



THE PARTIALLY RESTORED DREDGE #4 RESTS NEAR THE DISCOVERY CLAIM ON BONANZA CREEK.

and then cold water pipes to accomplish the thawing process. This procedure sometimes took place a year or two before the actual dredging. Once the ground had been unfrozen by the hot or cold water pipes, it was ready for the dredges.

It was during this period that Swift Water and Joe parted company, Swift Water having sold his Claim #13 Eldorado in 1896.

Joe Boyle introduced dredging into the Yukon. Gold profits soared with the arrival of large-scale corporate mining and for decades, from as early as 1906, the grinding and screeching of the dredges echoed throughout the Klondike. Working day and night, these "Monsters of the Creeks" churned through river valley, separating gold from gravel and leaving behind 60-to-80-foot wide swaths of worm-like tailing piles. A large hydroelectric plant supplied power to the dredges, while a small army of workers prepared the ground ahead of them—thawing permafrost and stripping away muck. After the muck was removed, hundreds of cold water pipes with

pointed tips were driven into the ground to thaw the frozen gravel to bedrock.

He had reason for getting out of Dawson—his dredges were not producing as before and the very day his battalion left for Vancouver his monstrous dredge #4 toppled over and sank. He departed leaving the whole mess in the hands of his son Joe Jr.

Joe Boyle was too old to enlist when World War 2 broke out in 1914. Although he knew zilch about military strategy, Boyle quickly realized that modern weapons would dominate the battlefields. He offered a fully equipped Machine Gun Company of 50 Yukon miners to Sir Sam Hughes, Minister of Militia and Defense and the minister accepted. The company first trained in Dawson under the North West Mounted Police and the Dawson Rifle Association but later travelled to Vancouver to learn further warfare tactics. In September 1916, as a result of his donation of the machine gun company, Joe was commissioned an Honorary Lieutenant Colonel of the Canadian Militia and allowed to wear a colonel's uniform that he embellished with gold maple leaf collar dogs and buttons of Yukon gold. In 1917, despite being 40 years of age, Boyle left the Yukon for good and went to Europe to participate in the war against Germany.

He had many adventures and there were even some rumours that Boyle, although never divorced from his second wife, even had a secret love affair Queen Marie of Romania, the granddaughter of Queen Victoria. For his war services, Boyle was awarded the following medals: the Distinguished Service Order (England), the Croix de Guerre (France), the Order of



JOSEPH WHITESIDE BOYLE (1867 - 1923)

Quite possibly the most decorated soldier in World War 1, Boyle is seen in a Canadian uniform wearing: The Order of Regina Maria (around his neck) and the Star of Romania (over his left breast). He is wearing ribbons (above his left breast pocket) for: The Distinguished Service Order (England), Croix de Guerre (France), Star of Romania, the Crown of Romania, The Order of Regina Maria (Romania), the order of St. Stanislaa (Poland), and the The Orders of St. Vladimir and the order of St. Anne (Russia). The photo is signed in the lower left hand corner and reads: "Yours truly J.M. Boyle Jassy 4/6/18/10". Queen Marie of Romania made Boyle the Duke of Jassy.

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the Star of Romania, the Order of the Crown of Romania, the Order of Regina Maria (Romania), the Order of St. Vladimir (Russia), the Order of St. Anne (Russia) and the Order of St. Stanislas (Polish). He received no recognition from his home country of Canada.

Boyle died in 1923 and was buried at Hampton Hill just outside of London at the age of 56. In 1983, 60 years later, his coffin was dug up and his remains were repatriated back to Woodstock, Ontario, for a second burial in the Presbyterian Cemetery on the west side of Vansittart Avenue between Devonshire Avenue and Vincent Street. This time a huge 20-foot cairn was erected over his grave. By this time the Canadian government had opted to give Boyle the accolades that he deserved and bestowed upon him the Distinguished Service Order. A plaque reads in the cemetery reads: "A legendary adventurer known as "Klondike Joe", Boyle was born in Toronto and came to Woodstock with his family in 1872. He worked at various jobs before attaining great success as a prospector and entrepreneur in the Yukon. At the outbreak of the First World War, Boyle raised, financed and equipped a fifty-man machine gun contingent. Determined to help the war effort further, he headed an allied mission to Russia in 1917 to help reorganize the railway system. His adventures soon took him to Romania where he became a confidant of the Royal Family. He was charged with obtaining famine relief for the Romanian people and with negotiating a peace treaty with Russia. Much honoured for his effort, Boyle died in England."

