk. Foul air being the occasion of much delay and annoyance, number 3 shaft was sunk fifty-five feet to connect with the west drift to secure ventilation. In prosecuting this work, twenty-eight feet of low grade iron was passed through, showing the continuance of the iron seventy-five feet from the discovery shaft. The owners, far from being disheartened, began shaft number 4, which has been sunk to a depth of one hundred and fifty feet down to lime bed-rock. Here

at eighty feet from the surface the iron was found to be of much better grade, and some of the assays ran as high as two hundred and fifty ounces to the ton. This iron has a thickness of seventy feet, and the general average is of fair milling grade. Water began to flow in steadily at the bottom of number 4 shaft, and impeded the progress of work, and hence it was determined to start a drift in upon the iron at a point ninety feet from the surface. It will be noticed that during all this development very little ore had been extracted upon which cash could be realized to aid in paying the expenses incident thereto, but now much richer ore was being placed upon the dump, and when this drift had progressed sixty feet, ore running one hundred and fifty ounces demonstrated that the Scooper had finally struck pay in bulk, and accordingly certain parties began negotiations tending to a purchase of the property at one hundred and twenty-five thousand dollars, the condition being that twenty thousand dollars should be paid in as a forfeit. The owners were willing to sell at the above figure, but the transaction was not binding upon them, as many delays occurred and the forfeit money was not deposited according to agreement, and the would-be purchasers were notified that the sale was off. In the last fifteen feet the ore has increased in richness to a remarkable degree until it rivals that of the wonderful Robert E. Lee.

Assays from picked specimens have returned values as high as seventeen thousand one hundred ounces in silver to the ton, while a mill run of nearly six tons, delivered in two lots, yielded seven hundred and six ounces of silver and half an ounce in gold, and one thousand seven hundred and nine ounces in silver, six-tenths ounces in gold, and thirteen per cent. in lead. The owners, of course, feel jubilant over their final good fortune, and hearty congratulations from their numerous friends, who know of their plucky persistence in achieving success, are daily offered them, while the parties who did not buy when they had the opportunity, feel like kicking themselves.

This rich ore body has been but recently struck, and its extent, of course, unknown; but as the ore is pitching sharply to the east beneath the solid porphyry roof, and the full face and sides of the seven foot drift being in ore with an ore floor, there is every reason to believe that an exten-

sive deposit remains to be exploited, and that the mine is destined to rank among the largest and richest bonanzas of the camp.

The extent of the iron developed in all the different shafts and drifts, is evidence of an immense deposit, and the solid lime bed rock with underlying quartzite, showing the formation to be true and regular.

The Scooper was sold on the 16th of November to J. W. Bonta & Co. for \$250,000.

# BREECE HILL.

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## THE BREECE MINE.

THE PRESENT SHOWING AND BRILLIANT FUTURE PROSPECTS.  
—FLUX IRON IN MASS, THE SMELTER'S GREAT ECONOMIST.—A MOST PROMISING PROPERTY UNDER ENERGETIC AND LIBERAL MANAGEMENT.—THE LITTLE PRINCE AND NETTIE MORGAN MINES.

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THE past year has been so instructive in demonstrating facts before unsuspected, that a brief glance at the more prominent will be conned with interest by our readers.

Mining, in Colorado especially, was regarded with distrust and aversion as a species of desperate gambling; now it has attained the dignity of a legitimate profession, and what is altogether more remarkable, this conversion of sentiment has been brought about by the carbonate deposits of Leadville, which, but with rare exceptions, cannot be defined as mineral "in place." One or the other encasing wall is almost always wanting, and more frequently both are as yet undiscovered. The general rule of a contact vein is no longer an absolute requisite to the standing of a mine capable of constant production. "Mineral where you find it," without regard to surrounding formation, is accepted without surprise.

The question of permanence is no longer agitated, and the belief settled that our children's children will not witness the exhaustion of the carbonate deposits of Lake and contiguous counties

Beginning to prospect, regardless of the time honored prerequisite of "surface indications," the miner has learned the great lesson of perseverance, undaunted by any cross-grained formation he may encounter.

The steady rule holds true, that porphyry once struck should be followed through, and that iron is a safe index to

a carbonate deposit. A low grade of mineral, or a barren contact, is accepted as the sure precursor of paying ore in bulk.

The mining expert stands aghast at the prevalence of mineral in localities the wise books say are not mineral bearing.

The men who came in early days to investigate, and returned to their homes, filled with doubt and distrust, are now here making investments upon convictions diametrically opposed to the settled opinions of one year ago.

Localities, too, which six months ago were held in suspicion, have become the most sought after in the entire district.

South Evans and Breece Hill, though not alone, are prominent examples of this reaction. Five hundred tons of ore a day can be mined from properties which a few months ago went begging for development work at half interests, and which to-day can be readily cashed for hundreds of thousands of dollars.

The rapid advance in values, based upon the tangible records of mill receipts for ores delivered and sold have given stability and reputation to this camp which have effectually silenced the sneers and doubts so current at the beginning of the year.

### THE BREECE MINE.

No well posted citizen will deny the broad assertion that this is and has been the most valuable mine in the entire carbonate region.

True it is, that the yield in dollars to the different owners, has never been so great as in scores of other properties, yet its unsurpassed qualities as a flux material have enhanced the value of the ores of every mine in the camp by keeping down to the minimum the cost of and facilitating the smelting of such ores. As will be demonstrated in this article, the iron deposit is so massive and its extraction so inexpensive that a steady revenue can be derived therefrom for years, and yet its prospective value, based upon exploitation now being prosecuted, overshadows its present merits.

Many months ago the statement was made to us by

ex-Governor John L. Routt that Captain Breece, then the owner of the property, confidentially asserted that he had sunk through the iron and found a bed of carbonates beneath it; but that he had filled up the shaft because the profit in his iron was revenue enough for him and the carbonates could be held as reserves in case the demand for the iron proved so great as to exhaust the supply.

The present owners, aside from meeting the requirements of all our smelters of iron, have begun the work of prospecting for carbonates, and thus far their efforts are meeting with marked encouragement and the almost certain guarantee of ultimate success in unearthing the mother deposit of carbonates resting beneath the parent body of iron in all this broad mining region.

#### THE PROPERTY AND DEVELOPMENT.

The names of the original locations are merged into the generic term, "Breece Mine," embracing nearly forty acres in one compact body without adverse claimants.

The old system of mining was merely an open pit, quarried into the hill, into which the wagons were driven to receive the iron.

To a certain extent, and to keep pace with the increased demand for iron, this style of working is maintained, but at the same time systematic development is in progress, and all the modern appliances of steam hoisters, iron track, cars and cages being introduced as rapidly as the opening of ground will warrant.

There are now three pits from which supplies are drawn. No. 1, (the old pit), is two hundred feet across the breast which rises to a height of fifteen feet, with iron still beneath the grade, and reaching back to the entrance, one hundred feet, or the line of the surface of the hill. In this pit the incline, (18 degrees), has progressed thirty-five feet and is in solid iron, sides, floor and roof. It is the intention to run rectangular levels at intervals of each fifty feet of progress until the bottom of the deposit is reached and its extent determined. This will give miners dry underground work through the winter, and do away with open pit work. Levels will be run back under the incline to extract the iron now passed over, and deliver it to the incline further in for hoisting to the surface.

At each side of the mouth of the Incline, sidings are run upon the pit for extraction of iron to meet current demands.

To the left and near to this incline the prospecting shaft for carbonates is sunk.

This is a fine piece of work, being four by ten feet in the clear, solidly timbered and soon to be provided with cages. A depth of 175 feet has been attained. The first 16 feet were through iron, showing the deposit at this point to be thirty odd feet deep; then came 10 feet of quartzite and porphyry, mixed with iron; next two and a half feet of low grade carbonates, and the remainder upon mineral-stained porphyry. A fifteen-horse power Ames' stationary engine is on the road and will be placed in position here to hoist from the incline and shaft. There prevails a well-grounded belief that a heavy bed of carbonate ore will be cut beneath the porphyry and the boss contact of the country disclosed by this shaft.

If such proves to be the fact the discovery will electrify the camp. Seventy feet to the north in same pit is No. 2 incline on same grade. A whim is being erected to hoist out the cars.

Northeast is pit No. 2, 100 feet across the breast which is 15 to 25 feet high. At 50 feet in, a porphyry dike interposed across the face, seemingly the termination of iron in that direction, but it was only three to five feet in thickness and the iron back of it is the finest yet found.

No. 3 pit is further on to the northeast with a 50 foot breast, 15 feet high and not through to the bottom. All these pits are to have inclines similar to No. 1, to be constructed as rapidly as other work will permit.

Down the hill, 300 feet west from No. 1, are surface openings from which large quantities of excellent float iron are obtained.

The area of ground that is now opened, and producing is bounded by lines 575 feet long by 400 feet in width, with every indication of continuing to much greater limits. Within these lines, as is shown by specifying the dimensions, only gopher work has been done to yield thousands of tons of iron, and keep up the steady product of one hundred tons per day, and it can be readily seen that the iron bed is almost exhaustless.

Great credit is due the new owners for the liberal views entertained by them, and now being carried out under the able personal supervision of Prof. O. H. Harker, to thoroughly and systematically exploit this wonderful and valuable iron bed, and at the same time definitely determine the question of an underlying carbonate deposit. A new shaft similar to the one now in progress in pit No. 1, will be commenced under a one hundred foot contract. It will be located three hundred feet up the hill from the breast of No. 2 incline, and in a line with it. The incline will be pushed forward to intersect the shaft for ventilation and subsequent hoisting assistance from the engine to be erected at the mouth of the incline.

The Breece mine is located about three miles from the city, and the twelve to sixteen teams employed make two trips daily, hauling from three to three and a half tons of iron to the load. These teams load from nine different platforms and weigh their loads at the smelters' scales.

The company is making extensive surface improvements of a permanent character, and will soon have scales of their own in connection with the office. Some fifty men are employed, for whom sleeping apartments are provided separate from the boarding house, so that the night shifts can enjoy comfortable sleep during the hours of the day, free from noise and disturbance of the day shift.

The eyes of the entire camp are turned towards the search for carbonates now going on under the Breece Iron Mine.

That Breece Hill is destined to rival in richness and extent the famous Fryer and Carbonate hills is the confident belief and expectation of a majority of our best posted citizens.

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### LITTLE PRINCE.

Within the past month the Little Prince mine has created quite a stir in the camp. It is located north from the Breece Iron, and in a locality where no important discoveries had heretofore been made. The owners with great energy pushed on down their shaft, and at over two hundred feet struck upon a body of fine looking ore. Specimens have been taken out showing large pieces of native



gold, and the bulk of the ore assayed well, both in gold and silver. Seeing that a windlass would be powerless to further prosecute work, a large new shaft house and an engine have been put up. The shaft is two hundred and fifty feet deep, and has passed through seventeen feet of mineral. It is now in a body of Chinese talc, and the owners propose to still extend the workings on down and see what lies beneath.

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### NETTIE MORGAN.

Directly south from the Little Prince is the Nettie Morgan, which is also one of the promising mines on the hill. The shaft is 230 feet in depth, the entire distance having been sunk by the use of a windlass. A new whim has now been erected, a large new shaft house, twenty-two by forty-two by forty feet, built, and at present is being planked to render it more secure. A large body of mineral is found at the bottom of the shaft and in drifts, and both the shafts and drifts will be worked. The ore assays well in gold as well as silver.

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### COLORADO PRINCE GOLD MINE.

THE ONLY STAMP MILL IN LAKE COUNTY.—UNEARTHING THE FOUNTAIN HEADS OF OUR PLACER GOLD DEPOSITS.—SOUTH EVANS' CARBONATES RICH IN THE MORE PRECIOUS METAL.

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The future of Lake County is brilliant beyond all prognostication.

The carbonate excitement which has made Leadville a household word in the mouths of the people of all enlightened nations may yet be eclipsed by another in which gold ores shall predominate over silver. Gradually but surely the fountain heads from which the gold of our gulches were detached, are coming into plain view through accident, or rather by the thorough search so steadily maintained for carbonates. The mountains and foot-hills about Oro City offer a fine field for prospecting for the fissure veins which have contributed the millions of dollars in gold taken from

California Gulch since its discovery in 1859. For years the presence of carbonates was known to the pioneers, but only within the past two years has their richness been utilized.

To-day no systematic attempt has been made to find the true fissure quartz veins about Oro, from which every one believes the gold has come. But across the high ridges dividing California and Evans gulches several gold bearing veins have recently been found in the vicinity of heavy carbonate of lead deposits. The silver ores of this locality are also impregnated to a greater or less degree with the more precious metal, gold, which tends to strengthen the belief held by many, and fast becoming current, that the carbonates will yet give place to gold, and when their immense deposits are exhausted gold mining will continue. In one locality, at least, the vein, which carries gold, by its dip indicates that it will merge into or pass directly beneath the heavy carbonate deposit contiguous to it. The Ore of the Highland Chief and other mines of Brece Hill, as well as the Little Ella and other producers of carbonates proper on South Evans, are yielding from five to twenty-five dollars in gold to the ton, and in fact the "wash" of the entire district will, by careful panning, give a golden color.

Every indication points to the existence of deposits of gold ores in bulk all about us, and in several locations immense deposits are now being explored.

#### THE COLORADO PRINCE.

On the 4th of June this location was made, and upon the 27th of the same month it was bonded for the sum of \$35,000 until the 10th of September, and a forfeit of \$1,000 in cash paid upon the spot. The singular features of the transaction are, first, that both buyer and sellers believed the mine to be a carbonate deposit; second, that twenty feet of rich gold ore had been passed through without any one being aware of its value; and third, that a man could be found with nerve and judgment sufficient to meet the arbitrary price of \$35,000, and pay a cash forfeiture of \$1,000 upon a mere prospect hole. As to the first feature, it is only natural that a carbonate deposit should have been

expected, from the locality being adjacent to such mines as the Highland Chief, Highland Mary and the other noted carbonate mines of Brece Hill. The second feature illustrates the prolific nature of the soil surrounding Leadville, which disdains bearing anything save minerals and timber for mining purposes. Such mistakes have occurred before wherein ore has been tossed over the dump as worthless, and afterwards carefully sorted for mill treatment, when by accident or curiosity, an assay test revealed its intrinsic value.

As to the circumstances of a purchaser being willing to risk a thousand dollars for the privilege of working the mine for a stipulated time, conditioned upon the payment of what was by others considered an exorbitant price; we consider it only the act of a shrewd operator whose years of experience in other mining fields, and close observation in this camp in particular, led him to the conclusion that a fair showing of *mineral appearances* contiguous to massive mineral deposits was in reality worth the first sum paid, and that the time allowed in the bond, by being judiciously used, would demonstrate the feasibility of paying or not, the consideration remaining to complete the ownership and perfect title.

When the shaft upon the Colorado Prince was fifty feet deep, Mr. H. A. Richardson, of the firm of Richardson, Boynton & Co., New York City, made an examination, and observing a mineral-colored streak crossing the shaft, being an inch or so wide at one side and fifteen inches at the other, closed the bargain as above mentioned, paid \$1,000 and set a force of men at work to sink the shaft (as here expressed) down to mineral. At the depth of twenty feet further, Martin Sullivan, the foreman, in casually glancing at a piece of the rock, was surprised and delighted to find it plentifully sprinkled with free gold. The news was carried to S. G. Patrick, nephew of Mr. Richardson, and superintendent of the mines. Patrick thought the gold business was a hoax, but was soon convinced by examining samples of the ore as it came to the surface. After a few days, when the extent of the ore body was better developed, Mr. Patrick telegraphed his uncle that his carbonates were worthless, but that he had chanced upon a first-class gold mine. Mr. Richardson immediately returned to Leadville, and

with his customary energy, after a careful examination, negotiated, through Mr. Cory, agent of the Hendrie Brothers & Bolthoff, of Denver, a thirty-stamp mill, and engine and hoister for the shaft. The engine and hoister are in working order and the mill will be completed in January.

The vein is a contact between prophylite and quartzite; the gold is free and associated with malachite and azurite in the same parts of the mine.

The quartz is highly stained with iron, and the clay in the seams and fissures contains large quantities of free gold.

The shaft is one hundred and twenty feet deep and about two hundred feet of levels have been run. In sinking the shaft it struck upon the top of the ore chimney at thirty feet below the surface, and has continued to the bottom without showing any signs of weakening. At the bottom is a two foot streak of high grade ore with an interlying streak of eight inches which is unusually rich and well shotted with free gold. The crevice, so far as prospected, shows a width of forty feet with no regular walls in place. About four thousand tons of ore has accumulated at the mine awaiting the completion of the mill for treatment.

Thirty tons of this ore, delivered to the works of A. R. Meyer, sampled one hundred and five dollars per ton although a great deal of barren vein matter was mingled with it. Some tons of sorted ore, which means the throwing out of barren stuff only, milled seventeen and seven-tenths ounces in gold and fifteen ounces in silver. Assays from selected specimens showing free gold have been made to as high as one hundred and thirty-seven thousand dollars per ton.

A miner, in examining the dump pile soon after the discovery of gold had been noised abroad, picked up a piece which he had assayed, and found it to run 82 ounces gold, 93 ounces silver, and 20 per cent. lead to the ton. Other assays have shown returns of almost fabulous richness. The mill building is located near the base of the hill, some hundred feet distant, and will contain the battery floor, crushing floor and ore floor. A tunnel 350 feet long will extend from the level of the ore floor into the mine, intersecting the shaft at a depth of 186 feet, and through this avenue all the product of the mine will be taken to the

mill, thus requiring the one handling of the ore until it reaches the stamps.

The machinery about the mine and mill is first-class in every respect, and this, the first stamp mill built in Lake County since the Carbonate excitement, will soon offer to The Bank of Leadville one of the largest and richest gold retorts in the State.

The Colorado Prince Gold and Silver Mining and Milling Company has a capital stock of \$2,000,000, divided into 200,000 shares of ten dollars each. The concern is to exist twenty years. The incorporators are Henry A. Richardson, Shepard G. Patrick, Alfred C. Barres, Henry T. Richardson, Robert W. Patterson, Charles B. McLaughlin and Dwight S. Richardson.

In connection with the extended notice given to this property, we are glad to note the fact that capitalists are beginning to listen to the appeal of the poor miner who has a prospect instead of always requiring a developed mine in making investments. The few hundred dollars invested by them as a "flyer" is often a god-send to the miner who has his all invested in the shaft he is sinking, while the capitalist would scarcely give a second thought to the amount if it proved a bad speculation.

These "flyers" in a great number of instances here have made men in moderate circumstances rich, and added largely to the income of wealthy men, and are therefore worthy of the attention, at least, of investors.

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### THE HIGHLAND CHIEF CONSOLIDATED MINING PROPERTY.

A CLAIM CONSIDERED WORTHLESS IN MARCH, PRODUCING ONE HUNDRED TONS OF RICH MILLING ORE IN SEPTEMBER OF THE SAME YEAR—A FEW FACTS FOR THOSE WHO IMAGINE THE CARBONATE DEPOSITS EASY OF EXHAUSTION.

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One year ago to-day the most conservative newspaper reports of massive carbonate deposits were read with unbelief. Ten and twenty feet in thickness for a horizontal mineral bed was scoffed at as a wild exaggeration, but now the

reporter can write of thirty and forty feet and find credulous readers. The indisputable fact of upwards of three millions of bullion product for 1878 dissipated the doubts of shrewd business men, and induced them to come to Leadville and examine the mines for themselves.

This elicited the oft repeated confession that the half of the truth had not been written concerning the wonderful masses of rich ore disclosed in scores of now famous mines. The result was the permanent settlement here of men who came half expecting to find the mines a fraud, and the up-building of a prosperous city of thirty-five thousand inhabitants. But far beyond this, the showing of our mines has forced the conviction that the production of carbonates will, for many years, continue as permanent as the agricultural yield of the soil of the great States of Ohio, Illinois and Iowa.

The contracted theories of mining experts, confining deposits to specified belts and favored localities, have also been exploded by the logic of pick and shovel enterprise, until no man is considered crazy whether he sinks upon the summit of a mountain or the bottom of the deepest gorge, or whether he works above or below timber line. The theory of iceberg action in scoring off mineral from one point and depositing it in another has been rendered as untenable as the thousand other scientific explanations which have done their utmost to check prospecting and covered their authors with confusion. Localities which have had to contend against such prejudiced opinions are to-day not only proving the total ignorance of the scientific expert, but also yielding to the hard-headed and stubborn miner the rich ores he sought for in defiance of all scientific logic. Notably among such instances are all the mines north and east of the Brece iron mine.

Six months ago the new strikes on the summit of Brece Hill and along Evans gulches were announced and treated with disdain by investors, because the ores, with but few exceptions, were of very low milling grade. But now costly roads have been constructed up the steep hill sides, and thousands of tons of mineral are delivered to our sampling and smelting works, and such localities and the contiguous country are eagerly sought after because of their actual or prospective value.

### THE HIGHLAND CHIEF CONSOLIDATED MINING PROPERTY.

Lying upon the northern slope and reaching up across the summit of Breece Hill, it embraces a solid tract of ground six hundred feet in width by twenty-five hundred feet in length. With the single exception of water supply the property is most eligibly located for thorough and economical exploration. Heavy timber covers a portion of the ground, and the steep sides of the hill to the north and east afford opportunity for ingress and egress from any angle of pitch which the ore bodies may have, by a system of tunnels from the surface to intersect the various levels as development progresses.

A wide wagon road of easy grade has been constructed around the northern slope of the hill, connecting with the Stray Horse road below the Breece iron mine. The four lodes embraced in the consolidated property are the Robert Burns, Gilderoy, Highland Chief and Highland Mary. The two first named mines end line together, or rather overlap their end lines, and make up the west half of the property, twenty-five hundred feet in length. The other two properties overlap and lie adjoining and parallel to the east.

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### THE HIGHLAND MARY.

The first discovery of mineral was made upon this claim by the discoverers, Milton Barndt, George Light and Daniel Ellis, better known as "Broken Nose Scotty." The shaft is sixty-five feet deep, upon a heavy body of iron and carbonates, into which a drift has penetrated, disclosing at the breast fifteen feet of high grade carbonates ready for extraction.

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### THE ROBERT BURNS.

The discoverers and original owners of this claim were Jed Bascom, Jno. E. Stearns, Ellis, Light and Brandt. This was the second find of mineral in this locality, struck at a depth of ninety feet from the surface. This shaft is now one hundred and fifteen feet deep, yielding fine flux iron

and carbonates. A second shaft, sunk on the south end of the claim, reached the contact at a depth of one hundred feet from the surface.

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### THE GILDEROY.

The original owners and discoverers were Tim. Foley, Hon. C. W. Tankersley, Judge W. R. Kennedy, C. G. Herlitz and C. F. Phillips. The contact was reached at one hundred and seventy-five feet deep. A heavy deposit of mineral was developed here also, being a mixture of iron and carbonates fully forty feet in thickness, from which hundred of tons have been milled to a handsome profit. An engine is to be placed over the shaft, but at present, owing to the expense of hoisting so great a distance, a connecting drift is being run from the Highland Chief level to tap this ore body at the bottom of the shaft.

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### THE HIGHLAND CHIEF.

The discoverers of this valuable mine were C. F. Phillips, Michael Chrisman and S. P. Milner. Iron was found at a depth of ninety feet, and the shaft pushed on down to a depth of one hundred and seventy feet. Here is disclosed one of the wonderfully heavy and rich deposits, which gives full significance to the term "bonanza." In all the workings the mineral ranges in thickness from ten feet up to forty feet, and its value from forty to six hundred dollars per ton. The gouging process of working pursued before the consolidation left the mine in a most dangerous condition, and it is singular that a disastrous cave did not occur. High drifts were run in upon the massive loose mineral, and the roofs poorly supported or left entirely devoid of timbering; but the new company having luckily secured the services of Fred. B. Beaudry, who has had years of experience in the mines of Canada, Lake Superior, California, Nevada and Colorado, a new system of work was at once begun, and to-day no mine in this camp can show so perfect and substantial timbering, and so securely fortified against any possible giving way of the supports for the overhanging ground. To understand the working of the mine, the



main shaft is taken as the initial point from which all drifts and tunnels radiate. The system in operation is to follow the trend of the mineral, and leave the ore standing in immense square blocks for reserves, while the output comes solely from the ore encountered in pushing forward the drifts and cross-cuts.

From the shaft a drift has been extended north forty feet and then turned at a right angle to the west for a distance of thirty-five feet, and another beginning at the shaft is pushed due west thirty feet, forming a block of mineral which has three sets of timbers in each drift, and room for a fourth set above, without exhausting the mineral body. These drifts therefore evidence a thickness of mineral thirty-two to forty feet, as the sets are seven feet high each in the clear, with caps from twelve to fifteen inches in thickness.

This showing is not complete from the fact that the floor upon which the first of the three sets rests is upon mineral of unexplored extent. Another room is blocked off from the west drift by a level running south from the shaft a distance of twenty-five feet and then west fifteen feet. The cross-cuts to complete these rooms have not been run, but will be made in a short time.

In this last mentioned west drift the floor and roof are both porphyry, with sixteen feet of mineral encased between. The fact that no lime rock has yet been encountered is indicative that further massive deposits of ore may be encountered beneath the porphyry floor as has been the experience in many other mines in this camp.

Beginning again from the shaft, an incline has been run to the east a distance of fifty feet on the top of a mineral body which has a dip down the hill at an angle of thirty-five degrees. The porphyry covering serves as a roof to this incline, and now at its breast the inclination has fallen to forty-five degrees. Iron has arrived at the mine for a track upon this incline to raise the ore to the bottom of the shaft for delivery to the surface by the shaft, or by the tunnel, which has been completed. This tunnel is two hundred and twenty-five feet in length, and reaches the surface on the level plateau, or bench, near the shaft of the Black Prince mine; from which point the wagon road above specified has been constructed. This tunnel is directly over the incline just mentioned, and it must be borne in mind

from previous statements that one or more tunnels can be run, according to the pitch of the ore, to deliver the same to the surface without using the shaft for its exit.

The officers of the consolidated company are, C. A. Manners, of Illinois, President; Jed. H. Bascom, of Denver, Vice President; Charles F. Phillips, of Wyoming, Secretary; First National Bank of Leadville, Treasurer. The directors are the above named officers together with Simon H. Foss, George W. Trimble (Cashier Miners' Exchange Bank), Tim Foley, W. P. Farrish and Hon. C. W. Tankersley, all of Colorado. The above named officers, Hon. Horace Steele, of Painesville, Ohio; D. P. Dyer, of St. Louis; Neals Larson, G. S. Light and Benj. C. Hensley, are the stockholders of the company. George C. Steele, son of Hon. Horace Steele, has been chosen clerk and book-keeper for the company. It is well known that a short time ago a fierce contest was waged by the respective owners of these properties for the possession of the same, but all personal and legal disputes have been amicably settled to the entire satisfaction of all parties concerned, who are now harmoniously working together to develop their valuable property. It is further worthy of remark that these various interests have cost their owners very small sums of money, and that the indications now point to profits so immense that few of them are willing to dispose of their interest at most tempting figures. An inspection of this property warrants the assertion that it is one of the future great deposits of the camp.

### THE UNCLE SAM.

This mine is located 1800 feet to the eastward of the main working shaft of the Highland Chief, and only 800 feet from the south end of that well known property. This mine had its first prospect work begun on the 7th day of March, 1879. In July, following, one of the owners sold his one-quarter interest for \$5,000, and this interest again, upon the 1st of August, brought \$15,000 in cash. The mine is now a cheap property at \$150,000.

#### DEVELOPMENT AND ORE BED.

The main shaft is 145 feet deep, with bottom upon iron stained lime sand. Iron was first encountered at 110 feet

from surface. A drift 123 feet down the shaft was run reaching the iron at nine feet in, and after progressing 14 feet through this iron opened up a fine body of sand carbonates. This deposit is as yet of unknown extent. A drift has been extended south upon it a distance of 36 feet. A winze has been sunk twenty feet deep upon the ore at a point 30 feet from the shaft, in the west drift, 15 feet off from the main shaft. From the bottom of this winze a south level, 24 feet long, has been run, and sides, bottom and top all in ore. This constitutes the development, and showing of ore. The indications, therefore, are most encouraging for the Uncle Sam proving to be one of the largest and best deposits on Breece Hill.

The bulk of ore now averages 30 ounces in silver, and forty per cent. lead, but as in all other mines here, may at any time begin to yield a much higher grade of mineral.

The owners are Colonel N. B. Lord, L. B. Ballou, J. G. Early, and Gage and Lay of the Grand Central Hotel of Denver.

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## THE VIRGINIUS MINE.

### NEED OF PROPER MINING LEGISLATION.

On the north slope of South Evans the Virginius and its companion claim, the Little Winnie, are being developed in excellent shape, and the accumulation of ore on the dumps indicate the prolific yield they are capable of maintaining.

The shaft of the Virginius is sixty feet deep, but mineral was first accounted at a point of twenty-eight feet below the surface by a drift which cut the ore deposit a few feet to the side of the shaft. This drift developed the dip of the ore, and accordingly at a point fifteen feet lower a second drift was run in, and from here has most of the ore product been mined. Drifts have been extended to the east and west, and the ore found to be continuous. A tunnel has just been started to intercept the east drift midway between the shafts of the Virginius and Little Winnie, and both mines are worked through it. Proceedings in law have temporarily interfered with the shipping of ore, and the dump shows over one hundred tons accumulated.

The Little Winnie has a shaft forty-six feet deep and

an aggregate of seventy feet of drifts, the ore deposit is from eight feet thick to an unknown extent as development has not yet determined that fact.

#### NEED OF LEGISLATION.

The ridge lying between South Evans and Big Evans gulches is comparatively new mining ground, yet we venture to say it discounts any space of equal area in America for prospective litigation. Of the thirty-three mining locations made thereon not one has clear surface ground. The map of this district, kindly shown us by Mr. Hawkins, is a curiosity worth seeing.

