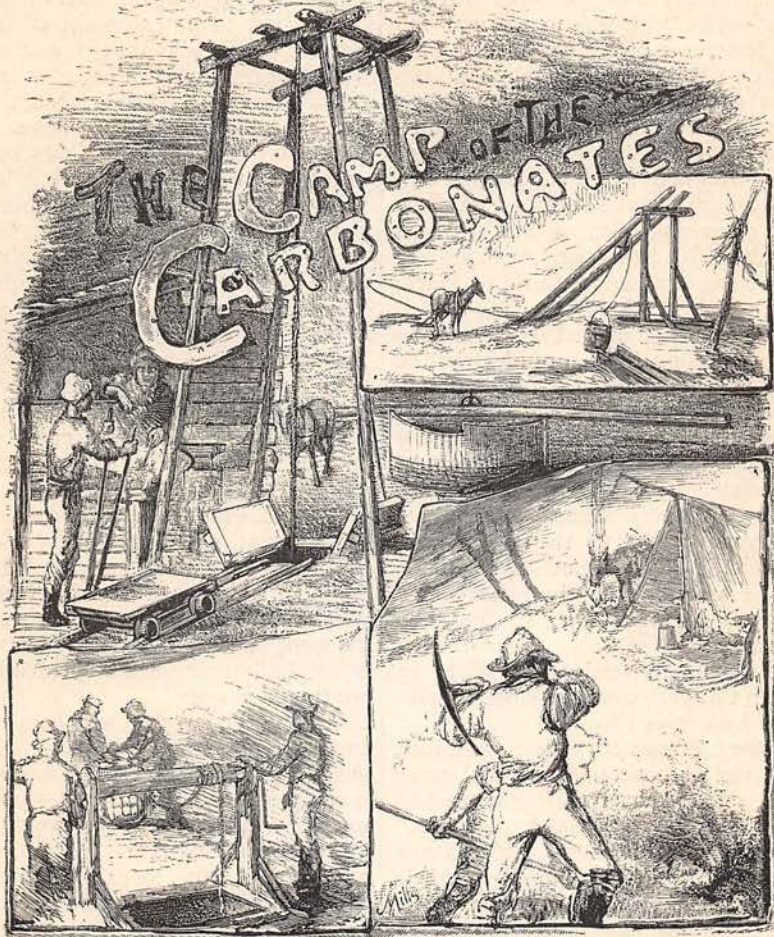


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UPS AND DOWNS IN LEADVILLE.

If the men who sprang from the stones Deucalion cast behind him set themselves to make homes, the result must have been a close counterpart of Leadville, Colorado. The settlement is all so new that none of its buildings seem older than the rest, and the fresh yellow shine of the pine lumber

VOL. XVIII.—56.

remains unstained. Though the city is a creation of but two years, in an obscure nook of the highest Rocky Mountains, its site has a history which goes back a score of years, and begins in circumstances similar to those which to-day characterize the locality.

After the rush to Pike's Peak, in 1859,

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which was disappointing enough to the majority of prospectors, a number of men pushed westward. One party made their way through Ute Pass into the grand meadows of South Park, and crossing, pressed on to the Arkansas valley, up which they proceeded, searching unsuccessfully for gold, until they reached a wide plateau on the right bank, where a beautiful little stream came down. Following this nearly to its source, along what they named California Gulch, they were delighted to find placers of gold. This was in the midsummer of 1860; and before the close of the hot weather, ten thousand people had emigrated to the Arkansas, and \$2,500,000 had been washed out, one of the original explorers taking twenty-nine pounds of gold away with him in the fall, besides selling for \$500 a "worked-out" claim from which \$15,000 was taken within the next three months. Now this same "exhausted" gravel is being washed a third or fourth time with profit.

The settlement consisted of one long street only, and houses even of logs were so few that the camp was known as "Bough Town," everybody abandoning the wicky-ups in winter, when the placers could not be worked, and retreating to Denver. During the summer, however, Bough Town witnessed some lively scenes. One day a stranger came riding up the street on a gallop, splashing the mud everywhere, only to be unceremoniously halted by a rough-looking customer who covered him with a revolver and said:

"Hold on there, stranger! When ye go through this yere town, go slow, so folks kin take a look at ye!"

No money circulated there; gold-dust served all the purposes of trade, and every merchant, saloon-keeper and gambler had his scales. The phrase was not "Cash up," but "Down with your dust," and when a man's buckskin wallet was empty, he knew where to fill it again. It was not long, however, before the placers were all staked off, and the claims began to be exhausted. Then the town so dwindled that in half a dozen years only a score were left of the turbulent multitude that in '60 and '61 made the gulch noisy with magical gains and heedless loss. Among the last of their acts was to pull down the old log gambling-hall, and to pan two thousand dollars out of the dirt floor where the gamblers had dropped the coveted grains. This done, everybody moved elsewhere, and the frightened game

returned to thread the aspen groves and drink at the again translucent streams of California Gulch, where eight million dollars had been sifted from the pebbles.

One striking feature of this old placer-bar had impressed itself unpleasantly upon all the gold-seekers. In the bottoms of their pans and rockers, at each washing there accumulated a black sand so heavy that it interfered with the proper settling of the gold, and so abundant that it clogged the riffles. Who first determined this obnoxious black sand to be carbonate of lead is uncertain. It is said that it was assayed in 1866, but not found valuable enough to pay transportation to Denver, then the nearest point at which it could be smelted. One of the most productive mines now operated is said to have been discovered in '67, and in this way: Mr Long, at that time the most poverty-stricken of prospectors, went out to shoot his breakfast, and brought down a deer; in its dying struggles the animal kicked up earth which appeared so promising that Long and his partner Derry located a claim on the spot. The Camp Bird, Rock Lode, La Plata and others were opened simultaneously outside the placers, but all these were worked for gold, and though even then it seems to have been understood in a vague way that the lead ores were impregnated with silver, nobody profited by the information. Thus years passed, and I and many another campaigner in that grand solitude, riding over those verdant slopes, passing beneath those somber pine woods, camped, hunted, even mined at what now is Leadville, and never suspected the wealth we trampled upon.

Among the few men who happened to be in the region in 1877, was A. B. Wood, a shrewd, practical man, who, finding a large quantity of the heavy black sand, tested it anew and extracted a large proportion of silver. He confided in Mr. William H. Stevens, and they together began searching for the source of this sand-drift, and decided it must be between the limestone outcropping down the gulch and the porphyry which composed the summit of the mountain. Sinking trial shafts they sought the silver mean. It took time and money, and the few placer-washers there laughed at them for a pair of fools; but the men said nothing, and in the course of a few weeks they found it. Then came a period of excitement and particularly lively times for the originators of the enterprise. Mr. Stevens was a citizen of Detroit, and finding a chance for abundant

results from labor, but no labor wherewith to "make the rifle," he went back to Detroit and persuaded several scores of adventurous men to come out here and amuse themselves with carbonates.

They came, hilariously, no doubt, with

ambition of hundreds of excited men, and to accomplish this human life was endangered and mule flesh recklessly sacrificed. Companies were organized, who put on six-horse stages from Denver, Cañon City and Colorado Springs, and ran three or four coaches



EN ROUTE TO LEADVILLE.

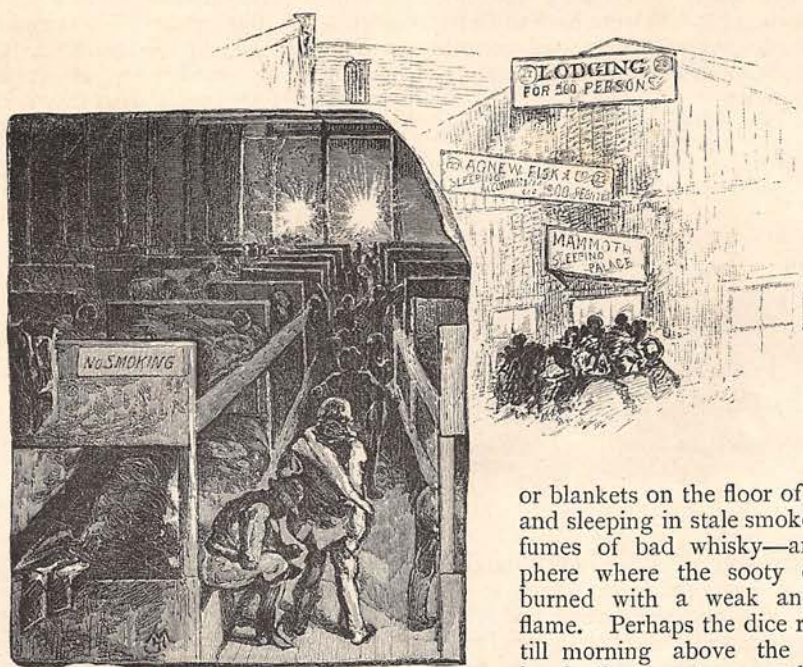
high anticipations of sudden wealth and the fulfilling of wide ambitions; came to find the snow deep upon the ground, and winter bravely entrenched among the gray cliffs of Mosquito and the Saguache. No one could work; every one was tantalized and miserable; discontent reigned. It was the old story of Baker and the San Juan silver fields. They took Wood and Stevens, imprisoned them in a cabin, and even went so far toward the suggestion of hanging as to noose the rope around their necks. At this critical moment, reprieve came in the shape of a capitalist, who appeased the hungry crowd with cash and stayed their purpose until the weather moderated and digging could be begun.

As spring advanced and the mountains became passable, there began a rush into the camp, for the report of this wonderful rejuvenation of the old district had spread far and wide. The Denver newspapers took up the laudation of the region. The Atchison, Topeka and Santa Fé, and other railways approaching nearest, advertised the camp in exaggerated praise all over the East for the sake of patronage; and many an uneasy ne'er-do-weel, and energetic prospector, and greedy saloon-keeper, and many a business man who wanted to profit by the foolishness or necessity of the rest, started for Leadville. It was early spring; the snow lay deep on the lofty main range of the Rocky Mountains which had to be crossed, and filled the treacherous passes, but the impatient emigrants could not wait. To be first into Leadville was the aim and

together, yet private conveyances took even more than the stages, and hundreds walked, braving the midwinter horrors of Mosquito Pass.

Meanwhile an almost continuous procession of mule and ox trains were striving to haul across that frightful hundred miles of mountains the food, machinery and furniture which the new settlement so sorely needed, and which it seemed so impossible to supply. Ten cents and more a pound was charged for freight, and prices ranged correspondingly high, with an exorbitant profit added. Hay, for example, reached \$200 per ton.

