

PLACER MINING IN THE KLONDIKE.

A Full Description of the Way the Precious Dust is Taken Out of the Earth.

So far all the mining that has been done in the Klondike country has been what is known as placer mining. This is the simplest and oldest form of mining, and is usually adopted in new gold fields. In its crudest form, placer mining is simply the picking up of a panful of dirt from the bed of a stream where gold is supposed to exist, the washing away of the dirt and pebbles and the gathering of the gold, which, because of its weight, sinks to the bottom of the pan.

For example, let us follow a prospector on some stream in our Western gold fields, where the complication of eternally frozen ground does not enter into the question. After traveling perhaps many weary days he comes on a stream coming down some mountain gorge that looks "likely," as he says, to his practiced eye. He stops and examines the pebbles on the bottom, and finds a good many of them are of quartz.

This, although not in itself an indication of gold, is a good sign, so the prospector scrapes away the earth and stones at the bottom of the stream to the depth of a foot or so, and then

to shorten it where it was to be carried on to any extent.

The first step in advance in placer mining is the use of the "rocker." The rocker looks like one of the old cradles we find once in a while in the attic of some old house up in the country. It is a box about three feet long and two feet wide, placed on rockers just like a cradle. A part of the box is covered with a piece of heavy sheet iron, placed a few inches below the top and punched full of holes about a quarter of an inch in diameter. The bottom of the rest of the box slants towards the lower end and is covered with a piece of woolen blanket. Towards the end of the box slats are placed across, with mercury behind them, to catch what gold gets by above.

The miner sets up his rocker near the stream and piles his gravel on the sheet iron, keeping it wet all the while and keeping the rocker in motion. The fine gold and sand sift through to the blanket, while nuggets of any size remain on the iron. The finer gold settles on the blanket and the dust is caught by the mercury behind the slats. The blanket is frequently rinsed in a barrel of water with mercury at the bottom, and this mercury, together with that behind the slats, is "roasted" as in the other method.

But even this method is not used when "sluicing" is possible, as it is when the stream has sufficient fall. In sluicing a number of long boxes are made which fit into each other like a stovepipe. Across these boxes slats are placed with mercury behind them, or sometimes the bottoms are bored full of holes and mercury placed underneath. A long line of these boxes is placed at a considerable slant and the miner shovels his gravel in at the upper end, lets the water run down the sluice and the gold, if in nuggets, sinks and is held by the slats, or, if fine, is caught by the mercury. Three times as much gold can be washed out in this way as by a rocker, because three times as much dirt can be washed. And after the boxes are all done with they are burned and the ashes washed for the gold held by the wood.

These are the various methods of placer mining and thus they are practiced in the Klondike region, hampered only by the natural conditions of the country. Let us now look for a moment at what these conditions compel the Klondike miner to do.

Let us suppose the gold-hunter has passed through the difficult journey and arrived at the gold fields. He first goes out and prospects until he finds a claim where the "colors" in his pan encourage him to locate. If he should happen to be early on a new field he would probably stake out a claim next to one that was already paying in the hope that his would pay, too. A Klondike claim is supposed to be laid out 500 feet long parallel with the general direction of the creek, and 666 feet crosswise, the idea being to give each location the width of the gravel from rim rock to rim rock. Most of the creeks up there have a slight fall with wide bottoms. Bedrock is anywhere from four to twenty feet below the surface and pay dirt is apt to extend clear down to bedrock.

