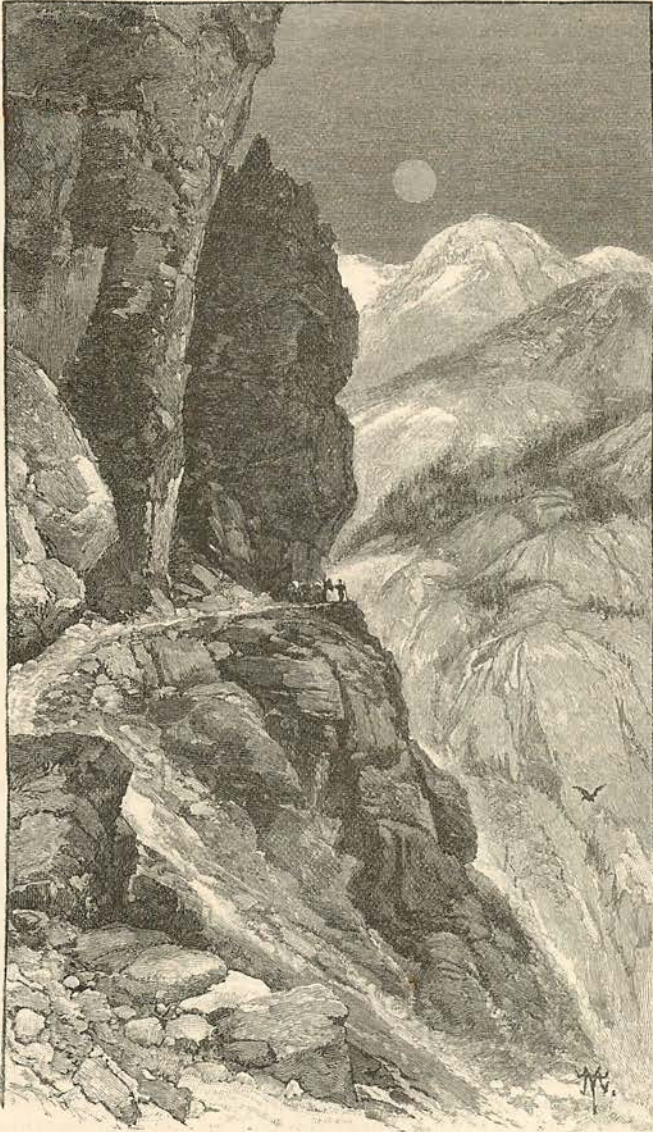


## SILVER SAN JUAN.



TRAIL TO A HIGH MINE IN THE SIERRA SAN JUAN.

WHEN, some eight years ago, I had let my mule down into Baker's Park by hitching its ivory tail around successive snubbing-posts, I wrote to a New York paper that the first question in regard to the San Juan mining district was how to get in, and the second query, how to get out. In a later letter I added that when the railway came it would approach from the open country southward through a

age of which is into the San Juan River (whence originally its name), and which is irregularly defined northward by the continental water-shed, here assuming a direction nearly east and west. Exceptions will be made for Ophir and Rico, but they are practically on the southern slope, and separate from Gunnison Valley.

Here the granite cores of the Rocky Mountains have been buried beneath enor-

cañon where then not even an Indian had ever been known to pass, the southward trail going over a terrible range at a height far above the timber line.

Now both questions have been solved, and their solution has come about in precisely the way prophesied. While two approaching lines from the northward have halted, baffled, on the other side of the range, the southern extension westward of the Denver and Rio Grande Railway has already pushed its track to the lower end of the cañon, and before this article meets the reader's eye its locomotive whistle will doubtless be heard in Baker's Park.

The geographical term "San Juan," as applied to the mineral region in Southwestern Colorado, is often carelessly made to include everything west of Cañon City and Rosita, and south of the Gunnison River. But properly speaking—or at any rate for the scope of the present essay—it can only pertain to that territory south of the San Juan Mountains the drain-

mous overflows of eruptive rock, or, along with the sandstones and limestones deposited against their sides, have been well metamorphosed. This geological character gives them a different appearance from any of the northern Rockies—a more precipitous, Alpine, and grander countenance, with sharp, highly colored peaks, tremendous vertically walled chasms, and extensive forests of spruce clothing their lower slopes. Nowhere else can be seen whole groups of mountains together holding their heads up fourteen thousand feet, and bearing great valleys almost at timber line; yet the several groups—for there is no regular “range”—such as the Uncompahgre, La Plata, the Needles, etc., are all of this exceedingly lofty and inaccessible character.

The old maps bear the name Sierra Madre to designate these heights, whose snowy summits filled the northern horizon, and forbade the advance of Spanish exploration. From the western slopes flow the rivulets that join to make the Gunnison and Grand, one of the forks of the Rio Colorado. Easterly, but on its northern face, bubbles the great spring which forms the very source of the Rio Grande del Norte. Every gulch upon its southern exposure feeds the rushing streams, the Rio Navajo, Rio de Piedras, Rio de los Pinos, Rio Florida, Rio de las Animas, Rio Mancos, and Rio de la Plata, which furnish to the Rio San Juan all the water that it gets for its long journey through the deserts.

Except you roll on muleback over the high, cold, and rugged passes northward, the only entrance to this region is from Durango—a town of magic growth at the southern base of the mountains, to which point the narrow-gauge railway will take you from Denver or Pueblo. The line exhibits some of the most notable feats of engineering, and passes within view of some of the grandest, and at the same time most pleasing, scenery in Colorado.

From Durango the journey is continued by the four-horse coaches of the Pioneer stage line. It begins, of course, in the early morning, cold even in midsummer, and the road leads straight up the Animas Valley, here broad and fertile, with green rounded hills sweeping up on each side, or lofty bluffs exposing long varicolored strata of cretaceous sandstone. There is much color in this part of the landscape, especially when the unusually abundant

rains of August have put a spring-like freshness upon everything verdant. The long, low, treeless ridges between the road and the foot of the hills, the open places beside the river and the pasture-lands, are all glorious in a dense mass of sunflowers. The elevation is too great for a long stem, and the plants stand only knee-deep, with blossoms hardly larger than a dollar; but they are crowded so compactly that at a little distance nothing shows between them. Thus the summit lines of the ridges are defined in gilded ranks that rise behind one another as you ride along for miles and miles. On the opposite side of the river, and wherever the bottoms are not under cultivation, this brilliant weed blooms as commonly as spring daisies in the East, and the whole foreground is enchanted.

