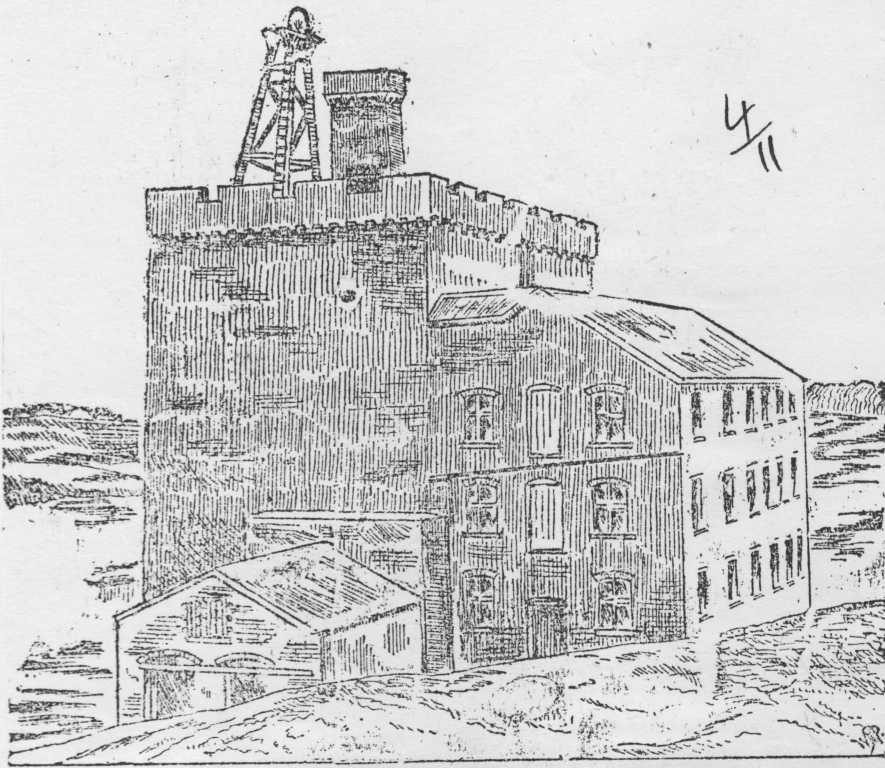


Aberthaw Pebble Lime Works.



VIEW OF THE WORKS FROM THE LANDWARD SIDE.

OPENING CEREMONY.

[BY OUR SPECIAL REPORTER.]

It is a pleasure in chronicling the inauguration of a new industry in South Wales, which means, not only great things for the district immediately concerned, but for an infinitely wider sphere, the bounds of which can scarcely be defined. Wherever building operations are carried on, there in future years will the effect be felt, for the industry whose birth it is our duty to chronicle is nothing less than the manufacture of the noted Aberthaw lime, an invaluable material, of which powerful Governments have been eager to avail themselves, to which in a very great measure they have entrusted the weal or woe of their defences, and by which they have arrived nearer the desideratum of impregnability than otherwise would have been possible. Aberthaw has always had a name for its lime, but too frequently it has been illegitimately traded upon. Recently, however, large works have been erected on the eastern shore of Aberthaw harbour, and close to the spot where the superb pebble limestone from which Aberthaw lime is made is found at its best. Fittingly to celebrate the opening of these fine works, replete with every requisite, a party of gentlemen left the Royal Hotel on a fine breezy morning in carriages well-horsed and under a capital whip. The party included the mayor of Cardiff (Mr. David Jones), Alderman Waring, Councillor R. Price, Mr. Lascelles Carr, Mr. H. Mackenzie Thomas, Mr. J. E. Gunn, Mr. J. Allen, Mr. L. M. Thomas, Mr. W. E. Bell, Mr. E. Raymond Lewis, and Mr. J. C. Pearson. Leaving the Royal Hotel about eleven o'clock, the amenities of the road were duly observed by a brief stoppage at the Old Post, whence the party proceeded through St. Nicholas and Bonvilstone direct to Aberthaw, where a large party from Cowbridge, headed by the mayor of that time-honoured borough (Mr. Thomas Rees), had preceded them. This party embraced Mr. Daniel Owen, Ash Hall; Dr. Naunton Davies, Bridgend (the medical officer appointed for the works); Mr. John Thomas, Cowbridge; Mr. H. V. Huntley, St. Donat's; Mr. William Mathias, Ynysuir; Mr. Oscar Hurford,

and is pumped into tanks at the works by a water-wheel, which in former times was the motive power of a grist mill.