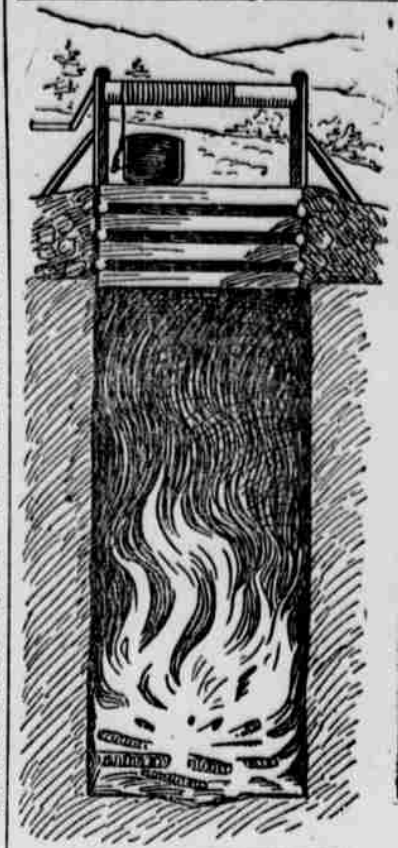
Of course, the great difficulty that the miner has to contend with is the fact that the ground is frozen solid about all the year, and even in summer

outside until the stream opens in the spring. Then the sluice boxes are set up and the winter's diggings washed out. Thus a miner is enabled to keep busy about all the year.

This method of burning out a shaft and tunnels is by no means new, for it has been carried on for many years in the basins of the Amoor and Lena Rivers in Siberia, where the conditions are very similar to those in the Klondike region.

Later it was changed to Bockwell and then to Juneau, which name it still holds. This last christening took place in 1881.

The next year both placer and quartz mines were discovered on Douglas Island, about four miles from Juneau. These are now the famous Treadwell mines, having been bought by John Treadwell in 1884, and, says Mr. Coolidge, "from these enough ore has been taken out to pay the purchase



1. THAWING OUT THE DIET.



2. DIGGING AND DUMPING.

Placer mining in Alaska differs from placer mining in warmer climates only in that the dirt has to be thawed out, and that water for washing can be obtained there only a month or two in each year.

And even when bedrock is reached it is in many cases filled with cracks and seams which are rich in gold and well worth the digging out. As to the value of explosives in this frozen soil authorities differ. The Mining and Scientific Press said recently that they can be used effectively, while the Mining and Engineering Journal, in speaking of the Siberian mines, where the conditions are similar, says their effect is simply to mat the ground together harder. For this same reason, says the latter journal, the ground cannot be dug with a pick and shovel until thawed out.

Lumber, by the way, in the Klondike country, fit for sluice boxes, costs from \$130 to \$150 a thousand feet.

So far most of the gold found in placer mining in the Klondike region

money of Alaska and more." The ore of these mines average only from \$2.50 to \$3 a ton, but owing to the enormous scale on which they are worked and the low cost of extracting the ore there is a large profit in working them. All around Juneau and, for that matter, all along the Alaskan coast, gold-



MINER TESTING GRAVE.

bearing quartz is found, and in many places is being profitably worked.

There seems to be little doubt among mining experts that extensive quartz mines will be located in this Yukon country before long. This will mean the introduction into that country of all sorts of improved mining machinery, rock drills, stamp mills and so on. Just what method will be employed to extract the ore from the rock will depend on what kind of ore is found. It may only have to be crushed, and separated by mercury. It may be refractory ore and have to go through some one of the various processes now in use for separating such ore.

As soon as the mines are found means of transporting the machinery will be provided and the mines will be started. Mines in rock, of course, will not be delayed by the weather conditions which make placer mining so difficult in that country. Rock doesn't freeze and the deeper down the mines go the warmer it will get, so perhaps this kind of mining will be the pleasanter of the two.

Boats Like Big Baskets.
Curious boats which look like big baskets are used in Buzrah, the Venice of Turkish Arabia. As a matter of fact, they are practically baskets, being made of wickerwork, plastered to keep out the water. They are known as gophers, and the European who boards them feels himself to be much like the three men of Gotham who went to sea in a bowl. Until comparatively recent times a boat something similar in shape and made with the same material, called coracles, were used by fishermen on many of the turbulent streams in Wales. Nother form of a boat could hope to survive the navigation of those streams, and



WICKER BOATS OF TURKISH ARABIA.

bumping against bowlders and dropping over small cataracts in them did them no material damage.