Some claimants have not a foot of ground left them not covered by the surveys of other parties. Other claims have from two to fifteen surveys crossing them from all points of the compass. We do not intend to give any opinion upon the merits or demerits of any claimant or any property, but it is safe to say that more adverse suits are recorded and to be recorded for possession of this ridge than were ever filed upon any hill in the world. The prospect shafts and drifts upon several of these claims show that the hill contains a valuable deposit of ore, yet it must prove rich and extensive to pay the lawyers for straightening out the rights of claimants. Many men must lose their work unless a compromise can be effected, which seems vain to expect when a glance is taken at the map mentioned. A rich company might buy out all conflicting titles, but it would have to be wealthy to do it, and still have a working capital left. The importance of proper legislation is clearly shown by the above exhibit. The rule of the camp and the interpretation of the law declare that when mineral is struck, the lucky man is entitled to make his survey regardless of the fact that the direction may be squarely over the shaft of another prospector who has failed to reach mineral, although the indications point to its proximity.

When mineral is struck in a new locality, miners flock in to make a location, and go to work; others do the same, and no respect is paid to any body's stakes, and the result is the piling up of surveys one over the other, and the deliberate building up of endless and expensive lawsuits.

If the law required the stakes of the original locator

to be respected so long as diligent development was prosecuted before the striking of mineral, miners would scatter out more, and a greater area of mining ground be developed. The puny excuse that capitalists would soon control the country, falls to the ground in view of the fact that any and every piece of mining ground is within the reach of capitalists if the price asked is paid. Who ever heard of a miner unwilling to sell his claim at his own figures for cash?

Legislation is needed this winter to prevent complications of this nature occurring in the score of outlying districts which will loom into prominence during the year 1880 and subsequent years. Not only litigation, but blood as well, must pay the penalty of this glaring defect in our mining laws.

# CARBONATE HILL.

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THE MORNING STAR AND WATERLOO CONSOLIDATION.—  
THE FINEST EXHIBITION OF MINERAL TO BE SEEN IN  
THE CAMP.—THE RESERVES SHOW OVER THREE MILL-  
ION DOLLARS IN SIGHT.

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Carbonate Hill has developed wonderful resources during the past year, and attracted the attention of the world by disclosing vast bodies of rich ore below and outside of what had been regarded as the limit of the carbonate belt adjacent to Leadville. The discoveries in the Pendery group have not only been of great value in themselves, but also, by dissipating "expert" theories, stimulating prospecting and forcing belief in the permanency of the carbonate deposits, have given an impetus to our mining interests and general business prosperity of incalculable value. The older properties have, without exception, proved richer by development, and established the fact that two to four hundred feet below the surface of the ground lie the heaviest masses of mineral, and consequently the shallow shafts in other localities that were abandoned, are now being determinedly sunk deeper with increased confidence. Mineral near the surface will hereafter be the exception rather than the rule when bulk and richness are considered.

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## THE MORNING STAR CONSOLIDATION.

This property has passed triumphantly through the fiery ordeal of nearly two years' conflict with "breaks," "faults," "slips" and "lean" ground into the smooth haven of an immense deposit of carbonate ore. The old workings were expensive and generally unsatisfactory, but the new system is exploiting the ground in a thorough manner,

and will in future years permit the exhaustion of reserves as rapidly as desired, and still continue to create reserves in advance of worked out ground.

The energy and perseverance of the owners in overcoming all the obstacles attendant upon the opening of this magnificent property it justly rewarded by its present profitable production, which will rapidly be increased until it will rank among the richest bonanzas of the Carbonate District.

The present working shaft is two hundred and fifty feet deep, and from its bottom a large incline reaches forward into the hill, a distance of two hundred and ninety feet. The first hundred feet of this incline has a declination of ten degrees, the remainder fourteen degrees, and it is possible that a still greater dip may be required. This incline is extended without regard to whether the ore in any particular locality is above or below it, but its general trend is accurately followed and determined by side drifts parallel to it, which are kept some distance in advance of the breast of the incline to decide its steady grade.

The plan of working is to deliver ore from all parts of the mine to shipping stations along the great thoroughfare. The ore deposit has its waves raising and pitching about, but the incline ploughs steadily through them, maintaining its course nearly due east, and from it, at a distance of one hundred feet from the shaft, a main south drift extends one hundred and thirty-five feet to within a short distance of the south side line of the property. From this drift three parallel drifts run to the east, upon the ore body, and cross-cuts connect them at intervals and also reach through to the main working incline, where the ore happens to be level with it. The ore wheeler chooses the easiest and most direct route through these drifts and cross-cuts to the nearest shipping station, and dumps the ore for delivery to the surface. When the ore dips below the incline, prospect drifts follow it to ascertain its exact course, locality and extent, and then from a point lower down upon the incline a level is run back to connect with them, and the ore brought to this new shipping station. The levels are not necessarily numerous, since the ore above can be delivered to them by shutes fifty or even a hundred feet in every direction. from the main south drift two drifts lead out to the west,

following the ore as it rises towards the surface (which it must do since the dip of the mineral is to the east and the north) and cross-cuts connect them. To the north of the incline two forty-foot drifts, one about fifty feet distant from the shaft, and the other just ahead of the breast of the incline, have been pushed forward into mineral, the latter being one of the cross-cuts from the prospect east drifts before spoken of as being kept in advance to determine the grade of the incline.

The mine is exploited forty-five feet in advance of the breast of the incline, or three hundred and thirty-five feet from the bottom of the shaft, making with the north and south drifts, a block of ground three hundred and thirty-five feet long by one hundred and seventy-five feet wide, that has been thoroughly prospected and found to contain a body of shipping ore from seven to twenty-five feet in thickness, with no barren ground intervening.

In the breast of this incline a body of black sand and chloride ore was encountered, upon the 20th of December last, which is unusually rich, milling as mined from 125 to 280 ounces of silver per ton, and 56 per cent, in lead.

We now ask our readers to believe the following statements, although they do certainly appear exaggerated, yet they can be verified by ocular demonstration through a visit to the mine.

Owing to the fact that very little timbering is required in any portion of the drifts, and the ore in most all of them extracted from the lime floor to the porphyry roof the showing of mineral is the largest *to be seen* in any equal area in the carbonate camp. The bulk of this ore is fine grained gray sand, easily pulverized by the pressure of the hand, yet so heavy in lead that the huge pillars stand solidly upright without supporting timbers, and the visitor walks through these galleries bounded by shipping ore on all sides, having a general height of not less than twelve feet and possibly fifteen feet. To estimate the value of the riches here in sight is the natural feeling of every beholder, and therefore we figure a little.

To be very conservative we will not take into account either the recent strike, above mentioned, or the ore intervening, but go back to a point 270 feet from the shaft and begin calculations.



Now, taking the full area, 270 by 175, with ore 12 feet high, and estimating 8 cubic feet to the ton of ore, although six would be nearer, we have standing in this part of the mine 70,875 tons of ore. A low value of this ore, by the thousand ton lot, is fifty dollars per ton, but assuming that as the standard price the 70,875 tons are worth \$3,543,750. But lest this is regarded as too enormous, we will shorten the length of the ground to 250 feet, and diminish the breadth to 135 feet and reduce the average height of ore to 10 feet, and still we have 42,187 tons of ore, which, at \$50 per ton, gives a value of \$2,109,350.

We very much doubt whether any one will feel like further reducing this estimate after viewing the mine as we did, but throwing off the odd thousand tons and computing it at 40,000, we find at the rate of 1,000 tons for monthly extraction, it will take forty months or over three years to exhaust the body of ore developed in this one property since May last, within the small area mentioned. When it is remembered that the breasts of ore in every direction are showing no signs of weakening, and that the remainder of the 502 feet by 1,305 feet is yet to be explored, a very faint idea of the prospective value of this property may be guessed at, and a very pronounced opinion may be had of the permanency of these carbonate deposits. For a time many people sneered at our mines and said they would soon be dug out and exhausted. Is it any wonder we style such mine owners millionaires, and speak of Leadville as the wonder of the world?

There are larger properties than this in the carbonate camp, and many of them, but yet, this is a comfortable little mine to own.

The cost of mining and milling this ore is about four dollars per ton, and the steady monthly output since May last \$50,000. No stoping has been done, nor will be required, to increase the yield to \$100,000 for January, 1880.

The Morning Star Mine has added many surface improvements of great convenience and comfort for winter operations. A commodious residence and office for Superintendent Watson, one hundred feet of ore sheds and two timber sheds eighteen by thirty feet have been built. The view of Leadville from the veranda is one of the finest to be obtained about the city. The greatest improvement,

however, is the water supply from the water company's main, which by its pressure is forced up the hill a distance of six hundred feet from the line of the main (a perpendicular rise of seventy feet) to the tank located about the center of the Morning Star claim. Here a Knowles' steam plunger pump forces it to the Morning Star engine, and onward to the Agassiz mine, a distance of thirteen hundred feet and a rise of one hundred feet. The tank holds four hundred barrels of water, and the pump is operated by steam carried from the boiler of the hoisting works on the Morning Star mine, three hundred and ten feet further up the hill. All the piping is sunk six feet below the surface to guard against the freezing weather of winter. This permanent improvement cost fifteen hundred dollars, but it makes the price of water supply nominal.

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### THE EVENING STAR.

THE EVENING STAR A STAR OF THE FIRST MAGNITUDE.—  
THE BEGINNING OF WHAT PROMISES TO BE A GREAT  
PROPERTY.

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Less than one year ago this property was generally regarded as one of those prospects of little or no value, because the sinking of a shaft one hundred and fifteen feet and a diminutive drift from its bottom, had exposed only a foot or so of mineral, of no satisfactory milling merit. But its location upon the direct trend of the Carbonate, Crescent and Morning Star deposits convinced Wm. S. Ward, the present superintendent and part owner, that persistent development would surely unearth the same body of ore mined out from those contiguous properties. He accordingly associated with himself a party of New York capitalists, and work was resumed with confidence and vigor. The underground showing of the mine to-day, as well as its paying output, is due to the sagacity and efficiency of the superintendent and his able foreman, Colonel Purley Dodge.

The claim is fifteen hundred feet in length, by one hundred and sixty feet in width, and is prospected by five shafts which will be noticed in detail.

No. 1 shaft is down to the contact but is not being worked.

No. 2 shaft, at present the main working shaft, is one hundred and seventy-five feet deep, and from it, development has progressed as follows: At a point one hundred and fifteen feet from the surface a main incline extends east into the hill seventy feet, and from it four levels are run to the north and one to the south, all being in mineral ranging from two to twenty-five feet in height, with a general average of fifteen feet or two sets of timbers. The timbering here is very exact, workmanlike and substantial, and is a noticeable feature of the mine.

At one hundred and thirty-five feet from the surface another main level is extended to the north thirty-five feet, and from its base and breast two drifts run to the east a length of thirty-five feet each. Connection between these drifts permits the ore above to be delivered by shutes to the main level and through it to the shaft for hoisting to the surface.

The full thickness of the deposit here has not been determined, as the floor of the drifts are upon iron with carbonates beneath it, as shown by the forty-foot sump to the bottom of the shaft. The dump shows the same character of ore as that of the Morning Star mine, excepting that the per cent. of lead is not so great, the average being from thirty to forty per cent. of lead and fifty to sixty ounces in silver.

No. 2 shaft, on a line with the working shaft of the Morning Star, is one hundred and forty feet deep in porphyry. The fine body of ore shown by the south drift from the Morning Star (the breast of which is near the Evening Star north side line), is conclusive evidence that this shaft will cut it at a depth of about three hundred feet from the surface.

No. 2 shaft, at the western limit of the property, is fifty feet deep and idle.

No. 5 shaft is being sunk rapidly by two shifts to intersect the mineral body exploited by the Forsaken, and a depth of seventy-five feet is sure to accomplish this, as the breast of the drift of the Forsaken is only about ten feet distant from the side line of the Evening Star, and its No. 5 shaft very close to the dividing line of the two claims.

With these statements it is easy to understand the brilliant future of this mine, for it is almost certain that the ore

deposit beginning at No. 5 shaft extends to No. 2 shaft, a distance of three hundred and fifty feet, and from it to No. 3 shaft, a distance of four hundred feet, or a total length of seven hundred and fifty feet of ground in which mineral may be confidently expected to continue. The fact that the ore shute from the Morning Star pitches toward the Evening Star without showing in its breasts any evidences of pinching, is further indication that its width will correspond to its length, and if so, further development will prove this to be one of the strongest and largest deposits held by any equal area of mineral ground in the camp. Vigorous work is the intention of the owners, and so soon as No. 2 shaft is through porphyry into ore, drifts will be run to connect with the Morning Star levels, and also driven back to intersect those from No. 2 shaft, and also forward from No. 2 to connect with the old workings of the Morning Star property.

These connections will be of great value to both these mines, as they will afford a free and enlarged system of ventilation, making the air as pure as upon the surface of the ground. It is also intended to run a connecting drift between No. 2, No. 4 and No. 5 shafts. The surface improvements upon the Evening Star are upon a liberal scale. There is a fine house over No. 2 shaft in which is a twelve-horse power Dederick engine and upright boiler, furnished by Wm. J. Kinsey of Denver. Another of these hoisters will soon replace the whim now used in No. 3 shaft. Another large ore house encloses No. 3 shaft, and five neat cottages for the comfortable lodgment of the miners, have been erected upon the property. The largest accumulation of mining timbers and lagging in the camp are here to be seen piled up for future use. The company have their ground patented and no trouble or litigation is possible with contiguous properties. The stock of this company is owned principally in New York by parties who wisely intend to hold the same.

The carbonate deposits have reversed many of the truisms attaching to the mining operations of the early days of Colorado. A few of these we recall to the memory of old timers. The first year gave fortunes to the few and bankruptcy to the many. The second year depression followed and the bubble burst, or at best, was in great danger

of so doing. The third year witnessed ruin and decay until subsequent revival laid the solid foundations of permanent prosperity. The history of most camps for the first few years, showed the record of ten dollars spent in finding the one extracted from the ground. There were exceptional camps and exceptional individual experiences, but the general rule held good in lode mining as well as in "patch" and placer diggings.

The truth of these assertions had obtained such permanent foothold in the minds of our citizens and permeated eastern communities through the sayings of the many who had been swindled by the extravagancies of imported mining superintendents as well as the wildcat properties upon which large sums of money had been lavished, that a deep-rooted prejudice met the "stranger" carbonate, and men refused to believe and wisely shook their heads as they prophesied failure.

The first year of real work showed a product of three millions of dollars, and the astonishing record of investment money refunded and millions left for clear profit. Prejudice to-day has almost entirely ceased, and for the first time in Colorado's history, mining has attained the rank of a legitimate business, and capital, stripped of its proverbial timidity, is confidently grasping the small as well as great properties of the district. Even the permanency of the deposits is not questioned, and the carbonate camp again steps to the front with the unheard-of record of capital in abundance for the thorough development of each and every mine of promise within her limits.

#### HOW OUR MINES ARE WORKED.

It is still a puzzling problem to persons who have never inspected the carbonate deposits to solve the true meaning and understand the statement so often made that "the output of our mines is resultant from prospect work" only.

Even at the risk of being considered, by our home readers, guilty of imparting A B C information, we will state that our mineral deposits are of unusual thickness and continuance; that prospect drifts run into them yield nothing but ore, and if these are made to the height of the roof from the floor of the mine and extend one or more hundred feet, they approximate closely what, in fissure veins, would

be considered extensive stopes, to be worked out with a great flourish and boast. But our mines differ greatly from fissure veins, for the reason that the sides of this worked-out ground are not barren walls, but massive ones of mineral, the extraction of which is possible at minimum cost, while depth in fissure veins is attended with increased cost and less rapid production. The cross-cuts from these drifts and their connections form pillars of mineral with four sides exposed to view, which can be stripped for ascertaining average assay value, and by measurement and computation the number of tons accurately arrived at. This is appropriately termed "ore in sight," or so many thousand dollars' worth of ore "standing in the mine."

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#### LEADVILLE MINING COMPANY.

The Leadville Mining Company was incorporated January, 1879, in New York, with a capital of \$2,000,000. Shares are \$10 each, and now selling in New York at \$4.55. Andrew W. Gill is President, J. S. Lockwood, Secretary, and Theo. F. Van Wagenen, Manager. The company took possession January 15th; since that date the mine, formerly known as the Carbonate, has been opened by four inclines running down on the vein, and which were respectively at the end of the year 150, 150, 220 and 530 feet deep. From these about 4,500 feet of levels have been driven and connected with each other by over 2,000 feet of drifts and winzes. The inclines which have a slope or dip eastward of 21 degrees are laid with 12 pound rail, the gauge being 3½ feet, and on these run double step carriages, raised and lowered by steel rope. From the inclines levels branch out every sixty feet, north and south, and laid with 8 pound T rails. The mine cars travel from the levels on to the carriage in the incline and, at the top, are run off on one side while empty cars are switched on from the other side and again sent down.

The mine is provided with large and commodious buildings, including engine and boiler house, 34x46 feet, timber house, 34x46 feet, incline house, 32x58 feet, ore house, 35x70 feet, office and residence of manager, 25x60 feet, and a number of others. The hoisting machinery con-

sists of a 40 horse power engine, connected by belting with a long counter shaft on which are three sets of V friction pinion wheels which operate three spools four feet in diameter, on which the steel wire rope is wound. Each spool is attended by a brakeman, who, by telephones, can communicate with each level in the mine, and with the manager's private office.

In the ore house are accommodations for crushing, sampling and sacking 150 tons of ore per day.

The mine has yielded about \$320,000 during the 11½ months ending Dec. 31st, 1879, at a cost of \$128,000, leaving a net profit of \$192,000. The following abstract from the annual report of the manager gives the cost in items of producing a ton of ore:

For breaking down.....	\$18.99 per ton.
“ handling.....	1.63
“ powder, fuse, &c.....	.94
“ candles and lights.....	.47
“ timbering.....	1.35
“ hoisting.....	1.08
“ repair of tools.....	.66
“ general expense.....	.33
“ office and management.....	3.17
“ hauling.....	.97
“ assaying.....	.14
“ sampling.....	1.72
Total.....	<u>\$31.45 per ton.</u>

# BELOW THE CONTACT.

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## PENDERY, FORSAKEN, AND OTHER MINES.

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FOR many months the theory of mining experts, that no mineral could exist below the outcropping contact on Carbonate hill, on the line of such well known properties as the Carbonate, Crescent, Morning Star and other mines, was accepted by the masses of the community as logically correct. But the discovery of mineral in the Pendery lode, at a depth of one hundred and eighty-eight feet, upset completely that theory, and stimulated prospecting along the base of the hill in every direction, and other beds of mineral were discovered much nearer the surface. The expert quickly recovered from his confusion and accounted plausibly for its existence by being broken off in some grand upheaval and subsequent slipping down to its present position; others claimed it to be a second contact distinct from the first, and continuing *ad infinitum* beneath it. With the theory part of the business we have nothing to do at the present time, and shall therefore merely give an outline of the situation and production of some of the mines below what has been accepted as the lowest of the several mineral belts running through the high foot-hills to the east of the city. Miners now are content to accept mineral just as they find it above, below or between any locality or any species of surroundings.

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### THE FORSAKEN.

This property lies to the west of the Morning Star mine, and is owned by Hatch, Kamak & Co. The claim is only a fraction, 100 feet wide by 200 feet in length. This location was made subsequent to the discovery of the Pendery deposit, and, strange to relate, mineral was found within



three feet of the surface of the ground. The shaft is sunk on the north end line, midway between the side lines, and is 65 feet deep. In attaining this depth, an ore streak 17 feet from the surface, was encountered, which assayed sixty ounces in silver and sixty-two per cent. in lead. This streak was two feet wide, but its general grade was too low to mill to a profit. Twenty feet lower another two-foot deposit of mineral was reached, and one load sorted out milled sixty ounces, but this also failed to maintain a milling average. Pushing on down fifteen feet further, a richer grade of carbonates one foot in width was reached.

The mine has been shipping ore and paying a profit ever since that time, and the shafts and drifts throughout the property have been kept well and substantially timbered. In the month of November 534½ tons of ore were shipped. In October 375 tons; in September 550 tons, and up to the first of September about 200 tons. At present the output of the mine is about thirty tons daily, and even this amount it is expected will be increased. The ore is not of very high grade, running about fifty ounces, although some has been taken out that brought at the smelters upwards of two hundred dollars to the ton. A new shaft is being opened which, when completed, will give increased facilities for mining. The shafts have been worked by whim and windlass, but from the lower shaft connection is being made with the engine on the Buckeye Belle mine, which adjoins the property. The mine is very favorably located for working, being on the north side of Carbonate Hill, but a short distance from the Stray Horse road.

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### BUCKEYE BELLE.

Although adjoining the Forsaken, and with a shaft but a short distance from the north shaft of that mine, the same body of mineral does not yet seem to be found. On the claim are three shafts, one 160 feet deep, and the other two 100 feet deep each. The main shaft is being vigorously pushed downward. Some 150 feet of drifting has been done on a vein of mineral cut, and although of good quality, the ore is not yet found in sufficient quantity to pay. The owners of the claim are Hatch, Dunbar, Kamak, Trankle

and Butler, Kreigbaum, J. Marechal, W. P. Moore, Mrs. Gibson, and J. L. Holden. There is a large shaft house and engine over the main shaft.

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#### NILES.

Five sixths of the Niles mine, also adjoining the Forsaken, were recently sold by Daniel Sayer, Charles I. Thomson and others, to Mr. E. C. Simmons, of St. Louis, for \$75,000. Mr. Simmons previously owned one-twelfth, and Mr. J. L. Holden owns the other twelfth. The property has been largely productive and the shafts are in fine bodies of mineral. Preparations are now being made to work the mine extensively. A large new shaft house is to be built at once, the lumber being already on the ground, and part of the framing completed. A large new engine has also been ordered for the claim. The ore from the mine is of good grade, much of it running over a hundred ounces to the ton.

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#### THE DILLON.

The shaft is 220 feet deep and scarcely any progress has been made of late. This is owing to the fact that the sides of the shaft have been caving in so as to be difficult and dangerous to work. A regular system of timbering will be necessary before further work can be prosecuted on this shaft. From the softness of the rock encountered in the last few feet of sinking, it is generally considered by miners that the body of ore such as is found in the adjoining properties is near. In fact much of the dump pile contains specimens streaked with iron and carbonates that give assays as high as twenty ounces of silver. The work is really about suspended on the shaft, awaiting a meeting of the owners to determine on future action, although the engine is running, and the water is kept pumped out of the shaft. In the meantime work has been commenced on the other shaft located higher up the hill to the east, which is now 160 feet deep.

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#### THE PENDERY MINE.

The month of June, 1879, was prolific in new strikes, among the most notable of which are the Highland Mary, Highland Chief, Lowland Chief, Black Prince, White Prince,

Miner Boy, Great Hopes, Pendery, Iszard, and a number of others which are not now remembered.

The Pendery, however, created the greatest excitement ever witnessed in Leadville, because it was below what was called the lower contact.

Above on the hill are the Yankee Doodle, Carbonate, Crescent, Evening Star, Catalpa, Morning Star, Henrietta, Shamrock, and Little Giant. All of these mines are down to paying carbonates and producing largely. These are all side by side around the brow of Carbonate hill, and all acknowledged to be on the same contact vein.

Now comes the Pendery 150 feet lower down on the hill, and after there sinking 190 feet one of the strongest and richest beds of carbonates ever exposed is found. This proved to be a strong vein  $3\frac{1}{2}$  to 10 feet in thickness pitching down into the hill, which would make it reach, when beneath the mine above, at least one thousand feet under the ground. Thus it will be seen by even those unacquainted with our surroundings how important has been this last discovery. The mine is situated but about one-third way up Carbonate Hill, nearly on a line of Chestnut street, and but a short distance from the city limits. No better location could possibly be found for a mine. Over a good road, it is but a ten minutes' drive for an ore wagon to reach any of the smelters in town.

The shaft struck pay mineral at a depth of 185 feet, and cut through an ore vein of from three and a half to four feet. Development has continued rapidly and systematically, fine buildings and machinery erected, and the mine has been, and is, one of the steady producers of the camp.

Judge Pendery, Gruber, and other owners are among the number of our citizens who have risen from comparative poverty to wealth during the past year.

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### MINES ON BIG EVANS.

With the exception of the Homestake mine, the first lode claims discovered and worked in this county were upon the head of Big Evans.

Through all the years of the placer excitement in the California and adjoining gulches, lode claims were prospect-

ed for, and staked out after the final "clean up" had been made for the season. These placer miners had very little to encourage them to develop a lode claim, especially if it carried silver, because of the great expense necessary to market such ores, and therefore they contented themselves with merely doing the slight annual work necessary, under the law and the camp ruling, to hold good their title to such properties. They believed that the day would come when such lodes would be of value, but the greatest enthusiast among them never dreamed of the grand rush and marvelous doings of the present day. The carbonate excitement has confined development to the ground bounded by Empire and Evans gulches, but now these limits are being overstepped, and the old leads so long held in slight estimation are beginning to be worked and will undoubtedly be found to be of greater extent and value than the owners ever hoped for.

On the north side of the gulch, just east of the first swing in the Mosquito toll road, is the Daisy lode, in which a four foot deposit of vein material, carrying some fine looking galena, has been exposed. The hill being precipitous the whole formation of the ground is laid bare by the action of the elements in scoring off all loose soil and rocks, leaving the solid vein ready for the prospecting pick. An open cut has been run in upon the vein a distance of twenty-five feet and the showing is very encouraging to the owners, John McCannon and Robert Berry. Immediately above, is the Ethel Lode which crops to the surface for a distance of forty feet and the rock contains considerable galena from the very start. A twelve foot shaft has been sunk and an open cut, in only ten feet, develops a six foot strata with eighteen inches of fine looking galena.

Above this again is the Elk lode which has been worked considerably in the last two years. The iron is fourteen feet thick, and is found in four out of the five cuts made upon the ledge. H. A. W. Tabor is an owner of one-quarter of this lode.

These properties are contact veins piled one above the other, showing a solid porphyry hanging wall and lime foot walls, and a sharp inclination into the hill. They are upon the Dyer belt which is easily traceable the entire distance by the surface croppings.

Development will certainly demonstrate that this part of the Mosquito range contains large and valuable leads of mineral.

The Ida Taylor, the extension of the Elk to the south, is owned by Oldham, Taylor & Co., who have run a tunnel eighty feet into the hill to intersect the vein prospected above, and found to dip sharply into the mountain. The tunnel was projected through the lime bed rock, and although still some distance from the supposed line of the vein, considerable galena is being found in the roof and breast, and it is thought a fine body of ore is close at hand.

The Best Friend, south from the Ida Taylor, has been irregularly worked for some time, and a year ago milled some ore which showed a value ranging between one hundred and sixty and four hundred and fifty ounces to the ton.

The owners, Lee and Doyle, have a shaft sixty-five feet deep, in which the water-flow was very troublesome, which forced them to run a tunnel for drainage. This tunnel is now in two hundred and eighty feet, and has twenty-eight feet yet to go to tap the shaft. Some very fine large specimens of ruby silver have been extracted from this mine.

The Eliza lode, to the north, is owned by Wm. R. Macomb, O. F. McCannon and Jim Carlile. A shaft was sunk thirty-five feet, but water impeded sinking, and a tunnel, now seventy feet long, is in progress to cut the vein at a depth of one hundred and fifty feet below the surface. This is a very promising prospect, and one-third interest was recently purchased by Jim Carlile, who has furnished the money and material for a vigorous work during the winter months.

Goodell and McGinnis own four claims called the New York, Chicago, Illinois and Granite. The shaft on the New York is down eighty feet to mineral, which samples about one hundred ounces. The Chicago claim yielded mineral at the grass-roots which assayed sixty-four ounces; later, the grade has risen to one hundred and fifty ounces.

Water has given much trouble, and the thirty-five foot shaft is filled with water to within ten feet of the surface. The other claims have very little work done upon them, but it is understood that the owners will soon renew operations and thoroughly exploit their property.

Two claims near by have extracted a little mineral

which runs from eighty-six up to one hundred and thirty ounces in silver. One has a shaft sixteen feet deep and a tunnel eighty feet long, and the other a tunnel forty-five feet long and an open cut in thirty feet.

The Little Willie, owned by Tabor, Rische and Lee, is prospected by a forty-five foot tunnel. This claim crops out from an abrupt bluff, into which a trail had to be blasted before operations could be begun. Some time ago a small lot of ore returned seven hundred ounces to the ton at the old Malta Smelting Works. Considerable gray copper is found in the ore, which permits the obtaining of very high assays. Assessment work only has been done each year since the carbonate excitement begun. The ground in the vicinity has all been located, and energetic work will, in the near future, result in the development of a number of bonanzas on Big Evans.

It is gratifying to know that mineral of milling grade, and in quantity, has at last been found on the north side of Big Evans gulch. This will act as a healthful stimulant to all the owners of prospect holes for miles along the ridge this side, and add this large area to the producing district of the camp.

#### ORE OUTPUT.

The ore output has been steady, but not so great in amount as many persons have been led to believe. The mines have never been taxed to their fullest capacity, because the reserves have been left for future working. The general yield of the camp can therefore be ascribed to development product only. Dead work and permanent improvements have greatly influenced the amount of ore delivered to the surface from every property. From these and other causes, work on many properties, so far as concerns the production of ore, has at various times during the past year entirely ceased. Here lies the error of many writers and newspaper reporters in estimating the daily yield of the carbonate mines. Recognizing this mistake upon the part of others, we have closely examined the records of *first hand* ore buyers to arrive at the daily ore yield, and find that seven hundred tons have been the heaviest receipts recorded in one day. Some smelters buy their entire supplies second hand from the sampling estab-

ishments, and to consider their purchases in a daily estimate would be a twice counting of ore.

