

# Record Cards: North Butte Mining Co.

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The early 1900's saw the advent of what was referred to in the the industrial work environment as scientific management. The overall objective was to reduce production costs through improved productivity. These efforts were the basis for the establishment of the industrial engineering discipline.

Mining as an industry was not, with one exception, in the forefront of this new management thrust. The exception was a Butte, Montana concern named North Butte Mining Company. North Butte is probably better known for the mining disasters that occurred in 1915 and 1917 at the Granite Mountain Mine than for its progressive management practices. Perhaps as a result of these accidents management was compelled to seek a better understanding of its mining activities. Shortly after the 1917 disaster "record cards" which standardized various underground procedures came into use. In 1920 at the time of card use, North Butte Mining Company was hoisting 2,000 tons of ore daily through the Speculator, Granite Mountain and Gem shafts a maximum distance of 3400 vertical feet. Normal production was obtained from 75 stopes, 20 raises and 30 sill development faces. The company employed about 1,600 people and by any standard was a substantial operation.

N.B. Braly, General Manager, is credited with development of the cards and he was granted Patent Number 1327855 on January 13, 1920, which is shown in Figure 1. Data acquisition for efficiency calculations was the primary thrust. However, the cards were also a means for miner training, standardization of mining practices, inventory control and miner safety orientation. The cards dealt with a multitude of topics including potty car cleaning, drilling and blast-

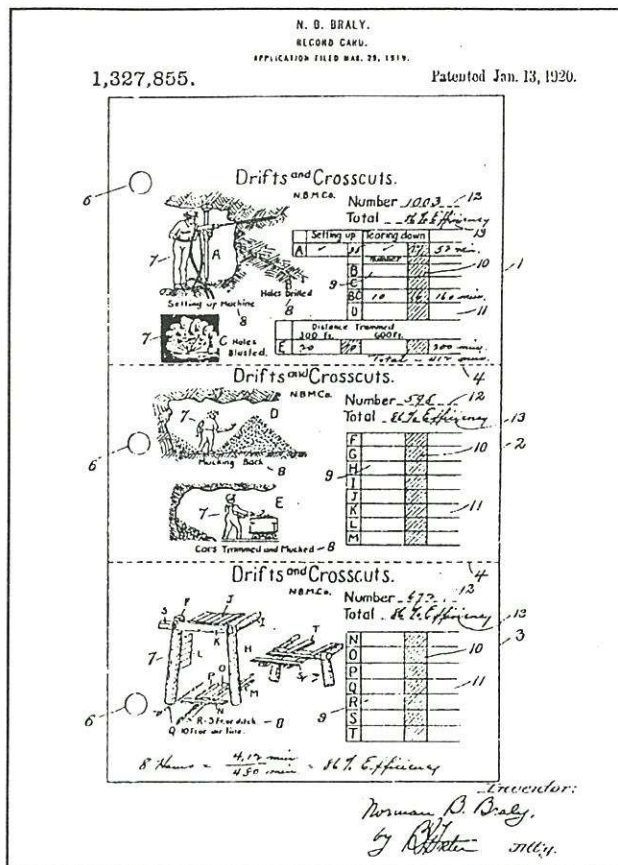


Fig. 1. Patent Office documents for the North Butte Mining Company record cards.

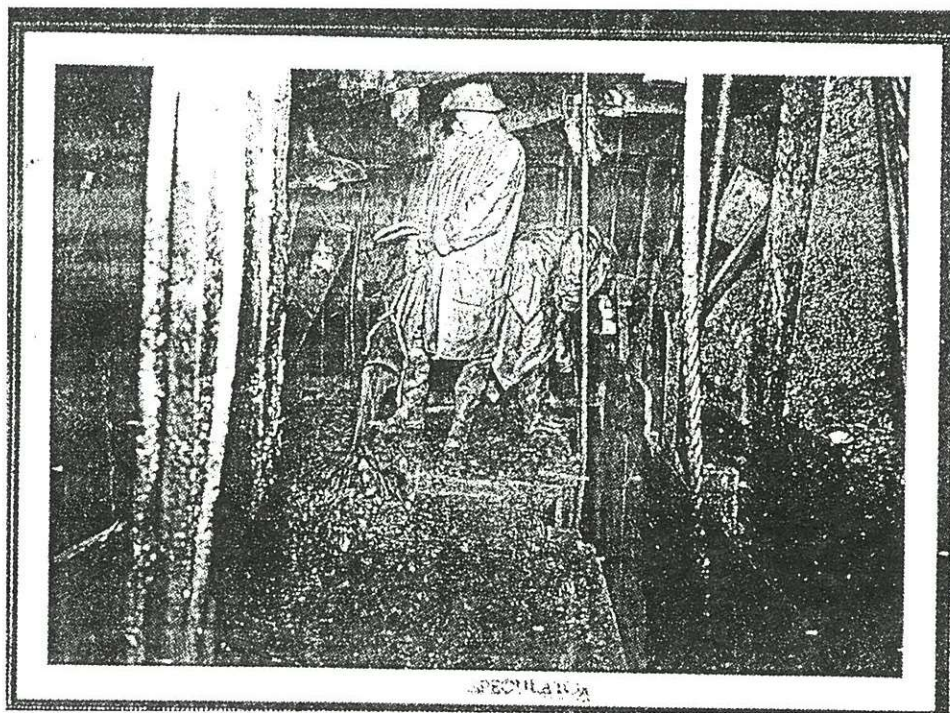


Fig. 2. Shaft concreting in Speculator No. 2 Shaft of the North Butte Mining Company in January, 1920 showing the men filling in between compartments while one of them is tamping down the concrete.

ing, mucking, tramming, timbering, ventilation, shaft work, and numerous surface activities to mention but a few. They were for the most part very detailed.