Nor were all who came rough or even hardy characters. There were among them men of wealth and brains, young graduates of colleges eager for a business opening, engineers and surveyors, lawyers, doctors, and a thousand soft-handed triflers who hoped to make a living in some undefined way out of the general excitement. Many of these gentlemen went to stay and took their wives, or, more usually, waited until they had prepared some sort of a home, and then sent for them. What stories some of these ladies tell of their stage-journey through those wintry mountains! How many wagons, heavily loaded with freight, did they see overturned by the roadside! How many dead mules and horses did they count! How many snow-banks did they fall through! how many precipices escape! how many upsettings avoid by the merest margin of consummate good driving! I knew of three ladies who for twenty-four hours were packed in a stage with a lot of drunken men, who could only be kept



LEADVILLE LODGINGS.

within the bounds of decorum and safety by being sung to sleep. The driver was utterly powerless to control them, and had as much as he could do to steer his six horses over that icy road. The crazy men said, "Sing to us, we like it, and if you don't we'll dump you into the snow!" and sing they did, all night long. Whether this incident be considered laughable or pathetic, it is literally true. In the summer the stage passenger was not frozen, but was choked to slow death by impenetrable clouds of dust, and in the seasons between he was engulfed in mud. Verily that hundred miles of staging at fifteen cents a mile, with only thirty pounds of baggage allowed free, is the Purgatory of Leadville, and helps wonderfully to make one contented with his reception.

With the beginning of 1879, the steady current that had flagged somewhat during the tempestuous last months of 1878, burst into a perfect freshet of travel. Log huts, board shanties, canvas tents, kennels dug into the side hill and roofed with earth and pine boughs, were filled to repletion with men and women, and still proved insufficient to shield the eager immigrants from the arctic air and pitiless storms of this plateau in the high Sierras. Men were glad to pay for the privilege of spreading their overcoats

or blankets on the floor of a saloon and sleeping in stale smoke and the fumes of bad whisky—an atmosphere where the sooty oil-lamps burned with a weak and yellow flame. Perhaps the dice rattled on till morning above the sleepers' heads, the monotonous call-song of the dealers lulling them to an un-

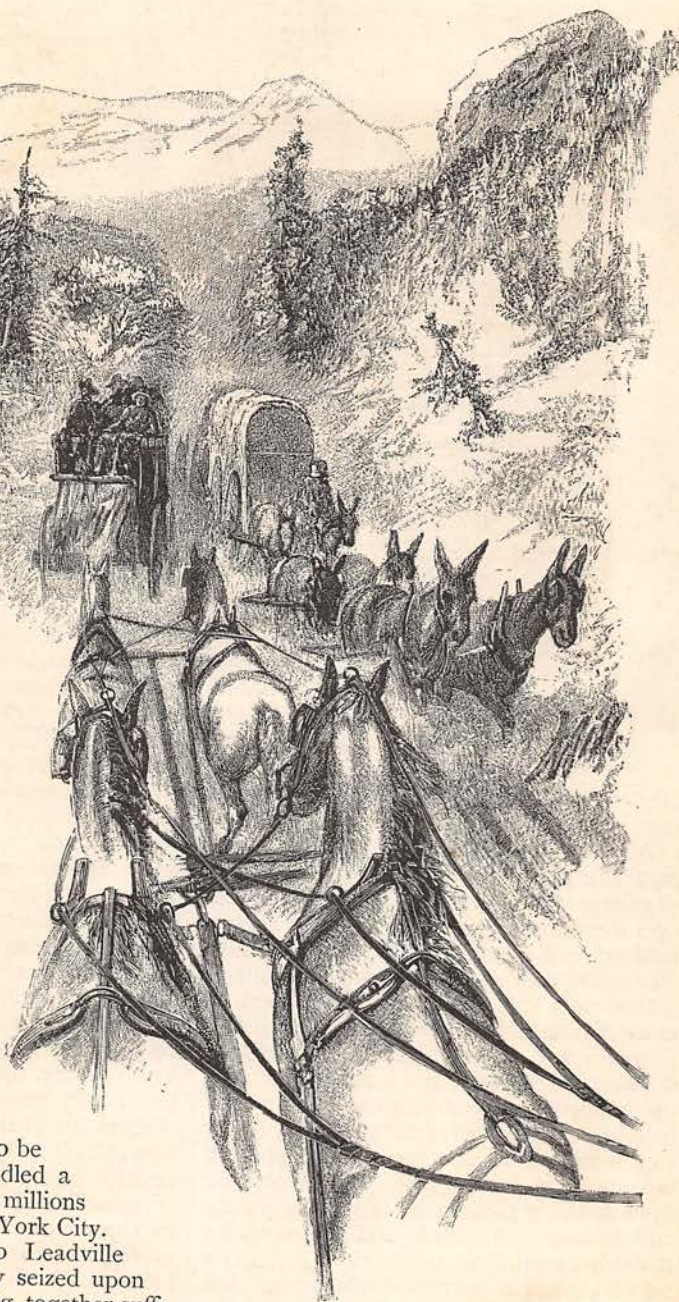
quiet doze in the murky air, only to be awakened by the loud profanity of some brawler or sent cowering under the blankets to escape the too free pistol-balls that fly across the billiard-table. Even the saw-dust floors of these reeking bar-rooms were not spacious enough to hold the two hundred persons a day who rushed into Leadville, and every dry-goods box upon the curbstone, every pile of hay-bales in the alley, became a bedroom for some belated traveler.

What wonder that men from the lowlands, sleeping in such places, and then going, half-protected, out into the chilling wind that swept over miles of snow-fields, should die of rheumatism and pneumonia? The sickness which swept through the camp and ended in lonely death so many bright dreams of wealth, was invited by dissipation and exposure: one who observes the ordinary precepts of hygiene will suffer no more ill-health in Leadville than in any other inclement corner of the world. It was at this trying time that Sisters of Charity came to the camp, and began their merciful work. To-day, St. Vincent's Hospital, with room for a hundred patients, is a monument to their devotion.

But the era of saloon-floors and empty barrels did not last long. Great tents, one

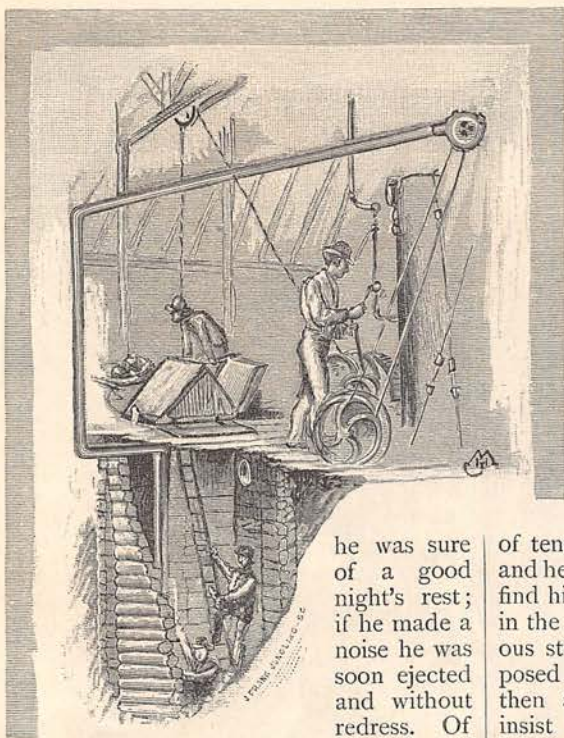
of which had done duty at the Centennial Exhibition, were pitched along the side streets, and upon every other house could be read the legend, "Furnished Room to Let." Enterprising men built huge hotels and opened restaurants, strangers joined in twos and threes, cut logs and planted cabins as thickly as corn. Several mattress factories sprang up, and blankets were among the first things imported.

One of these plans to meet the demand for a resting-place at night deserves particular mention. Among the first in Leadville there happened to be a merchant who once handled a wholesale business of three millions a year as a grocer in New York City. Failing there, he came to Leadville penniless. But his sagacity seized upon this opportunity, and getting together sufficient funds, he built a vast shed of slabs and filled it with rows of bunks, two tiers high, capable of accommodating 500 sleepers nightly. His mattresses were thick and soft, his sheets clean, his coverings warm, the place well ventilated through the thousand cracks that gaped between the unseasoned boards.



UP-HILL WORK.

The proprietor was a man of large size and severe mien. He furnished a bed for fifty cents, and posted his rules: No talking or laughing, or singing, or drinking. If a man cared to sleep himself and let others sleep,



THE SHAFT HOUSE.

Sleeping Palace made money, as it deserved to.

All this excitement and influx of masses of men and the consequent irregular squatting anywhere upon unoccupied ground, began at once to produce discord and a fever of speculation in real estate. A certain corporation claimed to own the whole town-site under a patent from the government, and tried to exact payment from every tenant; but the illegality of this was asserted, and pending decision, everybody not only laughed at the company but proceeded to buy and sell original squatter-claims as though no better title was ever in existence—a supposition probably true at that time. Town-lots rose from nothing to fabulous prices in a day, and fortunes were made and opportunities neglected accordingly.

Next came a period of "jumping," that is, getting forcible or fraudulent possession of property. Men would call with a paper having a legal appearance and politely inform some man occupying the cabin they coveted that they had bought the property from the owner.

"You know, pard," they would remark, affably, "that you just settled down here

he was sure of a good night's rest; if he made a noise he was soon ejected and without redress. Of course the Mammoth

'cause it was convenient like, and nobody said nothing about it; but now the owner thinks he orter have some good from his property, and we've bought it. We don't want to be onpleasant, but it looks like you'd have to vamoose."

"That's all right,—no offense," the shaggy-headed cottager would reply, quietly; "but I reckon ef the owner or anybody else wants this yere cabin they've got to take it, and they've got to hold over me, and get up right 'arly in the mornin', too," and he lays a loving hand upon the hilt of his six-shooter, while the would-be jumpers anathematize their way out of the door.

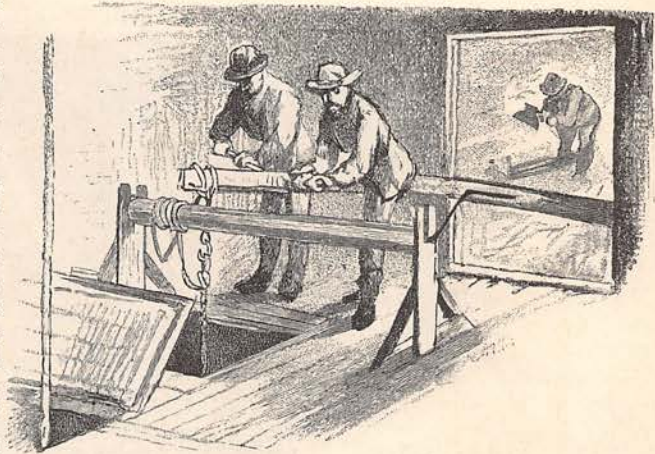
There were, however, clear cases of tenancy of land where no title was held, and here the occupant, if unruly, was likely to find his cabin timbers falling about his ears in the middle of the night, under the vigorous stroke of a band of citizens who proposed to see the real owner put in possession then and there. Heedless fellows would insist upon putting their trading shanties or dwelling-houses anywhere in the streets and alleys set apart for public use, and then down would come a squad of police, hitch a span of horses to the underpinning and raze the obstruction in ten minutes. Hard words were a matter of course in all these little public and private transactions in real estate, and every day or two a man was shot or beaten half to death; but public opinion and the numerous witnesses quickly and loudly decided the right of the case, and the coroner's jury was very likely to formulate the popular verdict. Truth to say, the *vox populi* in these cases was usually about right. Outside of a case of robbery by "bunko thieves," if a man gets shot in Leadville, it is safe to conclude that he has got his deserts.

