

DEVELOPMENT OF QUARTZ

Will be Extensively Gone Into by the Munger Syndicate, Which Is Prepared to Expend Millions of Dollars in Klondike Mining—Stamp Mill Is Already in Operation.

The "life" of the Klondike as a mining camp and the consequent stability of Dawson as a city of importance has been a subject which has agitated the minds of those whose interests are settled in this territory, actual as well as prospective, for some time, and while there have been numbers pessimistically inclined who have not hesitated to venture the opinion that the camp and district in general has seen its best days, there are others who hold to the view diametrically opposite, and declare that the Yukon, the Klondike and Dawson are but in their infancy, scarcely past the age of babyhood, and that the ultimate greatness of the territory as one of the foremost mining centres of the world, not transitory but permanent in its character, is as inevitable as the rising of the sun in the east. In support of the theory advanced by the latter class, the possibilities yet to be made apparent by the hydraulic miner are pointed out as sources of wealth, the extent of which is little dreamed of. Experts with years of experience and who are thoroughly conversant with the subject have made the unqualified statement that upon Bonanza creek alone there is sufficient gold bearing gravel to keep a half hundred Little Giants in operation continuously for thirty years. But it is of quartz that the following article deals with, the source, the very fountain head from which has come the millions of gold the auriferous gravels of the Klondike have already produced.

It is only within the past year or two that the hard rock miner has made his presence known in the community, he has come unknown to all save a very few to whom he has given his confidence, but he has come to stay. A few years ago the man with a specimen of quartz in his pocket was somewhat of a curiosity, and when he talked of leads, dykes, walls, true fissures and primary formations his words fell upon ears more accustomed to hear of pay-streaks, bedrock, lays and big pans. Others followed in his footsteps until today there is scarcely a ridge or hill whose surface has not been trampled over by the searchers after a gold bearing lead. Many have had their diligence and perseverance rewarded by making discoveries of an extremely promising character, but with their stakes planted and their locations recorded came the question, "now that I have a quartz claim what can I do with it?" The average prospector is not a man of means, and if perchance he succeeds in developing his property to such an extent that it is given a tangible value the chances are that he will have to sell an interest in his claim in order to secure the wherewithal to buy a mill. In the Klondike as in all mining countries, there are doubtless hundreds of promising mining claims in the hands of persons who are unable to expend the thousands of dollars necessary to develop their properties into paying and salable mines, and who do not feel justified in undertaking the erection of a five or ten-stamp mill, knowing, as they do, that the first cost of such machinery is only a good start toward the installation of the mill ready to run—it being a fact that the cost of erection is often more than twice that of the cost of the machinery. In the event of a disappointment in meeting expectations in development, such a plant would be very largely a fixture, and would very probably stand as a monument in evidence of failure, because the money spent in its erection would be necessarily lost in moving the machinery to other mines, where possibly the same experience would have to be repeated.

In at least one respect the Klondike is being singularly favored, a fact that is known to but very few, and which should bring joy to every resident in the Yukon territory, whether directly interested in quartz or not.

Capital, so necessary to place quartz claims upon a paying basis, is proverbially shy of new fields, and there are many of the best districts in the United States and also in Western Canada which frittered away precious years before they were able to induce capitalists to take hold of their properties and make of them what they are today. It would seem, then, that when such men as

Fairbanks, Morse, Fraser, Gates, Chalmers and George M. Munger, all of Chicago, many of whom are multi-millionaires, become identified with quartz properties and their development, as they have here, that there is every reason to believe that the ore bodies of the country are of the right character and the future of the camp is in a measure assured. This same body of men has been closely associated in mining for over twenty years and were largely responsible for the second boom, Cripple Creek, Colorado, enjoyed. They own mines in every section of the country and there is no proposition of merit too big for them to embrace. Their venture in the Klondike was only made after an exhaustive and careful examination on the part of Mr. Munger, who returned to Chicago but a few weeks ago. Their advent here was quiet and unostentatious, without any noise, flourish of trumpets, or exhaustive newspaper interviews, yet within the past four months they have invested in the Klondike in various ways over a HALF MILLION DOLLARS in cash, to say nothing of the amount represented by working bonds taken on various claims which they are developing as fast as men and money can do so. Glib tongued brokers and "hot air" quartz kings are often prone to talk in any easy manner of hundreds of thousands and millions of dollars with the same equanimity one would speak of a five or ten dollar transaction, but that kind of talk don't build stamp mills, sink shafts, drive tunnels, or hire skilled labor at \$8 per day. It is the man of millions who is necessary to drag the golden shackles from the mountain fastnesses and without him brawn and muscle would make but slow progress in enriching the world through the medium of the reduction of ores.

