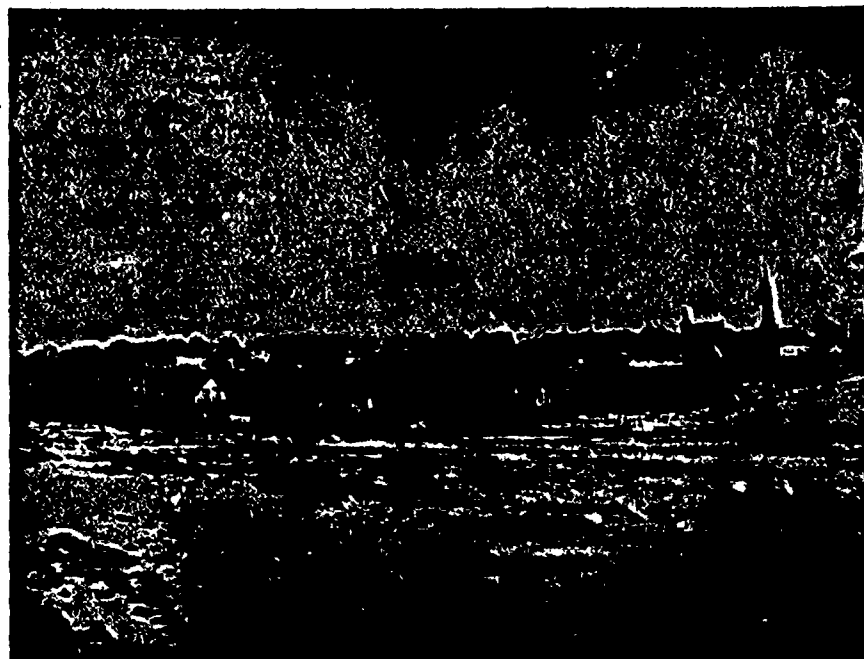


THE EAST SLOPE, SPRINGHILL COLLIERY—THE SCENE OF THE EXPLOSION.



THE TOWN OF SPRINGHILL FROM THE COLLIERY.

Our Portrait Gallery.

[A series of portraits and biographical sketches of Canadian mining engineers, mine managers, inspectors, geologists, explorers, etc.]

No. 10.

The Late Henry Swift, Underground Manager at Springhill Colliery—Killed February 21.

The late Henry Swift, Underground Manager of the Springhill Collieries, was born at Bickerstaffe, Lancashire, England, in 1850. He met his untimely death in the faithful discharge of his official duties by the colliery explosion on February 21st. By this terrible mining disaster, 124 of the men and boys employed in the pit at the time under Mr. Swift, were either killed by the explosion or suffocated by afterdamp.

Mr. Swift was a self made colliery manager. The chief industry of his birthplace was coal mining; his father was engaged in mining, and his death, when Henry was about eight years old, made it necessary that his sons should support their widowed mother. The opportunities of young Swift were limited. He attended, for a brief period, the National School at Bickerstaffe, where he obtained an elementary training, which developed within him a taste for knowledge that, in after years, he lost no opportunity of improving. At twelve years of age, he entered the employ of the Ramford Coal Company. This Company operated several collieries in Lancashire, leased from Lord Derby, father of Lord Stanley of Preston, Governor-General of Canada.

When about eighteen years old, Mr. Swift was employed as chain-runner in No. 10 shaft, which took fire. In this emergency he distinguished himself by his coolness and courage, in vain attempts to extinguish the fire. He stood at his post, up to his knees in water, till called out by the Inspector of Mines. One of the companions of his youth, Christopher Hargreaves, who was with him at the fire in No. 10 shaft, was also employed under Mr. Swift as underground manager in No. 2 slope at Springhill. They were firm friends, and to Mr. Hargreaves the REVIEW is indebted for these reminiscences of Mr. Swift's boyhood. For some time after this event, Mr. Swift was engaged in the sinking of shafts at various places, until, at the age of nineteen, he crossed the broad Atlantic to engage in mining on this continent. With several young companions he took passage on the steamship *City of Brooklyn* to New York. After their arrival they proceeded to Pennsylvania, where Mr. Swift worked as a miner in the anthracite mines. He soon tired of this, and removed to Maryland, and shortly afterwards to Pictou County, Nova Scotia. There he also worked as a miner for several years.

About 1874, Mr. Swift came to Springhill. He first worked as a miner, and then as a shiftman. He worked hard, and by dint of close application to details, mastered his business, and won the good opinion of his superiors. He was promoted to the position of overman, and had charge of No. 3 Slope. Next he was elevated to the position of underground manager under Mr. Hill, whom he succeeded in April, 1890. Mr. Swift was a plodding student, and was well read in mining subjects. His mining journals were preserved and substantially bound. He was eminently methodical and practical, and frequently contributed to the columns of mining journals. A posthumous letter from him signed "H. S." appeared in the March number of the *Colliery Engineer* relating the experience of a sulphur man with gas and damp. Mr. Swift was most active, and up to the time of his death spent the greater portion of his time underground every day.