After squandering a fortune Swift Water left the Yukon and joined the rush for Nome, Alaska, where fortune smiled once more. He struck it rich and lost another fortune before turning his back on the Seward Peninsula and striking out for the Tanana diggings of the interior. Somehow, Gates got a lay on what soon became the richest gold producing creek in the district. Clearly, the camp that grew around his claims boomed becoming the second biggest town in the area after Fairbanks. Originally, it was known as Gates City. Clearly Town burned to the ground in 1907, but by then Swift Water had already gone south two years before where he became involved in several promotional schemes in California. Swift Water left the Yukon for good in 1906.

By 1910 Swift Water had sailed to Peru where 5 years later he married a beautiful Peruvian woman who bore him six children. Unfortunately the 16 years he spent in Peru is virtually unknown. He actually matured after his rambunctious youth although the

gambling bug stayed with him and he often squandered his fortunes away, not that they were as great as when he was in the Klondike or Alaska. He found his niche in Peru and between 1916 and his death 21 years later, he never left the republic. Still searching for gold, he had an entire ship disassembled and packed over the Andes Mountains where it was reassembled for use on the Amazon River to explore the Jungles of Puno-Peru.

When Clarence Woods arrived in Caravaya country in 1928, Swift Water had already been prospecting and mining there for several years. (Incidentally Woods too had worked in Alaska). They became friends and partners in several enterprises and during 3 months in 1931 descended the Inambari River from Oroya down into the Quispicanchi and Marcapta Districts where they explored finding many workable prospects. Woods already had a mine and eventually returned to the Santo Domingo. He spent from 1910 until his death in 1937 in Peru but this part of his life is virtually forgotten. Swift Water told of a trip down the Inambari River in a forty-foot canoe with twenty Indians paddling and they met a "titanic" boa that was longer than the boat. Gates hit the snake with a pike pole and wanted to stop to kill it but the Indians were so terrified that they paddled furiously several kilometers beyond the agreed upon camping place, although a few minutes before meeting this huge snake they had almost mutinied due to exhaustion.

Gates was accidentally shot on a Sunday morning while sitting on the steps to the second story of a hut on a beach on the Tunquimayo River in the Andes Mountains in Peru in 1937 at the age of 66. 'Gringo Gates' was buried in virgin ground and his body was probably washed down river as the result of miners washing for gold in the area in the early 1940s.

Both Swift Water Bill Gates and Klondike King Joe Boyle became Yukon legends.

SPLATTERED WITH RAVEN DROPPINGS, A STEAM THAWING MACHINE RESTS ATOP A ROCK PILE ALONG THE KLONDIKE HIGHWAY AT BEAR CREEK ROAD

Like so much of the heavy equipment brought into the Yukon in the search for gold, the boilers were often shipped by rail, then steamboat—and finally hauled the last leg of their journey by several teams of horses. The wood or coal fed boilers were used to produce steam in the thawing of the permafrost to get down to the bedrock. The practice was to thaw the hard-frozen ground with steamlines coming down from the boiler. The resulting muck, containing the gold, was then hauled in a bucket to with a man on a windlass to the surface. The men in the shaft used mallets to gently pound the six-point rubber hoses from the steam pipes into the cement-like paydirt. The boilers were hauled by horses from one shaft to another on wooden or steel skids.



JOSEPH WHITESIDE BOYLE'S 50 MAN YUKON MACHINE GUN DETACHMENT AT HASTINS PARK (PACIFIC NATIONAL EXHIBITION GROUNDS) VANCOUVER PRIOR TO GOING OVERSEAS IN THE SPRING OF 1915

Back row: Brown, Stewart, Trites, MacDonell, Ryley, Taylor, Aldroft, Babb, Pender and Curry

Third row: Frame, Peppard, Ross, Cook, Gill, Gentry, McCuish, MacAlpine, Lobley, Haney and McKinley

Second row: Kelsey, Waddell, Forrest, Morgan, Small, Jones, Edelstan, Ellis, Kingston, McCaw, Black, Patterson and Fenwick