The greatest difficulty experienced in estimating the daily yield as given by mine owners, is that it is generally guess work, and by no means conservative. If the mine yielded 40 tons the week before, that is given as the present capacity, although retimbering and the changing of the grade of levels as well as other requirements, may of necessity result in an almost total cessation of product. Thus it has frequently happened that a mine has been reported as yielding ten to one hundred tons per day, when not a pound of ore was raised to the surface. The actual and possible daily output are two very different things in mining. The iron mine of Stevens & Leiter, for instance, is more extensively opened than any like area of ground in the camp, and yet has for the year a lighter total output than many properties which became producers during the year. It has not been the policy of the owners of this mine to force production. The Highland Chief Consolidation can run out 100 tons of ore per day, but frequently all output has ceased. The Robt. E. Lee and numerous other mines have raised only such ore as the progress of drifts rendered absolutely necessary. Properties upon which sales were pending have been closed down entirely with no publicity given to such fact, and hence persons making estimates have innocently made false returns, and swelled the daily output beyond the actual receipts of ore as delivered to buyers.

#### THE MINES.

So numerous are the mines, and for causes above stated so irregular their output, that a detailed mention of all is impracticable in a small work like this, but enough have been noticed to give the reader a complete understanding of all. If the mines were worked with regularity under contract to deliver daily a given amount of ore, there would be no difficulty in making the output 1250 tons each twenty-four hours. To go beyond this limit, and maintain it steadily, would require, simply, improved mechanical appliances and an occasional resort to the stopes while new ground was being placed in systematized shape.

The mines of Empire and Iowa gulches, and those

about Oro, as well as upon Iron Hill, and numerous others on all hills, have been omitted because of the desire to avoid a bulky volume, and give space for the particular mention of the public improvements and private business interests of Leadville.

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### ARGENTINE SILVER MINING COMPANY.

The Argentine Silver Mining Company, of which Mr. Edwin Harrison of St. Louis, is President, owns five locations on Stray Horse, extending on both sides of the gulch. The claims are the Young America, Keystone, Charleston, Camp Bird and Pine, and constitute the original location of the Gallagher Brothers, and known as the Gallagher mine. It is one of the original locations of the carbonate camp and attracted attention toward Leadville before Fryer Hill was found to contain mineral. A shaft has been sunk on each one of the claims, although the most important workings of the mines are through a tunnel starting in Stray Horse gulch on the Young America claim and running toward the south. This tunnel is nearly a thousand feet in length, the largest by far in the camp of Leadville, and is thoroughly and substantially timbered throughout. A large main working shaft, four and a half by nine feet in size, with two compartments, is also being sunk on the south end of the Camp Bird claim. From the workings of the tunnel and a few prospecting drifts extending therefrom, from ten to 15 tons of ore are mined daily. The ore does not average high in silver, but is rich in lead, and also carries a small quantity of gold. The mineral is smelted at the Harrison Reduction Works in this city. Mr. G. A. Hines is superintendent, and also has charge of the Harrison works. At the mines J. A. Conroy is in charge.

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### ADLAIDE.

The Adelaide Mining Company's property consists of the Adelaide and Terrible claims, both located on the south side of Stray Horse gulch. The company has been steadily producing a small quantity of ore, but the main object lately has been to sink two large main shafts, one upon the Adelaide and the other on the Terrible, each 160



feet deep, have been sunk to the mineral level, and a drift is now being driven from each end to connect. As soon as this connection has been made side drifts will be run, and the mine will be capable of producing a large amount of ore. Mr. A. D. Foote is the resident superintendent of the property, and James Miller the superintendent on the mines. The present daily output of the mine is about ten tons, the average assay of which is about fifty ounces of silver to the ton.

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### FLAG STAFF COMPANY.

This is one of the latest companies organized in the carbonate camp, and from the location of the mine one of bright promise. The company comprises the following well known gentlemen: Gen'l A. J. Sampson, ex-Attorney General of the State, Adin Alexander, Sam. B. Morgan and Sydenham Mills, of Denver, and Hon. M. N. Megrue of Canon City. The Wells, Fargo & Co., Express Company are also interested and are recognized as the most important and strongest backers to a mining enterprise in the United States. The Flag Staff mine is located on Stray Horse gulch, adjoining the Adlaide, and from present indications must soon develop a paying body of carbonate ore. The money for immediate and thorough work has been deposited and a few weeks more will rank the Flag Staff the equal of the valuable producers in its near vicinity.

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Explorations in the Robert E. Lee mine continue to show more extensive deposits of ore equal in richness to the best grades yet mined. A disinterested and experienced miner estimates that the recent discoveries have added another three millions of dollars to the valuation of this wonderful property, which, without doubt, is the richest single silver mine of the world.

## ORE AND BULLION.

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LEADVILLE'S GRAND RECORD FOR 1879.—ELEVEN AND ONE-HALF MILLIONS OF DOLLARS ADDED TO THE WEALTH OF THE WORLD.—STATISTICS REGARDING ALL THE SMELTING AND ORE BUYING ESTABLISHMENTS OF THE CAMP.—A WONDERFUL YIELD RESULTANT FROM DEVELOPMENT WORK, WITHOUT RECOURSE TO STOPPING.—294 TONS OF SILVER WILL MAKE 1,980 MILES OF WIRE  $\frac{1}{8}$  OF AN INCH IN DIAMETER.—THE GREATEST BULK OF ORE AND RICHEST MINERAL KNOWN IN THE WORLD'S HISTORY OF SILVER MINING.

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In computing the commercial value of the product of the carbonate mines of this camp for the year 1879, the bullion rather than ore value has been made prominent, because it having been prepared for market and shipped in such shape, divested of its encasing rock and dirt, is tangible as a commercial medium, and more clearly sets forth the actual product. The ore shipped as such in the earlier months of the year has been kept distinct, but also reckoned into the total product as so much lead and silver. The tables showing the weight of pure silver will aid in comprehending the immensity of the bulk and prolific yield of mines which two years ago were regarded with distrust. That the total value of the output of the camp is lower than many have claimed, only illustrates the absurdity of exaggerated estimates, and teaches the lesson many will do well to heed, that "millions" are more easily spoken of than dug out of the ground anywhere.

Our mill men have given figures from their books, and the estimate made for a portion of December, being founded on the business of preceding months, is so conservative as to be embodied with other figures as actual product to avoid the complication of figures necessary to express the same.

The coke famine may, in a few cases, make the estimate faulty, but this inaccuracy has been provided against by very low estimates on the larger concerns which have fuel to insure their steady operation. All calculations are based upon the yearly average of silver at \$1.12, and lead at four cents per pound. The weight of silver is figured at 14.58 ounces to the pound, avoirdupois.

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### HARRISON REDUCTION WORKS.

These extensive works were started in October, 1877, another furnace was added to the works in August 1878. They are a branch of the St. Louis Smelting and Refining Company, of St. Louis, where they have fourteen different furnaces. The officers of the company are Edwin Harrison, of St. Louis, President; George H. Loker, of St. Louis, Secretary, and George A. Hynes, Superintendent at Leadville.

There are two furnaces with a capacity of thirty tons a day for each furnace. The size of the furnace building is forty feet deep; sixteen feet front and seventy-five feet high. The reverberatory furnace is 40x25 feet; the ore sheds 375x25 feet; the coke sheds 500x14 feet. In addition to these buildings are offices, cabins, &c., to the number of five. There are two Baker blowers and one Blake crusher used in the works and a steam engine of forty-horse power for motive power.

This being the pioneer smelting establishment of the camp, the entire product is given from the date of the firing up of the first furnace in 1877 to December 31st, 1879. A careful perusal of these figures will be of great interest to very many readers.

The pounds of ore as given are understood to have been smelted into pounds of bullion containing the specified amounts in ounces of silver and gold.

The Harrison works are the only one smelting gold ores in this camp.

POUNDS OF ORE.	POUNDS OF BULLION.	OUNCES OF SILVER.	OUNCES OF GOLD.
	October, 1877, to April, 1878.		
2,941,322	981,884	56,518.84	232,804
	April 17 <sup>th</sup> to July 6, 1878.		
1,780,444	703,417	41,164.83	109,565
	July 29 to November 3, 1878.		
2,678,575	965,778	65,220.27	165,721
	November 27, 1878 to March, 1879.		
4,305,710	1,066,338	176,700	144,544
	March 11 to April 15, 1879.		
1,206,818	362,584	32,807.73	41,012
	April 24 to May 22, 1879.		
842,314	229,107	30,625.70	24,630
	May 24 to July 21, 1879.		
3,895,749	908,379	165,587.14	51,943
	July 26 to December 31, 1879.		
7,385,825	1,370,832	355,906.24	620,777
	Or a grand total of		
25,036,767	6,538,319	924,532	1,205.

This shows that 12,518 tons of ore has produced 3,269 tons of lead bullion, averaging a little over 288 ounces in silver, besides the gold, to the ton of bullion. Computing silver and lead at the average as taken herein for 1879, and we have as total product for the works to January 1, 1880, \$1,318,572. It will be observed that this entire lot of 12,518 tons of ore has yielded in silver, lead and gold nearly \$105 per ton.

For the year 1879 the product is as follows :

Tons of ore.....	8,106
Tons of bullion.....	1,790
Silver in ounces.....	702,725
Pounds of silver.....	48,198
Value of silver.....	\$787,052
Value of lead.....	141,272
Value of gold.....	12,940

Total value..... \$941,264

The bullion produced formerly was low in silver riches, but latterly it has been very high, bringing the average value, as will be observed, up to \$116 per ton for the entire amount of ore smelted during the past year.

### LA PLATA MINING AND SMELTING COMPANY.

Prior to June 14th, 1879, the business of sampling and smelting ores at these works was carried on under the firm

name of Berdell, Witherell & Co. On the above date the concern was incorporated under the laws of New York into a stock company, entitled La Plata Mining and Smelting Company, with capital stock of \$2,000,000 in 200,000 shares of a par value of \$10 each. The company commenced business with a cash capital of \$100,000, and since July 1st has paid three monthly dividends aggregating \$45,000, besides adding \$32,000 to their working capacity. Since the stock of the new company has been called at the New York stock exchange, the lowest price at which it has been sold was four dollars per share.

The works of the company have a frontage of 550 feet, with an average width of 80 feet, besides fuel sheds 500 feet long by 40 feet wide. The first furnace was built in November, 1878; the second in January, 1879, and the third completed in August, 1879, each of thirty-five tons capacity per day, and the fourth of forty-five tons daily capacity is just put in commission, giving a present total smelting capacity of 150 tons each twenty-four hours. These buildings, with twenty-five dwelling houses, are situated within one mile of the center of Leadville, and occupy twenty-five acres of land owned by the company. In addition to the above works the company own and operate three mines on California gulch which have developed an immense body of low-grade lead ore necessary for profitable smelting. The officers are: C. B. Rustin, President; N. Witherell and Harry Allen, Vice Presidents; Theodore Berdell, Treasurer and agent in Colorado, and Frederick Sheppard, Secretary. The Trustees are: C. B. Rustin, Omaha, Neb.; N. Witherell, Harry Allen, G. A. Thorne, Vanderbilt Allen, New York; William Borden, Chicago, Ill., and Theodore Berdell, Leadville.

From November, 1878, to May, 1879, these works, under the management of Berdell & Witherell, were in operation 284 days (one furnace being in blast 105 and the other 179 days), and the product was as follows: 7,598 tons of ore smelted into 1,384 tons of bullion, containing 525,012 ounces of silver. From June 14, 1879, to December 31, under the management of the La Plata Mining and Smelting organization, the product has been 13,904 tons of ore, into 2,199 tons of bullion, containing 878,580 ounces of silver. Deducting from these totals 1,871 tons of ore smelted in 1878 into 351 tons of bullion, carrying 132,029

ounces of silver, we have as the product of the works from January 1, to December 31, 1879, 19,631 tons of ore, converted into 3,232 tons of bullion, containing 1,271,563 ounces of silver. Taking the yearly average of silver at \$1.12, and lead at \$80 per ton, and deducting the weight of silver from the bullion, we have the yearly product as follows :

Tons of ore.....	19,631	
Tons of bullion.....	3,232	
Silver in ounces.....	1,271,563	
Pounds of silver.....	87,213	
Value of silver.....		\$1,424,150
Value of lead.....		255,071
Total.....		<u>\$1,679,221</u>

The two furnaces were out of blast seven days each from June 14 to December 1.

**BILLING & EILERS.**

These energetic proprietors, with ample capital, great practical experience and model works, have taken a foremost place among the prominent smelting establishments of the district.

They began work on the fourteenth day of May, 1879, and one furnace has been 231 consecutive days in blast and the second one 136 days to December 31, 1879, and the product is as follows :

Tons of ore.....	10,773	
Tons of bullion.....	2,528	
Silver in ounces.....	788,320	
Pounds of silver.....	54,069	
Value of silver.....		\$882,918
Value of lead.....		200,080
Total value.....		<u>\$1,082,998</u>

It will be observed that these two large smelting establishments have together used 30,404 tons of ore, the bullion from which aggregates in silver and lead \$2,762,219 or for the entire amount a little over \$90 for each ton of ore smelted.

The particular mention of some of the smelters and brief detail given to the rest are the result of chance only. When a proprietor could find time from the pressure of

business to give details they were obtained, and when the reverse occurred we were forced to be content with statistics of product only. To all proprietors of smelting establishments the writer is indebted for personal courtesies and ready compliance with the great labor of making up the voluminous figures of the busy of year 1879.

#### AMERICAN MINING AND SMELTING COMPANY.

The officers of this company are: Caleb B. Wick, President and General Manager; H. I. Higgins, Secretary and Treasurer, and O. H. Hahn, Superintendent.

The works were started on the 5th of June with one stack, and another added on the 1st of November. Twenty acres of ground are the property of the company. The main building, 75x80 feet in size, is substantially built and well arranged for the business of smelting. The ore sheds have a storage capacity of 1,500 tons, and the charcoal and coke sheds for 80,000 bushels. The product of the works from June 5 to December 31, 1879, (part of December being estimated) is summarized as follows:

Tons of ore.....	2,751	
Tons of Bullion.....	714	
Silver in ounces.....	177,993	
Pounds of silver.....	12,208	
Value of silver.....		\$199,352
Value of lead.....		56,681
Total value.....		<u>\$255,988</u>

#### LEADVILLE SMELTER.

These works were started on the 15th day of May, 1879, but for want of coke and because of business complications, have not run steadily. The officers of the company are J. N. Williams, President; G. W. Pettit, Secretary; A. O. Luther, Treasurer, and Dr. E. W. Fuller, Superintendent.

The product to December 31, 1879, is as follows:

Tons of ore.....	4,531	
Tons of bullion.....	513	
Silver in ounces.....	168,581	
Pounds of silver.....	11,562	
Value of silver.....		\$188,810
Value of lead.....		40,577
Total value.....		<u>\$229,387</u>

This smelter is just outside the city limits, at the foot of Elm street.

**RAYMOND, SHERMAN & MCKAY SMELTER.**

The proprietors of this establishment are well known as former residents of Chicago, and their names are J. B. Raymond, Charles D. Sherman and A. A. McKay. Mr. A. B. Elder is the Superintendent. The works were started on the 28th of June, 1879, with one furnace, and, despite irregular running occasioned by the usual lack of fuel, etc., the product has been as follows:

Tons of ore .....	2,349	
Tons of bullion.....	416	
Silver, in ounces.....	126,486	
Pounds of silver.....	8,675	
Value of silver.....		\$141,664
Value of lead.....		32,933
Total value.....		<u>\$174,597</u>

The owners intend adding another stack to their works at an early date. The location of the works is on Big Evans gulch close to Fryer Hill, and about one mile north of the city.

**GAGE, HAGAMAN SMELTING COMPANY.**

The gentlemen constituting this company are from Lyons, Iowa, and hold positions as follows: J. P. Gage, President; J. H. Barnum, Vice-President, and S. I. Smith, Secretary and Treasurer.

Mr. H. F. Smith is manager of the works, which had one stack completed and ready for work on the first of June, 1879. The furnace was not in blast from August 15 to October 17, but the product to December 31, makes the following creditable showing:

Tons of ore.....	2,875	
Tons of bullion.....	549	
Silver, in ounces.....	239,336	
Pounds of silver.....	16,415	
Value of silver.....		\$268,056
Value of lead.....		43,263
Total value.....		<u>\$311,319</u>



These works are on Big Evans Gulch, one mile north of the city, and of easy access to the principal mines of the camp.

### OHIO AND MISSOURI SMELTING COMPANY.

These works commenced operations with one stack on the 16th of July, 1879, with only a stoppage of nine days up to December 31st. E. J. Warner is the General Manager, and the record of production to December 31st, is as follows:

Tons of ore.....	2,450
Tons of bullion.....	533
Silver, in ounces.....	122,532
Pounds of silver.....	8,404
Value of silver.....	\$137,235
Value of lead.....	42,304

Total value..... \$179,539

Another furnace of forty tons capacity per day will be in operation about the last of January, 1880, and the works in perfect order for largely increased production of bullion. Their location on Big Evans gulch is a central one to all the great mines of the camp, over excellent roads.

### ELGIN MINING AND SMELTING COMPANY.

The situation of these works is very favorable for the business of smelting, and the 160 acres of patented ground owned by them afford abundant facilities for enlarged operations. Large springs on this portion of Big Evans gulch give a never failing water supply. The works began smelting on the 24th day of June, 1879. The general office is in Elgin, Illinois, and the company organized under the laws of that State with a capital stock of \$500,000. The names of the officers are A. Sherwin, President; S. D. Wilder, Secretary, and J. F. Spaulding, S. D. Wilder, F. C. Garbutt, E. Haight, D. E. Wood and Charles O'Connell, Directors. The product to December 31st is as follows:

Tons of ore.....	5,478
Tons of bullion.....	825
Silver, in ounces.....	287,100
Pounds of silver.....	19,691
Value of silver.....	\$321,552
Value of lead.....	65,212

Total value..... \$386,764

But one furnace has been in blast, and another of thirty tons capacity will be ready for use by the fifteenth of January.

The value of improvements is about \$50,000. The Elgin company is also extensively engaged in mining and owns several claims in good mineral.

CUMMINGS & FINN SMELTER.

The proprietors are progressive, wide awake men, well up in the business of smelting, and from present indications seem determined to rank their works among the largest and most successful in the camp. They have, in common with all similar establishments, been retarded by the coke famine, and also by a failure in water supply during the summer months, and these unavoidable stoppages account for their light total product. M. J. Cummings and Nicholas Finn constitute the firm, whose operations the coming year will be largely augmented and more regular.

Smelting was commenced on the 25th of July with two thirty-six inch furnaces, and a third (forty inch) added the 1st of December. The fourth furnace (square furnace) will be in blast early in January. The product to December 31st is as follows:

Tons of ore.....	3,031	
Tons of bullion .....	657	
Silver, in ounces.....	207,737	
Pounds of silver.....	14,248	
Value of silver.....		\$232,665
Value of lead.....		51,990
Total value.....		<u>\$284,655</u>

The ore contained a commercial value of \$94 per ton, and, as in the case of all other works, shows that there has been an appreciable advance in the grade of all ores mined in the camp during the past year. This is the largest of the five smelting establishments on Big Evans gulch.

GRANT'S SMELTER.

J. B. Grant & Co. have the largest smelting establishment in the State, and as will appear by the statistics below presented, the works are in successful operation.

The first furnace was in blast October 3, 1878, and the

first shipment comprised 225 bars of base bullion containing 185 ounces in silver to the ton. During 1878 the product of this furnace in three months was 696,731 pounds of bullion containing 111,273 ounces of silver, which at our assumed valuation of \$1.12 per ounce amounts to \$124,625, and 696,731 pounds of bullion less the 7,621 pounds weight of silver gives lead riches at \$27,565, or a total of \$152,190 at the trial run in 1878. One furnace after another has been added until eight are now in blast. The product of the works is an index to the growth of the camp and the nature of the ore treated, and therefore each month's yield is recorded for the inspection of all who are disposed to examine critically the facts pertaining to this our great industry.

January, 1879—345,536 pounds of bullion; 58,000 ounces of silver, at \$1.12, \$64,960.00; 345,536 pounds of bullion, less 3,288 pounds of silver, 342,248 pounds of lead at 4c. per pound, \$13,689.92. Total value, \$78,649.92. Average ounces of silver per ton, 330.2.

February—524,932 pounds of bullion; 79,186 ounces of silver, at \$1.12, \$88,688.32; 524,932 pounds of bullion, less 5,422 pounds of silver, 519,510 pounds of lead, \$20,780.40. Total value, \$109,469.72. Average ounces of silver per ton, 301.7.

March—553,272 pounds of bullion; 106,174.8 ounces of silver, at \$1.12, \$118,915.77; 553,272 pounds of bullion, less 7,478 pounds of silver, 545,794 pounds of lead, \$21,831.76. Total value, \$140,747.53. Average ounces of silver per ton, 383.8.

April—402,424 pounds of bullion; 66,862.7 ounces of silver, at \$1.12, \$74,886.22; 402,424 pounds of bullion, less 4,580 pounds of silver, 397,844 pounds of lead, \$15,913.76. Total value, \$90,799.98. Average ounces of silver per ton, 332.3.

May—699,799 pounds of bullion; 133,289½ ounces of silver; value, \$149,284.24; 688,694 pounds of lead, value, \$27,547.76. Total, \$176,832. Average ounces of silver per ton, 380.8.

June—669,758 pounds of bullion; 141,476.1 ounces of silver; value, \$158,453.13; 660,041 pounds of lead; value, \$26,401.64. Total, \$184,854.77. Average ounces of silver per ton, 422½.

July—305,588 pounds of bullion; 68,338.7 ounces of

silver, value, \$76,539.31; 300,908 pounds of lead, value lead, \$12,036.32. Total, \$88,575.63.

August—732,363 pounds of bullion; 150,268.6 ounces of silver, value, \$168,300.83; 722,072 pounds of lead, value, \$28,882.88. Total, \$197,183.71.

September—811,834 pounds of bullion; 161,268.3 ounces of silver, value, \$180,620.50; 800,788 pounds of lead, value, \$32,931.52. Total, \$212,652.02.

October—949,090 pounds of bullion; 200,549.6 ounces of silver, value, \$224,615.55; 935,354 pounds of lead, value, \$37,414.16. Total, \$262,029.71.

November—1,443,986 pounds of bullion; 301,414 ounces of silver, value, \$337,583.68; 1,423,341 pounds of lead, value, \$56,933.64. Total value, \$394,517.32.

December—1,804,982 pounds of bullion; 376,767 ounces of silver, value, \$421,979.04; 1,779,178 pounds of lead, value, \$71,167.12. Total, \$493,146.16.

The grand total for the year is: Pounds of bullion, 9,243,554; ounces of silver, 1,843,596, worth \$2,064,826; pounds of lead, 9,115,742, worth \$364,630; or together, \$2,429,456.

Tabulated, showing same result, with tons of ore and bullion, weight of silver, etc., we have:

Tons of ore.....	25,300	
Tons of bullion.....	4,622	
Ounces of silver.....	1,843,595	
Pounds of silver.....	126,446	
Value of silver.....		\$2,064,826
Value of lead.....		364,630
Total value.....		\$2,429,456

These works are situated on Front street west of Leit-  
 avenue; and have a frontage of 625 feet by 260 feet.  
 Fifty-horse power engines are used and eight furnaces,  
 of a total daily capacity of 200 tons of ore. The accumu-  
 lations of the slag dump have forced the company to build  
 a railroad track one thousand feet long out into California  
 beach for depositing this waste material. The increase of  
 business facilities during one year is very apparent by con-  
 trasting the product of the last three months of 1878 with  
 the corresponding months of 1879, as follows: October 1 to  
 December 31, 1878, \$152,190, and October 1 to December  
 31, 1879, \$1,149,693, or nearly one million dollars greater

from the added facilities of the past year. This company have the contract for the entire output of the Little Pittsburg Consolidated mines, and are running up to their full capacity. On the dumps at the works are at least 3,000 tons of ore, carrying 174,420 ounces in silver. The disbursements each month range from \$150,000 to \$225,000. A large mule train is owned by this company to transport their bullion product to the railroad and bring back coke for the furnaces, which has made them quite independent during the coke famine and freight blockade. In October these works consumed \$15,000 worth of fuel, and in November about \$27,000 were paid out for the same. Grant has piled up, about his smelter some two hundred and fifty thousand bushels of charcoal, now worth eighteen cents per bushel, and has also coke and wood, the total amount of which fuel is nearly fifty thousand dollars. Several of the furnaces now in operation will be taken down and replaced by others of enlarged capacity, and during 1880 the product in bullion will double that of the past year. J. B. Grant & Co. have an enviable reputation for liberal dealing and the prompt payment of every obligation.

#### LITTLE CHIEF SMELTER.

This is not a custom mill, but was erected by the company in May last at a cost of \$30,000, for the purpose of utilizing the low-grade ores of the Little Chief mine, and it has been fully demonstrated that such ores can be more profitably treated right at the mine than to sell the same to custom works. Ores of higher grade, on the other hand, realize better to sell direct to the large smelting establishments of the camp. The product of this smelter, therefore, is from the low-grade ores of the mine, except some flux material purchased to make proper charges, and the result is as follows:

Tons of ore.....	2,827
Tons of bullion.....	514
Ounces of silver.....	154,200
Pounds of silver.....	10,507
Value of silver.....	\$172,704
Value of lead.....	40,659
Total value.....	\$413,363

This by no means represents the product of the Little

Chief mine, except so far as the treatment of its lowest grade ores are concerned.

CALIFORNIA SMELTER.

These works have had an up-hill time so far, owing to the furnaces being faulty and frequent stoppages have been the result. The present owners are now engaged in a thorough overhauling and re-arrangement, and will soon be in successful blast. The output is thus represented :

Tons of ore.....	1,400
Tons of bullion.....	175
Ounces in silver.....	61,250
Pounds of silver.....	4,201
Value of silver.....	\$68,600
Value of lead.....	13,799
Total value.....	\$82,399

This smelter is situated about two miles below the city near the upper road leading down to Malta, with everything favorable for excellent work upon the completion of repairs now in progress.

MALTA SMELTING WORKS.

Two new furnaces have been added to the capacity of the Malta works during the year, and are in successful operation. The customary and unavoidable stoppages have interfered to some extent with the production of bullion, but altogether the showing below given is very satisfactory:

Tons of ore.....	11,179
Tons of bullion.....	1,897
Ounces of silver.....	744,792
Pounds of silver.....	51,083
Value of silver.....	\$834,167
Value of lead.....	149,717
Total value.....	\$983,884

The total product realized from the treatment of this large bulk of ore shows a value of a little over \$88 per ton. These works are under competent management, and when all projected improvements are completed will show greatly increased returns. The entire ore product is from the mines about Leadville, and the bullion is handled by Leadville

buyers, and therefore properly belong to the showing of the year for Leadville.

### ADLAIDE SMELTER.

This furnace ran irregularly for several months of the year upon the ores of the mines of the Adlaide Mining Company, but was finally closed down, and was purchased by Cummings & Finn. The product cannot be accurately obtained, but is estimated fully as follows:

Tons of ore.....	1,375	
Tons of bullion.....	171	
Ounces in silver.....	60,165	
Pounds of silver.....	4,126	
Value of silver.....		\$67,385
Value of lead.....		13,515
Total value..		<u>\$80,900</u>

### AUGUST R. MEYER & CO.

The business of ore sampling and purchasing was begun by this firm at Alma, Colorado, where they still have works established. The firm consists of August R. Meyer, Charles T. Limberg and Theodore Tamm, the latter gentleman residing in St. Louis, where he is interested in the St. Louis Wooden Ware Works.

The operations of the company were first begun here in March, 1877, since which time the business of the company has been steadily increasing.

The works of the company are situated on Harrison avenue and Elm street, within a block of the central portion of the city. They consist of the following buildings: One ten-ton scale house, three receiving ore houses, 35x60, 25x80 and 30x80 feet respectively, and two drying houses, 30x40 feet, with large furnaces underneath for reducing the moisture of the ores. The main central building is 60x100 feet, solidly built, and includes the rooms for engine and other necessary machinery, such as two large crushers and one pair Cornish rolls, weighing 22,000 pounds, the heaviest in the State. A separate building, 16x18 feet, is used for the storing of ore sacks. The assay office is furnished with a Freiberg coal furnace, with muffle eighteen inches

long, twelve inches wide and nine inches high, having a capacity of one hundred assays in ten working hours, which is the largest in the city; besides a well appointed chemical and analytical department for the convenience of smelters in determining the nature of the base minerals in the ore. The main business office has the appearance of a banking establishment, with private offices in the rear elegantly fitted up.

It will be observed that while Aug. R. Meyer & Co. have added but \$449,237 to the total output of the camp for the year 1879, yet in the aggregate their business represents the active use of \$4,270,101, in ores and bullion as follows:

ORES PURCHASED IN 1879.

23,631 tons of an average value of 80 ounces in silver and 25 per cent. in lead. The coin value of the silver (1,890,480 ounces) at \$1.12 is \$2,117,337, and the lead (5,657 tons) at \$80, \$452,620, or a total of \$2,569,957.

BULLION PURCHASED IN 1879.

3,602 tons, of an average value in silver of 350 ounces to the ton, aggregate \$1,260,700 ounces, which, at \$1.12 per ounce, give \$1,411,984, and the 3,602 tons of lead at \$80 per ton return \$288,160, or a total of \$1,700,144.

The purchases of ore were distributed through the year as follows:

	POUNDS.
January.....	2,866,218
February.....	4,320,026
March.....	4,152,341
April.....	3,197,329
May.....	3,743,683
June.....	5,239,271
July.....	4,677,338
August.....	4,700,099
September.....	5,792,465
October.....	1,759,104
November.....	2,768,821
December.....	4,054,437

Total. ....47,262,132  
Or 23,631 132-2,000 tons.

To illustrate the large transactions occurring in this camp in a single day we have selected the 15th day of December, 1879, at Aug. R. Meyer & Co.'s as an example.