In China certain literary degrees can be purchased of the Government for about \$75. Taking advantage of that fact, some unprincipled person has lately hoaxed the Celestials by selling them what purported to be diplomas which would bring the holders under the jurisdiction of foreign consular offices.

KEYSTONE STATE NEWS CONDENSED

A BRAVE WOMAN.

Follows a Persistent Tramp With a Revolver Who Threatened to Burn the House.

Mrs. C. L. Reagle, wife of a wealthy oil producer living five miles east of Sandy Lake, was alone in the house the other evening when an insolent tramp demanded admission. She drove him away with a revolver and followed him to the gate. The tramp was mad and threatened to burn the house. An hour later he came sneaking back. She seized the revolver again and marched him ahead of her down the road to the house of her brother-in-law, where she told her experience. The tramp escaped.

The following Pennsylvania pensions were granted: James H. Grenet, Pittsburgh; William McVetta, Harmonsburg; David Hoover, Reynolds; Henry Schmitts, Monaca; Henry H. Baumgardner, Caseyville; William Henry Albion; Hugh R. McCleese, Johnstown; James Tarney, Hollidaysburg; John W. Row, Marlon Center; Jephtha L. Ayres, West Pike; Margaret Dubbs, Pittsburgh; Mary E. Halsey, Uniontown; Sarah Lang, Altoona; Mary A. Hartley, Pittsburgh; Joel F. Large, Pittsburgh; John R. Means, Uniontown; Patrick Leonard, Erie; James Labar, Mercer; David Bates, Deckers Point; Nancy A. Mounts, Sharon; Martha Gray, Porterville; Mary J. Roberts, Beaver Falls; Beulah Fidell, McKeesport; Jonas W. Bare, Scottsdale; John Devore, Allegheny; Joshua Torrance, Scottsdale; John Rankin, Davis; Martin K. Weldner, Clarion; John A. Wherry, Pittsburgh; Henry S. Oburn, Irwin; Moses Thompson, Allegheny; Johnson C. Akers, Altoona; Harriet F. Smith, Sandy Lake; Evalin A. Gates, Duncansville; Eva Pike, Markleysburg; Joseph Hopper, Bear Creek, Luzerne; Joseph H. Lang, dead, Altoona; Blair Israel Bear, Little, Lancaster; Hugh H. McClester, Johnstown, Cambria; Benjamin F. Moore, Fairmont, Lancaster; Emanuel Ditzler, Cornwall, Dauphin; Joseph F. Herron, Ohioville; Albert Beckett, Pittsburgh; Edward F. Powers, Hickman; John H. Fiemn, Freeport; Martin V. Oakes, Westmoreland; James T. Chalfant, Allegheny; Charlotte E. Hammit, Bellevernon; George Coates, Allegheny; Archibald Chambers, Allegheny; William Burnett, Lock Haven; Jacob W. Beck, Washington; James W. Bunting, Bellefonte; Edmund B. Williams, Union City; Robert G. Scott, Morrisdale Mines; Daniel Fitzwalter, Canton; James F. Collins, New Castle; Samuel M. Grace, Adamsburg; John Wimer, Greensburg; Windham; Timothy Timothy Fitzgerald, West Newton.

With the lives of 200 families trembling in the balance, George Sober mounted a bicycle and, after an exciting race of six miles from Shamokin township, reached Chamokin the other morning in time to organize a body of men who came from houses to houses warning the people not to drink the morning supply of milk delivered by the Sober brothers. A fiend, to revenge himself on the Sobers, had poured a lot of Paris green into the milk cans, in addition to feeding it to the cows, one of which died as the cyclist was searching for Shamokin. Isaac Leppy was arrested for the crime, and had to be kept from a mob, who wanted to lynch him.