CONGRATULATORY DINNER.

SPEECHES BY THE MAYORS OF CARDIFF AND COWBRIDGE, SIR MORGAN MORGAN MR. O. H. JONES, MR. DANIEL OWEN, AND MR. LASCELLES CARR.

After inspecting the works, the company adjourned to the offices of the directors and manager, where a cold collation was served, under the superintendence of Mr. E. Burkhardt, of the Royal Hotel, Cardiff. Mr. F. G. Griffiths, chairman of the board of directors, presided, and was supported on his right and left by the mayors of Cardiff and Cowbridge.

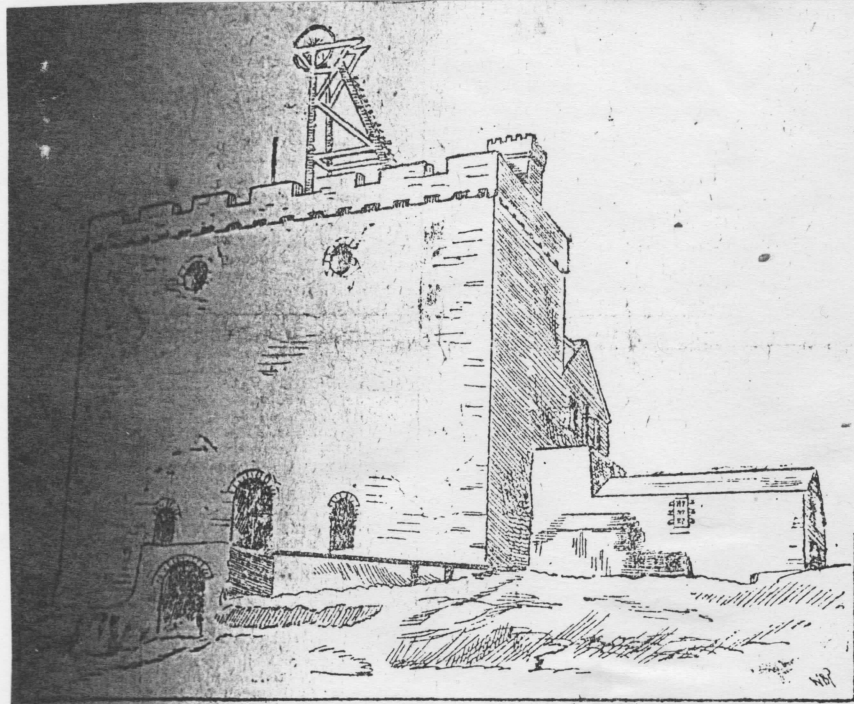
The CHAIRMAN having given the usual loyal toasts, which were duly honoured,

The MAYOR OF CARDIFF (Mr. D. Jones) gave the toast of "Prosperity to the Aberthaw Pebble Lime Company." They were all anxious, he said, that the company should succeed in the speculation upon which they had entered. (Hear, hear.) That some works of the kind inaugurated that day were necessary was apparent to all who had had anything to do with lime. His own experience was that if there had been more accommodation in the way of kilns lime would have been, he would not say less good in quality, but obtainable at a much cheaper rate. (Hear, hear.) Some years ago they were able to get a cartload of lime, weighing generally 22cwt., for 5s. 6d. Then times of prosperity came, coal advanced in price by leaps and bounds, and lime went up to something like 8s. per ton. In course of time depression followed, and coal and labour went down, but the price of lime remained as it was. And it was likely to stay at the same rate unless gentlemen came forward who were willing to invest their money in the construction of limeworks such as they had at Aberthaw, and so enable builders to get, not only a better material than they could at present, but at a lower price. On coming there that day he was surprised to see the compactness with which their buildings had been constructed, as well as the eligibility of the site. They had the pebbles on the shore, a tramway for their conveyance to the buildings, and hoists for elevating the pebbles into the kilns, whence they passed into the grinding machines, and came out as manufactured lime ready for embarkation. The only drawback at present

