

The Lake Shore Mines, Ltd. Succeeded not only in the financial sense, but also in terms of the technology used in mining. One such development was the creation of the detachable drill bit **by Charles Erikson.**

With previous drills, once the bit became dull, it was necessary for the entire drill rod to be carried to the surface, shaved down and sharpened. With the Erikson detachable bit, only the bit had to be carried up to the machine shop (located on the surface) and spare bits could be kept underground as needed. This made for much less weight being carried up in the hoist, and consequently more ore could be carried to the surface. The result was increased productivity.

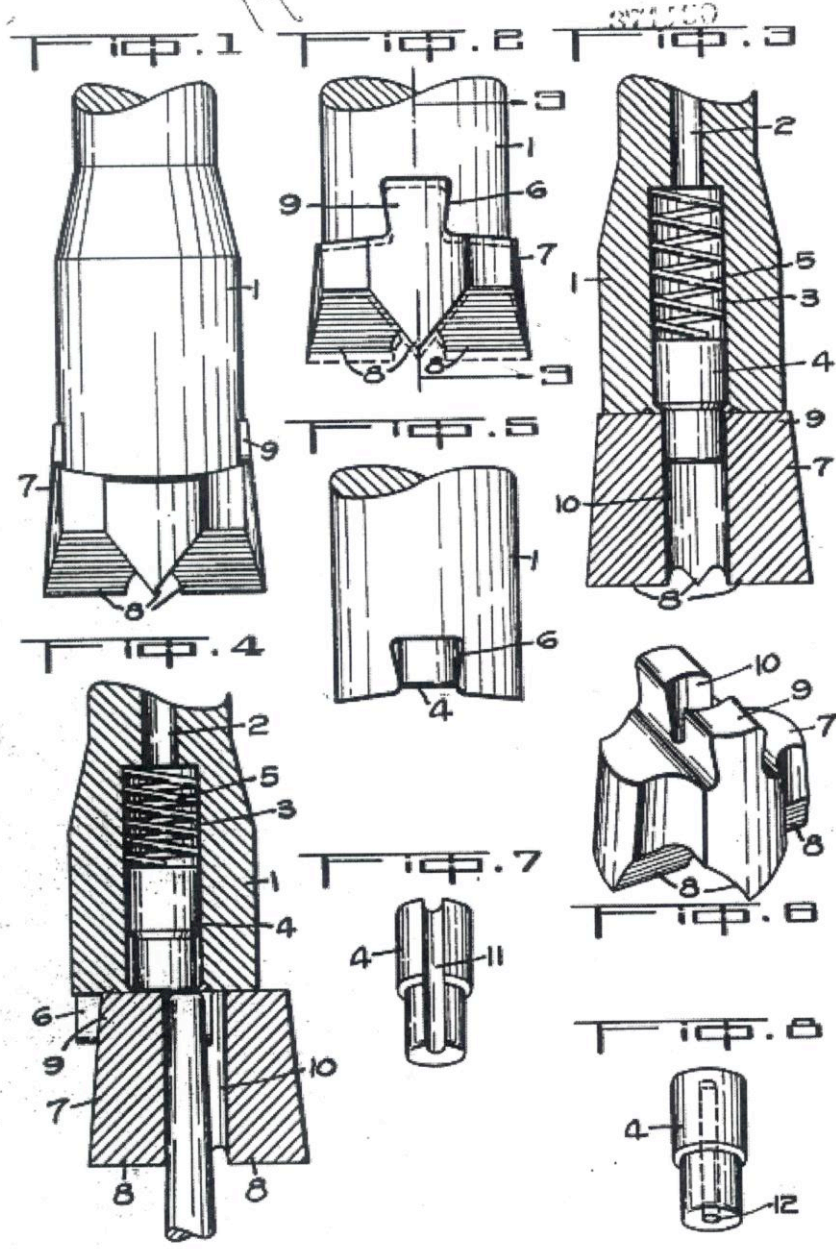
The Lake Shore engineers were ingenious as well as brilliant. They came up with a use for the bits that could no longer be sharpened. These were placed in a bucket in the No. 5 shaft, and were used as a counter-balance for the skip.

By 1938, all drill at the mine were using this type of bit, and its design was copied by mines all over the world.

V.F. Zate Shore

rechargeable Bit Rock Drills. 371190.

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Certified to be the drawing referred to in the specification hereunto annexed Hamilton, Ont. April 27, 1936.

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My invention relates to improvements in Detachable Bit Rock Drills and an object of the invention is to devise means incorporated in the rock drill of the construction described and claimed in my Canadian patent No. 329,376 which will render the latter susceptible for use as a starter drill to which it is not in its present form suitable.

A further object is to devise releasable means partly on the shank and partly on the bit for temporarily holding the latter substantially concentric with the former or, in other words, which will prevent free lateral movement of the bit on the shank without interfering with the limited longitudinal movement between these two parts.

And a still further object is to devise a connection between bit and shank having the above characteristics which can be actuated by a suitable punch or drift to release it.

My invention is particularly applicable to the construction of drill as set forth in the above referred to patent wherein a dovetail shaped portion or tongue on the bit is adapted to be received into a correspondingly shaped slot in the shank extremity. In the construction of such drill the bit is permitted free lateral and a limited longitudinal movement. Accordingly, it is insusceptible for use in commencing to drill a hole and a separate starter drill has to be employed initially. When the hole has been drilled to a depth of a few inches the drill of the construction set forth in my prior patent is substituted for the starter drill.

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