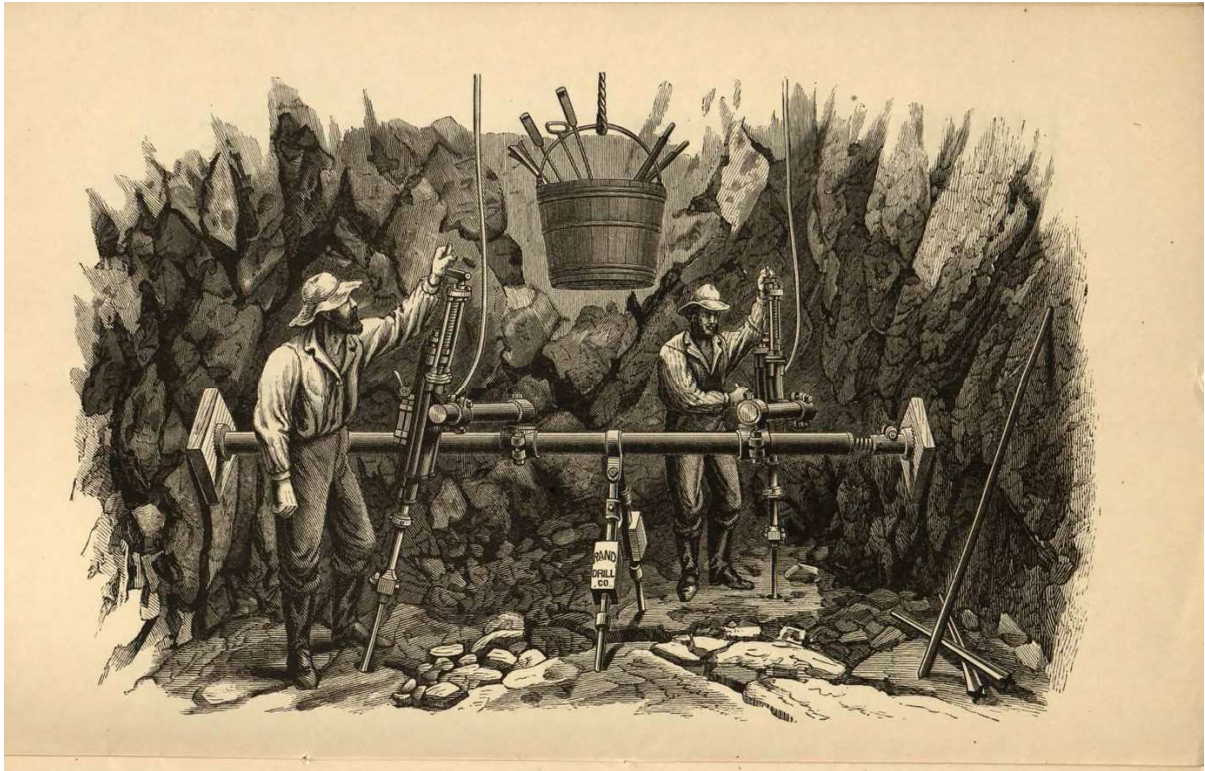


# The Rand Drill Company

Doug Miller

The illustration below is from an 1880s catalogue in the digital collections of the Hagely Museum and Library in Wilmington, Delaware. It pictures the Rand “Little Giant” Rock Drills.



The catalogue was published in 1881 by George H. Sampson of Boston, Massachusetts, New England agent for Atlas Powder Company and Rand Rock Drills. The catalogue also advertises powders and blasting machines sold by Laflin & Rand Powder Co.<sup>1</sup> Two collectors asked whether Rand Drill Company was related to Laflin & Rand Powder Company or to Ingersoll Rand. The answer to both questions is “yes”.

## History of the Rock Drill<sup>2</sup>

The rock drill was an American invention. J. J. Couch of Philadelphia took out the first practical patents in 1849. He was assisted by Joseph W. Fowle. Fowle later parted ways with Couch and, in a separate filing in 1849 covering his own invention, described a successful power rock drill in which the drill was attached directly to the piston rod. Fowle didn't have the financial means to develop his invention, and it remained undeveloped until Charles Burleigh purchased Fowle's patents and produced the Burleigh drill in about 1866. The drill was used in driving the Hoosac Tunnel in Massachusetts in 1867.

Early in the development of rock drills, brothers Addison C. and Jasper R. Rand also became interested in rock drills as a result of their association with Laflin & Rand Powder Company.

Laflin & Rand Powder Company was organized on August 24, 1869, under the laws of the State of New York. Its purpose was to acquire the properties of several successful powder companies. The mills acquired by the new company had been in existence for a long time and had been highly successful. In August 1871, the executive committee of the company reported that the New York legislature had passed a special act conferring on the company the right to own stock in any company connected with or auxiliary to the manufacture of explosives.<sup>3</sup> In that same year, Addison Rand formed the Rand & Waring Drill and Compressor Company for the manufacture of steam percussion drills used in mining. Addison Rand held 25% of the stock of the powder company and 45% of the stock of this concern. He later gained complete control of the Rand Drill Company.