Front row: Hoskins, Young, Boutin, Falconer, Akers, Corporal Fitzgerald, Sergeant Jennings, Captain Knott, Officer Commanding, Staff/Sergeant MacKinnon, Sergeant Jolly, Sergeant Strong, Corporal Morton, Blaikie, Johnston and Turner

The Yukon Motor Machine Gun Battery was organized in August 1914 as Boyle's Yukon Mounted Machine Gun Detachment and was composed of 50 men. The detachment was raised in Dawson and equipped by J.W. Boyle of the Canadian Klondyke Mining Company. Its distinctive uniform included Stetsons, khaki-colored mackinaw coats, breeches, and long boots. The detachment was originally commanded by Captain Knott but later by Captain H.F.V. Meurling.

Jane Gaffin's book 'Joe Boyle: Super Hero of the Klondike Goldfields' notes that Boyle had proposed to the Minister of the Militia, Sam Hughes, that he be permitted to send a fifty-man Yukon machine-gun battery to the front. Hughes accepted and consequently the men worked in the mornings for the Canadian Klondyke Mining Company and in the afternoon trained under the North West Mounted Police and the Dawson Rifle Association. The unit was mobilized at Victoria and was attached to the 2nd Canadian Mounted Rifles. The detachment embarked at Montreal on 12 June 1915. It was attached to the Eaton Motor Machine Gun Battery on 26 July 1915 and its name was changed unofficially to Boyle's Yukon Motor Machine Gun Battery in July 1915. It was redesignated the Yukon Motor Machine Gun Battery on 16 June 1916. The battery arrived in France on 16 August 1916 and was attached to the 1st Canadian Motor Machine Gun Brigade. The Yukon Motor Machine Gun Battery was absorbed by 2nd Canadian Motor Machine Gun Brigade on 8 June 1918. When the war was ended, only 3 from the 50 men returned to the Yukon. According to Gaffin, Boyle's battalion of Klondikers became the most heavily decorated group of soldiers in the Canadian Army with over 30 of the men receiving medals for bravery.

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THE AFTERMATH OF THE YUKON'S MONSTER DREDGES

Completely re-routed to allow the dredges to churn up any gold that might have been deposited on the bedrock underneath the original channel of the Klondike River, the devastation left by the dredges is complete. The Klondike Highway, to the right of the photograph, passes through the middle of the goldfields.

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THE GUGGENHEIM DYNASTY

The Indianapolis Star, Monday, January 24, 1910.

GUGGENHEIM BEGINS WITH SHOE LACES AND ENDS WITH SMELTERS

Poor Immigrant Rises in Financial World Through Inquisitiveness, and Bad Debt in West Proves Stepping-stone to Wealth

From peddling shoelaces in the streets of Philadelphia to building a \$25,000,000 railway in Alaska.

From peddling glue in Philadelphia to the control of the lead market and most of the silver market of the world.

From peddling stove polish to the control of a \$100,000,000 smelter corporation—trust, if you wish—that can put mines, camps, cities, states out of business.

Who was this magic peddler?

He was a Jew, Meyer Guggenheim, who came as a boy of 19 from Langnau, Switzerland, with his father, says Eugene P. Lyle Jr., in his story appearing in Hampton's Magazine under the title, "Founding the House of Guggenheim." As a passenger aboard the same ship there was another immigrant from the same town. The other passenger was Barbara Myers, a girl of thrifty stock. She was a deeply religious woman, and when opportunity later came she turned thrift and industry to works of charity. Meyer Guggenheim's boyhood in the old land had been one of struggle, but the pennies were soon forthcoming in the streets of Philadelphia and he and Barbara were married. The dynasty of Guggenheim had begun.

Beginning of Dynasty

Riches were an ambition. That is, they were needed to obtain power. Power was an ambition. But riches and power both were only a means. When their first son,

Isaac, was born in 1845, the Guggenheim ambition became henceforth the Guggenheim dynasty. The dynasty is now the monument to the memory of the peddler of laces. His seven sons are called the whale born.

Laces were not all that were to be found in the peddler's tray. There was stove polish. There was glue. There were notions. In the end there were steamships, railroads, smelters, refineries and mountains that hold ore worth scores of millions.

