

3C Henry Dennis

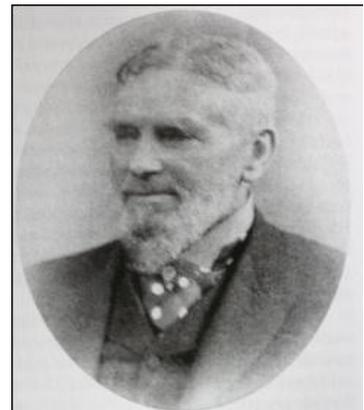
Background to Dennis' Tale

- A mining engineer and businessman from Ruabon in Wales
- Appointed in 1870 to run Snailbeach Mine, and remained in Ruabon from where he ran his businesses.
- Spent £10,000 on modernising the mine, including building the Compressor House, winders, and ore dressing machinery.
- The reservoir was constructed to provide a reliable water supply for ore dressing.
- Built the Snailbeach and District Railway.

Dennis' contribution to Snailbeach is somewhat mixed. We have the legacy of some magnificent ruined buildings, but the mine and railway lost money. This story is told by two people, Henry Dennis and someone working at Snailbeach who is not impressed with the changes.

Henry Dennis' Tale

My name is Henry Dennis, and I am a mining engineer based at Ruabon in Wales. I was appointed to run Snailbeach Mine in 1870. I didn't move to Snailbeach, because I have other mines to run as well. We were known to be an experienced mining firm, and we were coming to a mine which had already been worked for over a century. All the lead close to the surface had been worked out. But this mine still had enough lead to make it worth investing. If we were to prosper we needed to invest in new technology and go deeper. So the great buildings you see today were erected in my time.



Things have changed here, and we have mechanised the mine. We have far fewer workers, both in the mine and on the surface, but they still extract a lot of ore.

The first thing I did was what you see on George's Shaft. Men used to get to work by climbing down ladders. I put in the winding house so that men were wound up and down by lift. It saved them time, and we got more work done. You can't expect men to work a full day if they spend all their time on the ladders.

Pride of place in our mechanisation programme goes to this handsome compressor house. You can see from the date on the chimney that this was built in 1881. This huge building housed the machinery to produce compressed air, which was then taken in pipes down to the mine. The great invention which you can see everywhere used when roads are being repaired is the pneumatic drill. Instead of having a man bashing a hammer to drill holes, the work is done for him. It's at least 20 times faster than drilling by hand. This saves on wages underground and it increases productivity. It is also hugely efficient in the way that it uses power. The drill only works when the man puts his weight behind it. Then the compressed air drives the bit forward, a spring pushes it back, and you get that terrible noise as it rattles away perhaps 200 times a minute. But stop pushing, and nothing

happens, it's safe. And when it's not being used, air pressure is building up ready for the next stroke. As well as the drills, the compressed air can drive machinery, pumps, fans, anything a mine needs.

Now we have new machinery for sorting the ore. In the old days this was a job done by women and girls, but we don't have them here now. It was terribly degrading work for women. It was cold in winter. It was heavy. They had to smash up the ore with hammers and make sure they only gave us pure Galena, pure lead ore. Everything else was thrown away, and of course they missed a lot of lead. Today we sort the ore by machine. First it goes into a steam driven crusher, to get all the material down to size. Next it is sorted automatically in buddles, where the heavy ore remains behind and the lighter minerals are washed out.

All this needs a reliable water supply, so we have a new reservoir up the valley to make sure production isn't interrupted.

The Opposition – call him Fred Jarvis

You can admire these great buildings, which are the remains of vastly expensive investment in 1881. Just look at this Compressor House! It looks more like a chapel than an industrial building. Maybe Mr. Dennis worshipped his machinery. But it was all a huge waste. Here's the date, 1881. There was a huge demand for lead, make no mistake. We needed more every year. But men had been searching all over the world for lead, and new mines were coming into production. They were in Spain, in Brazil, in South Africa. They were in places that had never been touched before and the lead was plentiful. Suddenly, from having a shortage, there was too much. The world price of lead collapsed in 1884, so these improvements at Snailbeach Mine never really paid for themselves. At the time it was doubtful whether they were sensible. The Compressor House illustrates the problem best. In the 1860s mechanical boring of shot holes was tested in Cornwall. At first the drills were too small and light to get through Cornish granite, but eventually they produced stronger drills and they needed them to go deeper and faster than before to keep the mines competitive. Using compressed air, drilling was three to four times faster than drilling by hand. Now this sounds great, but it costs exactly the same, because you have to pay for the drills, the pipes, the compressor house the machinery and all the coal to power it.

Henry Dennis

Your figures are all out of date. A new report in 1878 demonstrated that mechanical drilling was now economic. A level could be driven at a speed of 18 metres a month at a cost of £9 per metre. Hand drilling would get you just three metres a month and cost £14 per metre.

Mechanical drilling is six times as fast and two thirds of the cost per metre of hand drilling. With mechanised drills we could use dynamite instead of gunpowder, as it is six times more powerful, and needs smaller hole.

There wasn't any choice. This was the only way to find and mine more lead. We had to invest. We had to move forward: mechanical drilling and dynamite, that's the way.