A belt of cedars and various evergreens, with dense shrubs, stands along the base of the hills; then perhaps an open steep space of uniform dull green shows the tone of mingled bunch-grass and sagebrush; next a bold wall of red sandstone set at an angle to the horizon, and contrasting richly in tints varying from dull vermilion to deep maroon with the ochre-yellow, white, or bluish-gray of the surmounting rocks.

It is fifteen miles before the valley narrows in until the road is closely hemmed by the hills, and it is twenty before you fairly mount into their rocky and well-wooded fastnesses, and feel your nearness to the central range. Throughout this whole extent of bottom-land ranches succeed each other without any waste land between, and I do not know any portion of the far West, this side of Salt Lake, where the farms seem as thrifty or the farm-houses so comfortable and pleasant. Every sort of grain is raised, and the yield to an acre is large, as must always be the case where the soil is rich, the weather uniform, and the farmer able to control his water-supply, and apply it as he sees need. Garden “truck” is much attended to also, for there is more profit in it than even in grain.

Hay and its substitutes, alfalfa and lucern, take high rank in the list of crops, and of the last two named it is customary to cut three crops annually. In the winter of 1880-1 baled hay was worth \$120 and \$140 a ton in Durango, while one man told me that it cost him almost \$500 a ton to get a supply to his mine in an emergen-

cy. In those days the ranchman had as good a mine as any on the sources of his river, and made "big money." Such prices will never occur again, for now the railway will bring hay and feed from Kansas, and reduce the prices to a quarter of their last year's size. The ranchman can compete with this, however, and still make money. That this is understood is shown by the fact that farm property in the Animas Valley has doubled in appraisement during the past twelve months, and is now worth \$100 an acre.

Through the bottom we could see, running straight as an arrow, the graded bed of the coming railway, but the stage-road kept away from it until we reached the few cabins that constitute Hermosa.

Once in the hills, the road became very rough, but magnificent yellow pines surrounded us on every side, and we continually passed by stacks of ties corded up ready to be hauled away to the new road-bed. Presently we came upon one of Mr. Wiggleworth's construction camps. These ephemeral villages are scattered all through this very hilly region, where the grading proceeds slowly and with difficulty, a single mile, just now in sight, costing about \$120,000. Camps like these are highly picturesque. Long low buildings of logs, with dirt roofs, where grasses and sunflowers and purple asters make haste to sprout, are grouped without order, and hardly disturb the untutored woodland aspect natural to the wilderness. Perhaps, in addition, there will be an immense tent, the curtains lifted at one side to let in the air, and disclose to view the rough plank tables and benches where the crew eat. Besides the larger houses, inhabited by the engineers, foremen, etc., you will see numbers of little huts about three logs high, roofed flatly with poles, brush, and mud, and having only a window-like hole, to creep in and out through; or into a side-hill will be pushed small caves, with a front wall of stones and mud, and a bit of canvas for a door; or Icelandic fashion will be imitated in a regular dug-out; that is, a house *all* cellar and roof, entered by a slanting passage cut into the ground. In these kennels the laboring-men find shelter, and when they have finished the difficult work which made the long residence there necessary, and abandon the place, there is no regret in leaving or bother about locking up. So substantial are the most of these "hoodoos," however,

that all along the line of the mountain railways the ruined construction camps are easily recognized by those who understand what purpose the odd little abandoned huts once served.

Finally we jolt down the last steep declivity, turn a sharp corner, and roll out upon the level railway bed.

And what a sight meets our eyes! The bed has been chiselled out of solid rock until there is made a shelf or ledge wide enough for its rails. From far below it comes the roar of a rushing stream, and we gaze fearfully over the beetling edge the coach rocks so perilously near, down to where a bright green current urges its way between walls of basalt whose jetty hue no sunlight relieves, and upon whose polished sides no jutting point would give any floating thing an instant's hold. On our side the roadway is fully a hundred feet sheer above the water, and with the steep hill-side behind. Tip one way, we fall against jagged stones; tip the other, we are hurled into an abyss from which escape would come only by a miracle. Opposite rises almost straight up, quite vertically for a long distance, a solid, many-buttressed, unscalable wall that gleams like polished bronze, while up and down the bending of the cañon seems to shut us into a perfect cul-de-sac.

The chasm here is so narrow that the pines and spruces clinging precariously to the cliff mingle their shadows in a dim arch that spans the gorge, yet below the cañon contracts to one-half its ordinary width. The water is green as emerald, and has that same luminous quiver and transparent verdancy which the gem possesses. What gives it that vivid color here in this dark ravine? Anything but the fact that it is surcharged with the air caught in its turbulence? We can see nebulae of bubbles racing along at various depths, shooting by too swiftly, meteor-like, to rise at once to the glassy surface. Niagara, below the falls, has that same wonderful deep green tint. Imprison Niagara until you could span it with a pebble-throw, narrow its upright walls into a volcanic chasm a hundred feet wide, turn the river up on edge, as it were, and send it down that black resounding flume with all the impetus of a twenty-mile race—then you have a picture of the cañon of the Rio de las Animas. I saw it from the top of a rocking old stage; you may see it now from the velvet cushions and plate-



SULTAN MOUNTAIN.

glass of a "Pullman"; but perhaps my wilder view will remain the best.

After that the scenery of the cañon seems mediocre, though exhibiting a long panorama of picturesque interest equalled by few of the river gorges in the Rocky Mountains.

It is better to come down stream than to go up; to pass early in the day the glimpse of needle peaks, of groves of giant trees, of pretty water-falls flashing over ebon backgrounds, of crags which you must crane your neck to see to the top of, of rushing foam-flecked river and pleasant bit of sunny meadow, and so save till afternoon that climax of the cañon.

The last sunlight guides us out of the jaws of the cañon. Then there is a whipping of horses, a dash across a mile of meadow, a gallant whirl up the main street of Silverton, and—the centre of Silver San Juan.