Through the kindness and courtesy of Mr. Edward Spencer, who is representing the Munger syndicate, the Nugget is today able to give its readers the first authentic account of the beginning of what will doubtless develop into a corporation of the colossal magnitude. The term corporation is used advisedly as is also the reference made to it in the future tense, as those most heavily interested in the welfare of the Klondike from a quartz standpoint have not yet formed themselves into a company nor have they a name. They have simply made up a "jack pot," as it were, of a few hundred thousand dollars to see what the Klondike quartz contains, and while their investment so far may be said to be only in the experimental stage, yet enough is known to them that unless all signs utterly fail, there is today opportunities in this region which in their opinion have never been excelled by any other locality in the world. A word concerning the personnel of the syndicate, as it may be termed. With the exception of Mr. Munger, they are all engaged in the manufacture of mining machinery. Fairbanks, Morse & Co. is one of the oldest established concerns in the city of Chicago, which might also be said of the Gates Iron Works, while the firm of Fraser & Chalmers is known from one end of the world to the other. And such is the class of men who are prepared to spend unlimited capital in the exploitation, development and reduction of Klondike quartz.

As the easiest handled and least expensive class of ore to work is that of the free milling variety, so the first experiments of the company are in the treatment of that character of ore. The plant, a brief notice of which appeared in these columns a few weeks ago, is now installed upon a tract of land which the company has secured lying on the left limit of the Klondike river about 200 yards below the Ogilvie bridge. There is adequate room for the various buildings employed and for such expansion as may be necessary in the future. The mill building is 30x30 in size with an annex 6x24, which will be occupied by the ore crusher, one of the Gates pattern, as soon as it arrives.

Within the building is everything necessary for the treating of free milling ore and all so arranged that the severe cold of the winter will possess no terrors. A well 18 feet deep has been sunk beneath the floor,

solidly timbered and made steam tight, and from this source will be derived the supply of water necessary not alone for the boilers, but also for the stamp battery. There are two separate and distinct engines and two boilers. One of the latter is an upright 12 horsepower boiler, which operates a 5 horsepower friction hoist used to elevate the ore to the hopper and also supplies live steam for heating purposes. A pipe leads into the well which in extreme cold weather will keep the water at an even temperature. Another pipe performs a like service in the reservoir placed near the top of the building from which the water supply for the battery and apron flows by gravity. The same boiler also operates a Duplex pump with a 2 1/2 inch suction and 2 inch discharge, which pumps the water from the well to the reservoir, the steam from the exhaust being turned into the covered tail race through which the tailings are carried out into the Klondike some 35 or 40 feet distant. Within the race is an ingeniously contrived trap which allows the free passage of the slimes effectually bars the air and cold from without. The other boiler referred to is a 15 horsepower, tubular, locomotive type, and will supply the power to an engine of the same size which operates the stamps, crusher, wood saw, and concentrator, the latter being also yet to arrive. The mill is of the Tremaine type, the difference between it and the old style mill where the weight of the stamp and stem and gravity alone does the work, being that steam supplements the use of the cams in raising the stamp and the weight in its descent. The mill stands 7 feet 6 inches in height and rests on a solid block of wood 22x24 inches, which is sunk in the ground 16 feet, the lower end standing on a mud sill 12 inches thick, 16 inches wide and 6 feet long, thus giving it a solidity capable of withstanding the constant pounding of the stamps. The mill may be said to be entirely self-contained and briefly may be described as consisting of two stamp stems, the upper ends of which terminate in pistons working in cast iron cylinders after the manner of the steam engine. These pistons are turned out of the solid forging which forms the stamp stems, are 5 1/2 inches in diameter, and are fitted with three sets of piston rings, making them steam tight. The piston rods which pass through the stuffing boxes are four inches in diameter, and the steam pressure which is admitted under the piston to raise the stamp is confined to an area which is due to the difference between the diameter of the piston and the piston rod, amounting to an annular ring about three-quarters of an inch wide, a small area, it is true, but sufficient to quickly raise the stamps, the total weight of which is but 300 pounds. Each piston in its travel toward the top of its cylinder passes a small steam port, which adjoins the pressure to the valve mechanism and moves the valve so its the valve cutting off the admission of steam to the underside of the piston, and admitting it to the underside of its mate, at the same time connecting the top and bottom ends of the first mentioned cylinder together, thus allowing the confined steam which is holding the stamp up to be expanded around the piston to its upper side, and acting expansively upon the large area there encountered, to so energetically assist the 300 pound stamp in its downward movement as to strike a blow upon the die equal to that of an 800 to 1000 pound gravity stamp. The pistons alternate with each other perfectly and when the valve is moved back again to admit steam to the underside of the first mentioned, it also connects the top side with the exhaust port so that the steam remaining after the blow has been struck is passed into the atmosphere. This arrangement makes it possible to use the steam expansively and to obtain the same crushing effect with each drop of the 300 pound stamp as would be secured with a gravity stamp of 800 to 1000 pounds dropping eight inches. Instead of being limited to about 90 drops per minute, as with the gravity stamp, with the Tremaine mill it is possible to obtain a speed of 200 or more drops per minute of each stamp and it will be quite obvious that the crushing capacity must be corre-