George B. Sanbouna was seriously injured the other night while driving from Stoneboro to Greenville. Sanbouna was driving a large copy of a rubber house. While driving along the road about three miles out of the city a stranger drove up behind Sanbouna, who asked him if he wanted to pass him. The stranger did not reply, but drove up alongside and struck Sanbouna's horse a sharp crack with the whip. The horse wheeled, throwing Sanbouna out, breaking his collar bone and cutting a deep gash in his head. Sanbouna was picked up unconscious.

Willie Kordan, aged 16 years, one of 11 boys who were bitten by a mad bulldog in Scotland in March, died the other night from what the physicians diagnosed as unmistakable hydrophobia. Death was marked by intense suffering, the boy lay in agony biting his mother on the arms. This is the second death, Tommie Bevan, 11 years old, dying in April from the effect of bites by the same dog.

The county commissioners at Greensburg reluctantly decided recently that they will not attempt to have those employing aliens enforce the alien tax and collect 3 cents from each foreigner employed. The money collected thus will be returned to those who paid it. This action was taken in view of Judge Buffington's recent decision that the alien tax law is unconstitutional.

Two men were killed near Johnstown recently on the Pennsylvania Railroad, Joseph Repine, at the famous point, Paek Saddle, and a man unknown, at Bennis Creek. Repine was the engineer at Booth & Filin's stone quarries at Paek Saddle. He was aged 30 years and was a widower with several children. The unidentified dead is in the morgue.

Rev. O. B. Patterson, until recently pastor of the Methodist Episcopal church at Cooperstown, was taken violently insane a few days ago and attacked his wife with a butcher knife. The recent conference at Oil City assigned Mr. Patterson to the Clymer (N. Y.) church, which seemed to prey heavily on his mind.

Sheriff Cronister has seized the Brockerhoff house, in Bellefonte, for the benefit of the creditors on executions aggregating over \$5,000 against J. N. Neubauer, the landlord for six years past. The total liabilities will aggregate \$10,000, with not over \$5,000 assets. The hotel property is owned by the Brockerhoff estate.

John W. Baird, aged 57, a prominent Democratic politician of Clarion, was killed a few days ago. Mr. Baird was driving to Payer township, when his horse took fright, and he was thrown from the vehicle, alighting on his head and shoulders with such violence as to break his neck.

Miss Elma Mezner, aged 23 years, an inmate of the Polk asylum, was found dead in her bed the other day. She was smothered to death while laboring in an epileptic fit. She belonged in Lock Haven and was brought to Polk when the institution was first opened from Elwyn.

A threshing machine ran away going down a steep hill near Greenville, was overturned and James Reinold fatally crushed in the wreck the other day.

Ebeneszer Daniels, one of the best-known and wealthiest citizens of Venango county, and one of the first persons to drill for oil on Oil Creek, dropped dead from heart disease while eating his dinner a few days ago. He leaves a wife and family.

George Latchlaw of Clark returned home the other day from the Stoneboro fair just 200 poorer than when he started. He claims that he was watching a close finish between two horses when someone put a hand in his pocket and extracted the roll.

Mrs. Frank Reiser was awarded \$1,000 damages at Clearfield the other day for a broken arm, the result of a fall on an icy sidewalk in this city last winter.

INDUSTRIAL NOTES.

Coke Ovens Being Fired and Many Men Given Work.

The Star mines and coke plant at Stauffer station, near Greensburg, Pa., which have been idle for a year, will be started up within 10 days, giving employment to 200 men. Seventy-five additional ovens were fired at Mammoth during the week, employing 75 men. At Hecla 100 ovens were fired up, making room for 100 additional men at the plant. The Hecla ovens had been idle for several years. Reese, Hammond & Co. have begun work on a new plant. The Latrobe steel works will begin at once the erection of 20 new houses. A hotel will also be erected. The new Glen Drilling company's plant at New Kensington will be soon started up. The Metcalf steel works, at Bracken, are near completion. Over 400 men will be employed. Fifty new dwellings will be erected by the company.

LABOR WORLD.