In introducing some account of the characteristics of this region as a district producing the precious metals, it is to be said, in the first place, that as yet it is chiefly a region of "great expectations." Its prospects are well founded, but up to the present time its inaccessibility and other dis-

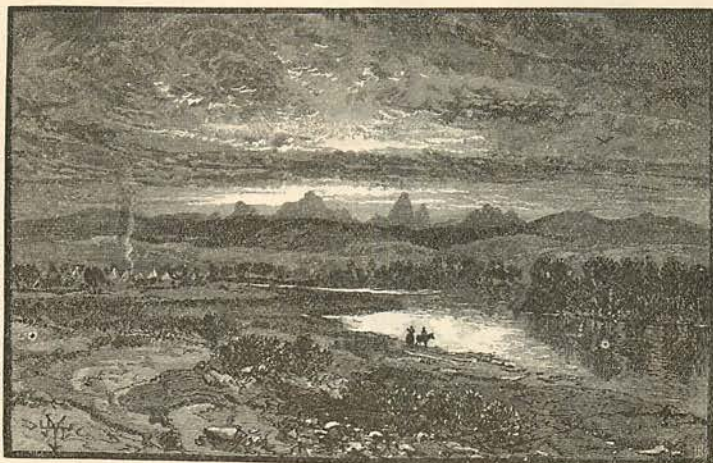
advantages have been obstacles to the development that under more favorable circumstances might have occurred. The scrutiny to which it has been subjected by sharp and knowing eyes, and such digging as has been done—by no means a small amount in the aggregate—exhibit the fact that the region is remarkable for its general richness. Profitable ores are to be had nearly everywhere within its limits; hardly a volcanic hill can be mentioned where veins carrying ore do not occur. Every mile of its fifty miles square may be said to hold one or more good mines. It is doubtful if anywhere else in the world there is so large a region over which the precious metals are so generally diffused.

Generally speaking, these are all fissure veins, and the gangue, or matrix, constituting the veins in which the desired metals are mixed, is quartz, instead of any of the lime spars or ferruginous materials with which silver and gold are often associated. The ore itself—that is, of silver, for gold is scarce—is principally galena, frequently enriched by gray copper (tetrahedrite). This high percentage of lead makes smelting the most rational process of treatment.

In several localities, however, of which Parrott City and Mount Sneffels are chief examples, rich ores of silver occur nearly or quite devoid of lead. These come mainly into the group of antimonial ores, with chlorides and sulphides also. Popularly these ores, barring the chloride, are termed "brittle silver." They are unfit for smelting, on account of the absence of lead, but must eventually be treated by a milling process in which the pulp is subjected to the action of mercury in amalgamating pans, where the silver is separated from the quartz, and collected by the quicksilver. Antimonial ores, prior to amalgamation, will require chlorination (roasting with salt), as is done at the Ontario Mine, Utah, while the chlorides

two hopeful locations. Tower and Round mountains, the next northward, contain a number of mines of low-grade galena ore, which are awaiting the coming of the railway before being opened further, it being the best investment to wait for cheap transportation.

Crossing the Animas now to the eastern side, King Solomon wears as the central jewel in his crown a magnificent mine. It stands upon his very brow, one of the highest silver deposits in the world, almost 14,000 feet above the restless surf of the Pacific. Here too the ore is galena and gray copper, of extraordinarily high grade for a lead ore. The trail winds up through a dense forest out above it, niched into the side of the bare rocks of the bald summit,



THE SIERRA SAN JUAN, FROM LOS PINOS RIVER.

and sulphides of silver can be treated directly without roasting, as, for example, at the mines of the Comstock Lode, Nevada.

The foregoing remarks apply to all of the mining districts included in the present article, and their uniform character is readily explained by the fact that the whole of the district is of the same geological age, character, and origin.

The mines in the immediate vicinity of Silverton, my starting-point, are situated upon the lofty mountains which hem the little park in. Southward of the town, easily recognized by its cloven peak, stands Sultan, 13,500 feet in altitude.

Crossing Mineral Creek takes one to the abrupt sides of Anvil Mountain, just west of the town, where there are one or

and slowly climbs to the very crest, making nearly 5000 feet of height, half of it above timber line, from the level of the valley. On King Solomon also are several other noteworthy mines, from whose tunnel mouths one can see far into New Mexico, Arizona, and Utah, across a scene of ineffable grandeur.

Between King Solomon and Mount Hazelton sinks the wedge-like hollow of Arastra Gulch, which has a larger traditional than practical interest, since the only mine in it, the Little Giant, has long been abandoned. It was almost the first mine opened in the Park, having been worked upon in 1870, and the singular thing about it is that it is the only vein hereabout carrying gold, and the only one not utterly barren which is devoid of



KING SOLOMON MOUNTAIN.

silver. That it should have been hit upon as it was is an oddity that finds many parallels in the history of mining. The old cabins and arrastra fell apart and disappeared, and the three openings of the long-disused tunnels which their labor drove are mere black dots far up on the face of the white cliff.

The winter is the best of all times to work in these silver mines. The impression that the San Juan district must be abandoned for half the year is entirely wrong when any thorough system of operations is projected. Well sheltered and abundantly fed, removed from the temptations of the bar-room (which can only be got at by a frightfully fatiguing and perilous trip on snow-shoes), and settled to the fact that a whole winter's work lies ahead, there is no season when such steady progress is possible, either in "dead-work"

development or in taking out ore ready for shipment in the spring.

Two little streams come down to the Rio Animas at Silverton, Mineral Creek and Cement Creek. Up the former many prospect holes have been sunk, but Cement Creek boasts several good mines. A short distance above, almost on the divide between the Animas and the Uncompahgre ("red water"), is the Poughkeepsie Gulch camp, which was not long ago the scene of a "boom," and I have the opinion of a very competent judge that there is probably no equally limited district in the whole region where so much good ore exists. This camp, being so near the intervening summit, can send its product conveniently either to Ouray, Lake City, or Silverton, but most of it thus far has come southward. The most celebrated opening in Poughkeepsie Gulch is Governor Tabor's Alaska Mine.

On Governor Tabor's property an ore of bismuth occurs in such quantity as to give it great mineralogical interest. Bismuth is exceedingly rare. In the United States it is obtained only to a small amount in Connecticut. Saxony furnishes commerce its main supply from the metallurgical works at Freiberg, where it is associated with the lead ores, and is extracted from the cupel furnace after large quantities of lead have been refined, being accumulated in the rich litharge or liquid dross near the termination of the process. This litharge is treated with acid, and the bismuth precipitated as a chloride by dilution with water. The making of complexion compounds is the chief use to which the mineral is put, aside from pharmacy, and its effect upon the skin is likely to be very noxious.

We cross the divide to the southeast, and descend the Animas River. Cunningham is a good type of those huge ravines the Western man calls gulches. Its real walls are several hundred yards apart—Galena and Green Mountain on the north, King Solomon on the south—but from each have tumbled long sloping banks of débris that join at their bases into a series of ridges. Among these a turbulent stream seeks its irregular way, and over them the traveller must climb wearily, making frequent détours to avoid huge pieces of rock that have fallen bodily from the cliffs, and have been rolled by their great weight to the very bottom of the gorge. Here and there the walls are



LOOKING FROM A QUARTZITE ROCK.