Figure 2 shows a photograph of a shaft concreting operation in the Speculator shaft in the early 1920's. Figure 3 shows the card relating to the work depicted in the photograph. The miners' clothing, drop tube, forming and staging are accurately depicted. The cards are truly a unique expression of site-specific mining practice.

It is evident that there were in excess of 110 different cards of varying complexity designed between 1917 and mid-1923. They will be found printed on buff, white, light green, yellow, aqua, and pink paper with the purpose of the color coding being unknown at this time. Printing volumes varied from 200 to 10,000 cards, with several batches made for some cards. The earliest printing date observed is March 5, 1919, while the latest is May 31, 1923. Patent Pending appears on cards dated May 1919 while the patent date appears after issuance. In 1923 North Butte became a part of the Anaconda Copper Mining Company. It is not known if record cards were used by this company.

**Bibliography:**

Linton, Robert. "Standardizing by North Butte Mining Company." *Trans. Am Inst. Min. Eng.*, Vol. 66, 1922, pp.182-219.

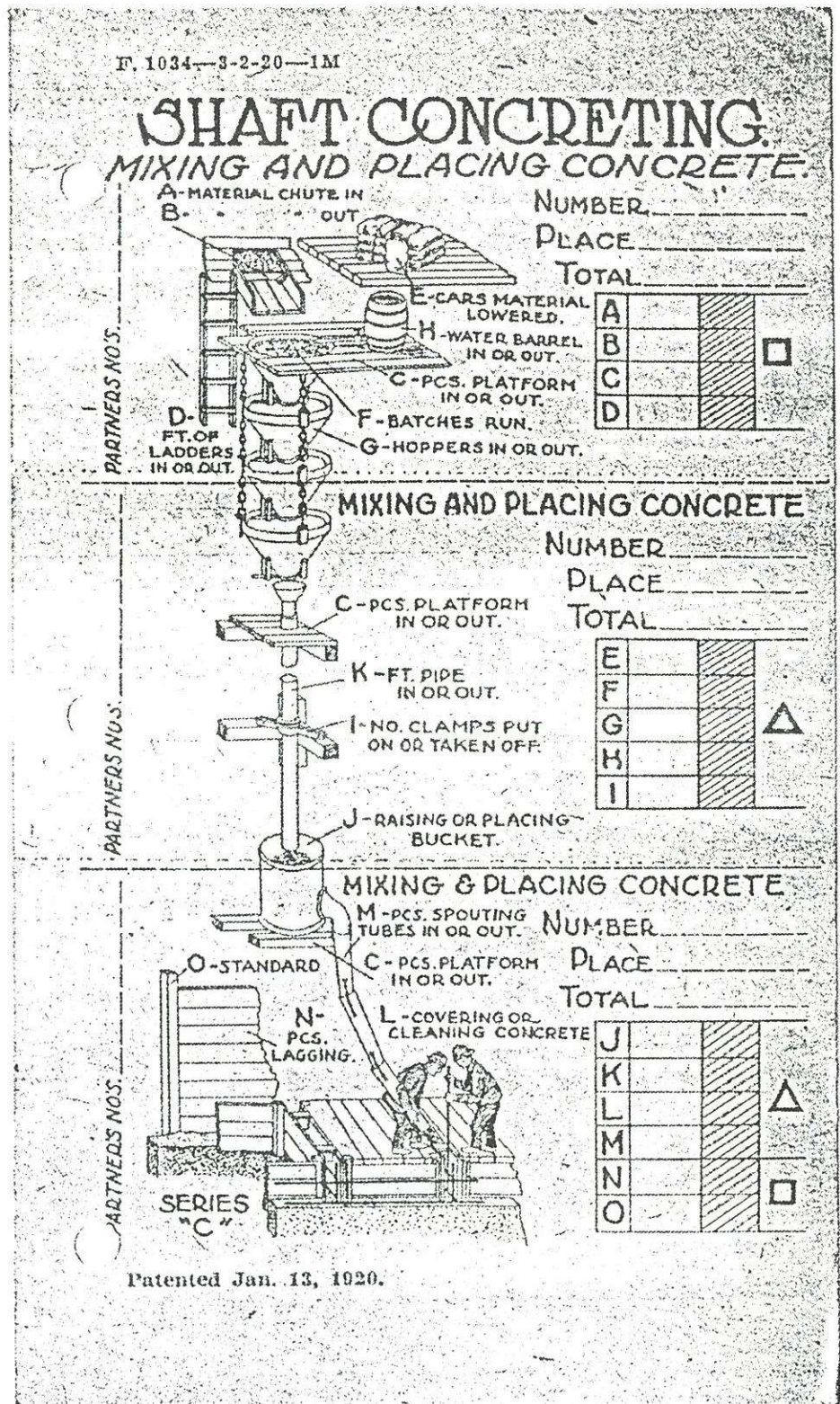


Fig. 3. Shaft concreting mixing and placing card showing the miners' activities pictured in Fig. 2.