Checks in settlement for ores were drawn for different persons or corporations as follows: \$50,000, \$4,229, \$10,000, \$16,047; and for bullion, \$4,156, \$3,891, \$4,000, and \$4,000, or a total in one day of \$80,276 paid out by this one firm.

The ore shipped out of the camp, and which enters into the general yearly product, is as follows:

Tons of ore.....	1,974
Tons of bullion.....	725
Ounces of silver.....	349,970
Pounds of silver.....	24,003
Value of silver.....	\$391,966
Value of lead.....	57,039
Total.....	\$449,005

A few items regarding the shipments and kind of ore handled in this camp two years ago will be of interest in comparison to the above exhibit. Mr. Meyer was then the only buyer here.

About three hundred tons were shipped in 1876. No ore left the camp until March of 1877, and the output from that date, to and including the month of October, was as follows:

March, 1877.....	35 tons
April, ".....	13 "
May, ".....	9 "
June, ".....	17 "
July, ".....	79 "
August, ".....	448 "
Sept., ".....	370 "
Oct., ".....	232 "

It will be noticed that the product fell off during the winter months because of the almost impassible condition of the roads from the mines and out of the camp to railroad stations. These obstacles have been in a great measure removed. It is interesting to note the grade of ores handled at this early date, and for convenience of reference we give them separately and by sample lots.

Low silver and heavy lead ores, as follows:

8 ounces silver, 64 per cent lead.
8 ounces silver, 66 per cent lead.
8 ounces silver, 70 per cent lead.
9 ounces silver, 74 per cent lead.
10 ounces silver, 67 per cent lead.

Lead was then quoted at about seven cents per pound.

High silver and heavy lead ores as follows:

247 ounces silver, 67 per cent lead.  
 402 ounces silver, 42 per cent lead.  
 708 ounces silver, 37 per cent lead.  
 378 ounces silver, 34 per cent lead.  
 342 ounces silver, 44 per cent lead.  
 479 ounces silver, 30 per cent lead.  
 436 ounces silver, 28 per cent lead.  
 557 ounces silver, 55 per cent lead.  
 575 ounces silver, 53 per cent lead.  
 359 ounces silver, 62 per cent lead.  
 387 ounces silver, 44 per cent lead.  
 598 ounces silver, 50 per cent lead.  
 628 ounces silver, 22 per cent lead.

The latter list has been extended to show more clearly the variation in the mineral mined from the same deposit, and yet at the same time its high average in both silver and lead, the silver average being 468 ounces and the lead nearly 44 per cent.

Much of the high grade silver ore shipped ran below 20 per cent. in lead, and one lot of 230 ounce ore has no lead quoted.

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#### ORE AND BULLION DEALERS.

From the rise of Leadville up to within a few months the ore buyers distinctively handled the ore of the camp for shipment. Latterly the rapid increase of home smelting facilities, active competition, lack of transportation and high rates, reversed this order of business, and the ore buyers found it more profitable and convenient to sell direct to the smelter and buy from him his bullion than to ship out the same product in ore, as formerly. But now, with the advance of railroads to this camp another change is sure to occur. Even now there is a steady demand for ore made by outside smelting establishments which cannot be, or at least is not, complied with.

The reasons for this assertion may be perceived by the following argument.

With direct railroad communication the present demands of the camp will be five to six hundred tons of incoming freight per day, and with the growth of the city and surrounding camps liable to a large increase.

The daily ore product of the mines if all smelted into bullion will scarcely reach 250 tons or not half enough

bullion to load the returning cars, and hence the railroads will demand more freight, for they will not act as do the teamsters at the present time and prefer a down grade empty haul. The consequence will therefore be a sharp competition in the ore market by all outside smelting establishments. Take the Pueblo works, for instance, and observe the opportunity they will have for competition. Coke costs them only eight dollars against say eighteen to twenty dollars here, (it now costs fifty to sixty dollars) labor costs them one dollar and twenty-five cents to two dollars and a half, against two dollars and a half to four dollars per day here. They also have great advantages on proper mixture of ores from different parts of the State besides direct broad gauge connection without breakage of bulk to all the great centres of the country.

Omaha and St. Louis will also demand two hundred tons of carbonate of lead ores per day to mix with the ores they are now treating, and the result must be high prices to the mine owner, and the utilizing of all the low grade ores of the camp, besides stimulating production to a point hitherto unknown in this camp. The ore buyer will therefore again have the choice of shipping out ore or selling to the smelters here according to the best prices obtainable. The railroads will be in a position to discriminate for or against our home smelting establishments according to their own personal interests.

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#### EDDY & JAMES.

This was the second firm to build sampling works in Leadville and enter upon the business of buying ores. They have since become heavy purchasers of bullion for shipment.

Their works were completed and operations begun on the third of July, 1878. Both partners had visited the camp in February to examine into the permanency of the mineral deposits, and although few mines had been opened, they were convinced at that early date that the outlook for a great camp was flattering in the extreme. Mr. Eddy, the senior member of the firm, thereupon returned to Georgetown, closed out a lucrative business there, and moved to the carbonate camp for permanent residence. To the close of the year 1878 the firm bought 4,032 tons for shipment,

and had about 800 tons on hand at the close of the year. The value of ore purchased by them represented \$647,782 in silver and \$82,250 in lead, or a total of \$730,032.

For so new a camp this was a most excellent exhibit, creditable to the business standing so rapidly obtained by the firm, and demonstrated the vim and energy displayed by them in their new field of labor. During the year 1879 their business increased in volume, yet owing to the absence of Mr. Eddy in Europe for three months, and the obligatory duties of Mr. James as Mayor of the city, does not present so large a total as would otherwise have been the case. On the twentieth of September, soon after the return of Mr. Eddy they began purchasing bullion from our smelters for shipment to eastern refineries.

Their shipments of ore out of the camp are first noted for the purpose of being reckoned into the general output for the year. These being compiled from their return bullion certificates are accurate. The following is the showing:

Tons of ore.....	4,453	
Tons of bullion.....	1,488	
Silver in ounces.....	566,748	
Pounds of silver.....	38,871	
Value of silver.....		\$634,757
Value of lead.....		117,485
Total value.....		<u>\$752,242</u>

They have made total purchases of ore as follows: 15,301 tons containing 1,656,844 ounces in silver which, at \$1.12 shows \$1,895,765, and 3,601 tons of lead at four cents, \$288,080, or a total of \$2,193,845. This includes the ore mentioned above as shipped out of the camp (reckoned as bullion) and that sold to the smelting establishments here.

Their bullion purchases, from September 20 to December 31, were 2,300 tons, valued at \$510 per ton, or \$1,173,000. This was shipped to the Omaha Smelting and Refining Company at Omaha.

The ore in stock at the end of the year was 1,300 tons, at \$90 per ton, or \$108,000.

The entire total of business transacted for the year 1879 is therefore: Ore purchases, \$2,183,845, and bullion purchases, \$1,173,000, or a grand total of \$3,356,845.

Eddy & James have been liberal investors in mining properties, and have extensively worked the same. They

are also the ore and bullion agents for the Omaha Smelting and Refining Company at Omaha, Mather & Geist at Pueblo, and Gregory, Board & Company, Golden, Colorado

## RECAPITULATION.

Name of Works.	Tons of ore Smelted.	Tons of Bullion.	Tons of Silver.	Ounces of Silver.	Total Value.
La Plata . . . . .	19,631	3,232	43.1213	1,171,563	\$1,670,221
Billing & Eilers . . . . .	10,773	2,528	27.69	788,320	1,082,998
American . . . . .	2,751	714	6.208	177,993	255,983
Leadville . . . . .	4,531	513	5.1562	168,581	229,387
Raymond, Sherman & McKay.	2,349	416	4.675	126,486	174,597
Gage-Hagaman. . . . .	2,875	549	8.415	239,336	311,319
Ohio & Missouri . . . . .	2,450	533	4.404	122,532	179,539
Elgin . . . . .	5,478	825	9.1691	287,100	386,704
Cummings & Finn . . . . .	3,031	657	7.248	207,737	284,655
Harrison . . . . .	8,106	1,790	24.198	702,725	928,324
Grant . . . . .	25,300	4,622	63.446	1,843,595	2,429,526
Little Chief . . . . .	2,827	514	5.507	154,200	213,363
Malta . . . . .	11,179	1,897	25.1083	744,792	983,884
California . . . . .	1,400	175	2.201	61,250	82,399
Meyer Sampler . . . . .	1,974	725	12.8	349,970	449,005
Eddy & James' Sampler . . . . .	4,453	1,488	19.871	566,748	752,242
Adlaide Smelter . . . . .	1,375	171	2.126	60,165	80,900
Total . . . . .	110,483	21,349	269.1992	7,873,093	10,504,106

The total of ores treated by smelters for the year 1879 is 110,483 tons, realizing \$10,504,106, or a value in pure silver and metallic lead of \$95 per ton. This certainly is the largest average value of silver ores in bulk and the greatest production ever known in any camp of its age in the world's history of silver mining. It should be observed that the gold product of the Harrison smelter, amounting to \$12,940, has not been included in the above table, but which, being added in, gives as a total product from the 110,483 tons of ore a commercial value of \$10,517,046.

The 21,349 tons of bullion has therefore an average value per ton of \$492.62½. For the 365 days of the year the daily consumption of ore by our smelting establishments has been 305 tons, producing over 58½ tons of bullion each 24 hours.

## THE ENTIRE YIELD OF THE CAMP FOR 1879.

The numerous producing mines have much ore on hand, and all the milling establishments carry large stocks,

which, by the most painstaking and conservative estimates, are reckoned at 12,000 tons, of an average value of \$90 per ton. This must be added to the smelting product to show the gross mining output in ore and value in dollars for 1879, reaching a grand total of 122,483 tons of ore mined out of the ground, and representing a value of \$11,477,046.

The ore mined during the year has at no time exceeded 700 tons daily, and occasionally falling as low as 150 tons per day. The average for each of the 365 days of the year has been a little over 335½ tons, worth \$93.73 per ton. Many persons, carried away by the glittering generalities of the marvelous enterprise of the camp, have estimated the output for the year at a much larger sum, but well-posted, observant men will more readily believe that there may be a slight exaggeration. In obtaining figures no exertions have been spared to have them absolutely correct, and though the aggregate value in both silver and lead is, by a few of our mill men, regarded high, still the result is predicated upon pounds of ore and bullion, and ounces of silver furnished by the smelters and ore buyers of the camp. It is more probable that the grade of ore has advanced, or rather that these few mill men do not well consider that the bulk of high grade ores running from 200 to 500 and to 11,000 ounces per ton greatly augment the showing of the mass of low grade mineral.

Estimates have been going the rounds of the press in which fifteen to thirty millions of dollars were mentioned as the yield of the Leadville mines for 1879. Estimates by our most conservative mine owners and mill men have varied simply from ten to twelve million dollars. To those who speak flippantly of "millions" the subjoined figures are respectfully submitted for consideration:

\$11,447,046 mean just \$31,443.96 for each day of the year, \$1,310.16 for each hour of the day, \$21.83 for each minute of the hour and 36 23-60 cents every second of each day and night for the entire year.

The two hundred and ninety-four tons of silver, if made into a wire rope one-eighth of an inch in diameter, would reach a distance of 1980 miles, or give telephone connection between Leadville and San Francisco, or connect the Carbonate Camp with Denver, Omaha, St. Louis and Chicago. If drawn out to nearly 1-16 of an inch in diameter

it would connect New York and San Francisco with Leadville.

To others the total yield will be as clearly understood summarized thus :

Tons of ore.....	122,483	
Tons of lead.....	23,378	
Tons of silver.....	293	1513-2000
Ounces of silver.....	8,565.950	
Value of gold.....		\$12,940
Total.....		\$11,477,046

The gold from California Gulch, in the immediate vicinity of Leadville, and from the placer diggings of the county, has amounted during the past year to a total of \$80,000, swelling the yield as above given to a grand total of \$11,537,046. The production of the carbonate mines for 1880 will depend entirely on the disposition of the owners. If there be "forced production" from the reserves already exploited, the greatest yield of the Nevada bonanzas can be eclipsed, but if work continues as at the present time the output of 1879 can scarcely be doubled in 1880 by the now developed properties and the numerous incoming producers.

## MISCELLANEOUS ITEMS OF INTEREST.

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SMELTERS' CHARGES.—CONSUMPTION OF COKE AND CHARCOAL.—HOW ORES ARE BOUGHT AND SOLD.—BUSINESS STANDING OF OUR MILL MEN, AND MINING OUTLOOK.—FACTS OF INTEREST REGARDING THE PRODUCTION OF BULLION.

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The rates charged for smelting are much lower, and the prices paid for ore are higher than ever before. At the beginning of the year there were but eight furnaces in operation. Their schedule of prices was generally as follows: Charge for smelting, \$30 per ton; price allowed for silver, the New York price less ten per cent.; and for lead, 50 cents for each per cent. over 30, with a reduction of 50 cents for each per cent. under 30. For example, ore containing 50 ounces silver and 40 per cent. lead, would then bring at the smelter \$24.50. At the present time there are thirty-one furnaces in operation, and charges for smelting and prices for ore now range generally as follows: Charge for smelting, \$25.00 per ton; price for silver, the N. Y. price, less 5 per cent.; and for lead, 20 cents for each per cent. Thus the same ore above mentioned now brings \$37.15 per ton.

At the date of this writing, (Dec. 7th, 1879,) owing to the great increase of incoming freight, insufficient railroad facilities and the probability of a snow blockade, the price of coke ranges from \$50 to \$55 per ton, and is difficult of attainment at these figures. This is natural enough under these circumstances, but a remedy will come in the spring when fair weather and increased railroad facilities dawn upon us to lift the freight embargo.

But with the present difficulties to contend against our mine owners are more generously dealt with by mill men



than are our neighbors of Utah. Here is the comparison in prices of ore :

In Salt Lake, ore carrying 42 per cent. lead and 71 ½ ounces in silver, brings at the smelter \$51 per ton, and lead sells at \$60 per ton, and silver three cents off New York quotations.

At Grant's smelter in Leadville, in November a lot of 4,280 tons of ore carrying 20 per cent. lead and 75.8 silver, yielded to the owner \$70.00 per ton. In Salt Lake coke costs only \$30 per ton, while in Leadville it is scarce at \$50 to \$55, lead sells here at \$50 and silver three cents off N. Y. quotations.

Competition forces our mill men to the closest possible margins, while it is probably the reverse in Salt Lake.

#### CONSUMPTION OF COKE AND CHARCOAL.

The consumption of coke and charcoal is a great item of expense to our smelting establishments. The amount of fuel to each charge varies at the different works, some using more coke and less charcoal, and *vice versa*, and therefore it is difficult to estimate the total monthly consumption, but it is not far from an average of three hundred and seventy-five bushels of charcoal per day to the stack. Estimating only twenty stacks in operation in the camp we find that 7,500 bushels are required daily, at a cost monthly of about \$34,000.

Thirty-eight tons of coke per month to the stack, at \$50 per ton, amount to \$38,000, and this with charcoal and wood figures up to about \$75,000 per month for the fuel used by our smelters.

In the month of October Grant's smelter alone consumed \$15,000 worth of fuel, and in November with eight stacks about \$29,000. Considering the fact that only twenty stacks are taken as the average in use, and coke at only \$50, our estimate for monthly consumption is very nearly correct.

#### HOW ORES ARE BOUGHT AND SOLD.

The business of buying and selling of ores in a camp like this, where the output of the mines is so immense, and the value in dollars so great, has been reduced to a science,

and is by no means, as many have supposed, dependent upon the fair dealing and honesty of the mill men, who generally are the purchasers.

The large mining corporations and wealthy individual owners of productive properties have their own assayers as well as their own scales at the mines.

So far as practicable similar ores from the different pay streaks are piled together for shipment, under the distinguishing titles of hard carbonates, iron, dark sand, gray sand and many other varieties of ore. The assayer makes frequent assays for the purpose of keeping a general knowledge of these separate kinds of ore, yet such assays are not the basis upon which sales are made, owing to the fact that such samples may be either too high or too low for the bulk of such lots, and the correct sampling must be arrived at by the process customary at the sampling works of reserving so many pounds, at regular intervals, out of a given weight of ore as it is being crushed. This system gives approximately the true value of the bulk of ore to ascertain which is equally to the interest of the buyer and seller. Samples from these bulk samples are assayed by the mill men and by the owners, and if the ounces closely tally, the price to be paid is arrived at. If too great variations occur the assays are made over again until they do agree.

The owners of ore knowing the cost of milling and marketing ore are as well able to determine what the mill men can afford to pay as the mill man himself and thus there is full and complete satisfaction and confidence existing between the sellers and buyers of ore in this camp.

The weight of each load of ore is made to tally almost to a pound by allowing for the unavoidable light waste in hauling and it is very seldom that disputes arise on this point.

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### PRICES OF ORES.

Competition brought about by the necessities of smelters for certain flux ores, has at times forced them to pay somewhat in excess of the actual value of such ores and we know of cases in which mine owners, as well as mill men, have acknowledged this fact. It is therefore worthy of notice that while margins on ores are very light, instances

do occur in which sales are made with absolutely no margins of profit left the purchaser. So far as the home market is concerned full prices are realized upon ores, but the miner suffers by the advance in transportation charges and the prices now received upon each ton of ore sold are several dollars less than two months ago. Our mill men, as a class, are held in high esteem for personal worth and integrity and for the prompt payment of all small and large consignments of rich ore.

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### THE MINING OUTLOOK.

The outlook of the camp is steadily brightening, and there will be no falling off in production during the winter months, unless a snow blockade should interfere with the shipment of bullion for a considerable length of time. Developed properties are in very satisfactory shape, new mines are assuming a gratifying prominence, and new districts are thoroughly prospected. According to filing of certificates in the recorder's office, much interest is being manifested towards the head of Little and Big Evans' gulches. There are few location certificates being filed for claims on the head of South Evans, although many valuable rich strikes have recently been made lower down that gulch. Empire and Iowa gulches are attracting more attention than formerly, and will show a much better record the coming year. Many owners of prospects are disposing of a part of their interests in view of the necessities of the winter, while many others are holding on anticipating better prices in the spring.

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### SETTLEMENT FOR ORES.

Settlements for ores are made upon the quotation of the particular day upon which settlement is demanded of the purchaser by the buyer without reference to the date of delivery of the ore.

Sometimes the purchaser reaps the benefit of a declining market, and again the seller obtains a better price upon the day selected for settlement than if settlement had occurred upon the date of the delivery of his ore.

There appears to be no established rule for ore settlements. Some owners take cash on delivery—or, rather, after sampling has tested the value of their shipments.

Others settle at the end of the week or fortnight, and others at the end of the month. It thus happens that the ore is often sold to the smelter and converted into bullion before the mine owner is paid therefor. In this case the first purchaser may have to pay more than he calculated upon if the price of silver has made material advance. Where these purchases run into the hundreds and thousands of tons, a slight rise in the price of silver per ounce cuts an important figure in such settlements.

The question of a permanent advance in silver is an open one, upon which much speculation exists, and everyone has a right to calculate as he pleases.

Lead is the bulk of the product of our mines, and though the price is but a few cents per pound, its increasing tonnage causes it to assume immense importance to mine owners and mill men. Five cents per pound is the highest quotation at which heavy sales have been made, although quotations of unimportant lots have reached a much stronger figure. The rise in freights from the smelting works of Leadville to the refineries of the east has debarred mine owners from any benefit arising from the present lead quotation, and if the further advance in rates by the roads leading out of Denver be true, this state of things will continue.

Our home market is somewhat timid at the prospect of the fluctuations in silver. Ores pour in upon buyers in the hundred and thousand ton lots, which they are compelled to sell at the ruling quotation to avoid a blockade and obtain money to make further purchases. If silver should take a sudden upward tendency and maintain it for two or three weeks before a settlement was demanded or a decline occurred, the buyer would be working rather too much in the interest of the mine owner, and hence the desire to buy as little as possible on a fluctuating market. Ore buyers have limited margins of profit, and therefore they are anxious only for steadiness in the price of silver, whether it is high or low.

Fourteen and fifty-eight one-hundredths ounces in silver are the standard pound weight, and a ton of fine silver would therefore require twenty-nine thousand one hundred and sixty ounces. In the Scooper ore, for instance, if a lot ran ten thousand ounces in silver and thirteen per cent. in

lead to the ton, and it was desired to smelt it into bullion of the highest possible grade in silver, it would be found to contain about twenty-two thousand five hundred ounces, as the silver would represent thirty-four and two-tenths per cent., and the lead thirteen per cent., or a total of forty-seven and two-tenths per cent. of material for each ton of ore. Allowing a waste of twenty per cent. of this lead, which would be two and six-tenths per cent., and some loss in silver, about forty-four per cent. would yet remain and would require only two and three-elevenths tons of ore to one of bullion. Deducting one hundred ounces loss in silver and the two and three-elevenths tons of ore in the ton of bullion would have a value of twenty-two thousand five hundred ounces. This of course would be unusual smelting, and not at all economical, if indeed it could be accomplished.

The usual course would be to mix it with other ores, so as to produce bullion worth from four to six hundred ounces where economy and convenience were the prime consideration. Such ore, however, could be profitably smelted into bullion worth five thousand two hundred and fifty ounces by making charges as follows :

100	lbs. ore of	10,000	ozs. silver and	13	per cent. lead.
200	" "	60	" " "	60	" "
200	" "	200	" " "	50	" "

These charges of 500 pounds of ore would represent 46 per cent. lead, and 2,104 ounces silver, and by loss counting the lead 39 per cent., 780 pounds of metallic lead, or nearly  $2\frac{1}{2}$  such charges to the ton of bullion of a value of 5,250 ounces of silver. Thus it may be seen that a ton of pure silver requires 29,160 ounces, and the highest bullion to be obtained from 10,000 ounce ore carrying 13 per cent. lead, is 22,500 ounces, and the highest economical smelting of the same would give 5,250 ounces, and the usual handling of it scarcely increases the value of the bullion as ordinarily shipped, ranging from 300 to 700 ounces to the ton.

# THE CITY OF LEADVILLE.

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GENERAL REMARKS REGARDING THE MAGIC CITY, AND SPECIAL MENTION OF THE BANKING ESTABLISHMENTS, WATER WORKS, GAS SYSTEM, FIRE DEPARTMENT, MERCANTILE FIRMS, OPERA HOUSE, CLARENDON HOTEL, REAL ESTATE, LAND OFFICE, MILITARY ORGANIZATIONS, SCHOOLS, CHURCHES, NEWSPAPERS, THE LEGAL FRATERNITY, &c.

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THAT Leadville has more than quadrupled her population during the past year is not so great a matter of wonderment to the new comer, when the yield of her mines is considered, as that a city of so pronounced cosmopolitan appearance should have been built during the whirl of excitement, caused by the every day occurrence of new strikes which would naturally tend to turn public attention into other channels and allow the town to grow hap-hazard and irregular.

On the contrary there are broad, regular streets, square blocks, wide alleys, water works, gas, imposing buildings, fine hotels, cosy theatres, elegant residences, costly church edifices, free schools, uniformed police, hospitals and all the belongings of a staid eastern community, upbuilt and maintained despite the presence of a lawless, desperate element of no mean proportions gathered from the worst classes of all the cities of the nation.

The inference is plain and irresistible that the majority of our citizens are progressive, philanthropic, and thoroughly imbued with confidence in the lasting qualities of the carbonate mines. The sage covered fields and thick pine forests of one year ago have given place to business blocks and residences. Some mining claims have their surface ground almost entirely covered with the houses and streets of the city, and the march of improvement goes steadily

forward. Railroads are pressing hither to relieve the necessity of wagon freighting and cheapen the cost of living. The freight business can be faintly comprehended by the statement that if all the teams engaged in the delivery of merchandise and provision were placed in line upon the road they would reach a distance of twelve miles. The city is built principally of native pine lumber, sawed by mills, hauled into the camp a distance of over one hundred miles. All supplies, until recently, have been freighted the same distance, over roads crossing mountain ranges 13,000 feet in height, and yet with all these obstacles to surmount, Leadville's growth may be termed magical, though in appearance so substantial, compact and liberal, as to impress the stranger with the belief that nothing had been done in a hurry. The present year will witness the erection of commodious brick structures that will compare favorably with many cities of ten times her age.

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### THE BANKING BUSINESS.

The growth and wealth of a city and busy habits of her citizens cannot be more accurately portrayed than by an inspection of the transactions of her banking institutions. The deposits indicate pretty clearly the volume of money in active circulation and the reserves held by merchants for replenishment of stocks, as well as the sums kept ready for mining investments. The exchange indicates the handling of bullion and the foreign capital introduced for investment in mining properties. Leadville has four solid banks, doing a creditable and thriving business. The Bank of Leadville is noted for its liberal dealing, sound financial management and unlimited command of capital. It began business in October, 1878, and by January, 1879, had deposits aggregating \$150,000. In July, 1879, the deposits reached \$500,000, and at the close of the year, \$800,000. The exchange for the past year has been as follows: With New York, \$3,607,500; Denver, \$5,500,000; Chicago, \$500,000; Philadelphia, \$222,000, and all other points, \$1,670,500, or a total of \$11,500,000. The stock of the bank cannot be purchased, although tempting offers have been made.

The Bank of Leadville has elected the following named

officers: President, H. A. W. Tabor; Vice-President, N. M. Tabor; Cashier, George R. Fisher; Assistant Cashier, W. S. Morse; Directors, H. A. W. Tabor, N. M. Tabor and George R. Fisher.

The condition of the bank on the 31st of December is given herewith.

## RESOURCES.

Loans and discounts.....	\$396,167 71
Advances on ore and bullion.....	185,639 06
Overdrafts.....	59,449 79
Bank building.....	17,262 85
Other real estate.....	1,327 40
Furniture and fixtures.....	4,776 60
Due from banks and bankers.....	204,270 97
Cash on hand.....	118,650 02
Total.....	<u>\$987,544 40</u>

## LIABILITIES.

Capital.....	\$ 50,000 00
Surplus.....	25,000 00
Undivided profits.....	5,489 90
Individual deposits.....	\$701,498 87
Demand certificates of deposit.....	<u>151,471 52</u>
	852,970 39
Due other banks and re- finers.....	<u>54,034 11</u>
Total.....	<u>\$987,544 40</u>

Both the President and Cashier are among the best posted citizens on all subjects upon which capitalists desire information, and personal consultation or correspondence will more clearly demonstrate this fact. The figures above given are confirmative of the popularity and strength of this bank.

## FIRST NATIONAL BANK.

This, the pioneer banking institution of Leadville, began business in May, 1878, under the title of the Lake County Bank.

The increase of business, and its rapidly rising influence, caused it to organize last spring under the laws of the United States organizing National Banks, and the name was changed to the First National Bank, with a cash capital of \$60,000. Its previous building became too circumscribed, and a fine stone structure 25x75 feet was erected on the



corner of Harrison avenue and Chestnut street, opposite the Bank of Leadville. The arrangement of the interior is somewhat after the style of the First National Bank of Chicago. The design, finish, and perfectness of every thing for the transaction of business are very complete.

The deposits average \$600,000, and the exchange for the year 1879 amounted to \$10,000,000. The officers and stockholders are: F. A. Reynolds, President; Nelson Hallock, Vice-President; John W. Zollars, Cashier; A. L. Ordean, Assistant Cashier; Aug. R. Meyer, J. B. Grant, J. S. Reynolds, Chas. Mater, J. C. Cramer, Chas. I. Thomson, Peter Finerty, E. D. Long, J. H. Clemes, Chas. T. Limberg, Rufus Shute.

The Miners' Exchange Bank, officered as follows: James H. B. McFerran, President, and Geo. W. Trimble, Cashier, is doing a large and legitimate business, as also the Miners' and Mechanics' Bank, on Harrison avenue, but their exact figures could not be obtained.

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### LEADVILLE WATER WORKS.

The Town Board acted wisely and well at so early a date, in providing ample water supply for domestic use, and for defense against fire.

Criticisms upon the wisdom of granting an absolute privilege to a corporation for the lengthened period of twenty years, are silenced by the knowledge that a city or town built almost entirely of pine lumber is in imminent and constant danger of a destructive conflagration, and that capital is not inclined to seek investment in a new town unless its future growth is well assured and a franchise granted which emphatically promises more than customary gains. The prosperity of our city is very largely due to the feeling of safety and confidence that any ordinary fire can readily be subdued by the streams from the pipes of the water works.

To-day Leadville has the best system of water supply in the State, and one more extensive and effective than is imagined by the majority of our own citizens. The company began work by breaking ground for pipes and reservoir on the 15th of September, 1878, under partial contract from the Town Board, which was fully consummated on

the 15th of January, 1879. From that date this company possesses the exclusive right to furnish water to Leadvillians until the year 1899.

The main reservoir is situated in Big Evans gulch, one and one-half miles north of the city, and has a capacity of twelve million gallons.

From this point, for the first half mile an eight inch pipe conducts the water over Fryer Hill to the connecting six inch pipe leading across Carbonate Hill to the city reservoir, immediately east of the head of Chestnut street. The fall from the main to the city reservoir is one hundred and eighty-six feet. The city reservoir holds one hundred and twenty thousand gallons, and from it an eight inch pipe is laid 2,952 feet down to the intersection of Chestnut street with Harrison avenue, obtaining an additional fall of one hundred and sixty-four feet. From this point, along Harrison avenue, and upon all streets running west are six inch supply pipes, and upon all cross streets four inch pipes. The total length of all piping is four and one-half miles. The valve next the city reservoir, on the line of pipe connecting the two reservoirs, regulates the inflow to the city reservoir, and a constant one inch stream is all that is requisite to supply the usual consumption for domestic purposes. Back of this valve is another at the mouth of a pipe, which starting out from the main line passes around to the north of the city reservoir and attaches to the pipe from it leading down to the city. Now in case of urgent necessity, or the giving way or derangement of the city reservoir, direct communication to the distributing pipes of the city can be had from the main reservoir on Big Evans, and the total fall of three hundred and fifty feet commanded. The men having charge of these valves can receive orders instantly by means of the telephone connecting with the general office on Elm street.