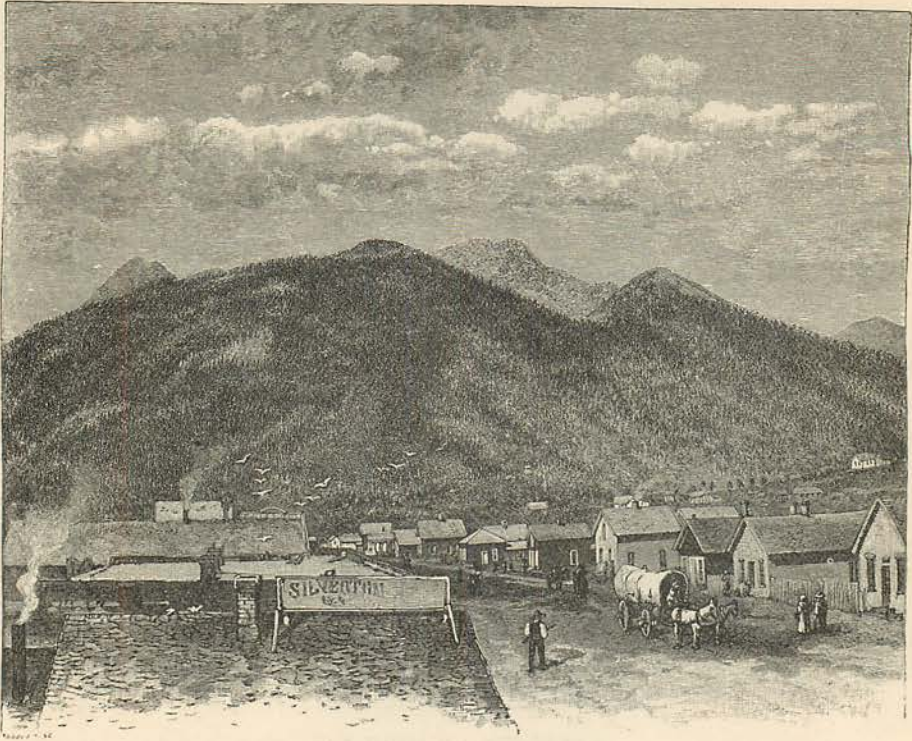
sundered, and down a side ravine is tossed a foaming line of cataracts, or some hollow among the peaks (themselves out of sight) will turn its gathered drainage over the cliff, to fall two or three thousand feet in a resounding series of cascades, white and filmy and brilliant against the dark and glistening background of polished lava. Wherever any soil has been able to gather upon the loose rocks, and some curvature of the cliffs protects from the sweeping destruction of snow avalanches, heavy spruce timber grows and lighter-tinted patches of poplars, but for the most of the way mere bare meadows, or willow thickets in wet places, or a tangle of briars hiding the sharp rocks, give all there is of vegetation.

But these are all minor features, underfoot. Far overhead tower the rosy and gleaming monuments of that old time "when the gods were young and the world was new," cliffs rising so steeply that only here and there can they be climbed, and studded with domes and pinnacles so slender and lofty that they seem to totter under our unsteady glances, and swim vaguely through the azure concave.

Amid this magnificence of rock-work, spanned by a violet-edged vault which is not sky, but simply color—the purest mass of color in the universe—passes the trail and stage-road out over the lofty crest to the sources of the Rio Grande, and thence down to Antelope Park, the beautiful Wagon Wheel Gap, and so on to Del Norte and the railway. Here too are rich silver mines.

The central point and outlet of all this district is Silverton, and its founders pre-empted almost the only site for a town of any consequence in the whole San Juan; yet she has less than a thousand acres to spread herself over before scaling the rocks. Engulfed amid lofty peaks, a little park lies as level as a billiard-table, and as green, breaking into bluffs and benches northward, where the river finds its way down.

When, one-and-twenty years ago, miners were amazed at the wealth disclosed in the mines of Central Colorado, eager prospectors began to penetrate yet deeper into the recesses of the jumbled ranges that lay behind the front rank. Among the boldest of these was a certain Colonel Baker, re-



SILVERTON.

ported to have got his title as a Confederate officer, who organized a large party of men—some say a thousand in number—to go into an exploration of what was then called the Pike's Peak Belt, including pretty much all the region between that historic mountain and the head of the Gila River, Arizona. Marching southward to Pueblo, and thence by the old Mexican wagon-road through Conejos and Tierra Amarilla, Baker and his men worked northward along the San Juan and Animas, prospecting for and finding more or less bars of gold gravel (you may get "colors" anywhere in this part of Colorado), and finally, in the summer of 1860, crossed the range, and discovered this deep-sunk nook which bears his name.

Erecting a head-quarters camp here, these prospectors climbed all the mountains and pushed up every ravine in search of gold, but got small encouragement. The silver they knew of, but had no means of working. Winter came, and they collected together and built cabins in the thick timber at the mouth of the cañon. The snow packed deep about them; a pro-

vision train intended for their succor was captured by the Indians, who became aggressive; sickness set in, and the horrors of starvation stood at their very doors. This terror, added to their lack of success, overcame even pioneer patience and philosophy. Reviling Baker as a cheat, who had brought them, under false pretenses, into this terrible strait, they were about to hang him to one of the groaning pines that mocked their misery with a loud pretense of grief during every storm, when some slight help came, and the colonel's neck was safe. The following summer all who had not died crawled out of their prison park and returned to civilization.

It was not until ten years later that any one went to Baker's Park to stay, and then very few found their way there. Almost the first result of this second advent of prospectors was the unearthing of the Little Giant gold mine in Arrastra Gulch—a narrow ravine where were at once erected a log village and an arrastra with which to crush the quartz, worked by the little stream trickling down from the snow-banks. Simultaneously came the