The Opposition – Fred Jarvis

We don't want dynamite. It is unreliable when it gets frozen in winter, and it suffers more from the damp than gunpowder. We know gunpowder. People have used it for centuries. We know how to use it safely. These new high explosives have caused more accidents. Occasionally the charge

doesn't blow up. You go back and start drilling and we've had two fatal accidents from this in just four years since we started mechanical drilling with dynamite.

Henry Dennis

Yes, there have been these accidents, but no proper record was made in the past, so we don't know how things compare. It takes time to get used to new drills and explosives, and we've put safe working practices in place.

Remember, we had no choice about new methods. This mine had been worked successfully for 100 years. Anything easy to extract has been taken. We know the limits of the lead. It may be the richest ground per acre for lead in the country, but the area is very small. Go up the valley to the Earl of Tankerville's land and there is nothing in the quartzites.

Now look in the other direction. Some people tried to cash in on the Snailbeach name and started a company they called 'Central Snailbeach'. They started a company and wasted £20,000 in exploration. All they proved was that there isn't any lead west of here, and they wasted every penny.

No, this is where we find lead. To get more lead we have to go deeper. We have to drill faster to find new reserves. If we can't maintain the pace of exploration we shall be finished within a couple of years. The only way to find lead will be to go deeper. We will need to go down to 500 metres below the surface. We can't do that without power.

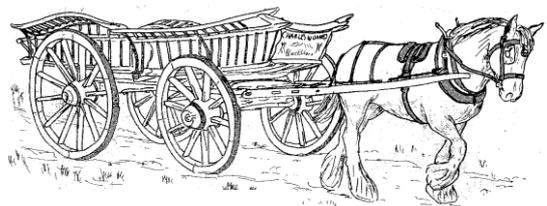
We have one of the most famous mines in the country. To maintain this we need to be forward looking. We have given our shareholders a good return ever since last century, and if the price of lead holds, I can't see us going wrong. We know the lead is there for the taking. We have a responsibility to our shareholders, to the company, and indeed to our loyal workforce to keep going. Some of our miners have been with us for three or four generations. This is very unusual in mining. Most mines are worked out in 20 years. Few go beyond 50. But Snailbeach is the best mine in the country and I intend to keep it that way.

I've surveyed the course for a railway down to Pontesbury, and we will then be able to get all the coal we need for the new plant, as well as taking the lead away at lower cost. I know about mines. I run lots of them from my office in Ruabon in Wales, and this is one of the best.

This is the only lead mine in the area that was profitable enough to finance the building of a railway. I surveyed the line and it has a steep gradient up from Pontesbury to the mine. With this we can also take the ore from Tankerville, Pennerley and Bog Mines. If we find it profitable we'll be extending the railway up there as well. What do you think of that?

Wagoner's Story – Fred Jarvis again

I used to work here with my wagon and horse, taking the lead to the railway, and bringing back coal for the boilers at the mine. I don't know why they wanted a railway. We've always done the work, and there were no complaints. A good horse can pull a ton and a half down the hill to Pontesbury, and a ton back up the hill to the mine. That ought to be enough. We used to produce 3,000 tons of lead a year. It



sounds a lot if you put it all together. But there are a lot of working days in a year. Let's make it simple: fifty weeks, six days a week, and that's 300 working days. You don't have to work on Sundays, and if the weather's bad in winter, you can miss a day or two. Now this is easy – one ton a load, 3,000 tons a year, 300 working days. That's just ten wagon loads a day. It's four miles each way so we can do it twice in winter and three times in summer if there's plenty of ore. Who needs a railway? All you need is a good horse.

And there's no risk. I supply the horse. I supply the wagon. All the mine does is pay for transport – 5 percent of the value of the load. Everyone knows where they stand. A lot better business than railways.

Now, this railway needs capital. It needs money, and shares, and a new company to run it, and accountants and lawyers and an act of parliament to let them build it. Then there's a surveyor for the line, navvies to level the route, plate layers to put in the track, engines and wagons to buy. It will cost a fortune and everyone wants their money back double quick, so it really won't be any cheaper.

Henry Dennis

Well, I've convinced the shareholders, and I've surveyed the line. We got the Act of Parliament and the railway is built. I can't see why the Welsh mines have railways and we don't. It makes it look as though we aren't a serious, forward looking business.

Fred Jarvis

£20,000 for three miles of railway? Well, I'll tell you what happened. The price of lead fell, and all the mining companies collapsed. Henry Dennis stopped being mine manager in 1881, but they just kept him on as agent. By 1884 the mine made a loss and mine and railway closed. Henry Dennis didn't lose out, though. He just borrowed the railway engines from Snailbeach to run another of his railways in Wales. They eventually restructured the company and started working again. But there wasn't any money in lead any more, and there wasn't the money to maintain the railway. It gradually died away. But Henry Dennis did all right. He made his fortune with a brick company in Ruabon.

Henry Dennis

May I have the last word? It's 1900. I'm still agent and have kept Snailbeach going for over 30 years. It may not produce as much as it did, but we got £14,000 worth of Galena this year, and sold 2,000 tons of Barytes. I'm about to retire and leave the business to my son. Snailbeach is the only lead mine in the whole of Shropshire today, and I've kept it going. Tell that to the shareholders. Tell it to the Marquis of Bath. The mine still makes a profit, and it will if the price holds up.