The city reservoir has also, in case of accident to the main line from the large reservoir, a resource in the four inch pipe reaching down to the bountiful springs in California gulch, eighteen hundred feet distant, where a powerful steam engine is always ready to force the water to it. Thus it is evident that all needful precautions have been considered by the company to insure a never failing water supply equal to all emergencies as well as the demands the future

growth and extent of the city may require. In case of a general conflagration each fire hydrant may be taxed to its utmost without causing any diminution of the supply, because the discharging pipes being smaller than the great feeders cannot evacuate as fast as the water runs in. The overflow from the Big Evans reservoir is of greater volume than that going into the eight inch pipes, when its best efforts are brought into play and precludes the possibility of any scarcity from the fountain head. This immense reservoir, or dam, is fed from numberless living springs on both sides of the gulch, and from the Mosquito range, affording an abundance of the purest fresh water. A large amount of clear, crystal ice is yearly yielded from the surface of this dam and stored for summer use.

Water was turned on the first day of March, 1879, according to the terms of the contract, which also specified a pressure sufficient to throw a stream through an inch nozzle to a height of fifty feet. On the test our town authorities were surprised to see a solid inch stream spurt one hundred and thirty-two feet into the air and steadily shower down from that elevation. The company has more than complied with its contract in every particular as regards specific requirements for effective and permanent service. That the company has a veritable bonanza in the supplying of water now, and a constantly enlarging source of revenue may be inferred from city payments and large private patronage.

For the first ten fire-plugs the company received \$125 per year, and for each additional hydrant \$85 per year. The contract calls for "not less than two plugs on each block on each street," but only fifty-one fire hydrants are in place upon the corners of the principal streets. The mines on Fryer and Carbonate Hills are furnished with water by the company, and forty mining engines, from eight to fifty horse power capacity are thus supplied. Besides a most liberal patronage from citizens along the main streets, the company accommodates suburban residents with water by maintaining five water carts having a daily capacity of three hundred barrels, deriving a handsome revenue from this source. It further has the exclusive right to run all pipes from its mains to the edge of the sidewalks for private consumers, and do all the plumbing to that point, and an

equal chance with others to do the entire work for each applicant.

The total cost of this the finest system of water works in the State, has been about one hundred thousand dollars.

The officers are: J. S. D. Manville, President; Henry W. Lake, Vice-President, and J. C. Cramer, Treasurer and general superintendent, These gentlemen, together with August Rische, are also the owners and board of directors.

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### PERSONAL MENTION.

J. S. D. MANVILLE is one of the pioneer merchants of the State, having for many years conducted a lucrative grocery business in Central City, and now most prominent in the hardware line in this city.

HENRY W. LAKE is a successful miner and mill man of Gilpin County, and a shrewd investor in important enterprises here.

AUGUST RISCHÉ, the well known bonanza king, has an extended notice in another part of this volume.

JOSEPH C. CRAMER, the treasurer and superintendent, is highly esteemed as one of the most public-spirited and wide-awake young men of the camp, and to his business sagacity and foresight is mainly due this splendid system of water works, without which Leadville would at all times be at the mercy of the devouring element, but with which she is able successfully to combat the flames. Mr. Cramer came here when the settlement numbered scarcely fifty souls, and has never since been twenty miles away from Leadville. He was present when the initiatory steps were taken to incorporate as a town, proposed the name "Leadville," was elected to the Town Board, held afterwards the office of town clerk and recorder, and resigned that position to become one of the owners and managers of the water works. His whole time and attention has since been devoted to this work, which from small beginnings has rapidly grown under his vigorous management to the most colossal public improvement of the city of Leadville. With the growth and permanent prosperity of the city, the exclusive water right for twenty years is a bonanza apparent to every one, and his one-fourth interest therein will continue to

afford him a yearly revenue equal to the best of carbonate mines. Mr. Cramer is a native of Westmoreland County, Pennsylvania, though more recently from San Francisco, California, is thirty-two years of age, and unmarried.

### THE LEADVILLE ILLUMINATING GAS COMPANY.

The growth of Leadville would fill the visitor with astonishment were its surroundings different and its location favorable to the obtaining of all materials necessary for the rapid upbuilding of a flourishing city. But the genius and energy of the inhabitants stand prominently forth when it is remembered that for over one year in her history the nearest railroad point was one hundred and twenty miles distant and all freight over two great inlets had to traverse roads across mountain ranges rising to the height of twelve thousand or more feet above sea level. The remaining inlet *via* the Arkansas Valley, from Canon City, while less abrupt in grade, rose to an elevation of over ten thousand feet before Leadville was reached. Saw mills were brought into the camp to utilize our native pines, ere better than log structures could be built. This required time and an enormous outlay of money, but yet in the space of two years we had a city of dimensions and character sufficient to be denominated the wonder of the age. Thoroughly imbued with the conviction of the inexhaustible mineral resources of the county, our citizens have laid solid foundations for all public improvements, and no makeshift or temporary devices characterize such works.

The Gas Company has forcibly illustrated this rule by the building of works, which, for perfection in design, latest improvements in machinery and workman like construction, are not surpassed by the best gas system in the great cities of the Union.

The capacity is for eighty thousand feet per day, or an abundant provision for the future needs of the city.

The original incorporators of this company were Charles L. Hall, Dennis Sullivan and George R. Fisher, but the entire capital stock of \$250,000 is now owned by H. A. W. Tabor, Wm. H. Bush and Charles L. Hall.

A special election occurred on the 25th of February,

1879, at which the vote was almost unanimous to authorize the Town Board to contract for gas. The company completed its organization in April and obtained the exclusive franchise for supplying Leadville with gas for the period of twenty-five years.

Gas was turned on upon the 18th day of November, and at that time 13,239 feet of mains had been laid through the principal streets. The city has contracted for one hundred lamps, at five dollars each per month, for a period of five years. The total cost of this public improvement has been about \$75,000, and none of the stock is for sale.

### FIKE DEPARTMENT.

The volunteer fire department of the city numbers about one hundred veteran firemen, well provided with suitable apparatus for effective duty.

The alacrity with which each individual responds to the alarm signal, and the heroic deeds and self-sacrificing conduct of each organization have stamped our department as one of the most alert and reliable in the State. Their skill and efficiency in battling with the flames, their ready obedience to orders and their perfect harmony in concerted action, have gained for them the respect and confidence of all our citizens. The men are not professional firemen receiving pay from the city, but from the stores, banks, newspaper offices and various business houses they rush at the call of duty, and in social standing are counted as of our best citizens. More than once have they saved our thriving city, and are honored accordingly.

The chief of the department is Wm. W. Bush, one of the proprietors of the Clarendon Hotel, and the assistant chief is Lou. C. Leonard, business agent for Hon. H. A. W. Tabor.

The Harrison Hook and Ladder Company musters fifty-two men. This is the pioneer company, and the truck was presented by Hon Edwin Harrison, of St. Louis. The equipment consists of two extension ladders, two scaling ladders, one single ladder, pike-poles, chains, ropes, hooks, buckets, etc., complete and in perfect working order.

The H. A. W. Tabor Hose Company numbers forty-eight men, with the following apparatus: One hose carriage,

the gift of Governor Tabor, one jumper, and 1250 feet of hose reeled.

The Wm. H. Bush Hose and Fire Company has a membership of thirty men, equipped with a jumper and 1050 feet of hose reeled.

Each organization is officered by a foreman and three assistants, and the neat uniforms exhibited upon parades and festal occasions display to great advantage the gentlemanly bearing of these gallant firemen.

A heavy hook and ladder truck is now being manufactured with especial reference to the requirements of this department by the Caswell Fire Department Supply Co., of Chicago. Chief Bush, as an organizer and competent manager, has few equals in the Western States, and to his zeal and influence is largely due the efficiency of this model fire department.

### MERCANTILE FIRMS.

The business of our merchants for 1879 was more than double the entire yield of the mines for the same period. Not only our own citizens, but many outlying districts were supplied by Leadville merchants, and the enormous charges for freight have kept prices up to a point that on many articles was more than double the original cost in eastern markets. No attempt will be made to mention business houses in detail, and only a few leading firms can be briefly noticed to show the character of our mercantile establishments.

#### CHARLES MATER.

Charley Mater, as he is familiarly termed, was the first merchant to identify himself with the new mining camp of Leadville, and his first little store was a veritable curiosity shop, containing articles of every description needed by the inhabitants, and embracing all lines of merchandise, now so well represented by exclusive houses. Charley's store was headquarters for everybody and everything, and in fact the general intelligence office for the settlement. He distributed the mails before postal facilities had been established, but declined to act as postmaster when that office was urged upon him. His business in the grocery line is

by all odds the largest and most comprehensive in the city, and his two stores are daily crowded with patrons. Fifty thousand dollars per month is a low estimate of sales, and six hundred thousand dollars is not a high estimate of his transactions for the past year. The large mining corporations and outside camps buy heavy invoices of provisions from him, but his stock is always equal to all demands by fresh consignments which arrive daily.

## CHARLES JOHNSON.

For years Mr. Johnson was the leading boot and shoe dealer of the city of Denver, but a visit to the carbonate camp several months ago caused him to remove here, as the field for a more extensive business was poorly represented, and his exclusive boot and shoe house now ranks among the prominent legitimate businesses of the city. His ventures in mining properties have proved successful, and the present year may include him among the numerous merchant princes of the carbonate camp.

## JOHN LIENINGER.

From a newspaper and pen-and-ink business in 1878, close attention and liberal dealing have raised Lieninger to the proprietorship of a handsome and extensive book and stationery establishment, doing a lucrative trade. His shelves are weighted down with standard works, and his counters contain all the periodicals and leading newspapers of the country. His elegant store is one of the popular resorts of the city, and his location on the corner of Harrison avenue and Chestnut street, opposite the Bank of Leadville, is one of the most central in the city. His stock is creditable to the tastes of his patrons, and would not seem out of place upon any of the fashionable streets of the large Eastern cities.

## JOSLIN &amp; PARK.

The jewelry business of Leadville has assumed immense proportions, and among the extensive dealers, none enjoy a more reputable position for integrity and enterprise than Joslin & Park. The finest and most elegant goods procurable in the markets of the world adorn their show cases, and the most costly diamonds tempt the honest miner



to investment. With the experience gained by years of honest traffic in these costly goods their verbal guarantee always satisfies their patrons as to the quality of the article they purchase, and gives to this firm a solid business standing. Buying and selling for cash, they are enabled to accord to every customer bargains that eastern dealers would squirm to duplicate. J. H. Durfee & Co., Hatch, Davidson & Co., and H. S. Brodie & Co. are also reliable and popular firms in the jewelry business.

#### CHLORIDE PLUMBING CO.

In connection with their water works, this company is doing an immense business in plumbing and steam and gas fitting in all its branches. The officers are Henry W. Lake, President, J. S. D. Manville, Vice-President, and Joseph C. Cramer, Secretary and Treasurer.

In all lines of business heavy stocks are carried, owing to the present isolated condition of the city from railroad facilities, and it is estimated that not less than one million dollars worth of goods of all kinds are constantly *en route* to this city.

In the hardware line C. Boetcher carries a stock of \$80,000, with monthly sales reaching \$30,000. J. S. D. Manville does a business similar in kind and volume, while E. H. Hendrick and other establishments are also prominent and extensive dealers.

The clothing trade of the city is estimated at about \$80,000 per month, and among the heaviest firms are Kammack & Co., carrying \$60,000 in stock, One Price Clothing House, \$35,000, Kaskel & Co., a branch of Michael and Kaskel, 653 Broadway, New York, and Ben. Wisebart, of Leadville and Denver.

#### LEADING DRY GOODS HOUSES.

Outside of Denver there is no city in the State that can compare with Leadville in the beauty and extent of its mercantile houses, and the new establishment of Owen & Chittenden is not excelled and scarcely equalled by any. The store-room is 35x127 feet. A row of pillars running the length of the room, 13 feet from the north wall, partially divides the store, although really all is embodied in one room.

The building was erected by Messrs. Owen & Chittenden themselves, on their own ground, Nos. 74-79 Harrison avenue. It is two stories in height, finished in the best style, the upper part being divided into offices and rooms, all of which are rented. An income of \$350 per month is derived from the rental of the up stairs. The entire building has been furnished with water up stairs and down.

About \$65,000 is invested in the business. The stock, comprising the richest dress fabrics, the finest ladies' suitings, the staples and notions complete to make up a first-class and extensive dry goods stock, is tastefully arranged, each in its particular department. The room is lighted by burners from 12 chandeliers, and in the evening is beautifully illuminated.

Taken as a whole, both building and stock of Messrs. Owen & Chittenden, constitute an establishment of which the owners and the citizens of Leadville may well be proud. Strangers coming so far into the Rocky Mountains have little idea of finding such palaces to supply the wants of the people.

WILLIAM R. OWEN is the pioneer dry goods merchant of Leadville, having come here when the town was in its infancy. His first store was located on Chestnut street, corner of Pine, and was not as large as the space now used for carpets alone. During the winter of 1879 Mr. Chittenden became a partner, and the combined energy of the two gentlemen has placed them among the leading merchants of Leadville.

#### DANIELS, FISHER & CO.

are located on the corner of Harrison avenue and Main street, fronting on Harrison avenue. The main building is a frame, two stories in height, 50x100 feet, with two main entrances, the first opening into the ladies' department, where is a large and varied assortment, such as usually is kept in dry goods houses. The second leads to the ready-made clothing and gents' furnishing goods department. The carpet rooms and store rooms are in a fire-proof brick building, in the rear, 25x50 feet. A stock is carried estimated at eighty thousand dollars, and the average monthly sales are given as about twenty-five thousand dollars, 26 clerks are employed, and are under the direct management of J.

W. Smith, the junior partner. W. B. Daniels and W. G. Fisher, of Denver, together with J. W. Smith, comprise the firm.

#### CROCKERY STORE.

Calloway Bros. & Co., have a fine stock in this line, and are located on Harrison avenue. They keep about \$10,000 in the business and estimate their sales at \$4,000 per month. James Stevens is the junior member and manager of the affairs of the firm.

#### LEADVILLE IRON WORKS.

These works were started by the present proprietor, Mr. John Alfred, in the spring of 1879, and are located corner Front street and Leiter avenue. The original building was but 16x26 feet, and was built of slabs. As the city grew and the business increased Mr. Alfred found it necessary to enlarge, and now the present dimensions of the buildings are 35x175 feet. At first the repairing of boilers and general blacksmithing was the only work attempted. Now a first-class machine shop has been added, and preparations for a foundry are being made. When completed, all kinds of machine, boiler and casting work will be attended to. About twenty thousand dollars are invested in the business, and Mr. Alfred is reaping his reward for close attention to business and square dealings with his patrons.

#### GAY'S FOUNDRY AND MACHINE SHOP.

Frank Gay has built up a flourishing business from very crude beginnings. His shop is supplied with the heaviest tools ever brought into the county, and he is able to meet any demands made upon his line of business, turning out all kinds of iron and brass castings, steam fitting, pipe, car wheels, pulleys, shafting, pumps and blowers for mines. He is agent for all kinds of machinery, and his establishment at all hours of the day or night is the busy scene of muscular labor in the repairing of engines, boilers and all descriptions of machinery. His castings are becoming very popular, and much of the work that formerly was sent to Denver and Kansas City is now done by him. Such establishments are indicative of the broad scope of the business enterprises which have sprung up within the past year

to keep pace with the marvelous growth of this future great mountain city.

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### TABOR OPERA HOUSE.

On Harrison avenue, next north of the "Clarendon" hotel is the elegant brick Tabor Opera House, the most imposing edifice in the city, and conceded by all to be the finest theater west of the Missouri River. The lower floor is divided into two of the largest stores in the city, the second is the theater proper, with the private apartments of Governor Tabor and Wm. H. Bush, and the third story, connected by passage way to the Clarendon is for the use of hotel guests.

The theater seats eight hundred and eighty people, is handsomely frescoed, and furnished with the celebrated upholstered opera chairs manufactured by Andrews & Co., of Chicago. All the appointments of this temple of amusement are first-class in every respect; the scenery artistic, and under the full flood of gas-light the cosiest place for lovers of the legitimate drama to throw off the busy cares of life and yield to the fascinations of music and imagery.

This building and ground cost the owner, Hon. H. A. W. Tabor, sixty thousand dollars. W. H. Bush has leased the Opera House for a term of years, it now being under engagement to J. S. Langrishe until February 27th, 1880, and he is now playing to crowded houses. The citizens of Leadville are liberal supporters of the legitimate drama, and the "stars" of the dramatic world will one after the other appear before appreciative and immense Leadville audiences.

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### CLARENDON HOTEL.

A year ago every inhabitant of Leadville was so intent upon his mining schemes that very many lines of business were inadequate to the demands of the times. This was particularly the case in regard to hotel accommodations. The restaurants were thronged day and night by men of marvelous appetites, who slept—no one could imagine where. The few hotels could not lodge their regular patrons, and accordingly incoming strangers found it a matter of the greatest difficulty to find a place to lie down, and he

who demanded a room was gazed upon as the greenest of tenderfeet. At this juncture Wm. H. Bush, of the Teller House, Central City, arrived here, and taking in the situation at a glance, made immediate preparations to build a first-class hotel.

The site selected by him was remote from Chestnut street, then *the street* of the town, and the sage-covered location was deemed too far out for securing a first-class trade. Mr. Bush's estimate of the growth and direction of the town has proved correct, and to-day his hotel is in the heart of the city.

When the Clarendon was completed and thrown open to the public, on the 10th day of April last, the event was hailed as a public benefaction, and immediately filled to its fullest capacity. The large reception rooms became at once the headquarters for mine owners and capitalists, and such is the case at the present time. Business appointments, then and now, made at the Clarendon have kept the hotel thronged, and many of the most important mining sales and other business negotiations have been consummated under its roof.

The steady patronage of the Clarendon is one hundred and twenty-five table boarders and one hundred and fifty transient and permanent lodgers. There are, under the hotel management, one hundred and fifty-one sleeping apartments, and by April 1st, 1880, there will be two hundred such rooms. The Clarendon is a three-story frame, but in the spring it is to be bricked up and a brick addition built on the rear containing fifty-five more rooms. The hotel is connected, by a passage-way across the alley, with the Tabor Opera House, and the rooms in the third story of that building sumptuously furnished for the use of the hotel guests. The financial success of this hotel is unparalleled, and its popularity, founded upon its merits, unequaled in the United States. Wm. H. Bush and James Streeter are the owners and proprietors. The ground, building and furniture are valued at \$75,000.

#### REAL ESTATE.

The rapid and permanent growth of the city cannot be more definitely and accurately portrayed than by brief mention of a few facts concerning real property.

In September, 1877, lots on Chestnut street were quoted at ten to forty dollars, conditioned upon the erection of improvements, which meant a log cabin or slab shanty. One year ago lots sold on Harrison avenue for two hundred dollars each, twenty-five foot front by half the block in depth, and to-day the same are firm at five to six thousand dollars. On Chestnut street, from the western limits of the city to the junction of Harrison avenue, prices range from five hundred to five thousand dollars; along Elm street, three hundred dollars, and on State and Main streets from three hundred to three thousand dollars, according to location. Stretching out to Capitol Hill and Lincoln avenue lots vary from one hundred upwards, as situation is desirable.

A veteran real estate dealer remarked to the writer that "not even in San Francisco, in 1849, have I ever seen such rapid advancement in real estate as I have witnessed in Leadville."

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#### RENTS.

Office rent is higher than in New York City, and householders here expect to collect rents enough in one year to pay for the property. The finer classes of buildings will of course not yield so heavily to the owner, but then the per cent. upon the investment is much greater than the money would bring in anything else except a lucky mining venture. Hundreds of men and women have become comfortably well "fixed" by a few hundred dollars invested twelve months ago in town lots.

There is much less trouble about titles than the outside public has been led to suppose from the published accounts of "lot jumping," and by another year conflicting titles will have been quieted by the decisions of the courts, and real estate in Leadville become as safe as in the older cities of the country. The inrushing of so many thousands of people eager to seize upon any thing and every thing promising gain, has, of course, led to much trouble; but time and the courts have nearly effected a remedy. Our people have suffered from the actions of a lawless minority who came here to prey upon honest citizens, but such characters are being rapidly weeded out, and law and order will triumph, for a large majority of our citizens are the picked men from

the professional and business ranks of the cities and states of the whole Union, and their influence is shaping public sentiment and establishing the firm foundations of a law-loving, law-fearing community.

### LAND OFFICE REMOVAL.

#### INTERESTING STATISTICS RELATIVE TO ITS OPERATIONS.

The growing importance of Leadville had been pressed upon the National Government during the early part of the year, and resulted in the removal of the land office from Fairplay, Park County, to Leadville, Lake County.

The following is a statistical report of the land office in this city, under the management of Judge John J. Henry, register, and Colonel William R. Burchinell, receiver, since its establishment last July. Applications for mineral patents and adverse claims were filed as follows :

July, twenty-eight applications and six adverses.

August, twenty-six applications and fourteen adverses.

September, sixteen applications and sixty-nine ad-verses.

October, twenty applications and fifty adverses.

November, twenty-three applications and twenty-four ad-verses.

December, to the 18th, six applications and twenty-four ad-verses.

Mineral entries—July, eight; August, six; September, eight; October, eleven; November, five, and December, six.

Agricultural filings—July, twenty-nine; Aug., twenty-three; September, sixteen; October, thirty, November, thirty, and December, twenty-three.

Final entries and payment for agricultural claims—July, four; August, four, September, eleven; October, ten; November, nine, and December, none.

Homestead applications—July, three; August, one; September, two; October, six; November, four, and December, two.

Homestead and final entries—July, three; August, one; September, two; October, six; November, four, and December, none.

The cash received during the above time from all applications and entries amounted to \$15,593.35.

There have been several filings on, and entries on coal lands, also five or six applications for town sites.

Leadville was also complimented by a session of U. S. Land Commission held here for a number of days to consult with our citizens regarding needed changes in the mining laws, to be presented to Congress at its next session. Three of the five commissioners were here, and their names are as follows: Clarence King, director of the United States geological survey; Mr. A. T. Britton, of the law firm of Britton & Grey, Washington; Mr. Thomas Donaldson, of Philadelphia, and Captain C. E. Dutton, of the army, as secretary. Hon. George L. Converse, chairman of the House Committee on Public Lands, was also with the commission.

#### MILITARY ORGANIZATIONS.

The Wolfe Tone Guards is the senior militia organization of Leadville, and in soldierly bearing, drill and discipline, a most creditable company. It is officered as follows:

John Murphy, Captain; C. Caffrey, 1st Lieutenant; J. O'Neil, 2nd Lieutenant; J. B. Walsh, 1st Sergeant; M. J. Flemming, 2nd Sergeant; J. J. O'Boyd, 3rd Sergeant; J. Lowney, 4th Sergeant; M. Mooney, 5th Sergeant; James Palmer, Company Clerk; B. M. Slack, Treasurer.

This company was organized on the 12th day of July, 1879, and musters 80 privates and 18 commissioned and non-commissioned officers.

#### CARBONATE RIFLES.

The Ute outbreak and the outbreak of lawless white desperadoes called together this fine body of law abiding citizens, ready at a moment's notice to uphold the supremacy of law and quell any uprising of the turbulent. There are 44 men, and officers as follows:

W. P. Minor, Captain; H. S. McCullem, 1st Lieutenant; J. C. F. Christian, 2nd Lieutenant; B. Gardner, Company Clerk.

#### TABOR HIGHLAND GUARDS

was organized on the 2nd of August and musters sixty-four men, officered as follows:

Cecil C. Morgan, Captain; St. George Stanley, 1st Lieutenant; Donath McDonald, 2nd Lieutenant.



Miss Linda Nash, "Daughter of the Regiment," wears the appropriate uniform of the Highland Guards together with the cantiniere. The colors carried, are a battle scarred flag, presented by Major Stitchfield, of this city, and in the upholding of which three brave men fell in rapid succession during the late war, and also a bonny Scotch flag. The uniform is made up with black doublet with royal blue and red cord and facings, kilt of the royal Stuart style, and stockings dashed with red and green. The sporan is of white goats hair with silver tassels and mountings, Prince Charley bonnet ornamented with silver buckle and plume, royal Stuart shoulder plaid with silver buckles and cairn gorn jewels. Each man carries a skein dhu in his stocking. The company, in appearance and drill, is an honor to its patron saint, Hon. H. A. W. Tabor.

#### THE LEADVILLE GUARDS

have sixty veteran soldiers enrolled, with officers as follows: McClosky, Captain; O'Connel, 1st Lieutenant; McDonald, 2nd Lieutenant.

#### FREE SCHOOLS.

The friends and patrons of education have not been unmindful of the responsibilities resting upon them to provide those advantages for the youth of the community demanded by the enlightened sentiment of the present age, and accordingly we find seven schools in successful operation, with an average daily attendance of four hundred and fifty pupils.

Parents contemplating residence in the Carbonate Camp need not hesitate to bring their children for fear of being deprived of the benefit of graded schools, for they will discover here the same course of study, under as competent management, as in any of the eastern cities.

The high school building is owned by the city, but the others are rented structures. The scarcity and cost of materials have prevented building, but a central school, of ample dimensions and elegant architectural design, will be constructed early in the spring, and all the latest school furniture provided for the use of scholars. The high standard of scholarship required of a teacher, before a certificate can be received, is evidence that efficiency and thoroughness

will result from such tuition. Prof. B. F. Jay, a competent and experienced instructor, is the County Superintendent and is ably supported by his corps of assistants, and by all citizens of intelligence and public spirit.

### CHURCH ORGANIZATIONS.

On the 1st day of February, 1878, Rev. Mr. Uzzel arrived in Leadville, and having secured a log cabin 12x18 feet in size, situated just in rear of the Grand Hotel, he organized the present flourishing Methodist Church. At the first meeting a subscription paper was passed around among the rough looking congregation, and \$200 raised to build a suitable place of worship. A neat little chapel, 25x45 feet, was soon after erected on the corner of Main and Spruce streets, and comfortably furnished. The miners patronized the church enterprise, because they knew the refining influence of Christianity would not only mould public sentiment, but also gather together and maintain those elevating social distinctions, so essential to the well being and good order of a prosperous community. Men who would not attend meetings gave liberally that religious organizations might be nourished and Christian families be induced to make permanent residence in the new mining region.

Captain Albert Cooper donated the first church bell which ever sent its echoes through the canons and gulches of Lake County; chandeliers were donated by Governor H. A. W. Tabor, and the Methodist Church dedicated free from debt on the 5th of July, 1878. The church was small from the beginning, and in August, 1879, its size was doubled and now it has a seating capacity for seven hundred persons. The society will soon erect a large brick edifice to more comfortably accommodate visitors and its own membership of 175 worshipers, as well as the Sunday School attendance of 235 adults and children.

Rev. Mr. Janeway organized a Presbyterian church in August of 1878, and built a chapel on Lafayette avenue. Mr. Claggett is the present pastor. Dr. Bowker is the resident pastor for the Baptist church on Jefferson avenue. The Congregationalists are building a church which would have been finished and occupied ere this, except for the stage accident which resulted in the death of Rev. Mr. Pickett. The Episcopalians have a large membership, but

for the present, hold meetings in the Tabor Opera House, under the ministrations of Rev. Rector McKay. They will soon build a fine church. The Campbellites or Christians have no minister, but are an organized society, and the elders hold divine services in one of the school houses. Father Robinson came to Leadville early in 1878, and his congregation has so largely increased as to necessitate the erection of the present brick cathedral, nearly finished, and which will cost \$30,000.

Other creeds are represented here, and all denominations are in a flourishing condition, showing that the moral and religious interests of the city have kept pace with the rapid growth of secular institutions. The churches are crowded each Sabbath with as well dressed, well behaved and intellectual congregations as can be found in any city of the Union.

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#### NEWSPAPERS, ETC.

Leadville at present has two morning daily papers, the *Herald* and *Democrat*, and one evening daily, the *Chronicle*. The *Herald* is Republican in politics, and its morning contemporary emphatically adheres to the principles its name indicates, while the *Chronicle* is independent in politics as in everything else. All the papers are ably edited, skillfully conducted, and their columns filled with the general telegraphic topics of the day, and the business, social, and every-day doings of the great Carbonate Camp. The telegraph office does an immense amount of business, and some of the heaviest mining sales occurring in the camp have been consummated by wire. The telephone system is another important factor in the rapid transaction of business, and connections are made with all the smelting establishments, prominent mines, business houses, and hotels. Well appointed stage lines connect with the terminus of the South Park railroad, and Cooke & Wasen run a daily line via Kokomo to the Colorado Central railroad at Georgetown. Numerous livery stables also send out private carriages and saddle horses for the accommodation of persons who prefer such methods of travel. The restaurants and boarding houses of the city are becoming justly famous for excellent meals and reasonable charges. The various theaters draw large and appreciative audiences, and dance halls and

gambling houses are thronged, and yet the streets are always full of people. By day and by night Leadville is the scene of constant excitement.

### THE POST OFFICE.

Dr. A. Smith, the postmaster, is making strenuous exertions to secure the free delivery of mail matter to the citizens of Leadville. The last year has witnessed a marvellous growth in the amount of business done through the mails, and six clerks are an insufficient force at the present time. The following table will more clearly indicate the importance of the Leadville post office and its claims upon the General Government for increased postal facilities.