J. C. Githens was superintendent of the Rand Drill Co. He invented the “Little Giant” rock drills pictured in the illustration from the 1881 catalogue. Githens was the originator of many improvements which made the use of the rock drill in mining and tunneling practical.

At about the same time, the Ingersoll drill was invented in 1871 by Simon Ingersoll, an ingenious mechanic. He moved to New York City from Connecticut, bringing with him models for several inventions. Ingersoll’s conversation with another passenger in a New York horse car about his invention of a rock drill was overheard by John D. Miner. Miner was a contractor who had been employed to do some excavation work in New York City. Miner’s men could only drill about one ten-foot hole a day using their hand tools. When asked, Ingersoll told Miner that he couldn’t see why a machine could not be made to do the drilling. Miner gave Ingersoll \$50 toward the building of a rock drill. Ingersoll’s first drill was built in a shop owned by J. F. de Navarro and managed by Sergeant & Cullingworth. Henry C. Sergeant walked into the shop one day and saw Ingersoll’s prototype. He noticed that the front head was attached to the cylinder. He told the workmen to cut it into two pieces in order to make it work better. When Ingersoll walked into the shop, they had done so before Ingersoll could stop them. Ingersoll and Sergeant quarreled, which led later to Navarro, on Sergeant’s advice, buying all of Ingersoll’s patents. Navarro organized the Ingersoll Rock Drill Co. which, after a dispute with Burleigh, who owned the rights to Fowle’s work, became the sole owner of Ingersoll’s patents. The Ingersoll drill was manufactured by Sergeant & Cullingworth and sold by Ingersoll Rock Drill Co. Sergeant later sold his interest in the firm because of friction with management, moved west, engaged in some mining, then returned to New York in 1885, and organized the Sergeant Drill Co. The Sergeant Drill Co. and the Ingersoll Rock Drill Co. were later merged into the Ingersoll-Sergeant Drill Co. In 1905, the Rand Drill Co. was merged with the Ingersoll-Sergeant Drill Co. to form the Ingersoll Rand Company. As noted by W. L. Saunders in his 1910 article on “The History of the Rock Drill,”

“The Rand drill from the beginning had been the most formidable competitor of the Ingersoll and Sergeant types. The conjunction of the Ingersoll, Sergeant, and Rand companies, therefore, was a combination of valuable patents in rock drills, compressors, and general machinery for mining, tunneling, and quarrying. Each shop received the benefit of the experience of all the others and the best features of the Ingersoll, Sergeant, and Rand types were taken to make an improved product.”<sup>4</sup>

Eric Twitty, in his excellent book, *Blown to Bits in the Mine*, discusses the history of rock drilling at length.<sup>5</sup> He concludes:

“The impact that rockdrills had on labor was great, creating demand for miners with expertise in using and maintaining them efficiently. But the drills also accelerated the demise of many miners by creating the ideal conditions for silicosis. Through the twentieth century rockdrills became smaller, faster, safer, and more efficient. The ultimate result of the development of rockdrills between the 1870s and 1950s was improvement in the mine as a work environment, mechanizing what once brutal, slow hand-labor, and speeding the blasting process, which meant greater production for the minerals industry.”<sup>6</sup>

## End Notes

<sup>1</sup> Sampson, George H., *George H. Sampson's New England Agency for Gunpowder for Sporting and Blasting*, 1881. [https://digital.hagley.org/I091111\\_samp?solr\\_nav%5Bid%5D=7c81b2faa744f926e11d&solr\\_nav%5Bpage%5D=0&solr\\_nav%5Boffset%5D=0#page/1/mode/2up](https://digital.hagley.org/I091111_samp?solr_nav%5Bid%5D=7c81b2faa744f926e11d&solr_nav%5Bpage%5D=0&solr_nav%5Boffset%5D=0#page/1/mode/2up), accessed September 26, 2021.

<sup>2</sup> W. L. Saunders, “The History of the Rock Drill,” *Mines and Minerals*, August 1910. <https://books.google.com/books?id=So85AQAAIAAJ&pg=PA18#v=onepage&q&f=false>, accessed September 26, 2021.

<sup>3</sup> Arthur Pine Van Gelder and Hugo Schlatter, *History of the Explosives Industry in America* (New York: Columbia University Press, 1927), 219–21.

<sup>4</sup> W. L. Saunders, “The History of the Rock Drill,” 18–19.

<sup>5</sup> Eric Twitty, *Blown to Bits in the Mine: A History of Mining & Explosives in the United States* (Lake City, CO: Western Reflections Pub. Co., 2009), 37–55.

<sup>6</sup> Twitty, 55.