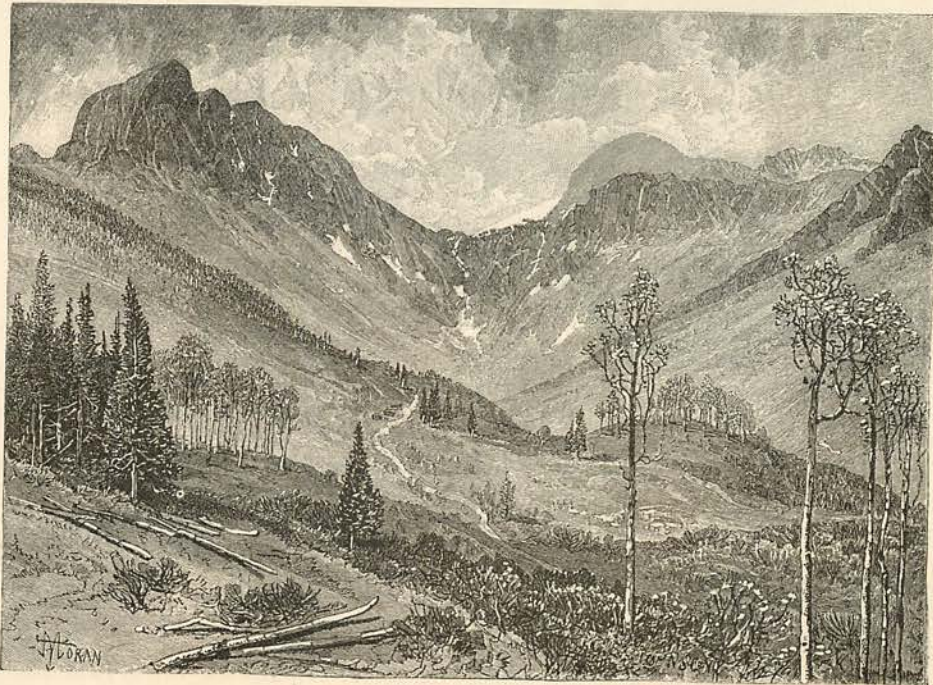
discovery of silver leads—a fact which speedily got abroad, induced a little “boom,” and set Howardsville on its feet as a “camp” of some importance and magnificent expectations: a future which has been realized only in the fact that to-day it is the only place in the San Juan where a man can buy two glasses of beer for twenty-five cents!

Four miles below, Silverton was laid out straight and square, became the county seat, and attracted most of the newcomers as a place of residence. At first, of course, all the buildings were of logs, and wore roofs of dirt. The mayor of the town lives in one of these original cabins yet. Then came a few ambitious frame houses, and now numerous brick structures lend an agreeable air of substantiality to the village. To-day it has perhaps a thousand permanent residents, with churches, schools, newspapers, the telegraph, and all the appurtenances of frontier civilization, including whiskey *ad libitum*.

It is characteristic of these mountain villages that they spring full size into both existence and dignity. There is no Topsy growth at all; rather a Minerva-like maturity from the start.

For several years no wagon-road entered Baker's Park, and the only communication between it and the world was by saddle animals. Goods and machinery of every sort were brought in on the backs of the tough and patient little Mexican *burros*, toiling across the terrible heights under burdens almost as bulky as themselves. The whole town would be alive with a general jubilation when the tinkling bells of the first train of jacks was heard in the spring, for that meant the end of a six months' siege in the midst of impassable snow.

The mail, however, came more or less regularly over Cunningham Pass on snowshoes. The netted shoes are rarely used, the twelve-foot-long boards bent up at the end, known as the Norwegian shoe, being liked better. When a man becomes skillful upon these, he can go down hill safely and with astonishing speed. A sturdy young fellow sent down from some mine away above the usual level of the clouds would reach Silverton in twenty minutes, but thought himself succeeding well if he got back to supper. As for amusement, this sort of snow-shoeing is said to excel coasting, or even tobogganing, and many ladies are expert at the sport.



ARRASTRA GULCH.



OPHIR GULCH AND MOUNT WILSON.

Leaving the Animas Valley, the next mining region to be examined is the prosperous camp, fifteen miles east of Silverton, named Ophir. It is accessible from various directions, but my tour led me to take the new toll-road from Silverton, over which, only a few days previous, the first wagon had been able to reach Ophir Gulch. No stages are running as yet, and I took a saddle-horse. The road leads up

Mineral Creek, which at first spreads out in wide marshy bottoms covered with dwarf willows, but soon narrows into a precipitous cañon, whereupon the road takes to the hills and cuts its way at an easy grade in and out of the gulches, through a heavy forest of spruces and poplars, passing hardly a habitation except the toll-gates. Save an occasional glimpse of lights left behind, there was little to be seen for the first ten miles. Nearing the top, however, a remarkable picture presents itself. In a closely guarding circle of purplish and frost-trimmed peaks stand two isolated mountains of en-

tirely different character and most striking appearance. Instead of the vertical cliffs, serrated and splintered summits, and ragged gray of the majority of the mountains, these are as rounded and smooth on top as if they had been shaved by a lawn-mower, and rise in unbroken slopes far above the blackish masses of timber which closely envelop their bases. It is their color, however, that makes them so grandly conspicuous. Long strokes of orange and rust-color extend up and down from the spruces to the apex, streaked with bright red, and set off with upright lines of glowing yellow, all softly blended together, and crossed by a crowd of hair-lines, wavy and level with the horizon, like the plumage of a canvas-back duck. Stand where you will on the eastern side of this divide, between the Animas and the San Miguel, and these great smooth cushiony hills of red tower up level with your eye, and burn under the sunlight.

At last the road rises above timber line, but even to the last verge the soil under the trees is crowded with flowers and all sorts of pretty herbage, among which the strawberry takes precedence in point of abundance. Then the track lies underneath beetling cliffs, which have crumbled into long tali, and the pass itself is only the triangular depression between two opposite slides. On one side here the rock is brown and broken almost as fine as railway ballast; on the other, the fragments run much larger in size, are of bluish trachyte, and completely covered everywhere with a stone-lichen hardly thicker than paint, which gives them a decidedly green color, while the brown rocks opposite are entirely devoid of lichen.