The money order department makes this showing:

	No. Issued.	Amount.	Fees.	No. Paid.	Amount.	Remitted.
January . . . .	830	\$ 17,532.45	\$ 120.40	115	\$ 3,464.39	\$ 14,498.
February . . . .	1020	22,184.73	155.00	210	5,838.50	17,938.
March . . . . .	1528	34,131.02	215.95	318	8,369.97	24,738.
April . . . . .	1589	38,739.81	245.85	356	10,369.95	28,272.
May . . . . .	2014	49,209.76	312.70	381	11,318.64	38,119.
June . . . . .	2217	54,036.32	345.85	394	10,797.46	42,223.
July . . . . .	2132	51,395.29	329.35	376	11,317.36	41,998.
August . . . . .	2320	57,456.43	365.10	460	13,258.48	43,900.
September . . . .	2531	62,984.22	400.30	470	12,980.39	53,708.
October . . . . .	2536	65,945.74	437.60	465	12,791.99	47,600.
November . . . .	2510	60,730.23	695.90	426	11,403.47	53,500.
December . . . .	. . . . .	54,724.58	353.10	. . . .	9,005.32	42,100.
Total . . . . .	. . . . .	569,070.58	3,977.10	. . . . .	120,910.92	448,594.

More than half a million dollars have been sent out of the camp as against one hundred and twenty thousand dollars received here by post office money orders. A very large share of such moneys has been sent to the absent wives and children of the hardy toilers of our mines, and who shall estimate the comfort and happiness these sums have brought to numberless households throughout the various States of the Union.

### THE BAR.

A great deal might be said of the Leadville Bar. It comprises about one hundred lawyers, and includes some of the ablest and worst elements of the profession. It is fortunate, however, that the most responsible and weighty

practice is divided among worthy members, while others commence their career by embarking their total capital in the purchase of a sign, thence forward living principally by their wits. It is no disparagement to other cities to say that Leadville has the ablest Bar in the State, distinguished for the learning, experience and eloquence of many of its members. Such gentlemen as Charles W. Tankersley, Chas. S. Thomas, James Y. Marshall, T. D. W. Yonley, Benjamin F. Rice, Adair Wilson, A. T. Gunnell, Hiram P. Bennett, A. P. Hereford, A. S. Weston, Captain Blake, Chas I. Thompson, Dan'l Sayre, Chas. Cavender, A. W. Stone, and many others could be named who would command respect in any community and lend credit and luster to the profession of which they are distinguished members.

#### SOCIETIES.

The citizens of Leadville are gathered from all the States of the Union, and societies for re-union and social intercourse are very numerous; the only qualifications for membership being residence and honorable social standing. The Veterans of the War and the Pacific Coasters are the largest organizations, although some of the states are very heavily represented, The usual civic societies are all in fine working order, and are briefly noted.

The Ionic lodge, No. 35, A. F. & A. M., was organized about one year ago with a membership of about fifty and an attendance from visiting brother members from other lodges of about sixty. This lodge meets every first and third Thursday evening of each month at their lodge room on Chestnut street. Their new lodge room over Harris & Herman Bros., will soon be completed, to which place they will remove. The present officers are:

W. M., A. K. Updegraff; S. W., Wm. Knight; J. W., R. T. Taylor; S. D., Wm. Braden; J. D., Wm. H. Brandt; S., Geo. Mitchell; D. S., H. W. Pollitz; T., Joseph Steiglit; D. T., David Johnson; S. S., S. H. Rutherford; J. S., P. K. Keinefelter; Tyler, C. E. Seaton.

I. O. O. F. Chloride lodge No. 31, organized November 26th, 1878, with seven members, but now contains fifty members. The new lodge room, corner Chestnut street and Leiter avenue, is approaching completion and will soon be ready for occupancy. Besides this lodge of the order, Oro

lodge No. 16, located at Oro, three miles above Leadville, is also in a flourishing condition.

Lake Encampment No. 7, also meets at Oro on the first and third Fridays of each month. A. S. Weston, Esq., is N. G. of Chloride lodge, and W. L. Enery is N. G. of Oro lodge. Alderman John McComb is C. P. of Lake Encampment No. 7.

Knights of Pythias, Leadville lodge No. 11. This organization is in a flourishing condition and is meeting with fine success. It was organized in September, 1879, with a membership of sixty. The present officers are: C. C., Nathan Cern; V. C., James G. Kelly; D. G. C. P. P., H. W. Shannon; P., Joseph Samuels; K. of R. and S., Sol. Herman; T., M. Levy; I. G., Solers Pena; M. A., M. Eldridge.

This order has about completed an elegant lodge room on Chestnut street over Herman Bros.' clothing house. There are two entrances, each 15x10 feet, with a main hall 70x25 feet. The main hall is furnished with the very best and most elegant furniture that can be had.

#### B'NAI B'RITH.

This order, established some thirty years ago, has for its mission that of uniting the Israelites in the work of promoting their highest interests and those of humanity, of developing, elevating and defending the mental and moral character of their race, of inculcating the purest principles of philanthropy, honor and patriotism, of supporting science and art, alleviating the wants of the poor and needy, visiting and attending the sick, providing for, protecting and assisting the widow and orphan on the broad principles of humanity. There are over 300 lodges in the United States, with a very large membership.

Mr. I. H. Kamak is President; Adolph Bauer, Vice-President; F. Hattenbach, Treasurer; A. B. Elliel, Secretary; I. A. Kamak, monitor; Lew Schoenberg, Warden; M. J. Levi, Outside Guardian.

#### DEUTES CASINO.

The ex-German students and lovers of the social bearing and happy ways of the Germans are an organized club, which numbers the following well known citizens:

E. R. Abadie, Dr. Assig, S. Billing, Wm. Boesch, S. E.

Bruckman, C. Boeuler, Bob Bunson, H. Connsbruch, A. Eilers, O. Fluegger, J. B. Grant, Dr. Grosart, M. B. Hass, Prof. Holm, H. Hauser, Dr. Heil, C. Henrich, Dr. Hoelke, M. Huerlimann, Prof. Bud Keck, Alex. Loveland, F. Leavick, E. Loescher, Charles Mater, Charles Plagge, H. Sacts, Fred. Schafer, J. C. Schmidt, C. Stadelmann, Dr. H. Steinau, N. H. Thorne, H. W. Tuercke, Fritz Uthoff, J. W. Wist, E. H. Wood, Col. J. Wurtz bach.

There are a number of literary societies and private clubs of a social nature that meet regularly.

While the Ancient Order of Hibernians have made some advancement, and taken steps toward organizing a society, they have not opened a lodge for membership, but will be prepared to do so at an early day.

There have been one or two efforts made to organize a lodge of I. O. G. T., but as yet no permanent lodge has been established.

#### A METROPOLITAN CLUB.

It has for some time been felt by some of our leading citizens that Leadville has grown to such dimensions that a club house, on the same principles as those which govern the clubs of large eastern and European cities, has become a necessity. The idea has taken definite shape, and a meeting called at the residence of J. B. Grant, Esq., to discuss the matter and take the preliminary steps. It is proposed to erect a first-class building, having on the first floor a large hall, smoking, reading, and coffee room; on the second floor, parlor and billiard rooms, and in the basement, servants' quarters, kitchen, etc. The promoters of the scheme will organize as a joint stock company, with a capital stock of fifty thousand dollars. The members will be elected by ballot, and will be required to pay an initiation fee and a yearly subscription, and thus secure a place for spending their leisure moments, and where they will meet only those with whom they care to associate.

# COMMERCE.

## FREIGHT ITEMS, LUMBER TRADE, AND WHOLESALE AND RETAIL PRICES OF GROCERIES.—WAGES PAID, ETC.

The smelters still complain of their inability to procure the transportation of bullion, the freighters preferring to go back empty, rather than to take bullion at the rates offered. A change, however, will be made, which will serve to remedy the difficulty.

### UP FREIGHTS.

From end of track, per lb.....	2	to	3	c
From Canon.....	2½	to	3½	c
Coke—from end of track.....	2½	c		
From Canon City.....	2¾	c		
From Colorado Springs, all kinds of freight.....	2½	to	3½	c

### DOWN FREIGHTS.

Offered bullion—to Canon City.....	\$12
To end of track.....	10

### GROCERIES.

Groceries have an upward tendency, but as yet there is no great advance in prices. Sugars and other staple goods are the first to feel the increase in freight, because of the small margin charged by dealers.

Butter has advanced ten cents per pound, and still has an upward tendency. A few of the canned and dried fruits are higher.

### RETAIL RATES OF GROCERIES.

Bacon.....	per lb.	\$	10	to	\$	15
Hams.....	"		15			
Lard.....	"		15			
Coffee, Rio.....	"		20	to		25
Coffee, Java.....	"		33	to		38
Sugar, brown.....	"		15	to		17
Sugar, granulated.....	"		18	to		20
Sugar, cut loaf.....	"		21			
Sugar, powdered.....	"		21			



## LEADVILLE.

Tea, green.....	per lb. \$	50 to	1 00
Tea, choice black.....	"	60 to	1 25
Dried apples.....	"	15 to	25
Dried prunes.....	"	18	
Dried currants.....	"	18	
Raisins.....	"	15 to	25
Beans.....	"	9	
Cheese, N. Y. creamery....	"	25	
Rice.....	"	15	
Salt.....	"	5	
Tobacco, smoking.....	"	60 to	75
Tobacco, chewing.....	"	75 to	1 00
Soap.....	"	8 to	10
Potatoes.....	"	5½ to	6½
Coal Oil, 175° test, per gallon....		85 to	1 00
Flour.....		7 50 to	8 00
Canned tomatoes.....		30	
Canned peaches.....		40 to	50
Canned corn.....		30	
Starch.....		12½ to	15
Fruit butter.....		65 to	75
Cigars, per hundred.....		2 00 to	12 50
Syrup.....		1 00 to	1 25
Whisky.....		2 50 to	7 00
Pickles, per gallon.....		1 00 to	1 25
Sardines.....		25 to	40
Lobsters.....		25 to	40
Oysters.....		30	
Butter.....		40 to	60
Green apples.....		12½	

## MEATS AND POULTRY.

The provision markets are well stocked with meats and poultry.

## MEATS—WHOLESALE.

Beef.....	5½ to	6
Buffalo.....	18	to 20
Mutton.....	5½ to	6
Pork.....	9	to 10
Veal.....	10	to 12

## MEATS—RETAIL.

Porterhouse steaks.....	15 to	18
Sirloin.....	15 to	18
Round.....	12½	
Mutton chop.....	12½	
Pork steak.....	15	
Veal cuts.....	15 to	18
Sausages.....	15 to	18
Headcheese.....	15	
Ham.....	15	
Buffalo steak.....	20 to	25

FOWLS—WHOLESALE.

Turkeys.....	22
Ducks, per doz.....	\$4 to 6
Geese, “.....	\$12 to 15
Pigeons, “.....	\$3
Chickens, per pound.....	20

FOWLS—RETAIL.

Turkeys, per pound.....	30
Ducks, each.....	35 to 50
Geese, each.....	\$1.25 to 1.50
Pigeons, per pair.....	60 to 75
Chickens, per pound.....	25

OYSTERS.

Select, per can.....	90
Medium, “.....	75
Soup, “.....	60

LUMBER AND SHINGLES.

This branch of trade has been brisk, and lumber is in good demand. The competition is not so great as in some other branches of business, and in consequence prices rule high, and are held firm.

LUMBER.

Colorado, common and dimensions for building, per M feet.....	\$ 30
Clear, rough.....	35
Clear, planed.....	50
Flooring, planed and matched.....	40
Common flooring.....	30
Chicago A stock.....	125
Chicago, 1st and 2d clear, 1¼, 1½ and 2 inches.....	135
Chicago, siding.....	50
Chicago, ceiling, 3-16.....	55
Chicago, flooring.....	100
Shingles, per M.....	5

SASH AND DOORS.

Doors, 2x6, 1 inch.....	\$2 75
Doors, 2x6, 1¼ inch.....	3 50
Doors, 2x8, 1¼ inch.....	3 75
Doors, 2x8, 1½ inch.....	4 00
Doors, 2x10, 1½ inch.....	4 25
Sash, 8x10.....	2 50
Sash, 10x12.....	3 25
Sash, 10x14.....	3 50
Sash, 10x16.....	4 00
Sash, 12x16.....	4 25

## LEADVILLE.

## FEED.

Hay, per cwt.....	\$4 50
Oats, ".....	6 00
Corn, ".....	4 50
Corn chop, per cwt.....	5 00
Mixed chop, ".....	5 50

## WAGES PAID.

Miners, per day.....	\$	3 to 4
Engineers, per day.....		3 to 4
Common laborer, per day.....	2 50	to 3
Ore teamsters, per month.....	45	to 50
Freight ".....	25	to 40
Carpenters, per day.....		3 to 5
Brick layers, ".....		4 to 5
Stage drivers, per month.....	50	to 80
Waiters, ".....	30	to 40
Cooks, ".....	65	to 200
Clerks, ".....	50	to 125
Teachers, (gent.), per month.....	100	to 160
Teachers, (ladies), ".....	50	to 80
Laundresses, ".....	30	to 60
Blacksmiths, per day.....		3 to 5

# FREIGHT EMBARGO.

## EFFECT UPON MINE OWNERS AND SMELTERS.—HOW THE BLOCKADE IS BEING BROKEN.

The railroads reaching towards us, and the lines connecting us with eastern markets, have each and all, by increased tariff rates, demonstrated that they are bent upon having to the last farthing all they can obtain in the movement of tonnage. The freighters, too, have increased their prices as the South Park railway has reduced the length of their haul. To give a better understanding of this matter, we present the ruling rates of last summer, when the South Park road had progressed to Jefferson station, and the rates at the terminus at Weston two months ago:

### AT JEFFERSON.

Coke cost in Denver.....	\$ 9 00
Railroad freight to Jefferson.....	1 00
Teamsters' freight to Leadville.....	18 00
Total cost.....	<u>\$28 00</u>

### AT WESTON.

Coke cost in Denver.....	\$10 00
Railroad freight to Weston.....	3 08
Teamsters' freight to Leadville.....	25 00
Total cost.....	<u>\$38 08</u>

The difference as against the smelter is \$10.08 on each ton of coke delivered in Leadville. The bullion rates are much greater, as shown by the following table:

### AT JEFFERSON.

Teamsters' freight.....	\$ 8 00
Jefferson to Denver.....	3 00
Denver to New York.....	12 90
Ton of bullion to New York.....	<u>\$23 90</u>

### AT WESTON.

Teamsters' freight.....	\$10 00
Weston to Denver.....	6 50
Denver to New York.....	22 00
Ton of bullion to New York.....	<u>\$38 50</u>
The difference as against the smelter is...	\$14 60

It will be observed that while the price of coke advanced but one dollar, that it cost ten dollars and eight cents more in Leadville, and that the railroad could haul coke eighty-six miles for one dollar per ton, and charge two dollars and eight cents to transport it an additional twenty three miles. The freighters charged eight dollars for hauling a ton of bullion fifty-six miles to Jefferson, and when the distance was decreased to thirty-five miles to Weston, they demanded and received ten dollars per ton. The railroad charged three dollars for transporting a ton of bullion eighty-six miles and received three dollars and fifty cents for the additional haul of twenty-three miles.

The railroads beyond Denver made exactly the same haul and yet charged an extra nine dollars and ten cents for doing it.

If the railway and team carriage was profitable at the old rates, it must be immensely so now with the vast increase in tonnage. But supposing that these charges are only right and proper, who are the losers thereby? At the first the smelter and sampler must bear the loss upon the ores bought at former margins, which ranged generally from three to seven dollars per ton, owing to sharp competition. So far as buyers are concerned the margin was dangerous, because of fluctuations in silver and lead, and the uncertainties attending transportation to distant eastern markets. With these difficulties besetting the hauling of bullion the smelter was obliged to smelt ores in the closest possible manner, and to reduce to the minimum actual loss by smelting to insure a living profit from the eastern buyer. The ores on hand when rates were increased had to be marketed at an absolute loss, and to protect themselves buyers were compelled to pay lower prices for ores and the miners become the losers. Charcoal, when the railroad was at Jefferson, cost from seven to ten cents per bushel, but it has advanced to from fourteen to seventeen cents per bushel. Including all waste of fuel from the kilns in El Moro until it is used in the furnaces, and substituting coke for the part charcoal actually employed, there is on an average consumed thirty-three per cent. of fuel per ton of ore. There are also a little more than three tons of ore used to make one ton of bullion. If we divide therefore the above increase in cost of freight and fuel (\$24.60) by three, we get

approximately at the increase in cost of handling a ton of ore, which is \$8.20.

The mine owner is accordingly paid about \$8 per ton less for his ore than formerly.

The above remarks and figures represented the situation two months ago, but since that time rates have advanced, and it now costs \$41 to ship a ton of bullion from Leadville to New York, on account of roads east of Denver increasing rates from \$22 to \$24.50. Coke has advanced from \$38 to \$50 and \$55 in Leadville. The actual demand for supplies of provisions, grain, and hay, has forced the railroad to reduce the amount of coke hauled and to remedy this some of our smelting men have taken the bull by the horns, and have cut the "Gordian Knot" that has hitherto tied up the freight business. The Harrison Reduction Works have purchased a freight train of eight teams, eight mules each, and A. R. Meyer & Co. have purchased four teams of the same character. J. B. Grant & Co., also, have a large mule train employed in supplying coke and hauling out bullion. These teams will devote their entire attention to the transportation of bullion, hauling coke back in return. This will relieve the freighters from this business entirely, and will make the smelting and sampling companies independent of the freighters.

Other companies will doubtless soon have their own trains, so that the bullion blockade may be considered as virtually broken. This is a move in the right direction, and one that ought to have been taken long since.

#### LAKE COUNTY SAMPLING WORKS.

These works situated just in the outskirts of the city on the Oro City road, are kept busy constantly, and a heavy business is transacted. The proprietors, Messrs. Gillespy, Ballou & Co., are thorough mill men, and popular alike with mine owners and smelters. They sell direct to the smelters, who can always find any particular kind or grade of ore they may require, in bulk or in smaller quantities. During the month of November this firm handled 3,069,467 pounds of ore, or a daily average of 102,315 pounds. The rush of business prevented the obtaining of a full summary of operations which would have made an important showing.

PENNSYLVANIA LEAD COMPANY.

As will be observed by the following table, the Pennsylvania Lead Company, through its popular agent, Robert Bunsen, has been an active bullion buyer during the past year, and each month's operations are given in full.

Months.	Lbs. bullion.	Contents: Ozs. of silver.	Contents: Ozs. of gold.	Value of silver at \$1.12 per oz.	Value of gold.	Value of lead at 4c per lb.	Total value of shipments.
January . . . . .	476,540	70,314	51.90	\$ 78,751.68	\$ 1,072.25		
February . . . . .	415,263	62,757		70,287.84			
March . . . . .	637,936	116,216	8.50	130,161.92	175.61		
April . . . . .	479,222	82,711	14.31	92,656.32	688.77		
May . . . . .	379,668	50,059	31.90	50,066.08	805.66		
June . . . . .	670,534	111,623	41.90	125,017.70	842.83		
July . . . . .	471,375	60,622	40.80	607,866.64	842.83		
August . . . . .	359,469	37,720	2.80	44,246.40	57.85		
September . . . . .	815,397	74,044	106.90	82,939.28	2,208.55		
October . . . . .	1,040,847	117,114	62.20	131,167.68	1,285.05		
November . . . . .	1,043,265	129,689	14.70	145,251.88	303.70		
December . . . . .	786,415	104,203	24.00	116,787.36	495.84		
Total . . . . .	7,575,790	1,017,072	400.11	\$1,139,120.64	\$ 8,266.27	\$300,246.72	\$1,447,627.63
Total amount silver . . . . . 69,746 pounds. " " gold . . . . . 26 "							

## TABOR MILLING COMPANY.

The richest ores of the camp are dry ores: *i. e.* ores which carry a light per centage of lead, and therefore not suitable for smelting.

A strong combination has recently been formed to erect a large stamp mill to treat such ore by amalgamation, and comprises such well known capitalists as H. A. W. Tabor, Tim Foley, Simon H. Foss, Eddy & James J. B. Grant and Pat. McCann. Pat. McCann has been appointed manager, and Edward Eddy secretary and treasurer. The full capital stock of \$100,000 has been paid in, the site for the ground selected and contracts let for lumber and other building materials. The new works will have a capacity of one hundred tons of ore each twenty-four hours, and the manager has gone East to purchase the best and latest improved machinery. Fifty stamps will be erected for the trial run, and if everything works satisfactorily the number will be increased according to the requirements for this class of ores. Mr. McCann has had thorough experience in treating the refractory ores of Clear Creek County, and the company could have chosen no more skillful and successful a manager for this new enterprise.

The per cent. of dry ores is increasing very rapidly over the lead ores of the camp, and the excess of dry ores compels the smelter to smelt on low lead charges, thus decreasing his capacity and entailing a large per centage of loss in the lead used. The company has a plethora of capital, and an abundant experience acquired in the numerous mining camps of the West, and its success is assured. It is reported that forty per cent. premium has already been offered for shares in this co-partnership. The company expects to be shipping silver bricks, 950 fine, by the first of April.

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RUNNING AND TROTTING ASSOCIATION.

To-day Leadville can boast of the finest race track in any state west of the Missouri river. The following gentlemen were the incorporators: W. H. James, J. S. Bush, Wm. H. Bush, E. C. Kavanagh, R. E. Goodell, James N. Carlisle, M. J. Murphy, Cal. B. Summers, and J. G. Shuman. The grounds of the Association are about a mile above



the Soda Springs, and the track measures half a mile around. A running stream of pure crystal water passes through the grounds, which are nicely fenced. Within the enclosure is an amphitheatre, judges' stand, ticket office, booths, and numerous well appointed appurtenances.

The following are the officers: President, W. H. James; First Vice-President, J. M. Barlin; Second Vice-President, J. S. Bush; Superintendent, C. C. Joy; Treasurer, R. E. Goodell; Executive Committee, J. P. Kelley, E. C. Kavanagh, M. J. Murphy, W. S. Tough, and Cal. Summers.

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#### THE SMELTERS' SUPPLY COMPANY.

Hon. H. A. W. Tabor, Franklin Ballou, and John E. Wurtzebach have associated themselves together for the purpose of buying and selling bullion, ores, coke, charcoal, and machinery.

The objects of the association are to supply smelters and refiners with all manner of materials necessary or essential to be used by them in or about the business of smelting or refining, and also to carry on a general business in said materials as well as in the produce of smelting works and refineries.

The gentlemen comprising this company are so well known as to require no words of introduction to the public, either for business enterprise, integrity, or unlimited command of capital, and therefore it will be at once understood that a new era is dawning upon us in the supply of coke and all other smelting materials as well as a steady, sure cash market for all the bullion and ores the smelting works and the mines of the camp are capable of producing.

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#### FINANCES.

The condition of the finances of our city cannot fail to interest. The general income of the city for the year ending 1880, is about \$60,000, of which \$40,000 is derived from taxation, and the balance, \$20,000, from fines, licenses and other sources. There are about \$8,000 of city warrants afloat, but upon the first of January they will be absorbed or paid, and at that time there will not be one dollar of indebtedness due from the city. The assessed valuation

upon the 20th of May last was about \$2,500,000, and upon that amount there was levied a tax of two per cent., which will produce all the required income of city expenses. Were the assessment to be made now, the valuation of the city would exceed \$5,000,000. For Lake County, the finances show an equally gratifying condition. The assessed valuation upon the 20th of May, 1879, was \$3,672,703.

The total tax amounted to \$167,018.98, and of this amount twenty-three individuals pay \$62,756.51. Taking the several companies in which Mr. Tabor is interested, his total tax amounts to \$10,000. The rate of taxation for the city has been fixed at 5.3 mills; for the county at 2.5 mills.

#### COUNTY CLERK'S OFFICE.

A large clerical force is busily employed, and the work of the office is kept well forward, although fully three-fourths of the five thousand mining claims on record have been located since the division of the county, on February 13, 1879. Of these locations 275 begin with the name "Little." The records show that there has been during the past year, a gradual rise in city property from \$50 per front foot on business streets to \$400 and \$500 per foot for the choicest lots. In most mining camps there is a large number of abandoned claims, but here it is rare to find such. Every prospect hole has a positive value, regulated by its proximity to some producing mine. If a man has a claim and works it, he has only to persevere to find a certain sale.

The general tendency among mine owners is to consolidate. Between 125 and 150 certificates of incorporation have been filed for record since the new county began its existence, and almost daily, articles of agreement are placed on the records, pooling or consolidating conflicting lodes.

It may be safely predicted, basing the estimate upon the figures taken from the records of the past year, that the year 1880 will show an aggregate of sales of mining property, in California District alone, of upwards of one hundred millions of dollars.

The number of instruments of all kinds filed for record, in the Recorder's office, between February 13th, 1879, and November 24, 1879, is 12,500, and the average for the latter half of 1879 may be set down at between 60 and 70 per day.

## MALTA PRODUCED THE FIRST BULLION.

EARLY HISTORY OF SMELTING AT MALTA, AND GENERAL ITEMS OF INTEREST CONTRIBUTED BY PROF. E. LOESCHER.

The Malta Smelting works, at the mouth of California gulch, were erected by F. A. Schevill, of Cincinnati, and E. Loescher, in the spring of 1875. The object of these works was mainly to work the Homestake mine ores, and those from several fissure veins in Evans gulch, among which were the Victor and the Best Friend. Real carbonate of lead was then only known at the La Plata mine, but this ore was rather poor, assaying but about 10 to 15 ounces silver, and from 20 to 40 per cent. lead.

During the winter of 1875-76 A. B. Woods opened a carbonate mine (Rock Mine) in the same neighborhood, which, however, produced but low grade silver ore, although somewhat higher in lead. During the same winter the Malta works worked a carbonate mine situated above the Printer Boy lode in Iowa gulch, which produced carbonate of lead and galena, assaying, however, not over 12 ounces silver. In the spring of 1876 the Malta works made the first run, and shipped the first car-load of bullion. Although the capacity was only from 10 to 12 tons per day, ore was then so scarce that the furnace could not be kept in continual blast. Still, about ten runs were made during this year. In the fall of 1876 the Malta works, with Powell & Wall, started a prospecting tunnel on the Adlaide, the first location in Stray Horse gulch. There was considerable carbonate float found, but the dip and outcrop of the valuable deposit being unknown, a great deal of work was done in vain. In the winter of 1876-77 the Gallagher Bros. discovered the Campbird, Charleston and Keystone, several hundred yards from the Adlaide, and Long & Derry discovered the Dana mine, which yielded high grade ore almost from the start. Not so the Campbird. When the deposit was struck, at a depth of 14 feet, the first ore shipped to Malta assayed but 12 ounces silver and 40 per cent. lead. In March, 1877, a specimen assay of Campbird ore ran as high as 800 ounces silver per ton, and about 4 ounces gold. This was the beginning of the excitement, and the hills between Oro and Stray Horse gulch were covered with prospectors, although the snow was four feet

deep. The discovery of the Pine lode and Terrible lode followed immediately. In April the Campbird mine shipped to Malta five small sled loads of high grade ore, for which over \$3,000 were paid. At the same time the Malta works with Mike Norris struck some high grade seams of carbonate at the Wolfe Tone mine in the lower part of Stray Horse gulch

The Malta Works had been meanwhile changed into a stock company, and disturbances hereby occurring, E. Loescher resigned in July, 1877, as the manager. The works remained idle until the fall, when Berdell & Witherell leased them and used them as sampling works until the next spring. This firm shipped their ores to Omaha. In September, 1878, the works were leased to J. B. Dickson & Co., who, immediately after putting up a furnace of 30 tons capacity, began smelting. This firm having been very successful, erected in the spring of 1879 larger works about 500 yards from the old works, with two furnaces, and having acquired the old works by purchase, sold the same in August to J. B. Stein & Co., the present owners.

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### RICH MINERS AND OPERATORS.

AN ARGUMENT MORE ELOQUENT THAN ANYTHING ELSE IN FAVOR OF OUR GREAT INDUSTRY—MINING.—WHAT CAMP CAN EQUAL THIS EXHIBIT?

That our previous assertions respecting the great numbers of fortunes amassed in the city of Leadville in the short space of time since the discovery of carbonates, may be entitled to full credence, a partial but extended list of the rich men of the camp is herewith presented. It does not include *all* who have made money, but only those whose names and transactions have come under the knowledge of the writer or recalled to memory. This list embraces men who packed their blankets on their backs and walked into Leadville as well as those who had some capital with which to begin operations. It by no means sums up all sales made by each individual mentioned, nor shows the entire interests now held, but simply such as are recalled by the writer. Still the exhibit is one which may well excite surprise and challenge scrutiny. We again remark that the great carbonate fields yet offer to thousands more the same

opportunity for the acquirement of wealth by prospecting for mineral within the confines of the five great counties of which Leadville is the head center.

This list could be greatly extended by searching the records and by including the names of the present owners of productive properties, but as in all other things treated upon in this book, an under rather than over showing is preferred :

Dick and Pat Dillon, \$150,000 from sale of Little Chief mine.

George Spencer, \$6,000 sale of interest in Crysolite mine.

Jack Calhoun, \$17,000 from sale of interest in Black Prince mine.

Peter, Klinefelter, \$62,000 sale of Scooper mine.

George Washburn, \$62,000 from same property.

Mike Norris \$40,000 Wolfe Tone mine.

A. B. Wood \$40,000 Iron mine.

J. C. Langhorne \$62,500 Vulture mine.

J. W. Johnson \$62,500 " "

At. Rennick \$62,500 " "

R. M. Moore \$9,000 " "

W. B. Page \$9,000 " "

Breck & Co. \$11,500 " "

C. B. Rustin \$6,000 " "

Jno. H. Talbut \$18,000 " "

George H. Fryer \$40,000, New Discovery.

Charles, Pat and John Gallagher, \$250,000, Campbird and other mines.

A. P. Moore, \$25,000, Matchless mine.

T. Benton Wilgus, \$75,000, Matchless and other mining properties.

John Borden, \$250,000, Crysolite and other mines.

Jerome B. Chaffee, \$125,000, New Discovery mine.

August Rische, \$262,500, Little Pittsburg mine.

H. A. W. Tabor, \$1,300,000, Little Pittsburg Consolidation.

Jas. Healy, Mike Mackey, Patrick Nash and Michael Brown, \$35,000, Colorado Prince.

Howard Oviatt, \$62,000, Scooper mine.