not only in starting the works, but with reference to the projected line of railway. (Hear, hear.) Mr. Owen had been negotiating the matter for years, and now that they had got the Mayor of Cowbridge and other influential gentlemen supporting them, he (the speaker) had no doubt of their ultimate success. (Applause.) They did not anticipate any opposition to the railway scheme. The Taff Vale Company were disposed to help them, and he (the speaker) hoped and believed that in eighteen months' time they would have the railway completed down to the works. That would be a great advantage to the whole district round about. (Applause.)

Mr. DANIEL OWEN said that, although born within ten or twelve miles of Aberthaw, he was a hundred miles from it when he first heard of Aberthaw lime. That was now nearly 30 years ago, when he was dining with the late Alderman Wood, then mayor of Worcester. That gentleman then told him "There is a lime in your district which is superior to any cement in the world." (Applause.) He (Mr. Owen) had learned a good deal since then about the Aberthaw lime, and he had everywhere been told that it was undoubtedly the best in the whole world. (Applause.) The next best was the blue Lias formation at Lyme Regis; that was 30 per cent. inferior in quality to the Aberthaw. (Applause.) The late Alderman Wood also told him that all the Russian fortifications in the Black Sea were built of the Aberthaw lime; and as Alderman Wood was a thoroughly practical man, being a large contractor and builder employing some 800 or 900 people, his opinion was very valuable. (Hear, hear.) He (Mr. Owen) had for years been trying to forward these schemes. Seven or eight years ago Mr. Lascelles Carr, Mr. Stephen Collier, and he visited Captain Thomas, of the Ocean House, the subject, but nothing came of it. They were with so much discouragement at first that almost gave the thing up. Last year, however, negotiations were renewed. He received a letter from a gentleman which began thus: "I have Aberthaw lime on the brain. Will you assist me?" And the result they saw that day in those magnificent works, which were built on the most scientific principles and were supplied with the best plant and machinery that could be got. They were second to none, as limeworks, in the world. (Hear, hear.) He thought it only right to add that the credit of designing the works and their construction was entirely due to their managing director, Mr. Stephen Collier. (Applause.) Valuable assistance, too, had been received from their worthy chairman. If the latter gentleman had taken to the profession, the speaker had no the slightest doubt that he would have been a prominent engineer. (Applause.) Passing on Mr. Owen said that he believed the erection of these works was only the beginning of a great future for this part of the Vale of Glamorgan. (Hear, hear.) Other schemes were in contemplation, and he had no doubt, but that they would be carried out. (Renewed applause.) He had advocated the extension of the Cowbridge line to Aberthaw for six or seven years; he had waited upon the Taff Vale Railway officials time after time, but though they approved of the scheme they declined to move in the matter. Eventually, however, Sir M. Morgan and himself put their heads together, and subsequently applied their shoulders to the wheel, and they meant to keep their shoulders there until the whole scheme was brought to a successful completion. (Loud applause.)

Mr. STEPHEN COLLIER, jun., in response, said it would appear to them that the wonder was not that they were there to inaugurate the opening of those important works, but that the wealth which had been accumulating there for so many hundreds of years had not before been discovered and utilised in a proper manner. (Hear, hear.) Probably few people could realise what they had seen that day. He alluded, of course, to the banks of pebbles which fringed the Channel in this locality, and the like of which could not be seen in any other part of the world. The impression generally prevailed that the pebbles on this coast came from the cliffs which girt the sea between Dunraven Castle and Barry, but there could be no difficulty in proving the contrary. The bed of the Channel, so far as the tides allowed, was of absolute proof, was composed of nodules of Lias limestone embedded in clay, and the nature of the anchorage outside had established the belief that a similar bottom covered an area of many square miles. But, of course, the bed of the sea at that depth was not subject to the influences which render the locality of Aberthaw so scientifically noted. To prove his contention, that the pebbles were not sections of disjointed cliff licked into shape by the abrading action of the tides, he would ask them to visit a gang of men on the beach a day or two before a vessel was expected to come to load. They would see those men employed in digging up the boulders of Lias stone, which were found firmly embedded in the clay. A swelling from a tide of two was all the benefit they derived from the sea