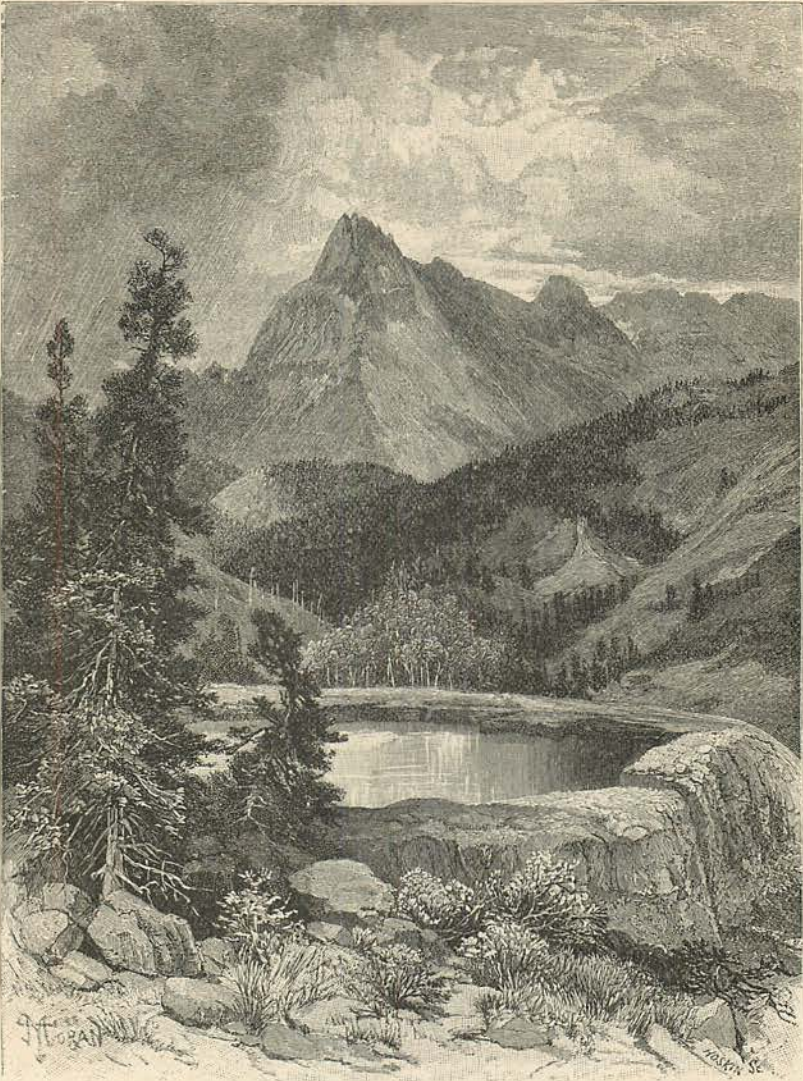
Down this jumble of fallen rocks, the scene of one incessant slow avalanche from the weather-crumbled crests still remaining above, the road passes by a steep and tortuous grade.

These vast "slides" are a prominent feature in every landscape in Southwestern Colorado. The volcanic rock with which all the mountains are capped has a natural cleavage in two directions, and rapidly disintegrates even under the air. On the quiet still days of midsummer you continually here the rattle of pieces of rock falling untouched from some scarp or pinnacle, and racing down the steep talus below. The winter, however, is the time of greatest destruction. Into the thousand cracks and crannies the rains and snows of

autumn pour floods of water, which penetrate the inmost recesses of the well-seamed crags. Then comes a frost. The little veins and pockets of water expand with a sudden force, combined and irresistible. Perhaps some huge projection of cliff flies to pieces as though filled with exploding dynamite; perhaps a stronger body of frost behind it pries off the whole mass at once, and it dashes headlong down the side of the mountain to scatter widely its cracked shell, and leave the core, a huge boulder, which crushes its way far into the struggling woods at the foot of the rough slope. This process goes on season after season, until finally the thousands of feet of summit which once towered proudly above the mountain's base have been crumbled down to the level with the top of the débris slope. If the rock is very soft, then the process goes on with each fallen block until it is reduced to soil, and forms a smooth grassy slope, or a clean-shaven but barren slide, like the rich red hills we saw on the other side of Lookout; but if the fragments are hard, then gradually bushes and grass will creep up, and the forest will follow as high as climate and snow-fall will let it grow, and above will be a rounded crest of broken lava, like Veta Mountain—the worst thing to climb in the wide world.

From the long slanting niche which lets the road down across this broken and sliding rock, and where men are always at work to throw aside the ceaselessly falling crumbs of the cliff, one gets his first view of Ophir Gulch—a valley half a dozen miles in length without an acre of level ground in the whole of it. This end is closed by Lookout Mountain; the opposite by the lofty crags of Mount Wilson. On the north, Silver Mountain cuts the sky in ragged outline, and, braced against its base, Yellow Mountain rises straight from the creek side to an almost equal altitude. In the crevice between stand the score or so of log-cabins which constitute what many persons consider the liveliest camp in the whole San Juan.

It is only four years since the value of this locality was made known, but now the mountains on both sides of the gulch are pitted like a pepper-box with prospecting tunnels, and there are perhaps twenty mines ready to ship ore in profitable quantities, even under the great disadvantages of their isolation. The leads in general run northeast and southwest, but good



IRON SPRING POOL.

openings have been found all the way from the brink of the creek to the shattered combing that casts its ragged shadow down the long white slopes.

In general it may be said of Ophir that, as yet, there are hardly *mines* there, since systematic development has in no case reached a degree that will warrant the term; but there are a great many very promising holes in the ground, out of many of which ore can now be shipped a hundred miles, on donkey-back and in wagons, to the railway, and thence two hundred miles to Pueblo, and still yield a hand-

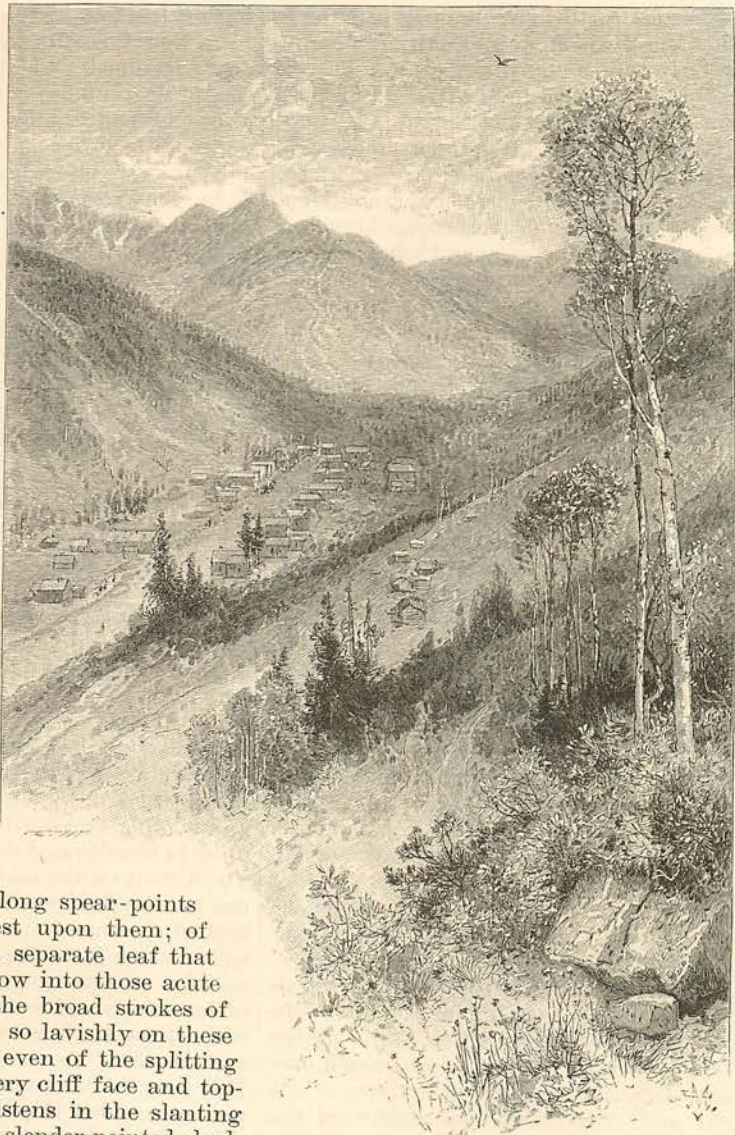
some profit. Half a dozen gold workings in particular are very rich, and several sales have been made exceeding fifty thousand dollars for a single location. Ophir intends to stay, and is working vigorously to get out ore, so that when the railway comes to Silverton—and this is promised for May, 1882—if it never gets nearer, she can keep pace with other camps in the amount of her shipments.