T. J. Cooper, \$62,000, Scooper mine.

John Borden, Jr., \$40,000, New Discovery.

E. C. Kavanagh, C. Visscher, Dr. Ramey, W. K. Burchinell, Chas. and Peter Peterson and Meek, \$195,000, Denver City mine.

J. T. Monroe and George Williams, \$50,000, Little Eva mine.

Capt. Jacque, \$175,000, Smuggler mine.

Frank Caley, \$50,000, Undine mine.

Eddy & James, \$50,000, Robt. E. Lee mine.

Jas. W. Younger, \$6,000, for one-eight interest, Deer Lodge mine.

Geo. T. Hook, \$140,000, from Little Pittsburg mine and ore.

Nelson Hallock and Capt. Albert Cooper, \$250,000, Carbonate mine.

Capt. Plummer, \$300,000, Yankee Doodle mine.

Breece Estate, \$75,000, Breece mines.

Tim Foley, \$97,000 in Matchless, \$25,000 in Union Emma, and owns \$200,000 stock in Highland Chief Consolidation, besides owning other valuable property.

Geo. W. Trimble, \$100,000 in Winnemuc, and now largely interested in other valuable mines.

S. H. Foss, \$125,000 in Winnemuc, and heavily interested in Highland Chief and numerous other mines.

Jed. H. Bascom, \$25,000, Union Emma, and owner in Highland Chief Consolidation.

Chas. W. Tankersley, who is credited with the Highland Chief Consolidation, made \$50,000 out of the transaction, and is the owner of interests in many valuable properties in the district.

Henry W. Wolcott made \$115,000 on sale of Robt. E. Lee mine.

Jas. V. Dexter realized \$20,000 from sale of Robert E. Lee mine, and has mining interests worth \$60,000.

Jas. Y. Marshall has an interest in the Robert E. Lee mine worth \$200,000.

Gov. Routt, Geo. C. Corning and Jas. Watson are rich by reason of ownership of the Morning Star mine.

J. S. Fritz made \$100,000 on sale of Little Chief and other mines.

Jacob Saunders, Wm. Parker and Col. R. L. Hopkins divided \$150,000 on sale of the Small Hopes Mining Pool property.

Wm. H. Bush, of the Clarendon, has made \$200,000 by real estate and other investments.

Sill & Hecht, \$52,000 on sale of The Wheel of Fortune.

John McKinney and McColvin, \$35,000 Wolfe Tone mine.

N. M. Tabor, \$100,000 sale of Scooper mine.

J. W. Bonta, \$100,000 sale of Scooper mine.

W. H. Yankee, \$100,000 sale of Chieftain and other mines.

J. S. Woolery and Putnam, \$100,000 sale of Chieftain.

The names of persons who have made the following amounts are given, but the properties sold or held are not specially remembered :

• John Davies, \$25,000; Dr. C. R. Bissell, \$200,000; John Hurlburt, \$150,000; Sam. McMillen, \$75,000; John McComb, \$100,000; Neil McMillen, \$25,000; Pat McGuire, \$25,000; D. A. Bauman, \$50,000; W. A. Northrop, \$25,000; John Northrop, \$25,000; C. C. Howell, \$30,000; Sam. B. Morgan and Adin Alexander, \$100,000; Thos. Wells, \$75,000; Joe Love, \$25,000; Charles Hill, \$25,000; R. Shute, \$35,000; Oliver Buell, \$15,000; M. McIntyre, \$50,000; P. Starr & Co., \$50,000; Fred Strout, \$50,000; J. J. Dubois, \$75,000; W. J. McDermith, \$75,000; Ballou & Gillespy, \$50,000; McLeod & Co., \$100,000; J. S. D. Manville, \$75,000; J. S. Purdy, \$40,000; A. V. Hunter, \$200,000; Pat. Taylor, \$35,000; Long Bros. & Derrey, \$250,000; Joe Doyle, \$30,000; O. E. Harris, \$30,000; Neils Larson and William Farris purchased a one-third interest in the Highland Mary and a one-sixth in the Robert Burns for twenty-five dollars. Have since sold for one hundred thousand dollars each.

Ben. C. Hensley was for years a resident of Gilpin County, and followed the business of mining in that region. Placing confidence in the reports about Leadville, he concluded to come, and arrived on the fourth day of November, 1878. He, like many others, began prospecting, and was fortunate enough to become one of the locators of the Highland Chief. He still retains his interests, holding about two thousand of the twenty-five thousand shares of the company. Ben has thus been enabled to pay his old debts and have a large fortune still in his possession.

These names are in part a list of those who believed in Leadville mines and acted accordingly.

Many persons have quietly carried on negotiations and made hundreds and thousands of dollars and left the camp for distant homes, or else have invested their earnings and become identified with the country without any particular publicity having been given to their operations.

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### MORE WONDERFUL THAN EVER.

The Robert E. Lee mine will have to discover coined silver dollars to improve upon its record. By reference to the personal history of Roudebush and Pennock it will be seen that these gentlemen made an offer that was not accepted by their partners, that they would give \$100,000 for what ore they could take out of the Robert E. Lee mine within any given twenty-four hours. On the 12th of January, as we are informed by Mr. Pennock, work was begun at noon and continued until 12 o'clock that night, when a cave prevented further extraction, and that the ore taken out in these twelve hours amounted to a value of \$115,000 at a cost of less than \$60 for labor. This exceeds by far the greatest yield of the best mine on the Comstock lode of Nevada in twenty-four hours, even when the expense of breaking down and hoisting to the surface ran up into the thousands of dollars. Wonders never cease in the mines of Leadville.



# PERSONAL HISTORIES.

REPRESENTATIVE MEN OF THE CARBONATE CAMP.

HON. H. A. W. TABOR.

In all ages of the world circumstances have arisen which suddenly moulded the character of ordinary men, developing in them mental stamina and traits before dormant, or not at all conspicuous in any act of their hitherto uneventful lives. The writer, actuated by no intent to pour adulatory incense at the shrine of a "Carbonate King," but believing that his portraiture of the wonderful camp of Leadville would be incomplete without personal mention of one of her most energetic, sagacious and wealthy citizens, herewith presents a sketch of Hon. H. A. W. Tabor and his rapid and brilliant rise during the last two years from comparative obscurity to the pinnacle of wealth and political influence in the Centennial State.

Mr. Tabor was born in Holland, Orleans county, Vermont, in the year 1830, and is therefore not quite fifty years old.

Up to the age of twenty-five years he toiled as a stone-cutter in several of the New England States, until his restless activity allured him to the romantic wilds of the great West in hopes of more speedily acquiring a competency.

In the spring of 1855 he located on a farm near Manhattan, Kansas, where for four years, with varying success, he cultivated corn, wheat and vegetables. He was a member of the Topeka Legislature when Colonel Sumner, acting under the orders of President Pierce, dispersed that body at the point of the bayonet.

The Pikes Peak excitement in 1859, tempted him to the pursuit of gold, and the plodding farmer rose to the rank and title of the "Honest Miner." With pick and shovel he began operations on Paine's Bar, near the present site of Idaho Springs, where first-class wages rewarded his toil. In the winter he, with many others, removed to

Auraria (now West Denver,) in consequence of the belief that the mountains would be shut in by ten to twenty feet of snow.

On the first day of March, 1860, he packed up and emigrated to Independence District, then the generic name for all this section of country, and prospected at the mouth of Cache creek, but, obtaining meagre returns, came to California gulch, and secured claim No. 21 above the discovery. Here he soon amassed \$8,000, which was his first handling of money and his start in life. In the fall of 1861, he crossed the range into Park county, and began merchandising in the lively camp of Buckskin, where he also held the office of postmaster until his return to Lake county in 1868.

His first store was near California gulch, at Old Oro, as it was then termed, and now within the limits of Leadville. When business centered at the present Oro City Mr. Tabor moved thither, and as he transferred the post office along with his store Old Town fell into decay.

In the fall of 1877 he discontinued his stores at Malta and Oro City and consolidated his stocks of goods at Leadville, remaining in business until the fall of 1878.

Then began his remarkable money making career, which in many respects is unprecedented and without parallel in the history of any mining camp in this or any other State.

It is a very rare occurrence for an old pioneer to ride the wave of fortune that bursts upon the locality which has been his home for years, and keep permanently in advance of all others in the race for wealth. These men, as a rule, are left in the rear, because unable to rid themselves of the conviction that the excitement regarding ground which for years they have believed worthless, will but add another name to the long list of wild-cat furores, and consequently new men step in ahead of them to skim the thick cream from the best properties of the district before they awaken from their mystified bewilderment. Hence the action of Mr. Tabor is all the more an exception to the general rule in such cases, for instead of accepting a large cash fortune for his first great strike on the sixty odd dollar "grub stake" furnished Hook and Rische, for the Little Pittsburg, and return to the States in the enjoyment of the same, he con-

tinued to buy, at what was thought exorbitant prices, contiguous properties.

Mr. Tabor had been a thorough old miner and possessed the instincts and habits of the professional prospector. The gamblers who had swarmed into the camp confidently asserted that before the winter of 1877 was past they would own Tabor's store, and wise, conservative men, as they heard of the immense sums of money he was cashing out for prospect holes and claims showing mineral that would not pay to mill, gravely prophesied that his big strike in the Little Pittsburg would do *him* precious little good, although it was a Godsend to the "boys" who had claims to sell. But mark the result.

The gamblers did not get Tabor's store, because the pleasures of gaming faded away and lost their fascinations in contrast with the grander schemes grasped by and occupying his brain.

He retired from ownership of his Little Pittsburg Consolidated claims with one million three hundred thousand dollars on an original investment of sixty odd dollars.

He paid nine hundred dollars for a one-quarter interest in the Crysolite and Carboniferous locations, and soon after from the product of ore taken from these claims alone was enabled, along with associates, to buy out what was known as the Borden and Tabor group of mines, and now the great Crysolite Consolidation.

He still owns interests in the following developed mines and promising prospects near Leadville: Matchless, Climax, Dunkin, Crysolite Consolidation, Union Emma, Henriett, Maid of Erin, Belle of Colorado, Surprise and May Queen, and also large interests in six mines in the San Juan Country for which he paid one hundred and twenty-seven thousand dollars.

At the completion of the sale of his Little Pittsburg Consolidation property Mr. Tabor telegraphed that he would take the Matchless at one hundred and seventeen thousand dollars. This was just one hundred and five thousand dollars more than the same mine would have cost him eight months before, and only about one-fifth its present valuation.

The purchase by him of nine-sixteenths of the New Discovery mine for one hundred and twenty-five thousand dollars was generally regarded at that time as a prodigal

waste of money and a bad speculation, but now one sixteenth would readily command that figure.

As a representative citizen of Leadville Mr. Tabor, aside from his mining investments, has been foremost in every undertaking directed towards the best welfare of the town and city. While mayor of the town of Leadville he was indefatigable in promoting every enterprise of a public nature, and to his foresight and exertions, ably seconded by Hon. Aug. R. Meyer, are the citizens of Leadville indebted for the great business thoroughfare, broad, stately Harrison Avenue. He was an active promoter of our present magnificent system of water works, and called the special election which resulted in the people of the town authorizing the Town Board to make the water contract, and thus on more than one occasion preserved Leadville from destruction by fire. His generous equipment of the Tabor Hose Company, his donation to the Tabor Highland Guards, his purchase of the bonds of the gas company, (of which he is president), thereby enabling the works to be speedily built, and his many other acts of public and private liberality, are characteristic of the late country merchant, ever willing to trust the hard working miner and adventurous prospector with an "outfit" or "grub stake."

His candidacy for gubernatorial honors brought out the full strength of the mining element regardless of political bias, to vote for a miner, and he astonished his most intimate old friends by his able course as presiding officer of the State senate. The beautiful Tabor Opera House, the finest temple of amusement between St. Louis and San Francisco, was built by Mr. Tabor at a cost of sixty thousand dollars, and is the pride of all citizens and theatre goers. The bank of Leadville (of which he is president), is another monument to his business genius, since its capital of fifty thousand dollars and surplus fund of forty thousand are a nucleus for an aggregate deposit of eight hundred thousand dollars and an exchange business of over one million dollars per month.

#### AT DENVER.

The purchase of an elegant seventy-five thousand dollar residence in the Queen City of the Plains was Mr. Tabor's first investment outside of Leadville, setting an ex-

ample which has been followed by many of our bonanza kings.

The finest and most imposing structure in that city is the "Tabor" building on the corner of Larimer and Sixteenth streets. The cut stones for the fronts of this massive structure are brought from Amherst, Ohio, and no effort or expense has been withheld to make it the most durable and elegant of modern business houses. Including the ground, this new improvement to Denver requires an outlay of one hundred and sixty-five thousand dollars.

Governor Tabor is the largest individual stockholder in the First National Bank of Denver, owning eight hundred and ninety shares out of the two thousand shares. The "Tabor" Hose Company of Denver has received substantial marks of appreciation from the gentleman honored by the title given that efficient organization.

#### IN CHICAGO.

While certain capitalists had been for several months negotiating for the purchase of the Calumet and Chicago Canal and Dock Company's property, Governor Tabor quietly stepped in and bought a controlling interest at one million two hundred thousand dollars, making a large cash payment and obtaining all the time he demanded on the remainder of the purchase price. This "scheme," like "Colonel Sellers'" has "millions in it," but, unlike his, millions will come out of it, for in the opinion of the most prominent business men of the country, these five thousand four hundred acres can be reclaimed and made as valuable as town lots in Leadville. At about the same time he also purchased two and one-half city blocks lying between 47th and 51st streets.

Since coming into the possession of such enormous sums of money, Governor Tabor has invested boldly and judiciously, evincing the same unusual and intuitive aptness for handling money in bulk as did General Grant troops in mass.

In these great purchases, involving such immense amounts of money, Governor Tabor maintained that cool composure and nonchalant bearing characteristic of the man imbued with complete confidence in his own judgment and familiarity with the details of transactions of great

“pith and moment.” In his operations with eastern capitalists, who for years have conducted gigantic projects, he has ably managed his fortune and been outgeneraled by none. With so little previous training, he has developed financial abilities of a high order, as well as political aptitude which have raised him from obscurity to renown throughout the nation.

In appearance and demeanor there has been little change, and the millionaire of to-day is as approachable and unostentatious as was the country merchant of two years ago, when he bartered with Alderman Kavanagh for butter and eggs, or solicited from the writer a little “puff” for his store, along with a good word for the new mining camp of Leadville in the Denver *Tribune*.

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#### HOMER PENNOCK & L. D. ROUDEBUSH.

These gentlemen have invested boldly and successfully in Leadville mining properties, and as they are intimate friends and equal partners in all business transactions, they are also associated in this brief sketch.

The object sought in personal mention of individuals is to convey to the reader facts which can be communicated in no other way, by giving data which influenced such persons to seek the new camp of Leadville, and the history of their subsequent successful operations. Mr. Pennock has spent twenty years in mining regions, from Lake Superior to California and Nevada. Following every excitement, he has experienced the ups and downs of such a life, is thoroughly conversant with ores, and experienced in all the surface indications and underground requirements of what should constitute a promising prospect or a well opened mine.

Years of thoughtful observation and the memories of many glittering failures have taught him that wisdom which precludes visionary conclusions at sight of every fine mineral showing, but when there are substantial grounds for belief in the permanence and richness of a deposit of ore, his practiced eye and experienced judgment grasp these salient features and the worth of a property is quickly arrived at. His first visit to Leadville in 1877, when the bulk of ores was low in silver and high in lead forced the

belief that the camp was not a paying one, but later, when development brought forth ores of a richer grade in silver, another examination convinced him of the immense value of the carbonate leads, and he at once reversed his decision. At this time a letter from T. W. B. Hughes, a member of the New York Stock Exchange, was received, asking for information regarding the mines of Leadville. Pennock's reply counselled Hughes to sell his seat in the Board and bring the money (\$5,000) to Colorado for investment in the carbonate mines, closing with the remark: "This is a sure opportunity to make a fortune with very little risk." Hughes showed this letter to L. D. Roudebush, also a member of the Stock Exchange, and Roudebush having known Pennock for thirteen years, and possessing unbounded confidence in his integrity and judgment as a practical mining expert, obtained Hughes' ready assent to his acting upon the information and suggestions contained in Pennock's letter. The very next day Roudebush's membership was offered for sale, and after the usual formal proceedings his money was obtained, and without any previous experience in mining or knowledge of mining operations, he started to Colorado to "make or break," under the advice and co-operation of his friend and present partner, Homer Pennock.

After weeks of thorough examination of all the mines in the vicinity of Leadville, the critical eye of Pennock rested upon the now famous Robert E. Lee mine, and as only a ten days' option could be obtained, Roudebush posted off to New York, consuming six days in making the journey, and on the seventh telegraphed through the banks the forfeit sum of twenty thousand dollars.

The parties to whom the Lee was sold at this time, and who deposited the twenty thousand, failed to complete the purchase, and that sum was forfeited. Pennock and Roudebush realizing the great value of the property formed a new combination and the full price of two hundred and fifty thousand dollars was paid down and a one-fifth interest reverted to the operators for their conduct of the negotiations. The Lee is now rated worth anywhere from five to ten million dollars, and could not be bought for the last mentioned figure.

The next noted sale consummated by these gentlemen

was that of the Breece Iron mines for seventy-five thousand dollars, in which they hold a one-eighth interest, and from the recent developments in which the stock has risen until the selling value is now eight hundred thousand dollars.

In addition to the Lee and Breece they are owners in thirty-four other mining claims elegibly located in different parts of the camp. Leadville has given fortunes to very many of her citizens, but the seven owners of the Robert E. Lee have the most wonderfully rich silver mine of the known world. A full description of the Lee appears in another part of this volume, but here it is sufficient to remark that Pennock & Roudebush are willing to wager one hundred thousand dollars that within any given twenty-four hours they can extract one hundred and fifty thousand dollars (\$150,000) at a cost of one hundred and fifty dollars—being nearly twice as much as was ever taken out of any one mine in the world in the same length of time.

Mr. Roudebush can look back upon his twelve month's transactions in Leadville with keener relish than upon his seven years experience as a member of the New York Stock Exchange, and Pennock can speak of the rough scenes of his orphan boyhood and hardy prospecting career as contrasting beautifully with the present smiles of dame fortune, for both partners are ranked among the millionaires of the carbonate metropolis.

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#### AUGUST R. MEYER.

The "father of the Carbonate Camp" has been the appropriate title conferred upon Mr. Meyer by all those who are conversant with the important enterprises which he inaugurated and carried out in the earlier days, before an excitement existed regarding carbonates. The record herein given will evince that the distinguishing title is no misnomer.

Mr. Meyer was born in St. Louis, Mo., in 1851, and at the age of fourteen was sent to Switzerland, where for four years his chief studies were chemistry and geology in the Cantonal College of Zurich. From 1869 to 1872 mining and metallurgy engaged his time, and he finally completed his education at the University of Berlin. The spring and summer of 1873 was spent in visiting the mines and metal-



lurgical establishments of Europe, and in the fall of that year he returned to St. Louis, where he busied himself in the examination of coal mining and coal coking. In April, 1874, he came to Colorado and accepted the position of Territorial Assayer. The next year he erected sampling works at Alma, Park County and remained in business there until the spring of 1877. His first visit to California gulch was in August, 1876, being employed by eastern capitalists to examine and report upon the "Rock" and "Stone" mines of Wood and Stevens, then the only carbonate discoveries in this district.

He bought the first carbonate ore in September of that year, and was compelled to go to New Mexico to obtain ox teams to haul it out of the camp to the railroad at Colorado Springs. This ore was bought and shipped at a considerable loss, but Mr. Meyer perceiving the great value of the deposits determined to send out the ore, that his eastern friends might become cognizant of its great value, when proper facilities were established in this far off region of country. By education Mr. Meyer was well fitted to comprehend the great future promise of the carbonate deposits, and his native energy being equal to any emergency, the work of developing the entire camp was begun and continued. The first result of his representations was the building of the sampling works of Aug. R. Meyer & Co., and soon after the Harrison Reduction Works, by Hon. Edwin Harrison, of St. Louis. There were no roads in the country connecting with the mines, and the public highways of to-day, up California gulch and Stray Horse Park, were built by his company at great expense. The present toll road, over the Weston Pass of the Mosquito range, was constructed by the St. Louis Smelting and Refining Company, as the great outlet to and inlet from Colorado Springs, then the nearest railroad point. Regular freighting was organized by the establishment of transfers across the range, and the building of way stations, without which it would have been impossible to supply the camp even in its infancy. The prices paid to the miners for ores, at that time, were greater than received in Georgetown, notwithstanding all the drawbacks surrounding the handling of ores here.

Aug. R. Meyer & Co. and the St. Louis Smelting and Refining Co. had to establish agencies and build ware-

houses at Colorado Springs, also, for the shipment of ore, coke, and bullion, taking into their own hands all branches of business, even to the details thereof, from the buying of ore to the delivery of bullion to the nearest railroad station. But this was not all, for everybody looked to Meyer for aid in developing the camp, and accordingly, in the winter of 1877, freight for the merchants was carried at a stipulated price, lower than was known before or since. There was much more bother than profit in this large increase of business, but it materially aided in the upbuilding of the camp, and by thus extending a helping hand to others, made the resources of this country known more rapidly to the world.

Every possible encouragement was rendered to small miners by paying large prices for odd and small lots of ores and cheapening the price of mining supplies by the system of transportation above noted. Individuals were induced to get up large freight trains by timely pecuniary assistance, and when teamsters refused to freight at reasonable rates large outfits were brought into the camp from other states who were willing to do so. All these things were done at the expense of the company, without the use of means other than they commanded. In the infancy of Leadville, when the banking business was not well represented, this company assisted to do the necessary banking of the camp, and were instrumental through their connections east to bring cheap money here to use at eight per cent. per annum.

In all branches of their business they employ the best procurable talent, and the work done at their sampling works is so thorough and exact that three assayers are kept busy making control assays for other parties.

Aug. R. Meyer has always represented the St. Louis Smelting and Refining Company here, and in all his undertakings has been backed by them, and therefore in this personal history their record becomes part and parcel of his. For so young a man, Mr. Meyer, in all these responsible and varied positions, has acquitted himself with distinguished ability and earned the well deserved, honorable reputation he enjoys in the great carbonate camp.

## MAYOR WM. H. JAMES.

Wm. H. James, the first mayor of the city of Leadville, is in all respects a self-made and representative western man. His twenty years residence in the mining districts of Colorado has familiarized him with the character of the mining element and the necessities of such communities. His administration as mayor has deepened the high estimation in which he had been held by his friends, as a straight-forward, incorruptible and public spirited citizen. His whole time and energies have been concentrated upon the affairs of the city government and the advancement of the interests of the city. He intrusted his own private business affairs to the management of others so that his personal supervision of public enterprises might more surely hasten the completion and perfection of the many important improvements inaugurated since his acceptance of the responsible position of mayor of a city like Leadville.

Though born in Monmouthshire, Wales, he has lived in the United States since a boy of eight years of age. His father first settled in Brooklyn, New York, where his son to the age of seventeen years acquired the rudiments of a common school education, and learned the delicate mysteries of the watchmakers trade.

In 1855 we find him in Iowa City, Iowa, in the employ of G. W. Marquett & Co., jewelers, until the gold excitement allured him in the direction of Pike's Peak. In June, 1860, with his young wife he pitched his tent in Nevada gulch, Gilpin county, Colorado, and has never since been beyond the Missouri river.

He was one of the owners of the fourth stamp mill brought into Gilpin county, and immediately doubled its capacity to eight stamps. With this mill, for the first winter, he cleared, after paying all expenses, exactly \$13.85. His second venture in removing that mill to Empire, in Clear Creek county, was more disastrous, but he was lucky enough to sell the fine white shirts sent out to him by his mother, for enough to move his family back to Nevada. With the loan of twenty dollars from a friend he began the watch repairing business, and was doing handsomely until the fire came and swept away his entire possessions. In relating his experience he remarked, "when

I gathered greens upon the hillsides it was not because my wife and I were particularly fond of greens but we wanted *something* to eat."

He afterwards became a mining superintendent, and managed the Terrible mine for Clark & Crow until its sale to European parties. He then became superintendent of the Burleigh and Baltimore tunnels, operating the first Burleigh steam drill introduced into the mines of Colorado. In 1873 he superintended the gulch mines of Fred A. Clark at Fairplay, Park county, using the first hydraulics and little giant nozzles brought into the state. Coming to Lake county in 1875 he had charge of the Printer Boy mine until elected a member of the Constitutional Convention from the counties of Park and Lake.

Mr. James was the prime mover and chief advocate of that clause in the constitution which provides that the mines should not be taxed for the period of ten years, as mining was then in its infancy in this State, and needed emphatic encouragement. After other faithful service as a legislator in the framing of the constitution of the State, he returned here and assumed charge of the Oro Mining, Ditch and Flume Company's operations, constructing a large flume in California gulch, and putting in hydraulics. He returned to Fairplay, and after a year spent in merchandizing, in February, 1878, he formed a partnership with Hon. Edward Eddy, and built the present sampling works of Eddy & James, and entered upon the business of buying and handling ores. In April he was the choice of the solid business men for the position of Mayor of the City of Leadville, defeating Sam. Blonger, A. B. Miller, Thos. Starr and Dr. R. T. Taylor, and lacking just thirteen votes of a majority over all these candidates. Thirteen seems to be his lucky number, for when he was elected, years before, to the office of Town Trustee, at Black Hawk, he wanted just thirteen votes of being the unanimous choice of his ward in that flourishing mining town.

Mayor James is ever willing and well prepared to give to the stranger reliable information regarding the ores, mines, and general business of the great carbonate camp, and will retire from office with the best wishes of this entire people. On December 13th, 1879, just before his departure to New York, Mayor James was presented with a costly gold

watch and chain by the members of the City Council, and regaled with an elegant banquet.

### AUGUST RISCHE.

The peculiar freaks of fortune which sometimes follow the pursuit of mining are aptly illustrated in the history of Mr. Rische after his arrival in Leadville, and give emphasis to the old saying that it is better to be born lucky than rich. August Rische was born in Minden, Prussia, in 1833, and in 1852 he immigrated to America and settled in St. Louis, where he worked at the shoe-bench. When the war broke out he volunteered in the three months' service as a federal soldier, and was afterwards for three years a member of the 12th Missouri infantry under General Osterhaus. At the close of the war he still pursued his vocation of shoemaker, and in 1868 opened a shop in Fairplay, Colorado. The risks of mining presented their strong fascination to the humble shoemaker, who for several years staked different prospectors, but always at a pecuniary loss to himself. When the carbonate excitement began in 1877 he determined to become a prospector, and being himself "grub staked" by R. S. Allen, he with his partner, George Freassle, worked for three or four months on Mount Zion. One day Freassle kicked Rische's dog, which caused hot words and a dissolution of partnership. This lucky kick certainly changed his career and placed him upon the road to fortune.

Rische came to Leadville, found George Hook and formed a new partnership. Together they applied to Hon. Edwin Harrison for a grub stake, and it was promised them, but for some reason not furnished, and thus Mr. Harrison unluckily missed ownership in the Little Pittsburg mine. Hon. H. A. W. Tabor was next approached, and being very busy about his store, answered hastily, "Yes, come and get what you like, but don't bother me now." In nine days afterwards the Little Pittsburg mine was discovered by the striking of mineral 26 feet from the surface of the ground, on the 1st day of May, 1878. The New Discovery mine would have resulted in the disclosing of the rich treasures of Fryer Hill, but the kicking of his dog shaped Rische's course and included Governor Tabor in this

fortunate streak of financial luck. Mr. Rische retired from ownership in this mine with a cash capital of \$310,000. He now owns the Nevada mine, three-eighths of the Hard Cash, one-fourth of Last Chance, one-fifth of Little Rische, one-fifth of Wall Street and one-fourth of the Little Willie. He has large real estate interests in Leadville and Denver, as well as valuable property in San Juan and other mining districts.

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### HON. EDWARD EDDY.

The ore dealers and mill proprietors of Leadville, as a class, are men of culture, especially educated for the duties now devolving upon them, and by years of practical experience, thoroughly competent to carry on such extensive business transactions. Mr. Eddy forcibly illustrates this rule. He was born in Cornwall, on the 30th of June, 1840, and when of suitable age, completed a liberal mining education in the branch of South Kensington School of Mines, organized by the government for the diffusing of technical education. For ten years thereafter he had practical experience in every branch of mining and milling known in England. With this perfect theoretical and practical training, he was enabled for several years to hold under his control the management of important mining properties in Cornwall and Devonshire. The thickly populated and staid communities in which he had always resided did not afford very glittering opportunities for the rapid accumulation of a fortune, even to the most competent person, and in 1871 he carried out his long cherished desire to emigrate to the alluring mining regions of America, and begin business on his own account. On the 12th of October, 1871, he landed in Georgetown, Colorado, with a stout heart and fifteen dollars in money. Ten dollars of this amount he immediately returned to his wife, and with his blankets over his shoulder, struck out to find employment in the mines. Luckily his steps carried him to the East Terrible mine, superintended by his present partner, Mayor Wm. H. James, from whom he obtained a situation.

The first year he saved up six hundred dollars, and with this cash capital began taking leases on mines, and was suc-

cessful in adding to his finances. He then built and operated for two years the first successful concentrating mill of Colorado. These works were for the Terrible mine of which George Teale was then superintendent. Afterwards he organized a company and constructed the Silver Plume Sampling and Concentrating establishment, which is in successful operation to the present day and regarded as the best built concentrating mill in the State. The discovery of carbonates attracted his attention, and on the 5th day of February, 1878, he reached Leadville, on a tour of inspection. His practiced eye perceived the certain future of the carbonate camp, and hastening back to Georgetown closed up his lucrative mill business there and immediately returned here for permanent residence. On the 3d of July his sampling works were in operation, and in conjunction with his old friend and present partner, Wm. H. James, entered upon what has become one of the largest businesses in the county. Perfectly conversant with ores, experienced in milling, untiring in effort, and liberal in dealing with mine owners, Mr. Eddy, ably assisted by his partner, rapidly attained prominence in business circles and laid solid the foundations upon which have been reared their immense business, second to none in our enterprising city. Last June Mr. Eddy, accompanied by his wife, crossed the ocean to visit his aged father, and spent three months in looking upon familiar faces and the scenes of his early life. The buying of bullion in connection with ores was decided upon immediately upon his return to Leadville, and the great sums of money paid out during the past year by this popular firm will be found in another part of this volume. Mr. Eddy may justly be classed among our most enterprising and solid citizens.