THE WORKS AS SEEN FROM THE SEA.

Mr. John Bailey, Somerset; Mr. John Bailey, Cardiff; Mr. John Griffith, Llan-
 John; Mr. Thomas Matthews, Fontygary;
 Mr. Allen, Cardiff; Mr. Lewis Jones,
 Mr. Daniel Gibby, merchant, Cow-
 bridge; Mr. Griffiths, West-place, Coity; Captain
 Owen House, The Leys, &c. From Aber-
 thaw were present Mr. Wm. Thomas, Mr. J.
 J. Lougher, and Mr. L. Lyscombe.
 Mr. O. H. Jones, of Fonnion Castle,
 was present. Arrived at the works,
 they were cordially received by Mr.
 Griffith, chairman of the board of
 directors, and Mr. Stephen Collier, jun., managing
 agent of the new undertaking, under whose
 direction they viewed the whole of the works, with
 its machinery, and tramways.

The kilns are contained in a rectangular
 building 60ft. long, 30ft. wide, and 65ft. high.
 At the time of its inspection contained
 200 tons of pebbles in the process
 of calcination, the heat from which was
 so great as to be felt through the 8ft.
 thickness of which the walls were composed.
 The kiln had occupied about two months,
 and was having to be taken to prevent expansion
 and consequent cracking of the masonry. Internally
 the kiln is egg-shaped, the diameter in the
 middle being 18ft., tapering at each end
 to 14ft., and are computed to yield 40 tons
 of manufactured lime. They are,
 of course, lined with fire-brick. The method
 adopted in hauling the trams of pebbles from the
 banks, or rather from the pebble banks, to the kilns
 is as follows:—A distance of 300 yards is known as the tail
 system. A pair of winding engines, with
 a 6ft. drum, perform the double duty—first,
 in hauling the set of trams to the pit, which in
 this case is a 6ft. square shaft built in the masonry
 of the kiln; and, secondly, of winding them to
 the top. The pit, or shaft, is equipped with the
 gear and framing usually found on colliery
 shafts. There is, of course, no novelty in this,
 except that perhaps it is the first time such an
 arrangement has been adopted at a lime
 works. The tram, which ordinarily con-
 tains about 27cwt. of stones, on reaching the
 top of the shaft, which it does in fifteen seconds,
 descends automatically without leaving the cage, and
 the contents pass over a double shoot into either
 of two bins. The empty tram then immediately descends,
 to the foot of the shaft, but to a point 10ft.
 from the bottom, where it leaves the cage and
 traverses an incline to a convenient place for mar-
 shalling a "set." The coal is taken up in a similar
 manner, a suitable depot, with necessary tram-
 ways leading to and fro, enabling this to be done
 without waste of labour. At the rear of the kilns,
 and attached thereto is the mill, contain-
 ing the most approved modern plant
 for the rapid grinding of the lime.
 Two men, or a man and a boy, draw the lime into
 a shoot or shoots, by which it is conveyed to a
 Blake's stone-breaker, where it is reduced to the
 size of walnuts. Elevators or Jacob's ladders
 now carry it to the top floor and deposit it into one
 end of a long worm, which conveys it to three
 disintegrators. These machines pulverise the
 lime before it enters the two pair of millstones,
 which finally reduce it to impalpable powder.
 From the millstones the flour enters a second
 worm, through spouts, and is conveyed to the end
 of the mill, where it is bagged and weighed, tied
 in lead-sealed, and placed on a tram for rail-
 ing. The milling machinery is driven by a
 pair of vertical engines indicating 40-horse power,
 the first motion on the main line of
 shafting, and off the fly-wheel on to a second line of
 shafting to drive the fast-revolving disintegrators.
 Steam is generated in a pair of steel Cornish
 boilers 20ft. by 5ft. Water is obtained from a
 stream on the Fonnion river, about a mile dis-