Speculation in town-lots did not last very long, however, and now real estate is down to a pretty solid basis of value. The probability is that the future will see a decline in prices, as a whole, rather than an enhancing of the value of real estate within the corporate limits, as no doubt Leadville has seen her highest tide-mark of population.

The basis, of course, of all this headlong rush of immigration, this fever of business and speculation, was the startling richness of the mines. Every day chronicled some

new accession of wealth, some additional tapping of the silver deposits which were firmly believed to underlie every square foot of the region. It seemed all a matter of luck, too, and skilled prospecting found itself at fault. The spots old miners had passed by as worthless, "tenderfeet" from Ohio dug down upon, and showed to be rich in "mineral." One of the first mines opened — the Camp Bird — was discovered by the Gallagher brothers, two ignorant and utterly poor Irishmen, of whom amusing stories are current. Another early piece of good fortune

was that of Fryer, from whom Fryer Hill, one of the most productive districts, derives its name. He lived in a squatty little cabin on the side-hill, where the dirt floor had become as hilly as a model of the main range, and the rough stone fire-place in the corner was hardly fit to fry a rasher of bacon; but one day he dug a hole up near the top of the hill, hiding himself among the secret pines, saying nothing to anybody, and a few yards below the surface struck a mine which has already yielded a million of dollars without being urged. Now Fryer's cabin is loaned to two men trying for the same prize, while the old owner spends most of his time at the Fifth Avenue Hotel. Innumerable incidents might be related of the patience and expense and hardship which resulted in

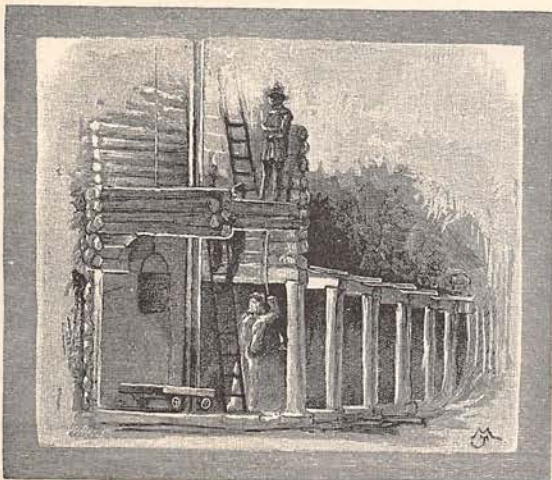


THE JIG DRILL.

failure; of the equal pluck and endurance that brought success; of happy chance or perfect accident divulging a fortune at the most unexpected point. The miners have a proverb, "Nobody can see into the ground," and the gamblers an adage, "The only thing sure about luck is that it's bound to change!"

One of the grimmest of these tales is that attached to the Dead Man claim, which is briefly as follows: It was winter. Scotty had died, and the boys, wanting to give him a right smart of a burial, hired a man for twenty dollars to dig a grave through ten feet of snow and six feet of hard ground. Meanwhile, Scotty was stuffed into a snow-bank. Nothing was heard of the grave-digger for three days, and the boys, going out to see what had happened to him, found him in a hole which, begun as a grave, proved to be a sixty-ounce mine. The *quasi* sexton refused to yield, and was not hard pushed, for Scotty was forgotten and staid in the snow-bank till the April sun searched him out, the boys meanwhile sinking prospect-holes in his intended cemetery.

One mine had its shaft down 135 feet and the indications of success were good. Some capitalists proposed to purchase an interest in it, and a half of the mine was offered them for \$10,000, if taken before five o'clock. At half-past four, rich silver ore was struck, and when at half past five the tardy men of money came leisurely up and signified their consent to the bargain,



AT THE BOTTOM OF THE SHAFT.



ATHWART AN INCLINE.

the manager pointed at the clock, and quietly remarked:

"The price of a half interest in this mine now, gentlemen, is sixty thousand dollars."

Prospectors went everywhere seeking for carbonates, radiating from this center up all the gulches, and over the foot-hills, delving almost anywhere at a venture. One day, at a hitherto unheard-of point, wealth comes up by the bucketful out of the deep narrow hole, that has been pierced so unostentatiously. Instantly the transformation begins, and the lately green hill-side, re-

freshing to the townsman's eye, becomes forlorn in its ragged exposure of rock and soil where the forest has been swept away, while trial-mines grow as thickly upon its surface as pits on the rind of a strawberry. All these young mines, good or bad, look much alike, and are equally inaccessible and unkempt. There are no roads, hardly any wagon-tracks and few paths. Every man goes across-lots, the shortest way, pushing through the remnant of the woods, clambering over the prostrate trunks and discarded tree-tops, whose straight trunks have been felled and dragged away to the saw-mill, or chopped into six-foot lengths for posts and logging. Teams must go around, but life is too short for the man afoot to follow them; holding his painful breath, he scales straight up the steep and slippery ascent.

But it is time to say something of the processes of getting out the ores, and perhaps the best way is at once to attack the geological structure of the region.

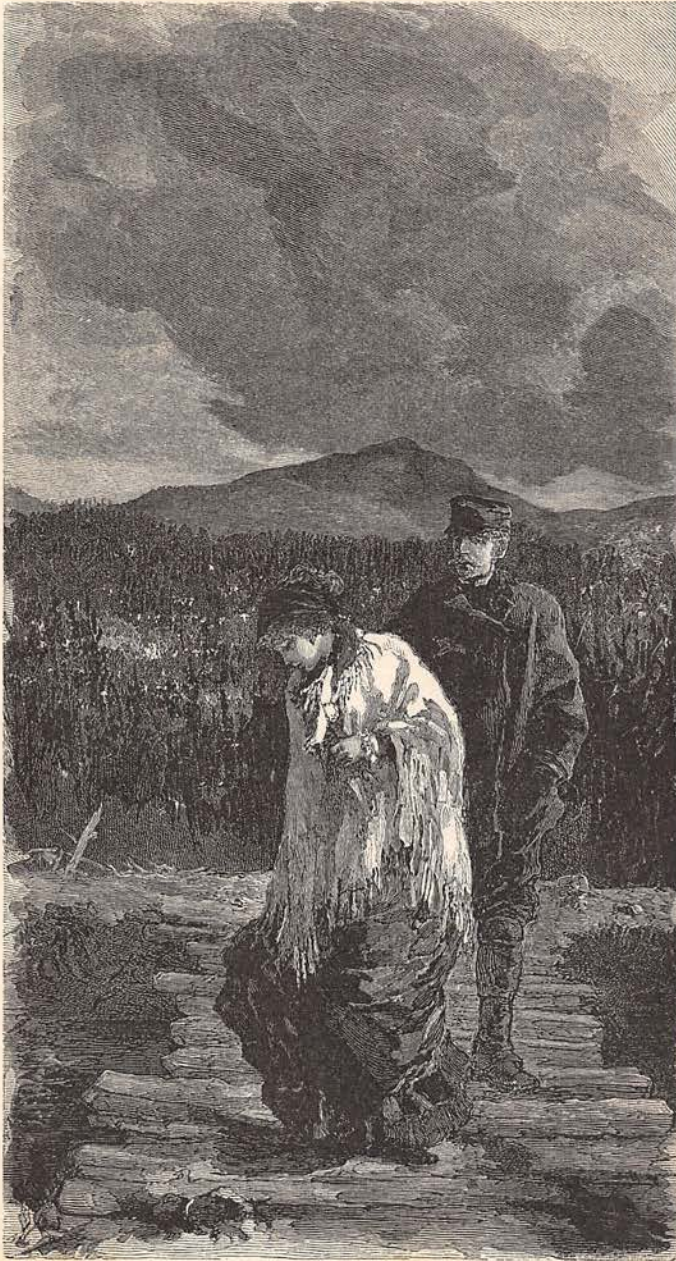
Leadville appears to lie upon the eastern edge of the lava area of the state. The last of the trachyte peaks are at the head of Mosquito Pass. Underneath the camp, and on all the hills where her riches are stored, the soil is found to be a porphyritic overflow overlying a highly silicified dolomite, that goes by the common name of "limestone." Between these two formations (*i. e.*, under the porphyry and above the dolomite) are found the mineral beds. Various theories have been broached as to the reason for their position, so novel in the experience of silver mining, and some of the explanations



THE PROFESSOR IN SUSPENSE.

are a burlesque of geology, though uttered in dead earnest. Those who are best qualified to decide, although confessing limited

bonate of lead in large quantity, silica, oxides of iron and manganese, and the precious chloride of silver. Sometimes the lead



A GOOD INDICATION.

observation, suggest what seems to me the simplest theory and the one nearest the truth. The mineral constituents of the ores are car-

occurs as a sulphide, and there are some other insignificant components. Now, it is possible that the original constituent parts

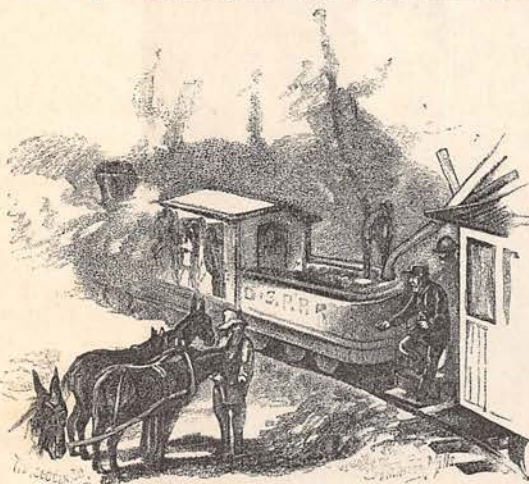
of all these minerals should be contained in a porphyritic eruption. Deposits of galena and some other minerals are now occasionally found buried in the porphyry, or occupying slender fissure-veins through it. Moreover, all these minerals are capable of solution in water charged with carbonic acid, which, of course, was present in abundance, and the suggestion is that they have leached downward through the porphyry until they struck the limestone floor, which became in time so highly silicified, as to admit no further penetration of water, whereupon the valuable deposits that we are now prying out gradually accumulated. It is considered probable that as exploration proceeds true fissure-veins will be found extending down into the dolomite, formed at the same time that these carbonate beds were laid down. The silicified surface of the lime, and the semi-saturated line of the porphyry, next the carbonate, are known as the "contacts"; and when the miners strike this, they have good cause to be hopeful of near success. The presence of great beds of kaolin (hydrated silicate of alumina), derived from the thorough decomposition of porphyry or granite, or both together, and the presence of hydrate of magnesia, with beds of semi-opal (always an aqueous production), argue in favor of the truth of this explanation.