Industry granted, economy granted, what other ingredient in the man was there to mix together that compound – success? Inquisitiveness.

From laces to rocks, from needles to furnaces, from the seaboard to the Sierras, that is an abrupt transition. But Meyer Guggenheim's enquiring eye led him naturally and simply across the intervening chasm.

It happened by the purist chance. Meyer Guggenheim had a bad debt, and he had to take a bad mine in settlement. That brought him into a new industrial world for conquest. Laces formed but a small world, and having conquered it, like Alexander, he would no doubt have looked eventually further afield. But as it happened, it was the bad debt that started things.

Bad Debt Good Fortune

Benjamin Guggenheim, the fifth son, tells it this way: "A merchant in Leadville, Colorado, had bought goods from his father and had failed to remit when the bill was due. So Benny went out to Leadville to see what could be done. There wasn't anything to be done, at least not on a cash basis. But the merchant had an option on a mine called the "A.Y. and Minnie," for \$5,000, and the Guggenheims might take over the option for their debt if they would pay half in cash.

The very word "mine" tinkled pleasantly, Leadville was the great silver bonanza camp of the West, and fortunes were being taken out every week or so. The shrewd

lace merchant took over the "A.Y. and Minnie" and put Benny in charge. Benny was only about 20, and when a week or so went by, and Benny did not send any fortunes East, the old man began to wonder what was the trouble.

Trouble enough! The "A.Y. and Minnie" was flooded, and Benny could not find anything to take out but water. And that took money. It looked as though the Guggenheims had been given a bag to hold.

Wherewith Meyer Guggenheim came west to the Rockies. There were many questions on his lips. Mine ownership did not always mean a bonanza. Why? That was the first disillusion. But if more money had to be thrown into the hole (disillusion No. 2), where should he throw the money, and how?

Inquisitiveness Wins Way

Thus appeared the little Swiss Jew in the Western mining camp. His wiry whiskers were parted at the chin. He was thick of accent, and he had money. He was a tenderfoot, a windfall, and a sheep wool-laden. It was a shame to let him stay in Colorado. But he had the clammy habit of inquisitiveness. He did not know the game played by the Western giants, but he had learned other games – stove polish, notions, laces – and that was why he had money. Perhaps he might learn this game.

Leadville meant a brand-new crop of Western millionaires. It meant the rebirth of Denver, the revival of prosperity for Colorado. To this place had come Meyer Guggenheim, presuming his fellowship with giants.

"I have seven sons, and each will have a million dollars." He said. The words were flashy. So was the gesture. But it was goaded to it by the sheer, generous bigness around him.

His first problem was the "A.Y. and Minnie" mine. He felt that within himself that he had passed through a second immigration, that all around him here in this great West – north of Alaska, south of the equator – lay a new world for conquest, if not by him, then by the dynasty. And he set Benny to working on the study of ores, from bottom to top and all the way through.

Delves into Mysteries

Meyer Guggenheim caught enough of the spirit of the West to throw good money after bad. But he threw it after getting answers to all his questions. Soon the water was pumped out of the "A.Y. and Minnie" and the mine was producing ore. It was good ore, too.

Yet something was the matter. The "A.Y. and Minnie" was not making money. A multitude of new questions assailed the Guggenheim brain and, and like a battery of Maxims, he began pelting people with them.

So Meyer Guggenheim looked at the smelting statement and then around him at Leadville. Here was the real birthplace of the smelting industry of the West. He could hardly see the heaven for the black smoke pouring day and night from the smelter stacks. Rounding the hillsides the smelters looked like a flock of grimy warships at full speed. At night the flares of the furnaces, the streams of liquid fire tricking down the dump, the mysterious forms of men in shadow, resembled an inferno with an over rush of lost souls. The scene would have inspired Dante.

Meets Right Man

Scores of rich men count their start from the sampling mills, the assay offices, and the smelters that those Leadville ores required. They were lead carbonate ores and, like the sulphides, had to be smelted. The first smelter there was in the Arkansas Valley, built in 1877. It is still one of the largest in the country. It has 200-acres of ground, ten furnaces and can treat 500,000 tons of ore a year.

