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FOR THE CANADIAN ENGINEER.

DOWN IN A BELGIAN COAL MINE.

BY B. LIPPEENS, MONTREAL.

The subject of my sketch is a mine situate at Murchiennes, near Charleroy, Belgium, and is reputed to be one of the deepest and most extensive in Europe. The first things that engaged my attention on approaching the colliery were the large heaps of coal lying along a canal, and a railroad near which a number of men were engaged in loading railway cars and small vessels. Near the pit or shaft (of which I will speak further on) were large sheds where the coal was unloaded as it came out of the mine. It was brought there by small cars called by the miners *berlaines* or *brouettes* and running on rails of about three feet wide. They were drawn or pushed by women and children, who had also to pick out carefully the stones that were mixed with the coal which they unloaded.

The opening by which one goes into a mine is called the *shaft*: it is generally *vertical*, but sometimes also on an inclined plane. When it is straight down it is generally ten or twelve feet square. Along the shaft there is a large, massive wooden scaffolding or brick building, which supports a strong pulley of two or three feet diameter. On this pulley is rolled a cable or iron chain, by means of which men, coal and everything else are brought up or let down. The pulley is put in motion by a powerful steam engine erected near the *pit*, and is also used to pump out the water from the bottom of the mine, and, by means of a force-pump, to give a continual supply of fresh air to places where the colliers are at work. For that purpose there are tubes communicating with the bottom of the mine. In some places the chain or cable is rolled up on a roller or axle.

I tried to have a look into the shaft, and as I was

afraid of becoming giddy I told my friends to hold me by the skirt of my coat, but I saw nothing before me but darkness.

"How deep is that dark hole?" asked I.

"The lowest part, which you will visit with me," said our guide, "is three thousand feet below the surface of the ground."

"Are there ever any visitors?" asked my friend, who at the last moment durst not go down.

"Very often," was the answer, "but they are sometimes suddenly attacked by heavy cramps or headaches which force them to put off their visit to a morrow which never comes."

Then we saw coal brought up by the cable. To make up each *load* or charge there were seven or eight *wagons* full of coal. The wagons were placed in a sort of iron cage, one in each, and afterwards put on the railway tracks of which I spoke before. In some mines coal is brought up in *tubs*, called *kibbles*, which are emptied or put on *trucks* as they run on the surface. Before the invention of steam engines, horses had to draw up coal in baskets, and the colliers went down by ladders, a very fatiguing and still more dangerous method.

"Does that cable never break?" was another question of ours.

"Well, sometimes!"

"There must be a great smash-up in such a case."

"Of course there is."

It was then six o'clock in the afternoon. We heard a bell ringing, and saw a crowd of workmen who had arrived to go down for their day's work. Each miner had a lamp of a very peculiar form, of which I will say a few words while speaking of explosions of fire-damp. The same cages which are used to carry up and down the coal cars are also used to transport people. Each cage contains four persons, and they let down from thirty to forty at one descent. The workers took their places, talking and laughing; they go down every day and are not in the least impressed by it. Before starting, the cages are provided with a sort of spring, which has the effect of preventing the cages from tumbling down, in case the cable should break. They only put it on when people are going up or down. A signal system of electric bells (which is now in some mines replaced by the telephone) announced that *all was right*, the engine whistled, the pulley turned and the men disappeared. During a few minutes the cable moved on very rapidly, and then we saw the underground cages come up, also loaded with people who were going home after a day's labor. There was some difference between the color of the latter and the former, and that circumstance did not please us altogether, for we saw that if we went down we were going to be turned into blackies the next day. Formerly, colliers stayed sometimes for weeks and even for months in the mine, but now they come up every day in most places. Work goes on all the time, day and night, except on Sundays, and in those abysses there is no difference between night and day.

The next morning, at seven, we were at our post,