The general fact of this position of the ores being understood, and the supposition

tapped from the surface; and he is the luckiest fellow who strikes it at the least distance down. Certain indications on the surface are relied on to some extent, but these never can be trusted, and the early comers sinking anywhere, without skill or knowledge, were quite as likely to win as the shrewdest old-timer.

He who goes searching for a mine is known as a "prospector,"—a character whom it is quite unnecessary for me to draw again, so well is he known to all readers. In some regions a prospector may go off alone and discover mines with no one to claim a share of his good fortune; and the bones of many such a one are sinking into a slow grave under the kindly shed needles of Sierra pines. In this district, however, where deep pits must be driven before anything can be ascertained, the prospector needs a companion. Two, or sometimes more, will therefore start out together, carrying tools and provisions upon their backs, or strapped upon a pack-mule or two or three Mexican donkeys. "Me and my pardner" always takes the place of the simple *Ego* in the mountaineer's narrative of success or misadventure. Sometimes the two are strangely assorted. I have known prospectors to start away together and travel for days before asking each other's names; in one case, they discovered themselves to be brothers,—strawberry mark and all! Frequently they quarrel and fight. Duels over rival mining interests used to be common. But as a rule, the prospectors get on fairly well together, and deal square by one another; the swift and speedy retribution of bad faith being ever before their minds. Usually they are able to provide themselves at least with the meager necessities of life, while they search; but it has grown to be a custom for merchants to hire impecunious persons to go prospecting for them, furnishing tools, arms, blankets and rations for a given time. This advance is termed a "grub-stake," in return for which the capitalist receives an interest in whatever may be discovered. Three hundred dollars provides a good grub-stake.

Let me suppose that our prospectors have been more than ordinarily successful; that they have dug not more than a hundred feet, have curbed their shaft securely with timber, have struck the greenish-white porphyry, and finally have met with the longed-for "contact," which separates the



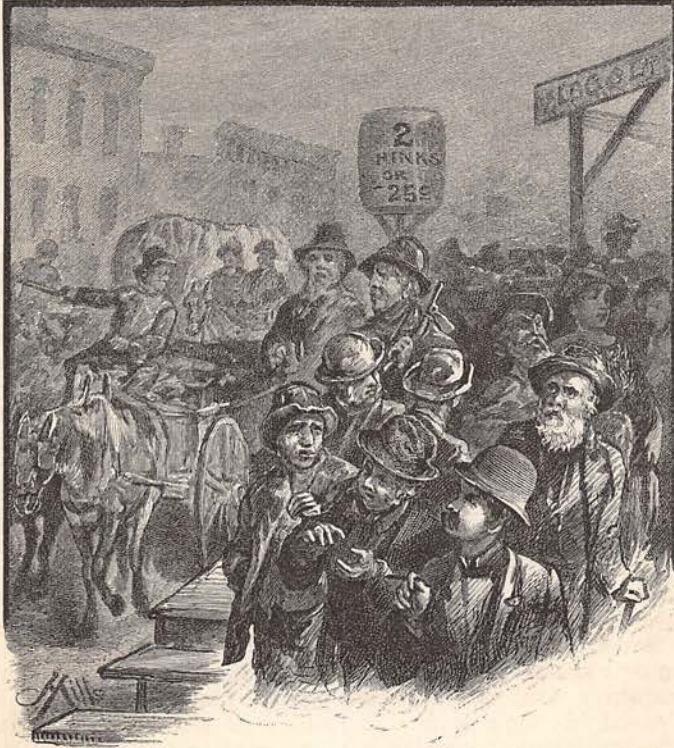
"WHEN DROUTHY NEEBORS MEET."

being generally credited also, that the whole region is underlaid with precious carbonates (although this is by no means established), the object is to find where this bed can be

mineral bearing rock from the barren gangue. They have been little troubled by water, and they have done all their work with the help of one Irishman, and the ordi-

ered away in the bucket's place. If your head is strong there is no great danger.

When the miner really "strikes it," and the brown, crumbling, ill-looking ore begins



A SIDEWALK STUDY.

nary windlass. There being every indication that wealth is just beneath their picks, they erect over the shaft a frame-work of heavy timbers, called a "gallows," and hang in it a large pulley. A little at one side, close to the ground, is fixed a second pulley. Under this, and over the upper one is reeved the bucket-rope, and a mule is hired to walk away with it, when the bucket is to be drawn up, creeping back when the bucket goes down. This is a "whip." The next advance in machinery is the "whim," which consists of the same arrangement of gallows and pulleys as before; but instead of a mule walking straight out and back, the mule travels round and round a huge revolving drum, that carries the hoisting-rope. If you care to go down one of these shafts you may stand in the bucket, or you may unhook it, and, placing your foot in a noose, be low-

to fill the bucket to the exclusion of all else, assaying fifty or a hundred or four hundred ounces to the ton, a house is built over the shaft, and a steam-engine supersedes the patient mule.

The depth at which a mine may be found (if at all) can hardly even be guessed at. Paying "mineral" has been met with from the surface to more than 350 feet in depth. Usually the shafts are over a hundred feet deep.

The deposit having been tapped, digging out the ore begins. This is done by means of horizontal passage-ways or tunnels, known as "drifts," which are driven into the rock from the bottom of the shaft.

Before the prospector began work he had "staked out a claim" by putting up a conspicuous notice of the fact, usually penciled on the denuded trunk of a tree, where the sap flows over and glazes the writing safely

from erasure by the weather. He claims a tract 1,500 feet long by 300 feet wide, as allowed by law. Having been encouraged enough by his investigation to make him desire to keep the property permanently, he procures a survey of it, by which all the boundaries are accurately located and recorded. If these encroach upon the surveyed boundaries of any other previous claims it makes no difference, provided the pay-streak has not yet been found there; and if our friend discovers silver before it is struck on contiguous property, he has a right to the whole of his original claim, even though its lines inclose all the unsuccessful diggings of his neighbor. This is called "surveying in." On the other hand, if you survey a claim over upon the claim of another man who has already found the object of his search, you have no right to go beyond his lines of possession, which extend vertically from nadir to zenith. For being surveyed in, when there is no question of being outspeeded in the race for the silver, there is no redress, even for the work already expended; but a generous man will usually make a pretense of buying out his unlucky neighbor by paying an estimated value of work already performed, since it may prove useful to him in future. Submission is not always so easily bought, however. In the case of two well-known mines now united in a great "consolidation," the one was made productive first, because the owner, who derived his impetus from a knowledge of the good indications seen in his neighbor's shaft, was able to put at work a far larger number of laborers than his neighbor's means could employ. The result was that he got ahead and struck the ore before the first mine reached it. Then, taking advantage of the rule, he surveyed the older diggings in, and had legal possession of the whole. The defeated man knew his strait but refused to abide patiently the hard fate that lost to him all past labor and forestalled all hope in the future; he went to his successful neighbor, and expostulated in a few forcible words, which secured him and his partners a large share in the good luck to which he claimed to have equally contributed. He put before his rival the alternative of yielding a part of the mine or being shot dead on the spot; and reading the desperate face of his contestant at a glance, the rich man chose life and divided wealth to monopoly and a coffin.

It is because of such uncertain factors in the calculation as this; because you cannot

see before you start, and even if you reach contact or even carbonate are not sure that it will be profitable, that this whole method of mining is one vast game of chance, little less uncertain than the keno and draw-poker which flourish under its influence and prosperity. Mining in Leadville, until long expenditure and patience have insured success in the well-developed mine, is simply feverish gambling, and there is little difference between the atmosphere of the hotel office and street corner, and that of the faro banks. No wonder the latter flourish. Naturally these regulations have led to endless complications and litigations, actual and impending upon every side. The law of the state, when it was formulated, knew nothing of any geological aspect in mining like that presented here, and does not at all apply to the present conditions. The consequence is that a general sentiment and arrangement for mutual benefit, rather than any legislative enactment, have decided upon the regulations outlined above.

To resume the consideration of the mine itself, independent of its neighbors and their jealousies, it may be said, to begin with, that it is ordinarily dry and comfortable to get about in, and the white walls of the porphyry, through which many of the drifts pass, reflect the light of your candle so fully that illumination is easy and complete.

The getting up and down is the disagreeable part of the business. The bucket and rope is a muddy and dangerous way compared to the ladders. It is not long ago that a very well-known Eastern professor of the art of scientific mining, who loves a joke too well himself not to appreciate the fun of the situation, started down a shaft, disappearing in the black hole with the utmost composure. In a moment, however, frantic shouts were heard by those above and the engine was quickly stopped.

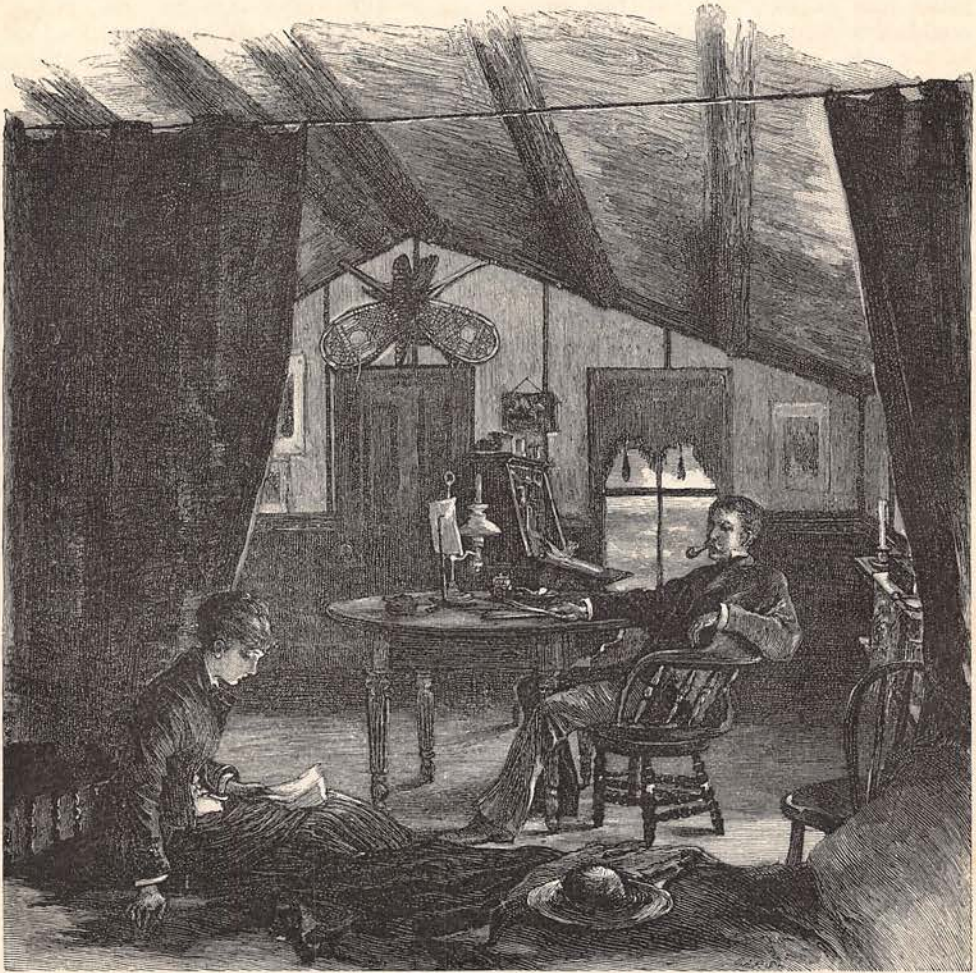
"I'm hung up by my coat-tail on a nail," called the professor faintly, from about a hundred feet below. "Hoist the bucket and scrape me off again."