seemed to him to be an inadequacy of the means
 of distribution inland, but he was assured that
 that would soon be overcome, for a project was
 on foot for the construction of a railway from
 their works to Cowbridge. When that was
 accomplished, as he hoped it would be, builders
 would be able to get lime from there at as low a
 rate as they were able to get it from those who
 had established lime kilns near Cardiff, and of quite
 as good a quality. (A Voice: "Better.") Well, if
 so, so much the more satisfactory. He hoped the
 company, the prosperity of which it was his duty
 to propose, would be a remunerative one. (Hear,
 hear.) In giving the toast he begged to couple
 with it the name of the chairman, Mr. Griffiths.

The CHAIRMAN, in responding, thought they
 did not sufficiently estimate the value
 of the processes necessary in the making of lime.
 When they looked at the old castles which
 had been built by the Romans—"Morien": "And
 Welsh castles, too"—(laughter)—and Welsh
 castles—and examined the mortar used in their
 construction, they could not but be struck with its
 extraordinary tenacity. The buildings they had
 at the present time would never last like that
 unless the Aberthaw Company could make lime of
 as good a quality as was done in the past. (Ap-
 plause.) If they did that, then they might expect
 that their posterity in another 150, 300, or 500
 years would have the privilege of looking
 upon buildings that had been built in
 the present day. (Hear, hear.) Personally, he thought
 the quality of the Aberthaw lime could not be
 surpassed. (Hear, hear.) He cordially endorsed
 the sentiments of the Mayor of Cardiff that the
 company might prove an exceedingly remunera-
 tive one to the shareholders and give every satis-
 faction to the architects and engineers who will
 use the lime. (Applause.) In conclusion he
 proposed "The Healths of the Mayors of Cardiff
 and Cowbridge."

The MAYOR of COWBRIDGE (Mr. Thomas Rees)
 responded, and in the course of his observations
 said that he looked forward with considerable con-
 fidence to the prosperity of the company, for the
 lime of Aberthaw was known all over the world.
 (Applause.) It was a well-known fact that the
 fortifications of Sebastopol were constructed of
 Aberthaw lime. (Hear, hear.) He hoped when
 those works got into full operation they would see
 the houses in Cardiff, Cowbridge, and elsewhere
 built with better lime than at present. If they
 came to Aberthaw the builders might depend upon
 it they would get the best material that was to be
 had in the world. (Applause.)

Mr. LASCELLES CARR next proposed "The Health
 of Mr. O. H. Jones, of Fonnion Castle," upon
 whose property the Aberthaw Limekilns had been
 built. He (Mr. Carr) had had something to do with
 the negotiations which had preceded the estab-
 lishment of those works, and it was his duty to
 recognise publicly the exceedingly liberal and enter-
 prising spirit in which they were met by Mr.
 Jones. (Applause.) The present was a day in
 which all landlords, so to speak, were passing
 through the crucible—they were being tested;
 and he was glad to find some of them coming out
 true gold. (Hear, hear.) Mr. Jones had met the
 promoters of the company, not only as a man of
 business, anxious for the development of his estate
 but as one evidently desirous for the welfare of
 the community amongst whom he resided. (Hear,
 hear.) He had afforded them every facility, not
 only in the commencement of that particular
 enterprise, but also with regard to the projected
 railway, which he (the speaker) had no doubt
 would make Cowbridge one of the most important
 railway centres in that part of the country.
 (Laughter and applause.)