Then Guggenheim met Edward R. Holden. Holden was a Colorado character in those early days, thirty years ago. The meeting with Guggenheim happened in a lucky moment for Holden, for Holden was in a tight place. He had an assay shop in Leadville, and then a sapling mill, buying ores from the mines, grinding and mixing them and selling them to the smelters. But he was not content. He yearned for the profits on the smelter end. He went to the Colorado National Bank in Denver and talked smelting to C.B. Kountze, the President, and

Dennis Sheedy. Holden was a good talker, and in 1886 he and two bankers built the Globe smelter at Globeville, near Denver. Holden then went back to Leadville and began shipping the ores he bought as sampler to the Globe smelter. Holden sampled the ores, but his banker partners sampled them again, and trouble arose as to which sample should obtain in the settlement between Holden and the smelter.

Invests in Smelter Stocks

It was then that Holden met the tenderfoot Meyer Guggenheim, and with stock in the Globe smelter to sell, he had an answer to all of Guggenheim's questions. Sure the smelters were getting the lion's share, he said. Take those fellows Kountze and Sheedy, for example. They were making just about all the profits there were in ore.

"So", concluded Guggenheim, "if smelting makes the money there is in mining, what's the use of having a mine unless you have a smelter?"

"None at all," echoed Mr. Holden; "try it." Guggenheim tried it. He took about \$80,000 of Globe smelter stock and as a stockholder he invested from inside. He secured for his sixth son, Simon, a good position there, and Simon appeared on the payroll as timekeeper at \$6 a month. The light poured through the opaqueness of smelter arithmetic. What Meyer Guggenheim could not understand as a mine owner, as a mine operator grew wondrous clear – and pleasing – to him. To illuminate these mysteries that so fascinate the smelter man and so distress the mine owner would require almost an article in itself. At a later time, as the mystery deepened under the supreme will of a smelter monopoly, you shall have a chance to indulge your cleverness at puzzles. Meyer Guggenheim read the profit and loss books for a year. It was entrancing literature. On the profit side, it is said, he read this: One hundred and fifty percent! At any rate it was a huge profit.

Rushes Orders for Smelters

Smelters for Mr. Guggenheim, quick! He could not get one fast enough.

He and Holden formed the Denver Smelting Company, \$500,000 capital, intending to build at Denver. But a delegation of businessmen from Pueblo offered them a site there, free of taxes for ten years. Cities begged you to make 150 percent profit in those days! Guggenheim and Holden went to Pueblo and changed their name to the Philadelphia Smelting and Refining Company in honour of the lace peddler's first American home. At Pueblo they built the Philadelphia smelter. This was in 1888. Eventually it cost \$1,250,000.

"But why," Meyer Guggenheim long since had asked, "pay refineries to treat my bullion and matte?"

He answered that question by building a refinery in North Amboy, in New Jersey, and putting Simon in charge. Only Simon remained in Colorado.

Meyer Guggenheim stopped only at the mints. He did not build them. There was no profit in the minting industry.

Here ends the story of the glorious era of smelter building. They dotted the hills almost everywhere a new mining camp opened, or at a railway point where they might serve the mining camps whether in Colorado, Utah, Montana, California or Mexico. Until 1893 the ores were dug out of the mines faster than the smelters could handle them. It was a golden age for the mines as well as for the smelters.