spondingly increased. The capacity of the mill varies greatly according to the character of the ore and the size of mesh in the screens used. Ore that is friable and partially decomposed is much more quickly reduced to a pulp than that which is hard and flinty. With the average gold quartz, using a 40 mesh screen, the mill will handle from 8 to 18 tons in 24 hours, the power required being from 7 to 10 horsepower, according to the speed at which the mill is run, and fuel needed but one cord of wood. The water required for both the boiler and mill is 1 1/2 miner's inches, equal to about 800 gallons per hour. Persons who have used the Tremaine mill say it is an excellent amalgamator. The mortar is provided with silver plated lip plates in lieu of the inside copper used in the gravity stamp mill. These lip plates retain amalgam wonderfully well, are always in sight, and are a perfect index of the conditions inside the mortar. The screening capacity of the mill is relatively large, there being about 549 square inches of screens used in the mortar as against 475 square inches in the standard five stamp gravity mortar. Because of the very rapid movement accomplished by the steam driven stamps a much greater agitation of the pulp in the mortar is kept up and a much greater height of the screen surface is made available for the discharge of the pulp. The speed of the mill is variable at will and depends entirely upon the steam pressure used. With 60 pounds pressure the speed is 140 drops to the minute of each stamp; with 80 pounds, 180 drops; with 100 pounds, 200 drops.

(Continued tomorrow.)

DISTRESSINGLY PEACEFUL

Police Have Little to Do These Quiet Days.

Another Saturday and Sunday have rolled together on the scroll of Time and laid away on the shelf of Eternity and Monday morning found the lonesome bench at police court unoccupied save for one dejected and billious appearing individual who has not yet been in Dawson sufficiently long to regulate his hootch gauge. The individual in question arrived in Dawson Saturday afternoon on the Seattle No. 3 from St. Michael and at once proceeded to celebrate his arrival which would have been all right had his gauge been regulated, but it wasn't. However, as it was one of those quiet, "peace on earth, good will towards men" drunks, and in view of the fellow's newness in Dawson his honor looked with compassion on the offender, imparted some kindly advice, and let him go.

Distressing Accident.

A distressing accident occurred yesterday at the residence of Mr. Fred Wood. Mr. Wood's two little girls, Doris and Ruth, were playing in the yard, a small hatchet figuring prominently in what they were doing. The exact manner in which the accident occurred has not been ascertained, but it appears that Ruth had the hatchet and in attempting to chop with it, struck the index finger of her sister's left hand, severing it almost completely from the hand below the knuckle. A physician was called and the finger amputated. The little girls are twins, being just five years old.

Hot Time Coming.

The Zero Club members are to give another "function" Saturday night next and a night of jolly good fellowship will be enjoyed. The following gentlemen were appointed a committee on entertainment for the occasion: Messrs. E. B. Condon, Herb Robertson, W. W. White, F. C. Crisp, R. P. McLennan and E. J. Fitzpatrick.

Zero Club Notice.
Messrs. E. B. Condon, Herb Robertson, W. W. White, F. C. Crisp and R. P. McLennan, are requested to attend a special meeting of the entertainment committee, Zero Club, tonight at 9:30.
E. J. FITZPATRICK, Chairman.

We fit glasses. Pioneer drug store.

Concert a Success.

The concert given Sunday night by the little Schramm girls was a splendid success considered both from a financial and an artistic standpoint. The big auditorium of the Savoy was filled and the boxes and balcony had more occupants than could well be accommodated.