The Ironclad furnace property at Kingwood, W. Va., was sold the other day to the Captain Flicker Taylor company for the sum of \$6,200. This plant cost originally \$12,000, and was owned by Felix Nemegyle, of New York, who operated the furnace for years. The purchaser expects to improve and operate the furnace.

The settlement of the coal strike and the consequent reduction in the price of coal at Akron, O., have enabled a number of large factories, which have been shut down for weeks to resume, giving employment to nearly 2,000 men who have been idle. The shops will be enabled to run on full time until next spring.

Among the plants at Wheeling, W. Va., which have been ordered to work at once are: Top mill blast furnace, idle two years; sheet mills at Whittaker iron plant, Bellaire steel works, and portions of the Benwood iron mill. The Wheeling and Warwick potteries are working day and night.

The American wire mill works, employing 700 men; the Lippencott lamp chimney plant, which works 400, and the Macbeth lamp chimney works, with a like number of men on its payroll, resumed in full blast a few days ago after a shut-down of two months and a half.

Contract has been awarded for a 60-ton addition to the South Sharon steel mill at Wheatland, Pa. Eighteen more puddling furnaces were fired up at the Sharon iron works, making a total of 38 in operation. An additional force of men will be employed.

John H. Waters, on the heaviest stockholders in the new tin-plate plant at Johnstown, Pa., received a letter recently from the New York office of the concern stating that they would begin work on the plant this week.

The Cambria Iron company at Johnstown, Pa., paid out \$116,000 last week. This is the largest two weeks' pay for a long time. About \$40,000 of this amount was in gold.

Orders have been issued for firing 60 ovens at Trotter, and 200 more will be fired at once by the H. C. Frick and McClure coke companies at Connellsville, Pa.

All the departments of the Salem, O., Wire Nail company resumed work the other day. On the first of the week the mills will be put on double turn.

During about 700 years the Latin language was the language of court, camp and polite society from the River Tweed in Scotland to the Euphrates in Asia, and from the Crimea or Chersonese, in the Black Sea, to the Pillars of Hercules, at the western extremity of the Mediterranean.

The British museum has books written on bricks, tiles, oyster shells, bones and flat stones, together with manuscripts on bark, ivory, leather, parchment, papyrus, lead, iron, copper and wood. It has also three copies of the Bible, written on the leaves of the fan palm.

MARKETS.

PITTSBURGH.	
Grain, Flour and Feed.	
WHEAT—No. 1 red.....	89 3/4 90
No. 2 red.....	87 3/4 88
CORN—No. 2 yellow, ear.....	36 3/4 37
No. 2 yellow, shelled.....	35 3/4 36
Mixed ear.....	32 3/4 33
OATS—No. 2 white.....	28 3/4 29
No. 2 white.....	26 3/4 27
BYE—No. 1.....	52 5/8 53
FLOUR—Winter patents.....	5 25 5 25
Fancy straight winter.....	5 10 5 25
Eye flour.....	3 50 3 75
HAY—No. 1.....	10 00 10 50
Mixed clover, No. 1.....	8 00 8 50
Hay, from wagons.....	11 00 12 00
FEED—No. 1 White Mid., ton.....	15 00 16 00
Brown middlings.....	13 00 13 50
Brass, bulk.....	12 00 12 50
STRAW—Wheat.....	5 50 6 00
Oat.....	5 50 6 00
SEEDS—Clover, 60 lbs.....	4 75 5 00
Timothy, prime.....	1 38 1 43

Dairy Products.	
BUTTER—Elgin Creamery.....	23 3/4 24
Ohio creamery.....	19 30
Fancy country roll.....	15 14
CHEESE—Ohio, new.....	9 10
New York, new.....	10 11

Fruits and Vegetables.	
BEANS—Hand-picked, 1/2 bu.....	1 20 1 25
POTATOES—White, per bu.....	60 70
CABBAGE—Home grown, 1/2 bbl.....	1 10 1 25
ONIONS—per bu.....	50 60

