

The Mining Journal

October 7th, 1876.

Page 1095 Col.1, middle.

PATELEY BRIDGE. C. Williams, Oct. 5th.

The Lumb Vein going east, in the south crosscut in the 10, is at present narrow, being 3ft wide, composed of gossan, barytes and intermixed throughout with lead ore; worth of the latter £10/fm. We think it will soon open out again. The winze sinking under this drivage we have been obliged to suspend on account of bad ventilation, being unsafe to work in, and we have placed the men to drive west, where the ore is opening out well, and worth for lead ore about £20/fm.

Fielding's Vein, going north-west from the east crosscut in the 20, is at present of no value. We think that a part of the vein is standing east, and to prove this we have put the men to open in that direction. The vein in the rise over this level is 3ft wide and producing 16cwts of lead ore/fm and likely to improve. The south crosscut in the 20 west, to cut the Lumb Vein, is being prosecuted night and day by eight men. The ground in the end is rather hard and firm in the limestone rock. The men are making fair progress; let for the month, or to cut the vein at 110s/fm.

Engine Shaft, the north-west crosscut in the bottom of this shaft to cut the bed of ore and Rake Vein is going on favourably, and I have every confidence in a great and valuable discovery of lead ore when the bed is intersected, which will take us about two months time to reach, and we have every reason to believe that the Rake Vein will be found productive at this point. The tribute pitches produced 17 bings 6 cwts (7.1 tons) of lead ore last month at an average price of 41s/bing or £5 2s 6d per ton.

Machinery all in good repair, and working well. The dressing of ore is going on as usual.

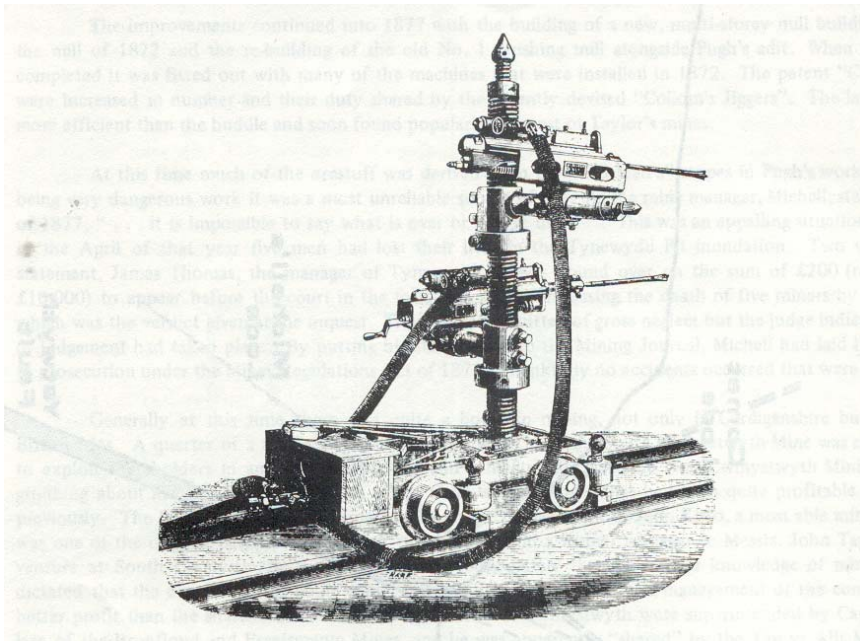
The Mining Journal

14th October 1876

The "Champion" Rock Borers and Air Compressing Machinery at the Cwmystwyth Mine

There is little doubt that efficient rock borers are in every way calculated to aid the miner, and to assist in developing valuable mines in the quickest and cheapest manner possible, and while discussion and newspaper correspondence are taking place, and subscriptions are being solicited with reference to the introduction of rock borers in Cornwall, they are being gradually introduced in other parts of the country, where their utility is already appreciated. It will, doubtless, be interesting to our readers to have a brief description of the rock boring and air compressing machinery lately erected for Messrs. John Taylor and Sons, at the Cwmystwyth Mine, by Messrs. Ullathorne and Company, of 63, Queen Victoria Street, London, the proprietors of the "Champion" rock borer.

The illustration represents two of their rock borers mounted on a very complete and adjustable carriage, specially designed and supplied by them for driving levels. It will be noticed that by means of the moveable arms on the carriage, and the universal clamps on the arms, the



rock borers may be directed and fixed to bore at any point, and in any direction, to suit the wants of the miner, so that much time may be saved by boring a number of holes, without moving the carriage, after it is once secured in position. To the back of the carriage is fixed a convenient tool-box, and a pressure gauge is provided, so that the precise pressure of air driving the rock borers may always be known. A small jet of water at a high pressure is directed into the holes as they are being bored.