There were no other features to the program aside from the playing of the two sisters, but at the conclusion of the program the audience still insisted upon another encore and the little girls were brought before the curtain a number of times to bow their acknowledgment.

The program was of a classic nature and sufficient variety was given to prove the marvelous powers of the little ladies in a most satisfactory manner.

During the intermission Miss Patrola improvised most beautifully from a theme furnished by Mr. H. G. Herbert. Her effort was received most enthusiastically.

The concluding number was a duet between the sisters which brought forward continued rounds of applause. The wonderful talent possessed by these two children cannot be understood except by those who have had the pleasure of hearing them.

Trouble for Thomas.

"I would just like to make an inquiry," she said at the general delivery of the postoffice the other day. "Yes, ma'am." "My husband is in Buffalo." "I see." "He sends me two letters per week, but only one of them reaches me. In that one he tells of sending me another with a money order in it. Isn't it strange that I never get the money orders?" "Well, perhaps," cautiously replied the clerk. "You don't think the carrier steals the other letter each week, do you?" "No, ma'am." "And can they be lost in the mails?" "Hardly." "Would it occur to you that there was anything singular about it—that is, hadn't I ought to have received at least one of the four or five orders he claims to have sent?" "You certainly had. Yes, you might call it a singular case." "In other words," she resumed after a silence, "would you say that I was justified in believing that Thomas is a liar and that when he finally returns to Brooklyn and begins to tell of the money orders he sent while he was gone?" "Madam," gravely replied the clerk, "you must pardon me, but the United States government never interferes in family matters—never. So long as you make your business official."

ALONG THE WATER FRONT.

The Ora left at 3 o'clock Saturday afternoon for White Horse, with 54 passengers. According to present schedule the Calderhead boats will make but one more round trip each season. The Flora should arrive today and will leave sometime tomorrow. She will be down again, as will also the Nora. The Ora will probably be the last of the line to tie up.

The Seattle No. 3, with barge

RECEIVED BY WIRE. VIEWS OF GOVERNOR ROSS

Thinks Yukon Will be Given Representation in Parliament at Next Session—Presents an Export Tax to Present Royalty System—Favors City Incorporation.

Skagway, Sept. 30.—In a brief conversation with your correspondent before taking the train for White Horse Saturday morning, Governor J. H. Ross said regarding representation from the Yukon in parliament that the returns of the census commissioner for the territory must first be made before any advance can be made looking to representation. He thinks parliament will not insist that the Yukon must show 25,000 people for each representative, for owing to the geographical position of the country it is not expected that the Yukon can get just representation through members from adjacent, but at the same time distant, provinces. Governor Ross is greatly in favor of Yukon representation, and while there is no hope of getting it before the next session of parliament, he saw no

reason why it should not then be granted. Governor Ross re-affirms his belief in his theory of an export tax instead of the present royalty tax, but owing to his official position he declines to say whether or not he presented his views at Ottawa, or whether such views would be entertained there. As to the incorporation of the city of Dawson, he thinks the people favor it, and he therefore will assist the movement. As to the assistant gold commissioner, Governor Ross says Mr. Bell was suspended pending investigation of charges of irregularity of office. No malfeasance of office has been charged. Governor Ross is at present enjoying the very best of health, and has apparently revived greatly from the shock produced by his recent bereavement.

if you feel this building jar some time within the next two weeks you may know that he has got home and has been telling me that the rats must have eaten up those ten dollar money orders he sent me to pay my way in his absence.—Brooklyn Citizen.

Seattle No. 3.

Captain Dupont, master, arrived noon Saturday from St. Michael with 250 tons of freight on the steamer and 337 on the barge. St. Michael was left September 4, at which time the Sullivan boats were still waiting for their cargoes, which are being brought from the States to the Mexico. Sullivan was much exercised over the delay and has had the big strike may have been a cause of it. If the Tyrrell and J. Light fail to get away before September 15 there is a chance that they may be frozen in on the lower river. The Seattle No. 3 and barge will winter in the slough opposite Klondike City.

House entirely renovated.

Hot air comes from terms reasonable. The house, Julian Blaker, prop.

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Jack of Diamonds
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The Black Flag
Thursday, Friday, Saturday

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Sails for Whitehorse
TONIGHT AT 8 O'CLOCK!
UNDER THE MASTER HAND OF CAPT. MARTINEAU,
Cut Rates
The Captains of our Boats are the Highest Paid and Consequently the Most Competent Navigators on the River.

WE NEVER HAD AN ACCIDENT

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- ◆ BOILERS, From 8 to 50 Horse Power,
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