

**COAL DUST AS AN ELEMENT OF DANGER IN MINING; SHOWN BY
THE EXPLOSION IN THE ALBION MINES, NOV. 12, 1880. By
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A preliminary glance at the history of the Albion Mines, in Nova Scotia, will aid us to understand the part played by coal dust in spreading and augmenting the explosion that destroyed those mines less than a year ago.

The Main Seam is 37 feet 6 inches thick, and is highly bituminous. It has been continuously worked since 1807. The earliest workings were abandoned in 1839, on account of a fire that burned so fiercely as to melt the chains used in raising the coal-tubs. A new opening, the Bye Pit, was worked till 1863, when a fire occurred from a shot lighting gas, and the pit had to be closed up. The Foster Pit was next opened; but in 1869 spontaneous combustion of slack caused a fire which necessitated its abandonment.

At length the Foord Pit was won out, and with its improved machinery, was regarded as one of the best mining establishments in America. The ventilation was effected by a large Guibal fan, said to be capable of circulating 120,000 cubic feet of air per minute through the ramifications of the mine. The drawing shaft is 1,000 feet deep, and the workings extend 1,800 yards to the north, and 1,700 yards to the south, the galleries varying from 9 to 15 feet in height, being driven in the upper part, the lower being left for later operations. Shortly before the accident referred to, I went entirely through the colliery, in company with Mr. Edwin Gilpin, Inspector of Mines, and we remarked the perfection of the ventilation, which was then maintained through the south-side at the average rate of 25,000 feet per minute, and expelled the deleterious gases from even the remotest bords.

On the morning of the disaster the night watchman reported the mine to be free from gas, except in small and harmless quantities. From what source, then, originated the series of explosions that began, within an hour from the time this report of entire safety was made, and continued at intervals until the mine became a furnace, whose flames could be subdued only by emptying into its burning chambers the waters of the adjacent East River? Was there some sudden exudation of gas from the solid coal? Or was this explosion due to the firing of coal dust from the flame of a