Remounting, the ride homeward through the mellow afternoon was very delightful. The mountains rose on either side high above where the hardest trees could man-

age to exist, gorgeously stained in great chevrons of red, orange, and rust yellow. Lookout and its brother peaks seemed to be vast stacks of small triangles, all upright and baseless, banked up with long slides of varied umber tints. On some of these slides the grass has grown, long tongues of it penetrating far toward the bright walls overhead, while elsewhere mile-wide slopes lie grayish-white, untouched by any blemish or projection. Everything is triangular—the outlines of the peaks and their reverse in the gorges between, the shape of the fallen fragments; of the long spear-points of verdure that rest upon them; of the trees and each separate leaf that blends with its fellow into those acute green patches; of the broad strokes of vivid color painted so lavishly on these splendid hill-sides; even of the splitting and cleavage of every cliff face and toppling spire that glistens in the slanting light, and throws a slender pointed shadow across the velvet rim of the valley.

Backward, where the forests lie unbroken on the southern wall of the gulch, long ranks and patches of aspens were interspersed with the reigning evergreens; and these the frost had touched with various hues from its full palette—bright green where the leaves were protected, yellow on the warm side of the ridges, vivid orange and scarlet along the crests—so that these patches glowed like red and yellow flame against the dark spruces and firs.

Near timber line there is a remarkable picture. Down from the northern mount-



RICO.

ain there trickle reddish streamlets over a space several rods in width. A few yards below the road all this water collects itself into a basin, which, begun by some trivial obstruction, has been able to build up its walls by slow deposition until a great iron tank, with walls twenty-five or thirty feet high, and several feet thick, contains all but a trickling overflow of the mineral water. This tank is surrounded with pretty trees, and its wavy red outline holds a fountain as richly green as an emerald, or blue, if you look at it from

some one of the surrounding heights, so that the Spanish way of calling a spring *ojo*—an eye—seems very natural. Beyond this highly tinted natural reservoir, built out like a balcony on the steep hill-side, you look across to undulating verdant knolls where shapely trees are scattered thinly, up beyond a deep maroon slope falling from a noble iron-brown bluff, and so on away to the gray and lofty peaks in whose rifts and vertical gorges the shadow lies blue as the farthest edge of the sea, and whose clustering, cumulative spires culminate in gleaming apexes of snow.

Rico is the next point in our progress. It is accessible from interior camps by trails, but the ordinary ingress is from Durango, over the new toll-road. Leaving the Animas Valley at the Rico House, this road bears northwestward up a cañon-like valley, bounded on the westward by a long line of lofty, many-gabled, and softly tinted cliffs of sandstone; but on the east the eye can range across a rocky forest-land away to the high green hills beyond the Animas Cañon, behind which tower the knife-edged crests of the Needles. The traveller, alert to the resources of the region, will notice the rich thick grass and the magnificent yellow pine timber, with large poplars enough to serve all log and fence purposes, and so economize the pine; but he will regret that the absence of water, and seemingly of any possibilities of irrigation, renders agriculture practicable only in very limited patches, which have already been taken up by eager settlers.

Toward the head of this valley the woods thicken into a continuous "forest primeval," the road gets rougher, starts up the long slope which ultimately carries it over the cliffs, and the rugged outlines of the red and gray mountains northward rise magnificent into view. Whenever one can see out, not only noble pictures present themselves in the far horizon, but the valley below—a solid heather of oak bushes, briars, ferns, etc.—seems carpeted in a queer design of tints of green and yellow, with all the mixtures of orange, scarlet, and crimson that the deft fingers of the frost could devise.

Beyond this range lie the long hay meadows of Hermosa Park. Then a second, higher, range is to be passed, at the foot of which flows the Dolores through Rico Gulch.

And how we did rattle down that Dolores slope! An Englishman riding on the

Pennsylvania's sixty-mile-an-hour train from New York to Philadelphia the other day exclaimed: "I think if something should drop one of you Yankees astride a thunder-bolt, the first thing you would do would be to say, *chk! chk!*" I thought of that as we started, almost at a gallop, down that steep and winding mountain road. Corners?—we snapped around them. Hollows and ridges?—we bounded into and over them. Down long rough slopes cut in the side of a hill so steep that just under the hub it fell away hundreds of feet almost like a precipice; down through the full blaze of the afternoon rays in the frost-turned groves, where