The rock borers possess the great advantage of being able to be worked with a very low pressure of air, and a pressure of only 35lbs to the square inch will enable them to bore a 1¼ inch hole with great rapidity. They weigh only 1¼ cwt each, and are short and handy. Each rock borer is provided with a perfect self-acting feed (readily put in or out of gear), which causes it to be steadily wound forward in its jacket accurately in proportion as the steel drill penetrates the rock, without dependence on the skill of the attendant. By means of this automatic feed much greater speed is attained, and it allows the attendant to give a general supervision to the

machines and carriage, and to see that everything is working properly, which he could not do satisfactorily if he had to be winding forward by hand. Anyone who has practically worked a rock borer with a perfect automatic feed will appreciate its great advantage. The rotation of the steel drill also is automatic, so that perfectly round holes are ensured, and there is no undue wear on the steel. Considering the completeness in all the details of the rock borers, they are wonderfully compact and simple, and being specially constructed with a view to durability, there is little danger of breakage or derangement, while the wear is reduced to a minimum.

The rock borers are driven by air conveyed into the workings in wrought-iron pipes. The air is compressed by means of two double acting air compressors, driven by a thoroughly simple and efficient water-pressure engine, all compactly arranged on one bed plate, occupying a space of only 9ft 6ins by 6ft, and erected near the mouth of the adit. This arrangement was suggested by Messrs John Taylor and Sons, to take advantage of the water supply. The head of water driving the engine is about 250ft; the water is obtained from a small lake above the mine, and is conveyed down the side of the mountain in cast-iron pipes. The air compressors, of simple and durable construction, supply an ample quantity of air to drive four rock borers. The engine has been driven at 120 revolutions per minute, but this speed is unnecessary. All the machinery is working admirably; it has been inspected by Mr Taylor, who is highly satisfied with it, and we are informed that Messrs Ullathorne and Company have since received an order for more rock borers to be used in the same mine.

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October 14th, 1876.

Page 1122 Col. 3, bottom.

PATELEY BRIDGE. C. Williams, Oct. 12th.

The Lumb Vein going east in the south crosscut, in the 10, has improved; we found another division of it standing south, which is very productive for ore. The width of the vein altogether at this point is from 8 to 9ft, and producing 2 tons of lead ore per fathom, an exceedingly fine looking vein. The same vein going west is 8ft wide, consisting of fine gossan, barytes, carbonate of lead, and blue ore, altogether worth £20/fm. I have no doubt that when this fine vein is tapped by the south crosscut in the 20 we shall find it very productive, and regular profitable returns will be the result.

In Fielding's Vein going north-west from the east crosscut, in the 20, we are still crosscutting east; the ground is highly mineralised containing small branches of spar, spotted with ore, and I am daily expecting a good discovery of lead being made. The vein in the rise over this level is 3 feet and producing one ton of lead ore per fathom and likely to improve further. The south crosscut, in the 20 west, to cut the Lumb Vein, is without any material change; the ground is hard and spare for driving.

Engine Shaft: the north-west crosscut from the bottom of this shaft is being pushed forward vigorously, and the ground now in the forebreast is a little easier to work and the men are making better progress.

Dressing is going on steadily, machinery all in fair state of repair, and working satisfactorily.

The Mining Journal

October 21st. 1876.

Page 1151 Col. 1, middle.

PATELEY BRIDGE. C. Williams, Oct. 19th.

The Lumb Vein going east, from the south crosscut, in the 10 is 8ft wide, and producing about 25 cwts of lead ore per fathom. The same vein going west is worth 30 cwts of lead ore per fathom and likely to become more productive.

Fielding's Vein in the roof over the north-west drivage, is 3ft wide and worth 20 cwts of lead ore per fathom. In the south crosscut in the 20 west, to cut Lumb Vein, the ground is still hard. which renders progress slow. The north-west crosscut, from the bottom of Engine Shaft, to cut Rake Vein, is being pushed forward as fast as the nature of the ground will permit.

We have sufficient ore dressed to produce 15 tons of pig lead.

The Mining Journal

October 28th, 1876.

Page 1178 Col. 3, middle.

PATELEY BRIDGE. C. Williams, Oct. 23rd.

The Lumb Vein going east, from the south crosscut, in the 10, is 8ft wide, consisting of gossan, barytes, and lead ore, producing of the latter 25 cwts per fathom. The same vein going west is 6ft wide, yielding 30 cwts of lead ore per fathom.

Fielding's Vein, in the back over the north-west drivage, is producing 20 cwts of lead ore per fathom. In the south crosscut in the 20 west, to cut Lumb Vein, we have cut several branches of spar showing spots of rich ore, which I consider a good indication for speedily cutting the vein. In the north-west crosscut, in the bottom of Engine Shaft, the ground is becoming more congenial as we approach the vein, and showing every indication that we are nearing a rich and profitable body of ore.

I again most strongly recommend to resume the sinking of the shaft under Gillfield Level, on the Sun Vein, which carried out cannot fail to become a permanent and profitable piece of mining ground, and will repay the shareholders for their outlay. We resumed smelting yesterday.