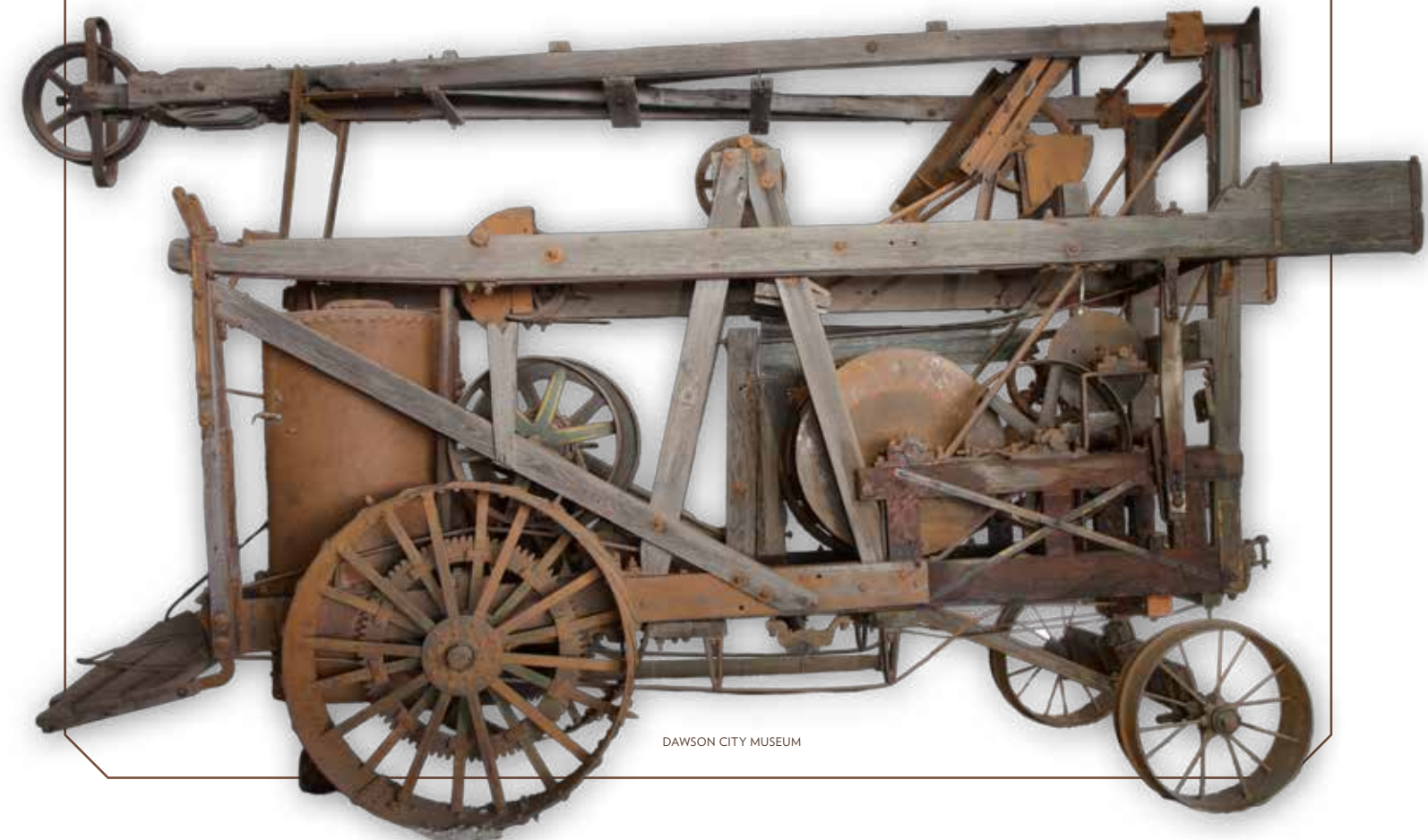
THE KEYSTONE CHURN DRILL

Built by the Keystone Driller Company in Beaver Falls, Pennsylvania, this No. 3 Keystone churn drill was an important tool in early Klondike mining development as the new fandangled machine introduced a scientific approach to prospecting. A potential mining area was drilled and core samples were taken to estimate the gold concentration and information. Information from these expeditions revealed dimensions of gold bearing levels making shaft, dredge and hydraulic mining operations more efficient and accurate. It was particularly important for the dredge owners to know the depth of muck before the reaching of pay dirt and bedrock.

Precise information on this particular drill is unknown other than the original drills began manufacture in 1906. Its 11-horsepower engine that made 4 revolutions per one drill stroke was powered by a 34" in diameter

by 66" tall steam boiler. The standard equipment for use with the Keystone drill was an extra heavy pipe 6-inches in diameter capable of recovering more than twice the amount recovered from a 4-inch pipe.

Its known that in 1907, through Dawson Hardware's purchasing power, the Canadian Government bought 6 to 8 Keystone churn drills to the Dawson area. These drills were offered on a rental basis to anyone who wished to use them. There were also other Keystone churn drills brought to the area at various times. These drills were essential in three major prospecting expeditions that occurred in 1908, the 1910's, and a final huge expedition in the 1930's. The Yukon Consolidated Gold Company headed up the expedition in the 1930's. The measurements were so accurate that they are still being used today by some mining companies.



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