THE LATE HENRY SWIFT, UNDERGROUND MANAGER AT SPRINGHILL.

Some idea of the responsibility devolving upon the manager of the Springhill Collieries—the largest in Canada—may be conveyed, when it is remembered that the daily output averaged 2,000 tons, and frequently exceeded that quantity. From 1,300 to 1,400 men and boys are employed. To superintend such extensive operations and control successfully such a small army of workmen, requires more than ordinary administrative ability.

Mr. Swift manifested a deep interest in the welfare of his workmen, and was ever ready to lend a helping hand to an ambitious young man. A few days before his death, he presented to the library of the Miners' Lodge a number of books on ventilation, the nature of gases, and other subjects of interest to the men. When the Board of Examiners for Colliery Officials was established, Mr. Swift was one of the first to apply for a certificate of competency as underground manager, which he obtained after a most satisfactory examination. He was recently elected Vice-President of the Nova Scotia Institute of Mine Officials.

Mr. Swift was married at the Albion Mines, N.S., in 1871, to Miss McLeod. His wife and five children survive him. He was a member of the Masonic order, by whom he was buried with impressive rites. Mr. Swift was a member of the Presbyterian church, and for many years was secretary of the congregation. He was appointed a Justice of the Peace by the Provincial Government about ten years ago. He took an active part in the formation of a Relief Fund for the benefit of sick and injured workmen, of which society he was president. He was a man of broad sympathies, and though he led a busy life, did what he could for those who were unfortunate. His untimely death is deeply mourned by his employers, whom he faithfully served, and by many who esteemed him highly as a warm hearted friend.

The Prussian Fire-damp Commission.

Following is a summary of the report of this Commission, which was appointed to enquire into the causes of mine explosions, more particularly in regard to the explosiveness of coal dust:—

Results of the Neunkirchen Experiments.—Contrary to the English and French experiments, which had only been carried out in narrow tubes or pipes, the German Commission made an endeavor to effect its experiments under circumstances analogous to the practical working of the mine. The seat of the experiments was a horizontal gallery, 51m. in length, 1.72m. in height and 1.20m. in breadth. The middle of the gallery was improved by elliptical iron bands and lined inside with wood; one end of it terminated in a solid mass of masonry, and the other extremity remained open. A small perpendicular gallery of the same transverse dimensions was afterwards added, for the carrying out of a few isolated experiments. Inside the masonry were carefully laid in different directions seven cast iron pipes, and a captive blower in the Koenig mine furnished the natural gas which was required either in a pure or in a mixed state. In proportion as the experiments advanced fresh questions presented themselves, so that at the conclusion of its labours the Commission was still unable to pronounce definitely on all points; nevertheless, certain essential conclusions were established with sufficient clearness to allow of a solution of the principal question, and the way pointed out which must be followed in subsequent experiments that may be undertaken to set at rest still remaining difficulties. The principal results of the Neunkirchen experiments have been summarised in the following manner:—

1. With ordinary air all coal dusts are absolutely without danger in presence of a naked light. This harmless-ness still remains, even with 4 per cent. of CH_4 in the atmosphere, although if the coal dust be raised in clouds a considerable elongation of the flame is perceptible. With more than 4.5 per cent. of CH_4 , and with certain sorts of dust, the presence of a naked light causes an explosion; and with 5 per cent. of CH_4 , the explosions are incomparably more violent than with 6 per cent. of CH_4 , without dust.

2. In an atmosphere free from gas, the firing of a gun, charged with ordinary gunpowder (230 grammes) and with a tamping of clay, produced a length of flame from 3 to 4 m.; with a tamping of a mixture of rock and coal dust the flame increased to 5 m. in length, and with a tamping exclusively of coal dust from 9.50 m. to 16 m., according to the quantity of coal used. The nature of the coal dust appeared to have but little influence on the length of the flame.

3. The presence of coal dust within the radius of an explosion greatly increases the force of it, and with certain sorts of dust an explosion may result even in the absence of firedamp. The coal dust found in closest proximity to the flame showed particles of coke on its surface, and sometimes cakes of coke, whilst the amount of volatile gases in the coal dust was greatly diminished. The degrees of fineness of the chemical composition of the coal make themselves felt in a remarkable manner, and during the experiments it was found that (a) coals containing less than 10 per cent. of volatile matter are almost entirely free from danger, and elongate the flame but a very few metres; (b) coals consuming from 10 to 16 per cent. of volatile matter elongate the flame to 25 metres and perhaps further; (c) smith coal, containing from 16 to 24 per cent. of volatile matter, resulted in a flame, which in the gallery, extended as far as the coal dust had been scattered, and caused an explosion, provided the dust contained a sufficient amount of gas; (d) gas coal, containing from 24 to 32 per cent. of