It was done, and the famous expert has another adventure to relate which is far more comical to listen to than to experience 'twixt the top and bottom of a mining-shaft!

In the largest mines there is a partition from top to bottom of the shafts, insuring excellent ventilation, and leaving a small space for a ladder-way; there the descent is as easy as that to Avernus. But when it comes to the ascent—well, one is almost willing to stay down forever. All

exertion at ten thousand feet of altitude is fatiguing; to climb a perpendicular ladder anywhere is a breath-wasting operation, put the two together, and you have as fine

group, ready to follow our conductor's lead. It was a fine-looking lot of judicial and literary men—red canvas coats, too short, hats slouched over the eyes, trowsers rolled



AS COMFORTABLE AS CIRCUMSTANCES WILL ADMIT.

a set of conditions to make you dissatisfied with the disgusting lack of proportion between your weight and your lung-power as you can well find.

I remember a little excursion down into one of the finest and most famous of the Leadville mines. There were seven in the party, four of them judges on the supreme bench. It is unnecessary to be more explicit as to ponderosity of body and intellect. We went down the ladders, each one insisting upon the other's precedence with the greatest politeness. Finally all were huddled at the bottom in a little

up over muddy boots, and wet hands spattered with tallow drippings. Then we ducked our crowns and plunged into a subterranean labyrinth where the ermine became a weasel. On either side stood rows of posts six feet high and twelve inches in diameter, holding equally strong lintels overhead. Behind these posts a tier of poles kept back any tendency toward caving in on the part of the sides of the drift, and the roof was similarly supported. This wall or fence of poles is called the "lagging," and it is put in as fast as the drift proceeds.

At the end of each drift men were work-

ing with picks tearing down the ore as they would cut into a clay-bank, while others shoveled it into the little car that pretty soon rattled away to the mouth of the shaft and delivered up its contents to be lifted into its first sight of the outside world since Azoic days. This working end of the drift is known as the "breasts." There are no noxious gases in any of these mines. The ventilation is perfect. Candles are used, therefore, instead of covered lamps, and the needs of the case have developed a charmingly picturesque candlestick of bent wires, which may be stuck into a vertical wall, or hung over a projection, and which is another illustration of the elegance of shape resulting from the perfection of use. Another favorite way of supporting the tallow torch is by wrapping round its base a splatch of wet clay, which only needs to be slapped against a piece of timber or any firm substance to hold the candle where you will. The breast is dug out as high and as broad as will admit of advancing the regular timbers, which are planted every four feet as fast as room is made.

Next we went down an "incline," that is, a drift downward from the general level in following the ore-bed, and found some men stoping. "Stoping" is digging out ore from beside the drift. It may be above, or below, or on either side. To stope from beneath is considered bad policy, since then the mineral must be drawn up; whereas in stoping from above it may be tumbled down, and thus trouble and expense be saved. Now we saw the reason for having posts so enormous. Here were three stories of timbering, one above another, with more in preparation; and the chambers were wide and long, yet the whole roof of the mine was supported by a trestle-work of logs which, never dove-tailed or locked, were so braced together by setting square against the shoulders of two or three other beams that every one braced all the rest.

"These timbers will last twenty years," said the superintendent, "or as long as we care to use them; for you see when we have run a drift to the limits of the mine, and begin to stope, we clean out all the mineral as we move this way, and stuff in behind us all the loose material and waste, leaving the timbers to be buried in the heap. After a while, of course, those timbers will rot and the roof will gradually cave in, but as we have no more use for that part of the mine, and no occasion to

go there, we don't care. Meanwhile we don't open new drifts too fast, and so our timbering need be done only once, except in some of the main avenues and shafts."

We had been following him about, walking by faith rather than by sight, poking our candles into dark nooks, picking off bits of glistening earth here and there, climbing up among the shadowy network of timbers in some stoping-place, and stepping cautiously over some chasm which might not be very deep, but seemed a crack down into Tartarus, when all at once we found ourselves back where we started from. We knew the spot by an old powder canister which a noble judge had sat down to rest upon, and the circular imprint of which he had carried about with him ever since, like the label on a spool of thread.

"Now, Judge," resumed the superintendent, addressing the honorable representative from Boston, who was snuffing his candle between his judicial thumb and finger. "Now, Judge, we have just walked round one of my pillars, and I propose to leave it standing there as a firm support for the roof until I have worked back to it. The whole mine is to be crossed by drifts about a hundred feet apart, running at right angles just as a city is laid out into streets, and the blocks of houses are represented by my pillars of ore."

"I *sabe*."

The Judge dropped into slang as Silas Wegg descended to poetry,—purely in a friendly way. Somewhat startled, but assured of his hearer's full comprehension, the superintendent went on to say that, knowing the height, length, and breadth of these great square blocks of ore left in the heart of the mine, and knowing how many ounces that ore would average to the ton, it was an easy matter to calculate just how much the whole was worth in dollars and cents.

"This rock, now," he continued, holding his candle-flame close to a crumbling piece which he plucked from the wall, "this burnt-brown stuff, that feels so heavy and looks so brick-like and utterly worthless, is particularly good; it contains 600 ounces of silver in every ton, and one-fourth of the residue is lead. Suppose there are a hundred thousand tons in this pillar we have just been round, and suppose there are a score of such pillars in this very mine, don't you see some excuse for our enthusiasm? I tell you, gentlemen" (puffing his pipe alight between the words), "there's millions in it!"

"Very true,—but—forgive me, General,—but isn't it a fact that occasionally the ore is not true to its appearance all the way through? Doesn't the bed grow thin sometimes—pinch, peter out, you know? Or isn't there sometimes found in the center a great mass of unproductive rock, vulgarly known as a 'horse'?"

"Yes," assented the superintendent, a little less enthusiastically; "yes, I know of a case in this very camp where a shaft was sunk a good distance and a drift was carried straight away through the hardest of iron for sixty-five feet. It was a work of extraordinary labor and discouragement. Finally, the manager was advised to turn and drift at right angles to his present course. This new experiment had hardly begun when the richest soft-carbonate ore was struck in large quantities—an ore assaying over a thousand ounces of silver to the ton, but entirely destitute of lead. It was followed semicircularly, always curving until the new drift brought up square against the iron only two feet from the wall of the original drift, and less than five feet from the bottom of the shaft! By a chance error of three feet the shaft had been sunk directly upon a 'horse' or island of iron, inclosed in the carbonate-bed, and the first drift had the bad luck to be directed straight along its axis. It is of course possible, but not probable, that one or more of these pillars may be almost wholly occupied by a great barren boulder."

As the ores are brought to the surface they are scanned by an experienced person, and the best pieces thrown in a heap by themselves, while the ordinary ore is cast upon the "dump" or pile which accumulates at the mouth of the mine, and makes a little ruddy terrace on the green or snowy hillside. From this dump wagons haul the ore away to be sold, the best part often being put in hundred-pound sacks, about as large as quarter-barrel flour-bags, before being sold. Very rich ore is likely to be bought by regular purchasers, who forward to smelting-works at Pueblo, St. Louis, Omaha and Eastern cities. I think none of these ores have been sent to Wales. The inferior grades are sold by the ton to some one of the dozen smelters here in town, the price being governed by the market quotations of silver in New York on the day of the sale, less several deductions amounting in all to about 25 per centum, as the reducer's margin for profit, and plus three to five cents per pound for all the lead above 21

per centum which the ore carries. Silver and gold are estimated in ounces; lead and copper in percentages; but allowance is not made for both of the latter metals in the same ore. The ore is hauled to the smelting works by four or six-mule teams, for the most part, the driver not sitting on the wagon, but riding the nigh wheeler, guiding his team by a single very strong rein which goes to the bits of the leaders, and handling the brake by another strap. He is in the position of a steersman in the middle of his craft, and his "bridge" is the saddle. Every load is sent upon the scales, recorded, and then shoveled into its proper bin. A thin-faced, dusty-haired youth leaned half asleep against a shady corner at one of these mills, recording the tons and fractions of a ton in each load as he lazily adjusted the balance. His air was of one so utterly listless and bored that I was moved to remark cheerily as I went by:

"You haven't chosen the most exciting part of this business."

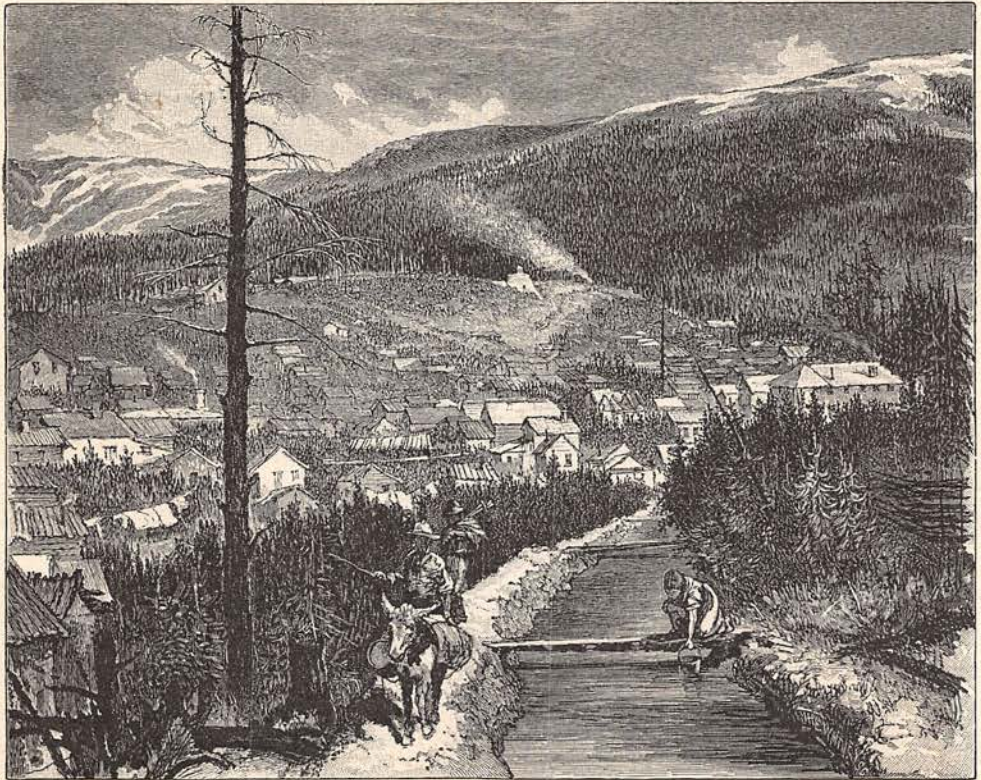
"No," he answered dryly, while an indescribable twinkle came into his carbonated countenance. "No, but I'm trying to do my duty. You know the poet says, 'They also serve who only stand and weigh it.'"