"Tremulous, floating in air, o'er depths of azure abysses,

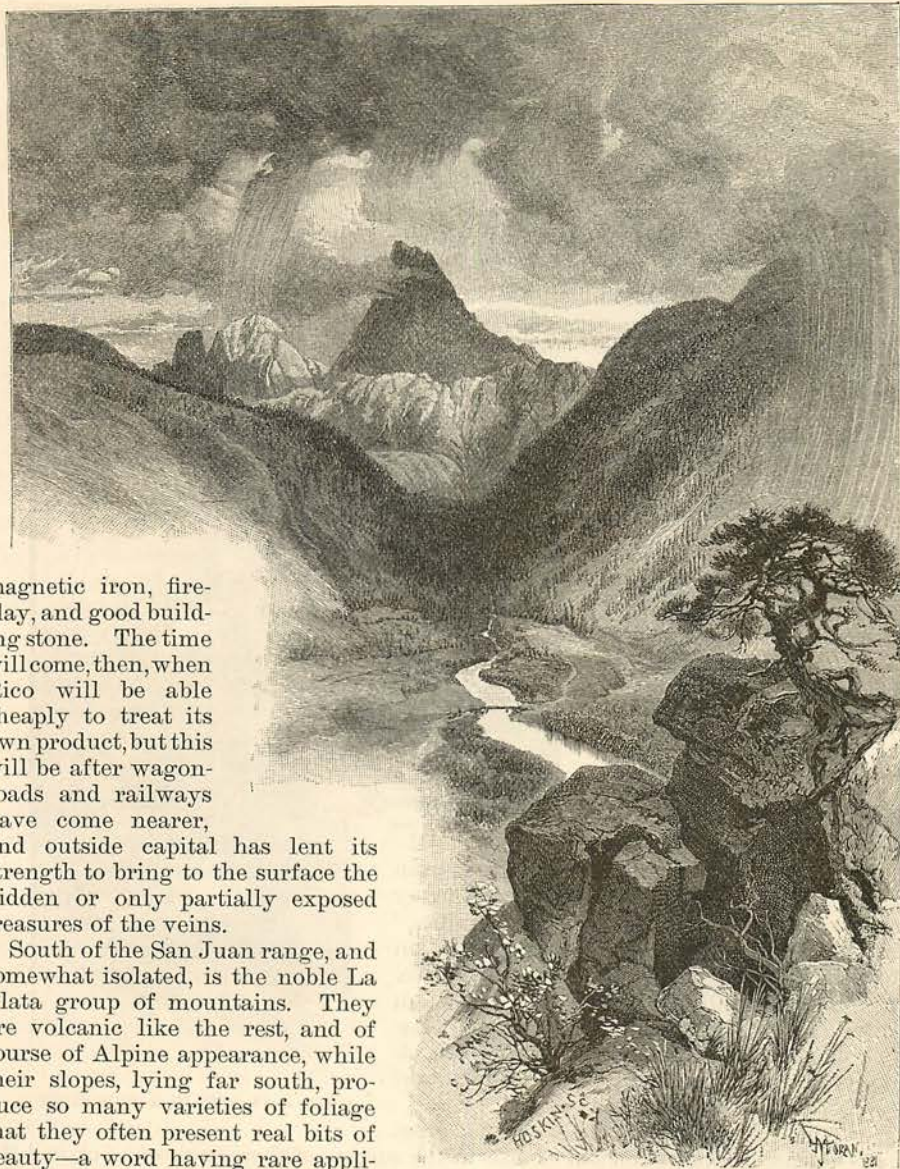
Down through the golden leaves the sun was pouring his splendors"—

we rushed at a pace that Phœbus in his first hours of freedom might have enjoyed in his chariot, but which to us in an old buckboard was simply torture and risk of broken bones.

Rico, when you get there, does not amount to much. It stands in the centre of a volcanic upburst which has parted the sandstone and limestone once spread thousands of feet thick over the area, and whose edges now stand as bold bluffs all around this break, which is nearly four miles in breadth and about eight in length. To locate it on the map you must place a dot on the Dolores River at the eastern foot of the mountain which Dr. Hayden calls Station 37. The town itself is made up of a scattering, gardenless collection of log-cabins and some frame buildings, with a log suburb called Tenderfoot Town, and numbers about six hundred people. It is very dull compared with most Colorado camps, but this is owing to the fact that everybody is waiting until the railway gets a little nearer.

The Rico mines are characterized by their great dissimilarity with each other. Nearly every sort of ore, of both silver and gold, is found mixed in a most heterogeneous way among the lavas. Some true fissure veins exist, but more irregular deposits, and both lead and "dry" ores occur, often in contiguous claims. The richest ores thus far are those without lead.

There is also in the near neighborhood of Rico, high up on the "mesa," a magnificent supply of bituminous and "free-burning anthracite" coal, good material for charcoal, limestone for flux, bog and



THE NEEDLES.

magnetic iron, fire-clay, and good building stone. The time will come, then, when Rico will be able cheaply to treat its own product, but this will be after wagon-roads and railways have come nearer, and outside capital has lent its strength to bring to the surface the hidden or only partially exposed treasures of the veins.

South of the San Juan range, and somewhat isolated, is the noble La Plata group of mountains. They are volcanic like the rest, and of course of Alpine appearance, while their slopes, lying far south, produce so many varieties of foliage that they often present real bits of beauty—a word having rare application in Colorado's scenery. These mountains were prospected eight or ten years ago, and a placer bar of supposed extraordinary value was found near the head of the Rio de la Plata by a company of California miners.

As I write, I hear that in one or two of the deepest mines late developments have been very rich, and that a new interest is being felt in La Plata. I have not myself been there recently, but I see no reason why those peaks should not be equally productive with any district in this region, while their nearness to the

railway terminus, their likelihood of having the main-line extension into Utah come near them, and their climate give them advantages.

But this potential phase is true, as I constantly insist, of all of the San Juan. Everybody looks forward. Each proposes to do this and that, and to be happy, "when I sell my mine." Perhaps this delicious uncertainty is a part of the fun. Yet many a miner would reprove me for



exaggerating the uncertainty. I only hope he is right and I am wrong. That there is a vast amount of the precious metals hidden in the veins of those mountains is undeniable. It is equally true that we know where very much of it lies. But the question stands, Is it sufficiently concentrated to make the getting it out and refining it into a useful condition yield a margin of profit on expenses? No doubt it is in many cases, but is it in the majority of so-called "mines," or in enough to support any general population and business? Many discreet persons say No. Many more, naturally, will answer Yes. I am not afraid to predict, however, that through slow but permanent advancement this corner of Colorado will come to be one of the most important silver-producing regions on the globe.

A SAN JUAN MINE IN A SNOW-STORM.

Upon this event depends the fate of a great many enterprising investments. Faith in the success of these mines has caused the Denver and Rio Grande to build 250 miles of railroad over mountains and wide plains which of themselves would never support the line. Faith in these mineral treasures has caused hundreds of men to follow the railway, and has set on foot little towns all along its track; and a part of the same faith is all that keeps alive the thriving terminus, Durango, where scores of well-packed warehouses vie with one another in plethoras of merchandise, and thousands of men are exciting each other in pushing, plucky struggles after the supremacy of wealth. If a panic should replace this enthusiasm, or a gradual sense of discouragement cause the mountains to be deserted, Durango would dwindle too, and the railway and smelters prove failures. But if, as I believe, no such dark destiny awaits the bright promise of the present, and if a constantly growing production and shipment of valuable ore shall attest the continued richness of the ledges, then a solidity awaits the metropolitan town, and a prosperity will spread over the whole country, which shall be permanent and glorious.