The toast having been drunk with loud cheers,
 Mr. O. H. JONES, in acknowledgment, said he felt
 extremely obliged for the kindly manner in which
 they had drunk the toast of his health. He was
 prepared to be judged by his works. (Hear, hear.)
 He had endeavoured to meet the gentlemen pro-
 moting those schemes in a fair manner, and now
 that the lime works were well started he hoped
 they would be a source of prosperity to the com-
 pany and to the district round about. Industries
 of that kind always benefited the adjacent
 country by the attraction of capital and the
 employment of labour. The erection of the
 lime works had induced other gentlemen to pro-
 mote a railway, and he hoped that before long they
 would see that, too, carried out. (Applause.)

Sir MORGAN MORGAN next gave "The Healths of
 Mr. Stephen Collier, jun., and Captain Thomas."
 He had, he said, little doubt of the success of the
 company represented that day, for they had at
 their command an almost invaluable commodity.
 (Hear, hear.) Aberthaw lime was to be heard of
 all over the Continent, but he expected that very
 little of it was really used, inferior stuff being
 simply sold under that name. (Hear.) Sir Morgan
 then went on to bear testimony to the activity
 and energy displayed by Mr. Daniel Owen,

The release of those larger stones meant also the
 severance of the bond which attached their smaller
 neighbours, and it was those that rolled about and
 subsequently found their way beyond ordinary
 spring tides into their calcining kilns. (Hear,
 hear.) As they were probably aware, the beach
 on that side of the river was leased by the Crown
 to Mr. O. H. Jones, but this only applied
 to those stones which lay between low
 water mark and ordinary spring tides.
 That was, the rights of the Board of Trade
 in regard to those pebbles did not extend beyond
 high-water mark of ordinary spring tides. All
 above that mark were absolutely and solely the
 property of their landlord (Mr. Jones), from whom
 they derived privileges which had never before
 been asked for or granted. Their property was
 valuable because there was nothing like it in the
 whole world, because there could be no competi-
 tion, and because their trade was waiting on
 them. (Applause.) It was seven years or more
 ago when he first asked Mr. Daniel Owen and Mr.
 Lascelles Carr to accompany him on a prospect-
 ing expedition to the place with a
 view to a project of that kind. Another
 enterprising spirit—Mr. Hurman—also joined
 the party, probably more with an eye to the Taff
 Vale Railway interest than to anything else.
 However, much to his regret, the scheme fell
 through, and he almost despaired of a different
 result, though he clung desperately to the hope
 that his grand idea would be developed and be-
 come sooner or later an accomplished fact. About
 that time last year Mr. Owen kindly invited him
 over to Ash Hall to discuss the subject matter of
 a letter he had received from him (Mr. Collier).
 The result of that interview was that Mr. Owen,
 Mr. Carr, and himself drove down to Aberthaw,
 and it was arranged that if he (Mr. Collier) could
 make terms with the landlord the scheme should
 be proceeded with. Mr. O. H. Jones was approached.
 That gentleman treated them in a most fair and
 business-like manner, and they made the most
 satisfactory arrangements with him. The next
 thing was to form a board of directors, and, in
 addition to their accomplished chairman and
 his brother, they were able to secure
 Mr. William Griffith, of Llyscoed, Llan-
 sannor, the discoverer of the celebrated Sheba
 Reef, the richest gold mine in the world. His
 brother, Mr. Jacob Griffith, and Mr. George Evans,
 of Pencoed, were afterwards approached, and both
 consented to act. Mr. Collier then entered
 into details as to the construction of the works, and
 expressed the belief that the shareholders would
 never regret having embarked in the enterprise.
 (Applause.)

Captain THOMAS also responded.
 Mr. J. F. GRIFFITHS, in a humorous speech, next
 proposed the toast of "The Visitors," to which
 Alderman WARRING (Cardiff) responded, mention-
 ing, as some encouragement to the shareholders of
 the company, that in the construction of the
 Cardiff Docks nothing was allowed to be used in
 the way of lime but the Aberthaw. (Applause.)
 He believed that the company had every prospect
 of success, for they would be offering an article
 which was wanted all over the district. (Ap-
 plause.)

Mr. LEWIS E. SHIRLEY then gave "The Health of
 the Chairman," and the latter having suitably
 replied, the proceedings terminated.