That fellow had a history, but I haven't time to tell it. Leadville is full of such characters, and it only needs to put one's self *en rapport* with their happy-go-lucky good humor and stoicism under all sorts of fortune to find these miners, at heart, the best fellows in the world. They have a high regard for a gentleman, but a hatred of a swell; no objection to good clothes, but a horror of "frills"; a high respect for genuine virtue, but boundless hatred of cant; an admiration for nerve amounting to worship, but a contempt of braggadocio that often results in an impulsive puncturing of both the braggart and his boasts. A "tenderfoot," that is, a new arrival from the East, green in the ways of mountain life, they consider fair game for tricks and chaff. Usually they attempt to frighten him, and his behavior at such initiatory moments determines, to a large extent, his future standing in the camp.

But this is a digression from the subject in hand, which is the reduction of the ores. The smelters cannot be allowed to cool off, and so are run the twenty-four hours through. One evening we make up a party and visit the great works of J. B. Grant & Co. Its chimney-stacks pour noxious smoke over a

nest of cabins down on the bank of the creek, and guide us, by scent as well as sight, through the muddy streets and across the vacant lots. The broad upper floor is divided along one side into a series of bins, opening outwardly into a shed, under which the teams drive that bring the ore. Each

carted back to the original pile in the bin. The saved portion, which has happened to fall into the scoop, constitutes a new sample, to be further reduced, by successive crushings and screenings, until finally there remains only a pound of earth as the perfect representation of the average quality of the



MOSQUITO PASS FROM CAPITOL HILL.

owner's lot is put into a bin and kept separate until sampled and paid for. This sampling is a process akin to homeopathy. Supposing one hundred tons are to be sold at the smelter. Every tenth ton, as fast as delivered, is set aside to be sampled. This ten tons is then subdivided,—perhaps by being carried from one part of the floor to the other in wheelbarrows,—every tenth load being set aside. The single ton thus remaining contains many large, hard lumps. These are roughly screened out and put through a crusher, which chews them into fragments no larger than walnuts. The heap of a ton of broken material thus formed is now separated in a very ingenious way, by catching a few lumps of the ore from each shovelful in a "scoop," which a man holds above the wheelbarrow wherein the main portion is

500 tons of rocky ore offered from the mine. This pound is then ground to powder on the bucking-board, and a tenth or twentieth is taken for the scientific fire-test, or "assay," which shall determine its value. All these processes go on at night as well as by day.

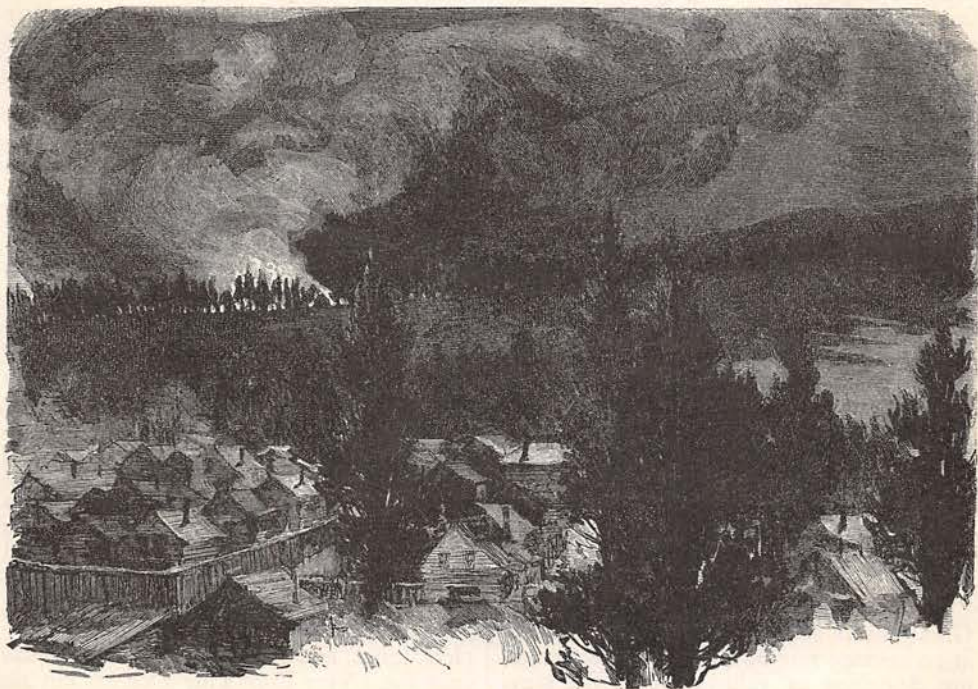
The red-brown ores lay in little heaps about the floor when we entered, divided from one another by low partitions. Men with spidery wheelbarrows were cruising about, dumping a pile of precious earth here, shoveling up another there, with seemingly aimless purposes, and the bins were only like so many openings to a mine, so deep were the shadows hiding their recesses. Across the room, lanterns showed four great circular chambers of iron, from whose depths hoarse rumblings drowned in a deep, steady bass the energetic crunch-crunch of

the insatiate ore-chewers. Wide door-ways admitted into these dungeons, where surging volumes of murky vapors were confined, and through their hot portals red-shirted men hurled the raw material that should be digested, and the worthy part of which should issue from the furnaces below in a bright and costly stream: first a barrow-load of carbonate ore, next one of charcoal, then a third of iron and limestone-flux.

Day after day, night after night, these monsters are fed with this diet, varied in proportions according to the richness and metallurgical qualities of the ore that is being smelted. It requires very good judgment to determine just how much foreign material and lime is needed to produce the best results with the constantly varying ores. When, as happened the other day at a new smelter, the slag yields 150 ounces of silver to the ton, the conclusion is that the substances which, in melting, are necessary to produce a certain chemical combination and set free the valuable metals from their base companionship, have not been put in in proper proportion. Unless this is done, the smelting, of course, is not profitable. Luck may find the silver ore but science must extract the bullion. Most profit ac-

crues to the smelter when the ore produces from 75 to 200 ounces of silver, and contains a goodly proportion of iron and lead.

Leaving the dungeons, we pick our way down the slope of a small mountain of ore, and enter below, where the engine and boilers throb, and the openings at the bottom of the furnaces give exit to the silver and the slag we saw shoveled in above as ore. And what an exit! The low roof shuts down close and dark upon the huge black cylinder of iron and bricks that holds in its heart the molten metal. There are pipes and valves, and draft-ways, and beams and braces, but they show indistinct in the gloom, and are nothing beside that great central mass, begrimed with soot and the dust of arsenic and oxides of lead. Watch that workman. He lifts a lance and stepping near the base of the furnace, where a single spark directs his aim, gives two or three quick thrusts. How mighty an effect the simple act evokes! The gloomy and ghost-haunted chamber becomes a home of fire; the grim furnace breathes out gaseous flames of blue and green, with tongues of light which hover playfully over a cataract of melted red metal bubbling, spouting, plunging out of that Plutonic throat and



BURNING WOODS.

falling in hissing streams into the iron bowl waiting to catch its hot flood. The little lady who is with us, seeing the sparks fly, draws timidly outside the door-way, and none too soon, for without warning the whole place becomes volcanic. No longer a steady stream of artificial lava rolls down the iron channel, but the liquid metal bursts its bounds and becomes a fountain. The furnace is hidden in lurid gases out of which spring volley upon volley of burning fragments that scatter showers of fire over the whole foreground.

The slag-pot is a conical vessel, with a rounded apex, poised, base uppermost, on four little legs; when it is full, an iron frame-work of a cart runs up, seizes it on opposite sides as though with two hands, and wheels it, glowing and fuming, out where a mole of slag is pushing itself over into the white gravel of the gulch, and where it is deposited red and crackling among heaps of like cones, some fading into the ashy hues of spent heat, some black and shining like inverted crucibles of polished iron. It was an uncanny vision: the huge rough outlines of the rough mill, with its high chimneys and beacons of flame and smoke; the blaze within, the wan moonlight outside, and the sinewy men with skeleton carts leaping about in the glare of the spouting slag, handling shapely burdens of fiery refuse.

While the worthless slag is doing so much sputtering and making so lively a show of itself, the silver and lead have quietly sunk to the bottom as fast as the heat liberated them from the mass of the boiling ore, and now come oozing up from a small exit far below the slag-spout, into a well at the side of the furnace. As fast as needful, this liquid "bullion" is ladled out and poured into iron moulds, where it remains until it cools into solid "pigs" or bars of lead weighing about fifty pounds each, and carrying about two per cent. of silver. These pigs, when cool, are stamped with the smelter's name and the number of the car-load to which they will belong. Then from each one is cut a fragment, and these pieces—when the whole "run" of the furnace has been made—are collected and re-cast and assayed to determine the value and selling-price of the bullion.

From October, 1878, to June, 1879, the Grant Works sold 621,000 ounces of silver at an average rate of \$1.10 an ounce, making \$683,000 of value. Up to the same date, Eddy & James, the largest buyers of

ore, forwarded eastward \$1,288,000 worth of silver. Another large establishment, both shippers and smelters, claim to have handled \$5,000,000 worth of precious metals. There are at present about fifteen ore purchasers and reducers, and, not to go further into exact figures, I judge the total product of the camp in silver and lead already converted into cash to be about \$20,000,000. This takes no account of the ore now lying above ground ready to be worked, and the sum can hardly be taken as of more value than a thoughtful guess, but it is probable that it is under, rather than over, the truth. The time has not yet come when accurate statistics can be collected. In two or three years the task will be a more grateful, if no less difficult, one.

From what I have described, it appears that one of the most important men in the camp is the assayer. At the office of each reduction works and of each buyer of ores is employed an assayer, upon whose report of intrinsic value the ore is bought. In addition to these there are many private assayers to whom owners take an equal portion of the sample assayed by the purchaser, in order to check his determinations, and to whom the prospectors submit the rocks they hope to be of value in their desire to know whether the deposit represented is rich enough to make a mine of. The assayer is very likely to be found in some little log shanty, and in his overalls and rough shirt does not exhibit himself as the graduate of Freiburg or the pet of the Columbia School of Mines, which, likely enough, a later acquaintance discovers him to be. But the grimy worker and his rude laboratory become the center of the miner's hopes, and he hangs over the process in silent expectancy while the mysterious investigation goes on, or comes at the end of the day to learn the result, with an expression on his face blended of the flush of lively hope and the habitual stoicism of the silver-seeker. In one corner of the cabin stands the assayer's small, square brick furnace and his kegs of charcoal. Against the wall are fastened the shelves that hold his few tools, his bottles of acid and his knickknacks. Upon a heavy post, converted into a table for the sake of its solidity, rest his bucking-board and muller, and a similar post gives firm foundation for his diminutive anvil, while close at hand hang the various sieves, samplers, tongs, and so forth, which his business calls for. Very likely only a calico curtain divides his furnace from his bed; but if it

happens that he lives elsewhere, then the cleanest corner of the office will be devoted to a writing-table and a few books of metallurgy and chemistry, between the severe bindings of which Bret Harte or Thackeray will very likely have found a snug resting-place.

