

History Of Rock Crushers

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For as long as humans have constructed homes, buildings, and roads, we've needed aggregates. They are the definitive building blocks of civilizations throughout the world. For centuries the only way to produce aggregates was through sheer manpower: swinging stones and hammers against anvils to crush rocks into smaller and smaller pieces. Production was slow and tiresome. Over time, humans devised ways to use hydro, steam, and even gunpowder to crush more stone with less effort. These primitive rock crushing processes continued past the Industrial Revolution until a man named Eli Blake patented the very first modern jaw crusher.

The First Jaw Crusher

Eli Whitney Blake was running a hardware factory with his brother when at a town hall meeting in 1851, he became inspired to build a rock crushing device. The town was planning on building a two-mile long road which required quite a lot of aggregate. At the time, the method of producing aggregate was by hammering stone. Having a background in engineering, Blake gave it a shot.

Seven years later, Blake patented the first ever jaw crusher in history. The machine used compression between two jaws, one fixed and one reciprocating, to break apart particles. The jaws were set up in a V alignment with the material being fed into the top and crushed aggregate coming out of the bottom. Crushing of a rock was performed in multiple strokes, so the movement of the swing jaw could be quite small. The crushing power was supplied from flywheels on the sides of the crusher that moved the reciprocating jaw.

The design of Blake's jaw crusher was so successful that 160 years later we still use the same principles in our Grizzly-King Jaw Crusher.

Cone Crusher Creation

The cone crusher followed the jaw crusher relatively quickly. While not popular at first, these pieces of equipment are now vital to many mining and aggregate operations throughout the world. The first cone crusher was developed by the Symons brothers to improve secondary and tertiary crushing applications. While jaw crushers provide excellent primary crushing duties, new ways of crushing needed to be devised for finer and more consistently sized aggregates.

In 1920, the Symons brothers created the first cone crusher. It crushed rocks by squeezing material between a gyrating cone and a fixed outer concave liner. The crushing process began when large feed entered the top of the crusher and became wedged between the cone and concave liner. It was crushed into smaller pieces and fell to a lower position, where the process repeated itself. This continued until the aggregate was small enough to fall out of the bottom of the crusher.

Modern cone crushers like the Blackhawk 100 Cone Crusher work in a similar fashion with more efficiency and longevity. For instance, if materials enter the Blackhawk that cannot be crushed or would damage the machine, a hydraulic cylinder allows for the automatic release of the material.

Jaw crushers and cone crushers are modern-day necessities for every aggregate operation. At Sepro Crushing and Screening, we specialize in supplying quarries and mining operations with the right aggregate equipment and parts so they can hit and exceed production goals. To contact a rock-crushing specialist, call us today at 1.450.922.0900.

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