Poultry, Etc.	
CHICKENS, 1/2 pair.....	40 3/4 40
TURKEYS, 1/2 B.....	13 14
EGGS—Pa. and Ohio, fresh.....	16 17

CINCINNATI.	
FLOUR.....	4 60 4 85
WHEAT—No. 2 red.....	33 94
BYE—No. 2.....	47
CORN—Mixed.....	31
OATS.....	21
EGGS.....	13
BUTTER—Ohio creamery.....	14 15

PHILADELPHIA.	
FLOUR.....	5 10 5 35
WHEAT—No. 2 red.....	36
CORN—No. 2.....	34
OATS—White Western.....	25
BUTTER—Creamery, extra.....	21
EGGS—Pa. firsts.....	18

NEW YORK.	
FLOUR—Patents.....	5 35 5 60
WHEAT—No. 2 red.....	38
CORN—No. 2.....	34
OATS—White Western.....	25
BUTTER—Creamery.....	19
EGGS—State of Penn.....	18

LIVE STOCK.	
CENTRAL STOCK YARD, EAST LIBERTY, PA.	
CATTLE.	
Prime, 1,300 to 1,400 lbs.....	4 90 5 00
Good, 1,200 to 1,300 lbs.....	4 75 4 90
Tidy, 1,000 to 1,100 lbs.....	4 50 4 60
Fair light steers, 900 to 1,000 lbs.....	4 00 4 30
Common, 700 to 900 lbs.....	3 50 3 95
HOGS.	
Medium.....	4 35 4 40
Heavy.....	4 35 4 40
Boggy and stage.....	3 25 3 60

SHEEP.	
Prime, 95 to 105 lbs, wethers.....	4 00 4 10
Good, 85 to 95 lbs.....	4 00 4 10
Fair, 75 to 85 lbs.....	3 40 3 55
Common.....	3 00 3 25
Wool.....	1 50 2 00
Spring lambs.....	3 50 4 00
Fair to good heavy.....	2 25 2 45
Veal calves.....	4 50 5 05



TWO TYPICAL KLONDIKERS IN FULL DRESS

takes out a panful of dirt. The pan, by the way, is nothing but a broad, shallow dish of strong sheet iron.

Having done this, he puts in enough water to make the panful semi-liquid, and then gives it a rapid, twirling motion. This causes the gold, if there is any, to sink to the bottom of the pan. Then the gravel and sand are carefully washed out until only the heavy residue remains in the pan. This residue is carefully examined to see how many "colors" there are in it. "Colors" is the term miners give to the particles or nuggets, if there are any, of gold that can be seen at the bottom of the pan.

But gold is not the only thing that sinks to the bottom of the pan. Almost always there is found with gold a fine black sand, which is magnetic iron ore, and from this the gold has to be separated. Of course, if the gold is in nuggets of any size this is a simple process, but if it is in fine dust, as is generally the case, the mercury process is employed.

In this the residue in the pan is placed in a barrel with some water and



SLUICING AT A RICH CLAIM IN THE KLONDIKE. (From this mine \$9000 was taken from a piece of ground 94 by 14 feet in plane dimensions. It is officially designated as "No. 2, Below," Bonanza.)

mercury. The gold, when it touches the mercury, forms an amalgam. After a quantity of gold has been put in the barrel the mercury is taken out, squeezed through a buckskin bag, and what remains in the bag is heated, either in a retort or in some other way, until what mercury is left is vaporized, and the gold remains, nearly pure.

This is placer mining in its most primitive form, but it is slow work, and long ago various methods were devised

thaws only a few inches. This makes it necessary to thaw the ground artificially, and this is done by "burning."

Fires are built on the surface and the ground thawed a little ways. This is then dug out; another fire is built in the hole, and this process is continued until bedrock is reached. Then fires are built against the side of the shaft, and drifts and tunnels are thawed out.

All the dirt thus taken out is piled