Leadville is situated upon a slope, the inclination of which is diagonally across her squares. The result is that no street is wholly level; yet, except upon the sides of the outlying hills, where the mines are, the grade is nowhere steep. There are few fences and everybody goes 'cross-lots, making the best of the grade. Before the town was built, shaft-holes had been sunk in many places on its site, but unsuccessfully. These are now used in some cases as wells and stand right in the street with rude little sheds over them like shrines. There are no sidewalks except along the business streets, and as these were built by each owner to suit the level of his own door, the result is a very uneven line, making a step or two up or down necessary every few yards. The business buildings thus far are almost without exception of wood, and many of them are made of logs and canvas. It is astonishing how good a house can be made of a big tent. A floor is laid, scantling is set up to make a frame-work more enduring than rope-guys, and over this is stretched a tent. In place of the flaps in front, a door-frame is tacked in and a piece of tin sewed into the roof gives safe exit to a stove-pipe. It rarely rains in Leadville,—snow takes the place of rain at ten thousand feet above the sea; and even such perishable materials as millinery and photographic apparatus are kept in large quantities and well displayed in an ordinary large army tent. Three-fourths of the lodging-houses and restaurants, the freight dépôts, small grocery stores and offices are under canvas, while a beer garden and a theater boast no better quarters. That which was intended to serve as a temporary make-shift at a time when everybody was racing to be first in his particular business, has proved so serviceable as to be retained permanently. But though the buildings are so small and rude,—mere sheds at best, for the most part,—the business done is immense. There are well-appointed shops in every variety of trade. Even manufactories of such articles as there is a large home-demand for, like bedding and rough furniture, are in successful operation. It is this business activity which

keeps the constant stream of freight teams between here and Denver, Colorado Springs and Cañon City in motion, and which imparts to the town its populous air. Nor is this populous air a fictitious effect. Twenty thousand people are tributary to this center for their daily supplies, and ten thousand gather within the city's walls, so to speak, every night. It is three miles in a straight line across the solid part of the town up and down the gulch, and cabins are scattered irregularly all around the suburbs.

It is surprising, when one thinks how all this wide civilization has usurped the forest within two years, that so much order and regularity appears. At first, so that there was a roof over his head, and the chinks between the logs were filled with mortar, nobody cared. But this summer has seen a beginning of improvement. One great lack was decent water; so commissioners prospected up the gulch for a fountain, and to-day a complete system of mains, pipes and hydrants distributes the melted snows of Mosquito over the whole town, and well-equipped hose companies are ready to employ it against any conflagration. When the pipes were being laid, soft solder was scarce in the camp, and these reckless commissioners battened the joints with bullion. Is there another city in the world whose water-pipes are soldered with silver?

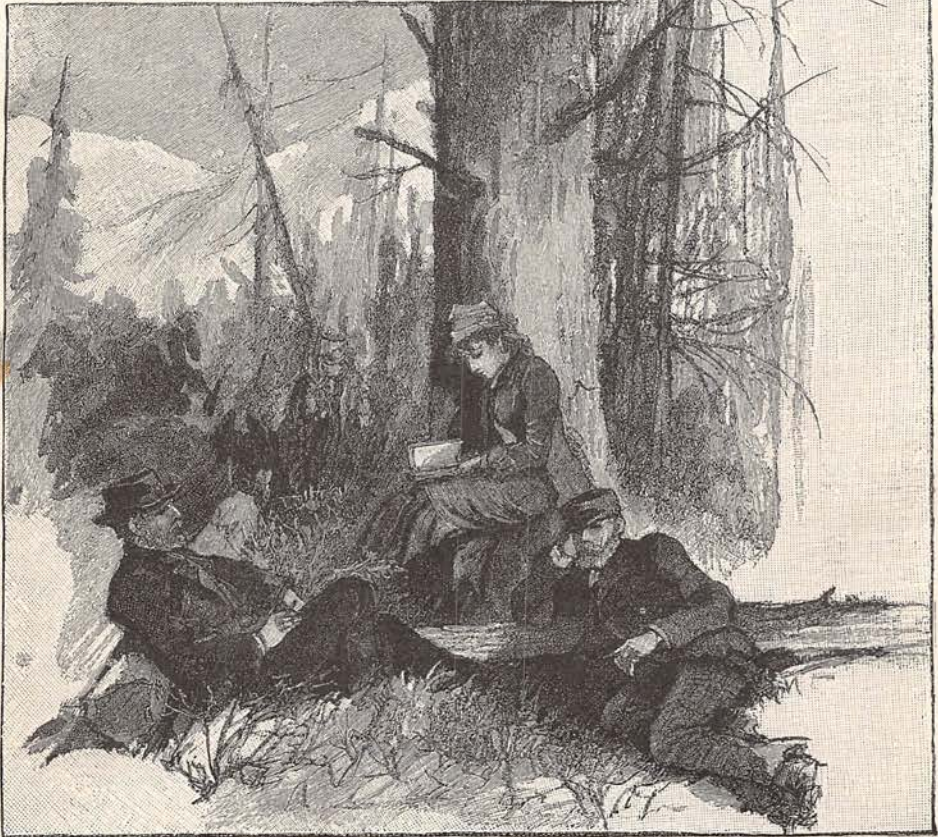
The streets in the center of the town were next carefully graded, and a regiment of men set at work hauling slag from the furnaces to make the best of macadamized pavements. A gas company proposes to illuminate the dark corners, and a street-railway to carry you about, while a telephone exchange is already organized with a hundred connections, and a corps of lively messengers; a glittering police force ornaments the young city, mounted newsboys carry the "Chronicle," "Eclipse" and "Reveille" morning and evening, to all outlying hamlets, and ragged youngsters beg the privilege of polishing your boots at every crossing. Leadville made up its mind one day to cease being a mining camp, and to become a city; lo! it is done.

One of the striking things about the community is the all-absorbing interest in the mines. You pass group after group of men on the sidewalks, or about their work; you sit at the hotel table and take tea in a lady's parlor; you meet persons of every grade and calling, and no matter what their position or occupation, their whole conversation

is of mining. "Struck it"—"contact"—"carbonates"—"surveyed in"—"claims," and so on to weariness. The salutation is "How deep are you?" A man tries a new boarding-place and then leaves it because it doesn't "assay well"; forsakes a business because it did not "pan out enough;" expresses his admiration for a pretty girl by the remark, "She runs mighty high!" You hear such phrases over and over.

A barber shaving chins to-day at two bits apiece, becomes a millionaire to-morrow because part-owner in a mine, which has just "struck it rich." Not only your banker, but your baker and grocer, and the man who saws your wood, has some cash interest in the silver diggings; not little two-pence-ha'penny investments either, but solid wealth, although 90 per cent. of it may be purely prospective. He discounts his chances, though, and in his self-importance, fancies himself a capitalist already. Yet this imaginative opulence does not give him the arrogance which perhaps actual wealth

would, and he is humble enough toward his neighbors in this camp, where no man long deems himself better than the next one, unless he is aching for a fight. Nevertheless, there are plenty of poor, unfortunate ones and some regular beggars. Men of money and wit have wasted both in carbonates for months past, perhaps forsaking good places in the East to try their luck here, and yet they see no



W. MILLER

IN THE WOODS.

returns. Take it all in all, he is luckiest who wholly escapes the fever and takes no risk.

Strolling about, one sees many curious things, but if his steps lead him to the cemetery he will be both amused and saddened. It stands close by the dusty road, and is guarded by no paling. The interments have been made closely side by side, as in a soldier's cemetery, and the rows are startlingly long and numerous. Two or three have head-stones of marble, but the rest are only marked by a piece of board, inscribed with pencil or lamp-black, and rarely telling more than the name. Three men were digging graves as I entered.

"We have to keep 'em dug ahead," one said; "no telling when there may be a rush on us."

Stampeding to death is consistent in Leadville. Just then an undertaker's wagon drove up to a hole in the gravel, and the sexton ran across the plat to meet it. I saw him help lift out a large pine box and lower it into the ground. The driver of the dead-wagon whipped his horses and rattled away. The sexton pulled up the ropes from the coffin, and leaving his assistant to shovel in the earth and stones, came back to be polite to me. Such was the only funeral I witnessed in the camp.

Some of the signs you see (and never a town had so many signs to the square rod!) are queerly made and spelled. "This House for Sale" is startlingly frequent and suggestive, especially if it is spelled "sail." "Board \$7" is another common placard on log houses in the suburbs, and every tenth shanty in the whole camp is a "Laundry." Not a Chinaman is allowed to come into town. They nearly made an end to an unfortunate Mexican bull-whacker, not long ago, through suspicion that he was a Celestial in disguise; this was a sad mistake, for a "Greaser" is kin to an entirely opposite part of the universe. It is hinted that there is an opium-smoking den, however. Many of the chimneys are external, as in the Southern states, built up in the rudest way, and surmounted by a corn-cob pile of fagots or slabs, a headless barrel or an old powder canister. One large house has a fine tree growing through the roof. Men go galloping through the streets on horses and mules at the most reckless pace, with here and there some fellow astride a shaggy little burro, so small the rider can hardly keep his heels off the ground. It is out of the question to judge a man by the clothes he wears. Flannel shirts, shapeless som-

breros, rough coats and trowsers of canvas, big boots and blue goggles are the rule in this fierce climate, where the year is made up of nine months winter and three months mighty late in the fall. Everybody is on the jump every minute at his work, and leaves you to yours with sublime indifference. You meet an unknown man on the road out of town and he will stare you in the face but never offer to say "good-morning." A general air of half unconscious suspicion pervades all intercourse; yet nowhere is it easier to get acquainted, or will more genuine surprises await the student of human nature. Men who have once been distinguished in position, or noted for refinement and wide information are so common and inconspicuous in democratic Leadville that King Cetywayo or the immortal Daniel Pratt would attract only momentary attention. It's a frightfully uncongenial atmosphere for vanity and self-importance.