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#### MR. EDWIN HARRISON.

Although Mr. Harrison is a resident of St. Louis, he has been so closely identified with Leadville from the first discovering of carbonates to the present time, that his operations and investments properly entitle him to honorable mention as one of the founders and zealous supporters of all interests connected with our prosperous city. Mr.

Harrison possesses excellent business judgment and executive abilities of a high order, which are conspicuously displayed and recognized by the fact of his being select to the presidency of a number of the largest mining and manufacturing concerns of Missouri. Among these are: The Iron Mountain Company, which owns Missouri's immense and widely known iron ore deposit—the Iron Mountain; Edwin Harrison & Co.; Chouteau, Harrison & Valle, and last but not least, the St. Louis Smelting and Refining Company, a corporation favorably known to miners and smelters in the East. This latter concern was founded by Mr. Harrison, and he has been its president from the start. The works proper have been almost entirely constructed according to Mr. Harrison's ideas and plans, and are among the largest of the kind in the United States. The St. Louis Smelting and Refining Company was the first to recognize the importance and future of Colorado as a mineral producing country, and ever since its organization this company has done a large and steadily increasing business in Colorado through its agents Messrs. J. H. Jones of Denver and Aug. R. Meyer of Leadville. Agents were sent by the Company to almost every mining district in Colorado, and facilities provided in the most remote and inaccessible camps for the purchase of ore and bullion. Through this very perfect system of agencies, the St. Louis Smelting and Refining Company was soon apprised of the first discoveries in Leadville, and as early as in the fall of 1876, two hundred tons of ore from California Gulch were shipped to St. Louis at a great loss, and under the most trying difficulties, to be thoroughly tested. Thereupon, Mr. Harrison decided to investigate matters personally, and prepared to at once erect works if his investigations should prove favorable. He accordingly visited California Gulch in May, 1877, and, although the ground was covered with three feet of snow, selected the site now occupied by the Harrison Reduction Works, the pioneer establishment of Leadville. Taking all the advantages and disadvantages of the new mining district at a glance, he planned such immediate and extensive works that at once gave the camp a grand and powerful start toward attaining its present development. Mr. Harrison did not wait for others to come and help in opening the new district, but, relying upon his own judg-



ment, did so alone and unaided through the great improvements he at once inaugurated. He ordered the immediate construction of roads to the mines of California Gulch, and built four miles of excellent road up Stray Horse Gulch to connect with the Breece flux mine. All these roads were unconditionally thrown open to the public at large. Mr. Harrison, recognizing the importance and necessity of a good and short route to the railroad, built a road across the Mosquito Range at an expense of \$25,000, which shortened the distance fully thirty miles. These grand improvements, it must be admitted, were the true causes of the rapid growth of Leadville and her mines. Mr. Harrison spent several months in the little mining town in personal supervision of the erection of the Harrison Reduction Works, and has visited Leadville frequently since.

Colorado owes Mr. Harrison a great deal for having been one of the earliest and most efficient promoters of her chief industry—mining. He is now the owner of several producing mines at Leadville, and with generous hand has ever been foremost in advancing the welfare of the city and county.

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#### ALDERMAN JOHN McCOMB.

The example furnished by this sketch of Hon. John McComb is worthy of emulation, and is full of encouragement to other resolute spirits not to be disheartened although the purse be empty. In April, 1877, John McComb walked into Leadville, having packed his blankets one hundred and twenty miles from Colorado Springs, and with just ten cents left in his pocket. He worked a while for Wm. H. Stevens as a day laborer, and then engaged in prospecting for Hon. Aug. R. Meyer, and discovered the Crescent Mine. He held no interest in this valuable find, as he was working for wages. Being economical, John soon saved money enough to pay \$125 for a quarter interest in the Evening Star Mine, and his liberality prompted him to present one-half of the same to Captain Breece, who sold it for \$68. Mr. McComb sold his remaining one-eighth interest one year later for \$6,250. At different times he located mining claims as follows: Big Chief, Maid of Erin, Monte Christo, Castle View, Little Darling and

Little Champion, besides other properties on Eagle River and Roaring Forks. He bought an interest in the Big Pittsburgh for \$500, and the next year sold the same for \$3,250 to Gen. Campbell and Captains Johnson and Miller, of Denver. The Monte Christo brought him another \$3,000 from Alexander and Morgan, of Denver; the Little Darling \$700, and the Little Champion \$17,000. He built a two-story business block on Main Street, costing \$5,700, and now receives a monthly rental therefor of \$330. His nine quartz teams he sold recently for \$4,500. He is also an owner in a large number of valuable mining claims in several mining districts. His latest sale was the Maid of Erin, to Gov. H. A. W. Tabor, for \$43,000 in cash, and his present venture is a trip to Ireland to capture another "Maid of Erin."

His success teaches that the "tramp," when possessed of courage and manly impulses, may rise to wealth in a camp like Leadville, and affords one example, at least, of a man walking into the carbonate camp and riding out, a rich man, in less than three years.

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### HON. JOHN L. ROUTT.

The growth of values in mining properties in Leadville is well illustrated by the Morning Star Mine, which Governor Routt purchased for \$1,000 in October, 1877, and which, in 1879, was worth at least \$3,000,000. Governor Routt, from the time of his Federal appointment as the last Governor of the Territory of Colorado, has manifested a profound interest in the welfare of this people, and his election as the first Governor of the State, evinced the appreciation of his efforts and executive ability by our citizens. He has been a persistent investor in mining properties, but not successful until the discovery of the great treasure in the Morning Star. Even here his reward came only after a two years' battle with "faults" and "breaks" and "barren contact" before paying ore was found. He had struggled desperately and involved himself thousands of dollars in debt, with the additional burden of one and one-half per cent. interest upon the money he had borrowed, before rich mineral "in place" proved to all that the plucky little Governor had been right in judg-

ment and fairly earned his wealth by untiring effort and stubborn fight with the obstacles which encompassed his progress. In fifteen days the Morning Star delivered enough ore to the surface to refund all the thousands of dollars expended in its discovery, and still left a handsome profit.

The detailed description of the mine in another part of this book clearly sets forth its merits. Governor Routt was one of the first to invest money at Leadville, and upon all occasions in his official capacity and private life, aided in every legitimate manner the progress of the great carbonate camp, and hosts of friends rejoice in the prosperity of our popular Ex-Governor.

## OUTSIDE DISTRICTS.

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TEN MILE DISTRICT, EAGLE RIVER, ROARING FORKS, GUNNISON, ALPINE AND OTHER LOCALITIES WHICH OFFER BRIGHT INDUCEMENTS TO THOUSANDS OF PEOPLE TO PROSPECT FOR MINERAL AND AMASS FORTUNES.

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The districts surrounding Leadville are but slightly prospected but the showing for product and permanence is better than here two years ago. The great extent of mineral-bearing ground offers tempting inducements to an army of prospectors, and the present year will witness the discovery of countless valuable properties and the thorough development of those already located. Hundreds and thousands of men will find their way into the gulches and mountain ridges during the summer months, and yet cannot cover all the area in which gold and silver leads are known to exist. Only passing notice can be bestowed upon these promising localities, but the reader is urged to examine for himself and share in the great profits which must accrue to the enterprising and persistent prospector.

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### TEN MILE.

The towns of Kokomo and Carbonateville are thriving and prosperous, and will, the present season, become the centers of milling and manufacturing enterprises and the scenes of active mining and mercantile life.

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### THE ROBINSON CONSOLIDATED MINING PROPERTY,

of which Geo. B. Robinson, of Leadville, is the sole owner, comprises over fifty acres, upon which patents have either been obtained or applied for. The ground is all in one body, situ-

ated at the base of Sheep Mountain, Summit Co., Colorado, two and one-half hours' drive from Leadville. The surroundings are of the most favorable nature, excellent timber and water being found there in abundance.

The lode has a northwesterly and southeasterly course, the outcrop of which is covered by the above consolidation for 3,300 feet. The dip of the vein is  $22^{\circ}$  to the northeast, is well defined, and belongs to the class called contact veins, having a foot wall of domestic limestone and a hanging wall of metamorphose grit.

The ore consists of pyrites of iron, oxides of iron and galena, and the developments of a main incline 350 feet long with parallel inclines and cross cuts connecting them all, and aggregating them 1,000 feet. The hoisting is done through the main incline by a steam engine of thirty horse power.

The lode thus far is absolutely without gangue, the ore extending from wall to wall.

In the narrowest place the ore measures twenty inches, and varying from this to twenty-seven feet in thickness. Several hundred tons have been shipped to Messrs. Gillespie, Ballou & Co. and Messrs. Eddy & James, at Leadville. From their returns of all the ore sold from the commencement of operations to the present time, the extraordinary average yield has been 179 ounces silver and 17.6 per cent. lead. There are 1,200 tons of ore on the dump awaiting treatment at the two turnaces now in process of construction within two miles of this property. No stoping whatever has been done; all the ore extracted and sold has been from developments exclusively, and the value now in sight in the workings of this mine is greater, for the amount of work, than any other in the state.

From the report of Prof. W. S. Keyes, who made examinations of this property in August, 1879, we make the following quotation: "It is highly improbable that the one shoot now developed is the only one upon this line of contact. It is still more improbable that the one shoot ceases at the present bottom of the incline. The thickness of the ore body, in the bottom, when last I saw it, was fully 12 feet, and if it should continue in depth an additional 100 feet with this width and the same length as shown heretofore, we should have an additional amount of 9,000 tons of ore, having a net value of \$800,000, or of \$400,000, provided the av-

erage width should prove to be only six feet. In prospecting for other ore bodies, or for the extension of this one, we have a sure and easy guide to follow, viz., the line of contact of the two formations. This line is probably on the company's property to the extent of 2,000 and perhaps 3,000 feet. Future prospecting must determine the exact position of the contact, as well as the number and extent of the ore chimneys, such bonanzas are never isolated, and the finding of new ore bodies may be confidently expected." This property will be vigorously worked and its yield give fame to the entire district.

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### THE WHITE QUAIL GROUP OF MINES

This property, consisting of the Silver Chain, Little Stripp, Red Top, Little Chief, White Quail, Iron, Index, Aftermath and Climax will, the coming season, take leading rank among producers of the district. The Little Strip, White Quail and Index are fractional, but all the rest are full claims. The White Quail is in the centre of this group, and thus far has been the most developed and productive. From one of the owners we have the information that from four hundred and sixty tons of ore two hundred and sixty-five tons of bullion resulted by treatment at the Pittsburg smelter in Kokomo. The ore carries forty ounces in silver and sixty per cent. and over in lead. The first shipment of ore enabled the smelter to run upon its product alone. The ore vein has a steady average thickness of three feet. The development consists of a shaft twenty-eight feet deep, an incline sixty-five feet long, and cross-cuts of a total length of fifty feet. Three hundred and eighty-four feet down the hill a tunnel has been pushed into the hill one hundred and twenty-five feet, to tap the ore body exploited above. The ore dips with the hill, but at a sharper angle, being about twenty-two degrees and to the northeast. The shaft tapped the ore at a distance of six feet from the surface. This property is controlled by Henry H. Stotesburg of New York City, who also owns a controlling interest in the Agassiz Consolidation of Leadville, and is part owner of the Dunkin Mine on Fryer Hill. Vigorous exploration will be pursued and a valuable prop-

erty added to the already famous district of Ten Mile. A campaign of eighteen days by the Pittsburg Mining & Smelting Works of Kokomo yielded one hundred and fifty-five tons of bullion.

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### EAGLE RIVER MINES.

A well-defined contact can be traced along the high ground on the right bank of the river for a distance of eight miles by the outcropping of the lime rock to the surface. Exploration, as a rule, is being effected by drifting, and in several properties the contact matter is proving rich in carbonates.

The Little Olly, Clinton and Eagle Bird locations show a bed of mineral-bearing material from twelve to fifteen feet in thickness. An incline has been run upon these lodes some twenty-five feet, and from the breasts shafts have been sunk giving the thickness of the deposits as above stated, and as yet no lime bed-rock has been reached.

Eagle River is about thirty miles from Leadville and a toll road is constructed to the new camp.

In the Judge Belden Mine, on Battle Mountain, a large body of rich sand carbonates was opened recently. The ore breast completely fills the face of the incline now being run.

The smelter at Red Cliff is fast approaching completion. The owners expected to fire up on Christmas Day. Ore will be furnished from the Silver Age, Combined Discovery, Clinton, Belden, May Queen, Horn Silver and Mountain Chief Mines. The camps are full of capitalists and prospectors. Men with money are constantly inquiring about the mines of Eagle River and find it a good district to visit, as good property can now be bought at low figures.

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### THE ROARING FORK.

During the month of September, 1872, a party of prospectors, under the guidance of Dick Irwin, one of the most indefatigable of prospectors, conceived the idea of exploring the region of country lying between Mount Massive on the west and Ten Mile Pass on the east. The initial or starting

point was Oro City, and after a thorough canvass of the routes—Lake Creek Pass and Ten Mile—it was determined to avoid the old and seek a new route via the eastern slope of Mount Massive, and gaining the crest strike the extreme northern fork of the Roaring Fork River, and explore and prospect the hills for gold in a southerly and westerly direction. The outfits complete, the animals packed, the party left Oro, and camped the first night at a point nearly opposite the mouth of California Gulch, on the western bank of the Arkansas. Resuming their journey the following morning, the work of blazing a trail in an hitherto untrodden wilderness began. Three days of hard work and the trail was completed, the western slope was attained. Following the sunset, prospecting was begun in earnest, and several ledges of ore, or rather California quartz, were located. Samples containing free gold were brought in to Fairplay, assays made and the value of the quartz determined. Irwin soon after left for Salt Lake, where, for a number of years, he engaged in mining on the American Fork. The fall of 1873, Rosita loomed and "Dick" returned to Rosita, and the Roaring Fork became a thing of the past. 'Seventy-two, three, four, five, six, seven, eight, and nine rolled away, and no thought was given to the now Independence district. New men, but old in prospect lore, imagined and built up a theory, that beyond the walls of "Massive" a good district—a gold-bearing-belt—existed. The theory was supported by not only a disposition to explore, but explorations were inaugurated, and the result is the discovery of the now celebrated Independence district. Several valuable mines have been located, and after paying the actual expenses of mining and \$95 per ton for transportation, they derive a handsome profit. The Last Dime has a milling value of \$300 per ton, and a 20-inch vein of solid ore, which is literally speckled with free gold. An extension of the Last Dime is the Last Dollar.

Specimens of this rich ore have been on exhibition here. They are exceedingly rich, being well shotted with free gold and carrying frequent heavy wires of shining metal. The cotton in which these beautiful specimens were wrapped shows plainly the fine flour gold and delicate wires that have been detached from the white quartz rock which formerly held them. These are, of course, the richest speci-



mens attainable at the mine, yet they were selected from a ton of rock, broken at one blast, in the presence of Ed. Clark and Tom Burchinell of this city. The workings of the mine thus far is only an adit run some twenty-five feet into the hill upon the vein. Fabulous assays could be made from the narrow pay streak, but taken in its entirety it will mill very rich. This mine was discovered on the Fourth of July of last year, and hence arose the name "Independence Gulch," in which it is located. It is a somewhat singular fact that this white quartz found on the eastern slope of the range carries little or no mineral riches, while upon the summit and west slope it is very rich in gold. Sixty thousand dollars have been offered and refused for this valuable property. The miser "Last Dollar" mine will surely put many a dollar in the pockets of its fortunate owners.

# WONDERFUL GUNNISON.

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## THE NEW AND THRIVING TOWN OF PITKIN.

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[To a reliable correspondent we are indebted for the following interesting letter:]

PITKIN, Gunnison Co., Dec. 21, '79.

This little town, nestled in the very heart of the Rocky Mountains, has grown to remarkable proportions in the short space of six months. On the first of May last there were but two cabins in the town, where there are now upwards of one hundred. At that time the town was denominated Quartzville, but in August the people voted to incorporate, and the name was changed to Pitkin, in honor of our plucky governor, whose course on the Ute question every citizen of Gunnison county, without regard to politics, fully endorses.

The town is pleasantly located about five miles from the confluence of Quartz Creek with the Tumichi River, on a beautiful little plain about one and a half miles long, by a quarter of a mile wide. The creek runs along the eastern side of the town, while a ditch from the parent stream flows directly through the centre, along the side of the main street.

### THE SURROUNDINGS

are all that man can desire. On either side are lofty mountains, covered with verdure to their very summits. The best timber to be found in any section of the State covers the hillsides in all directions. Water is as pure as it is possible for this fluid to be, and is found everywhere in unlimited quantities. Good coal exists but a short distance from the town, and good coal indications are found in the immediate vicinity. Grass grows in great profusion everywhere, being very different from that found on the eastern slope of the main range. Here it frequently grows three

and four feet high, is very nutritious, and is found in great abundance on all the mesas and in the river valleys.

#### THE CLIMATE

is much milder than on the eastern slope, the town being protected, both from the winds of the Pacific and the Mississippi Valley. Up to this time there has been only one snow storm, but this does not incommode the miners, nor impede travel. From observations made during nearly four months, it has been found that the temperature of this town is several degrees warmer than at Alpine, Virginia City or Hillerton.

#### THE MINES

are truly wonderful, and this is the general expression of every man who has yet examined them. In an experience in mining extending over a period of many years, I have never seen mines anywhere else with such mineral showing at the depth of these. There is scarcely a hole in the camp to exceed eighteen feet in depth, and yet there are veins of rich mineral uncovered, that vie with the best mines of Utah, Nevada or California.

They differ widely from the Leadville deposits, being nearly every one "true fissures." In immediate proximity to the town, the surrounding country bears a striking resemblance to Fryer and Carbonate Hills at Leadville, but as yet these hills have been but little prospected, and no definite opinion can be given of their value.

On Ohio Creek, about five miles from the town, are some valuable gold claims, which next year will develop into wonderful mines. I have examined several claims in that region, and found them equal to any I ever saw before anywhere.

But the silver veins are the ones to which the town looks for its wealth. These are found in all directions. Some of the finest being only two and three miles from the centre of the town.

Among the richest and best known of the silver veins are the Fairview, sold last summer to a Michigan gentleman for \$40,000; the Silver Islet, Silver Age, Terrible, Horrible, New Dollar, French First, Red Jacket, (one half of which has been sold to ex-Governor John L. Routt), the Black Cloud, Iron Cap and Western Hemisphere.

There is not a mine in this list which, if it were situated in Leadville camp, would not bring a round figure way up in the thousands.

The Silver Islet (since sold for \$20,000) shows a seven-foot vein, fully developed, which carries an average in silver of 256 ounces to the ton, at a depth of less than twenty feet below the surface. The "Terrible," besides showing a silver and galena vein that carries forty-nine ounces of silver and forty per cent. lead, has a lead of free gold, as fine as was ever seen anywhere.

All these mines are easily accessible by good natural wagon roads, and a smelter is now in process of erection, the ground being nearly graded and ready for the works. The South Park Railroad expects to reach the town about May 1st, a contract having been already let to drive a tunnel through the mountains for 1,600 feet, at the head of one of the branches of Quartz Creek. When this road is completed, as it no doubt soon will be—in order to open up the vast coal beds to the west of us—we shall then be within ten hours of Denver, and this will be the "biggest town" in the whole Gunnison country, and the capital of the San Juan region next year.

# ALPINE TREASURES.

## THE MINES OF CHAFFEE COUNTY.

Those who have ventured in mining property here have found their cup of fortune full to overflowing, and miner and prospector are at this late date more in demand than they were early in the summer. Capital is beginning to realize. The D., S. P. & P. railroad have their surveying party here, under the superintendence of R. W. Williams, and work on the 1,600 foot tunnel through the divide near the south fork of Chalk Creek, will be immediately commenced. This road, when finished, will give an easy outlet to all the ores in camp. The mineral is here, only awaiting the pick of the energetic miner to bring it out and feed the smelter.

### THE BRITTENSTINE PROPERTY.

Since the recent sale of the Brittenstine property for \$225,000, work is being pushed very rapidly with a force of twenty-five men. The cross-cut tunnel will tap ten lodes, besides all blind veins. The first, the Virginia, is already cut, and drifts are being run in on the mineral—galena and sulphuret of silver. The vein shows six feet between walls, with a two-foot pay streak, giving a mill run of 200 ounces on the average. The company is known as the "Virginia Mining and Smelting Company," and with the above Grizzly Gulch property, all of high grade, within one mile of Harrison's lead mines, and wide crevices of fluor spar, may feel assured of a prosperous future. Shaft houses, cabins and a road are in process of construction, and the smelter will be erected by early spring. Ore is being shipped constantly to Mather & Geist's Pueblo Smelting Works, giving good returns, and satisfying the purchasers of the mines that they have made a good investment.

### THE CONTINENTAL.

This is another mine of no mean note, having been opened last summer from a simple prospect hole to a mine as-

sured of having a brilliant future. The main drift, 115 feet in length, shows a vein from eight to twenty feet in width, with well defined walls, the hanging wall carrying from eight to sixteen inches of argentiferous galena, the foot wall from eight to ten inches of gray copper. Mill runs, from Hill's Works at Denver, give returns of from 120 to 200 ounces. The entire gouge rock carries disseminated mineral, making the whole vein "pay."

The above two mines rank well in our camp, but there are scores of others of equal worth, only waiting development, which will not long be withheld. Such mines as the Tilden, Virginia, Continental and others of like grade, cannot fail to bring to Alpine both energy and capital.

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#### OTHER LOCALITIES.

Recent discoveries of carbonates, similar to the Leadville deposits, have been made near Breckinridge and some fine properties located. On both sides of the Mosquito Range, for many miles, carbonates are known to exist, and at intervals very high grades have been found. The main range for two hundred miles is rich in silver and gold, and active search will reveal leads which will give fortunes to their possessors. Colorado is attracting the attention of the whole world, and from the foregoing pages it will be felt that there are solid reasons for believing that this section of the Rocky Mountains must yield the bulk of the precious metals mined during the next century.

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#### THE DENVER, SOUTH PARK AND PACIFIC RAILROAD

Is the result of a foreseen necessity to the growth and prosperity of Denver to have a direct railroad running from the city to the southwest part of the State. Immediately upon his retirement from the management of the Denver Pacific, in 1872, Gov. Evans circulated a subscription paper raising a fund for the purpose of making surveys and for building a railroad to the South Park, and to the southwest corner of the State. In the course of two or three days he secured a subscription of two hundred and fifty

thousand dollars, for the purpose. Most of the men who joined in the enterprise at the beginning are still connected with it, and are among its largest stockholders. The financial crisis of 1873 found it fairly inaugurated, but, with all other railroad building in the country, checked its progress. The enterprise, however, was not abandoned, nor was it even financially embarrassed. Its want of money to push forward construction was never allowed to injure its financial standing. The constant and varied efforts to get the means of building the road, which continued through the past five years, have been the subject of public notoriety in Denver during the whole period. And now that the South Park road is a triumphant success, the people of Denver point to it as their greatest home enterprise—it having been inaugurated in Denver, having been built with Denver capital, being managed by Denver men, and having contributed more than any other means to the present great prosperity of the city.

Its recent alliance with the Kansas and Union Pacific Railroads, secures it a large business for all time. It is expected to be in Leadville early in 1880, either by extending its own track, or by joint trackage, on which it will have equal rights. From Buena Vista in the Arkansas Valley, to which point its trains will be running in a few days, such joint trackage is agreed upon. After it reaches Leadville, it will form the most direct line between Denver and Leadville, and therefore will command a large share of the travel and traffic between those two great centers. It has now in process of construction, an extension from Buena Vista to the Gunnison Valley and the Elk Mountain coal fields.

It is remarkable that on its entire route the South Park is lined with sources of local business. The heavy forests from the mouth of Platte Canon to Kenosha Hill, some fifty miles—the wonderful Coal Mines in the South Park—the Gold and Silver Mines all along its route from Geneva Gulch to its remotest extension,—the anthracite and bituminous coals of Elk Mountains—the great Salt Springs—the various Iron Mines along its route—the wonderful developments—the trade and traffic of Leadville, all conspire to load it down with business. Nor is this all. Its travel will always be great; besides having the most

wonderful scenery on any line of railroad in the world, the fact that its route has the Twin Lakes, the Cotton wood Mineral Springs, Chalk Creek, Hot Springs, and many other eligible points for watering places which will soon be improved, will always make it an attractive route for the tourist. In fact, no traveler to Colorado will be satisfied with his trip unless he has passed over the Denver and South Park Railroad.

The fact that the South Park Company, through all its trials and difficulties for extending its line, has always maintained a first-class credit, distinguishes its management from almost all other similar enterprises.

It never went in debt without knowing where the money was to come from to meet the liability. It never sold a bond until its credit was such as to make its securities command par in the New York market. Although the road and its equipment have cost largely in excess of that amount in cash, its bonded debt is only at the rate of twelve thousand dollars per mile. These bonds are now commanding four per cent. and accrued interest above par, and there is no reason why they should not soon go up to ten per cent. The Company will be, when it reaches Buena Vista, substantially free from floating debt, and will only have one million, eight hundred thousand dollars of seven per cent. bonded debt on one hundred and fifty miles of road. Its arrangements are also such that no more than that amount of bonds can be issued upon the branches and extensions provided to be built. Messrs. Winslow Lanier & Co., of New York, are its financial agents.

The officers of the Company, with the exception of one or two, have been with it from the beginning. Governor Evans has been its President from its inception. W. S. Cheesman has also been its Vice-President. C. B. Kountze has been its Treasurer. G. W. Kassler has been its Secretary. Gen. D. H. Moffat, Jr., J. Sidney Brown, C. B. Kountze, W. S. Cheesman and John Evans have been on its Board of Directors from its organization, and with J. W. Smith, C. W. Fisher (now its second Vice-President), Jay Gould and Russel Sage, form its present board.

Col. A. S. Hughes has been its General Freight and Ticket Agent from the time the road was opened for business, and yet graces the position. Many of the subordinate



officers and employees have had a like honorable connection with the enterprise.

Col. Eicholtz, who had been Chief Engineer from the organization of the company, at the last meeting of the board resigned the position for the purpose of taking the contract for extending the road to the Gunnison Valley.

Col. C. W. Fisher, than whom no man in the west has a better reputation for ability and faithfulness in operating a railroad, is its General Superintendent. If he has any superiors in this department, they are few in this country.

The road has not been able until recently to procure sufficient rolling stock to do all the business offering. But it will now, we are advised, be able to meet all the demands made upon it promptly. It has twenty-two engines of its own now on the track and sixteen more on the way. It has one hundred and twenty new freight cars arriving, and three hundred more in process of construction. It has four of the finest Pullman Palace Sleeping Cars in the country, and two elegant Horton Reclining Chair Cars, besides numerous first-class passenger cars of the ordinary style and pattern. Its equipment and machinery are all first-class, and its car and machine shops are the best and most extensive structures of the kind in the State. The gross earnings of the road, only operating 116 miles of its line, for the year ending January 1st, were over \$900,000.

It is the most substantially built narrow gauge road in the country, and does the largest business per mile; and with the rapid development of the country through which it passes, there is no reason to apprehend a falling off in its traffic and travel. Taking it all in all, the South Park and Pacific Railroad Company has been one of the best managed and most successful railroad enterprises in this country.

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#### LEADVILLE'S FUTURE SUPPLY OF FUEL.

The large population, the vast amount of steam power required to operate the machinery, and the fuel necessary to reduce her ores, makes necessary special reference to her fuel supply, and in this, like her good fortune in almost every other respect, nature and the development of the country, especially favor her.

At Como, in the South Park, are being opened by

the South Park Company, extensive mines of the best coal, for grate and steam purposes, yet found in the state. There are two mines being opened, one a seven foot, and the other a twelve foot vein of coal. It is used on the South Park Railroad engines, in connection with the Canon City and Rock Spring Coals, with a verdict of its superiority to either. The next point of supply will be reached when the Canon City Railroad reaches the city. The present supply of coke comes largely from Trinidad via Denver, and we get no coal except that used for gas, which comes by the same channel. But as soon as the direct line up the Arkansas is built, we shall get plenty of good coal and coke, from Trinidad and Canon City.

The extension of the South Park road to the Elk Mountains coal field will give Leadville another source of supply of fuel. By this route, which will be less than one hundred and forty miles by rail, Leadville will get both anthracite coal of the best quality and coking and gas coal in abundance. Then within 75 miles she will get the best of grate and steam coal, as soon as the South Park can run to the city, in the spring. By the D. & R. G., or A. T. & S. F., she will get coal within 165 miles from Canon City, and coke and gas coal within 285 miles from Trinidad. By the Gunnison extension, one hundred and forty miles, anthracite and bituminous coals, and an extensive supply of lead and silver ores from the San Juan country, will also come with the Gunnison coal.

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The following statistics are furnished by the well-known firm of Messrs. Brewster & Wells, proprietors of the Leadville Abstract Office. They have upon their books the complete and perfect chain of title to five thousand mines and mining claims in Lake County; one hundred and twenty-five of these mines are already in pay ore, with many more rapidly approaching it. Having made a studied and careful estimate of the *actual* value of the mines in and about Leadville, from the best and most reliable sources of information, they state that a low cash value of said mines is *fifty* millions of dollars. This is probably the most accurate estimate ever published of the real value of Leadville mines.

E. WALDEN BREWSTER,  
Ex-Asst. Sec'y of State

JOS. H. WELLS,  
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