One thing that ought not to be missed in Leadville is the placer-washing for gold. This is down the gulch, a mile or so from the post-office, and the gravels that are being worked over are the same that were tossed about by thousands of eager hands a score of years ago. There is a vast wilderness of bare pebbles and bowlders there from which long ago all the soil was denuded, and this desert is being broadened and its high banks slowly crumbled under chisels of water. The water is brought in eight-inch iron pipes from a height of nearly 200 feet, which furnishes an enormous "head." The nozzles are two and one-half inches wide and work in a universal joint, so that the tremendously powerful stream that bursts from them can be pointed in any direction. The water they project springs from each nozzle white as snow, in a solid beam, scattering fleecy clouds as it loses the solidity of its round stem, and dashes squarely against the vertical face of the gravel bank to be cut down. With what lovely confusion it flies upward and backward from this obstruction! Yet every drop does its work, and steadily the fierce and ceaseless flood carves out a cave from which flows a riotous cataract of water, mud, gravel and gold; to find its way into the sluice below, and pay toll for freedom in the great Arkansas, by leaving all its golden grains. It is a fascinating sight to watch the fearful power and effect of this concentrated beam of water, with no propulsive force behind it but its own weight; and none of the

romance is destroyed in finding here and there the water cuts down into some cabin, a relic of Bough Town, that had become utterly buried.

After dinner, when work is over, we go up to a cottage we wot of, which commands a pleasant view, and, lighting our pipes, sit watching the night gradually put the shading into the picture. It is a great map of new, bare houses spread out before us, seemingly without arrangement or form. The steady drone of late planing-mills and the subdued, eager rasp of steam-saws begrudging the approach of darkness, tell how grows this magic town that is overrunning the plateau, exploring the gulches, and swarming up the flanks of the half-cleared foot-hills. It is a town without high buildings or towers, church-spires or foliage. In the clearness with which every detail is seen at a great distance, the houses look smaller than they really are. It is all rough and ragged, yet all the more picturesque. Here and there one sees striking exceptions to the general rule of squalid cabins. On Capitol Hill, the fashionable quarter of the camp, are several houses of imposing architecture, for they have more than four angles, have ornamental cornices, and are painted. There are a few even that have porches. As a rule, the later-built houses, having been put up in less haste, are an improvement, and two or three geniuses, to show what could be done in that line, have constructed the most charming of rustic residences by nailing slabs *en chevron* outside the logs, until their cottages look as toy-like as one of the arbors in Central Park. As to interiors, there are all the grades from a mud floor and rough-rock fire-place, with a bunk for a bedstead, to the elaborate structure with muslin ceiling and calico walls,—in two colors, after Eastlake,—Brussels carpet, piano, and St. Louis furniture. I never knew how useful a thing building paper was until I saw a cottage lined with it; nor comprehended the true beauty of geological maps, flaming with brilliant, irregular splashes of red and orange, yellow and blue, until I saw them decorating the panels of a Leadville home.

For, in spite of the utter crudeness of things in Leadville, and the immense disproportion of single over married men, there are real homes in the carbonate camp. You feel sure of it when you pass a log cabin or low frame building, and find the lace curtains in the window a misty background for masses of in-door blossoms, and a vista of cabinet-

organ, sewing-machine, and low rocking-chair through the open door—homes where the mines, the worry of strife for riches, and the hard attrition of rough men are shut out, and where, even more than the body, the mind rests in sweet companionship, and dwells upon serene thoughts. Can I ever forget that low-cowled cabinet, in its miniature pine grove beside the queer little stream, up on the hill-side? Or fail to feel a warmth about my heart when I remember the tender grace of hospitality that exhaled upon every one who knew the keen delight of being welcome there?

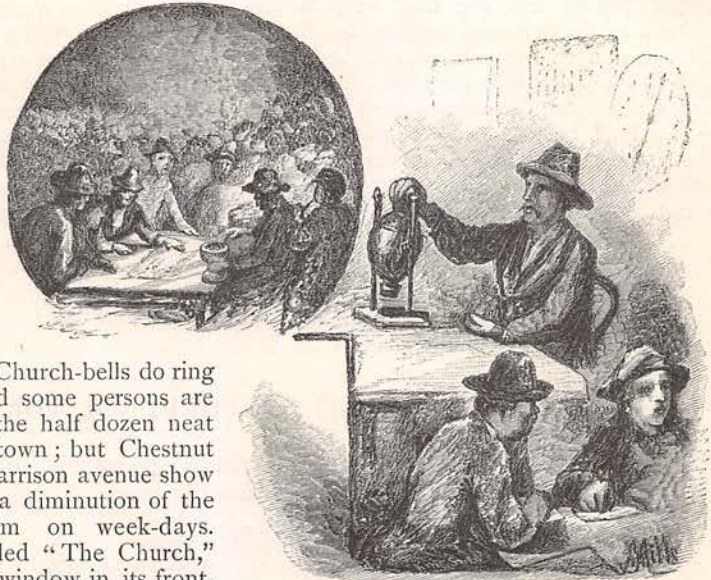
Slowly the long, sober twilight deepens in the valley into gloaming, and sinks thence into a gloom out of which, one by one, peep the lights. Still, outlines are not lost, and the massive figures of the foot-hills thrust themselves hugely through the veil that night is dropping, solid and blue and forbidding. It is a picture of perfect sweetness and peace,—a poetic picture in which one can imagine nothing that is harsh, or selfish, or mean. And overhead the mountains tower, rank behind rank, peak crowding peak, the pinnacles vying in being the last to hold the lingering rays of the sun, whose light now enkindles the heights until all the wide snow-fields burn rosily. Then one by one the glittering banks fade into the softest of ash-tints as the reluctant sun bows itself away, and the shadows of the blackening ridges fall athwart the arctic panorama that fills the horizon. Keeping pace, the lights of the city increase, shining duskiely through a purple haze of smoke and mist. Clearer above this ethereal stratum of haze, gleam the jewel-points where prospectors and campers have built their fires on the hill-sides, and sit about them boiling their coffee and gossiping on the events of the day and the prospects of the morrow. Then our pipes go out, and we saunter homeward through the quiet air, frosty, though it is June, breathing the resinous flavor of the crisply fragrant spruce, and watching the stars spring hastily over the coruscant line that traces the serrated crest of the Snowy Range.

Leadville at night is a scene of wild hilarity, and yet of remarkable order. The omnipresent six-shooters that used to outnumber the men of a mining camp ten years ago are rarely seen here in public. Men carry pistols, but they are in their pockets; and the shoot-the-lights-out ruffianism of the old Union Pacific days rarely shows even a symptom of revival in this gay but orderly camp. There are wildness

and wickedness, nevertheless, to satisfy the most insatiate seeker of excitement, and one who can lounge about the saloons, gambling-rooms, and hurdy-gurdies through an evening, will likely get new views of relaxation from work, or catch some picturesque phases of human nature.

Saturday and Sunday nights are the liveliest. Church-bells do ring on Sunday morning, and some persons are supposed to attend in the half dozen neat chapels that adorn the town; but Chestnut and State streets and Harrison avenue show an increase rather than a diminution of the throngs that fill them on week-days. There is a saloon labeled "The Church," on account of a Gothic window in its front. It is not long ago that the Saturday newspapers contained regular notices of all-day meetings there on the morrow. One Sunday there was a bear-baiting and another a boxing-match. Keno is never so much in its glory as then.

On such an evening, while the women and children play about the door-steps in the suburbs, making little fires of the doorway rubbish, the center of the town is crowded with an eager throng of men. Along Chestnut street are the "silver exchanges," otherwise gambling rooms,—dozens of them, with wide-open doors, and music playing. Harrison avenue has fewer of these, but rejoices in the largest hotel and the most elegant liquor-rooms. Every variety of humanity is here, from the well-dressed New Yorker who has just sauntered in to watch the games, or the liberal-handed miner suddenly become a capitalist, to the buckskin-clothed mountaineer who shoots deer for the Leadville market, or the dirty freighter from Cañon City. The tawny paw of the native prospector and the white fingers of a hotel clerk reach out together to bet on the queen or copper on the jack; with equal *sang froid* (the etiquette of the "exchange" permits no emotion) the gambler loses and wins, or smiles benignantly across the table as the dealer divides a "split." More look on than play, and there is little boisterousness. The "firing out" or forcible ejection of some misbehaving lout excites no attention. A shooting affray causes a brief rush to the scene, but scarcely



AT THE CASINO.

interrupts the turn of the cards. The traditional gambler, tall, slim, well-dressed, clerical-looking, with sharp features, thin, firmly set lips and iron nerve, is not here. I never saw him but once in all the West. The dealers are impassive enough, but that is habit and natural stolidity. They have nerve enough, but that is the courage of a rowdy. It is needless to say that the respectable people of the camp do not sit at these tables or lean over the bars, and the gambling is not for sufficiently high stakes to make it interesting to an outsider, yet there are stories of one and another man with a romantic history, noted for quiet benevolence and general Christian virtues, who for weeks together has been seen night after night at the same table, winning and losing thousands on the turn of a single card. For many a month past custom has justified the running of these casinos through the whole twenty-four hours, regular reliefs of dealers and bartenders superseding each other day and night.

The drinking saloons and worse places are equally full. Under a flaming lantern is a wide door-way, passing which you wind your way through a nest of card-tables, and enter a theater. The floor is packed with men hidden under broad umbrella-like hats. All are smoking and many drinking. On either side are tiers of boxes, for admission to which an extra price is charged, and where it is expected you will buy so-called wine at five dollars a bottle. The stage is a scene of constant buffoonery and broadly

vulgar jokes; but the final act, at one o'clock in the morning, beggars description for all that is vile. Even the bedizened girls in the boxes turn their back for shame. Yet the half-drunken crowd hoot with glee, —mainly, I believe, at the effrontery of the show, and now and then shower silver dollars on the stage in place of bouquets. It is not surprising, therefore, that the streets

of Leadville at night are not safe places for the unwary, or for men known to have wealth upon their persons. Shooting and stabbing and garroting are of daily occurrence, both by enticing careless men into dens where the deed may be secret, and by open attack. Yet, I repeat, for a Western camp of its character and size, this is a safe and law-abiding community.

ON THE PIPING SHEPHERD OF FORTUNY.

GONE is Hellas, fane and idol,
Gone are those symmetric men
Wise to bridle
Luxury with simplest regimen;
Yes, her temples are the robber's den.

Outer Goths and inner Vandals
Hurled the dainty columns down.
Art her sandals
Dusted of the vileness that the town
Boasted 'mid the symbols of renown.

But the ocean held its azure
As when triremes smote the foam,
Nor could Asia
That corrupt, nor shameful acts at home,
No, nor all the pompous wealth of Rome.

Horns of tender yeanelings budded,
Grasses sang and flow'rets blew;
Sunshine flooded
Cape and steep with glory ever true,
Ruined isles with beauty always new.

On a time there seized a shepherd
Thought that caught him like the spring
Of a leopard,
Forcing him aside his cloak to fling,
Pipe a stave, and wondrous wild to sing—

Not of Athens, nor the splendor
Of the arts in olden time
But of tender
Tasks of love and deeds of manly prime,
Modern life in many a homely rhyme—

Sing his joyous lot in breathing
Winds of ocean, air and earth,
And of wreathing
Dance and hymnal to the sunbeam's birth,
Crowns of ivy to the god of mirth.