

The Mining Journal

Saturday 11th March 1837

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Trivial but Fatal Mine Accident.

A few days since, as William Hoskin was going through one of the levels at East Pool, he struck his head slightly against a projection. The blow caused some little pain, but he proceeded to his place and finished his work, though not without complaining of a pain in his neck. For some days after he continued to attend the mine, and frequently expressed a hope that he was getting better. Instead of getting better, however, he grew worse, and calling in professional aid, it was found that a small blood-vessel had been ruptured, and that the extravasated blood had caused a virulent inflammation, which terminated fatally. Deceased was one of the finest men in Cornwall, upwards of six feet high, and big withal, and of perfect symmetry. He would throw about an iron pump of nine cwt. with a slight effort, and has been known to lift a piston-rod, weighing upwards of ten cwt., gross weight.

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Letter: Cornwall Smelting Company.

Sir, - I observed an advertisement of a new Smelting Company, in a contemporary, of Saturday last, connected with which I do not see a single resident in Cornwall, nor even a Cornish name.

The public have received much protection from you; but the misfortune to be lamented in most cases, is, that your paper was not established till after many schemes, by which individuals have become serious losers, had been subscribed to by the public. However, you have now, by perseverance, secured the attention of the speculative and monetary world, and if you persevere in scrutinizing every scheme in its onset, you may do great service, and increase the value of your Paper.

The Company advertises the following directors:

Randle Chetham Strobe, Esq.
Lt. Col. James Amos Kelley
Henry Jeffreys Longcluse, Esq.
Thomas Clerc Smith, Esq.
Cornelius Wheeler, Esq.
G. Such, Esq., M.D., F.G.S., &c. - Managing Director

These gentlemen are not merchants, nor do I find their names connected with any known department of commerce. Respectability as gentlemen is not enough to warrant them in asking the public to deposit money with them; they should show themselves responsible, in two essential considerations, viz., their eligibility in point of financial security to the public; and their competence in regard to the matter undertaken.

As to the first of these points, it is quite clear that although every director in a company need not of necessity be a man of wealth, yet it must be evident, that the members of the direction should, as a body, possess that degree of pecuniary power and solidity, which will not only ensure confidence, but will actually afford a guarantee for the due protection of the funds, which they may receive; and with regard to the second part, competence for their office, it should be made quite apparent that the members of the direction are competent in these respects, viz., competent in knowledge of the subject which they undertake to direct; competent in respect to locality, and in their possessing the means of controlling the affairs, which they propose to manage.

Now, as to these two points, how stand the directors of the Smelting Company?

Randle Chatham Strobe, Esq., is a country gentleman of Somerset
Lieut. Col. James Amos Kelley, a soldier
Henry Jeffreys Longcluse, Esq., a gentleman of fashion in London
Thomas Clerc Smith, Esq., a literary character in London
Cornelius Wheeler, Esq., an auctioneer in London
Dr. George Such, a Doctor of Medicine in London

By what means these gentlemen, of such varied description, have acquired sufficient information in smelting to warrant their calling upon the public (and particularly the Cornish public) to entrust them with £50,000, to be applied to that purpose, remains to be told; and if at starting, any fact were required to show how little the above directors have considered the matter, which they are seeking to promulgate, it may be found in the circumstances of their professing to compete with the powerful smelters of Cornwall, with no greater means than the insignificant capital of £50,000!! Of which, in these times, it is hardly £5,000 can be collected.

I am, Sir, your obedient servant

Truro, March 7

Marbubble

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Letter: Ventilation of Mines.

Sir, - In your Journal of the 25th ult., is a notice respecting an invention, or supposed invention by a person at Leeds, for ventilating mines by a machine for extracting the foul gases, but as no description that can be available to the public, is given of it, I am induced to trouble you with a few remarks on the subject.

In the Mining Review, No VIII, Mr. Brunel gives the description of a machine at Seraing for "drawing" air from mines, which he considers as a new invention, and the Edee Mere, "the notion of pumping air from the workings, instead of forcing it into the mine, admirable." Mr. Brunel also says, "that Davy, Upton, and Ryan turned their best attention to devising means of ventilating mines, but the simple notion adopted by the Belgian miner, escaped their research." I agree with Mr. Brunel that the mode is "admirable," yet the idea is not a new one, as in Nicholson's Journal, vol xxix p 326, is a plate and description, by Mr. Taylor, of a machine for drawing foul air from mines, exactly similar in principle with that at Seraing, but not in detail. And in a still older work, Emerson's Mechanics, Sec xiii Ex. 90, Fig. 284, will be found a description, with a plate of the fan-blower, now generally used for blowing cupolas, smith's fires, &c.; and in the description it is said "if the pipe LM be continued to the place where any foul air is, it may soon be thrown out through the tube G, and dispersed abroad."

Last year, an accidental accumulation of foul air in a colliery which I was working, rendered some mechanical assistance for ventilating it necessary; and though the air-way was about three quarters of a mile in length, yet, by the applying of a common fan-blower, of three and a half feet diameter, worked by hand, to the upcast, and making it air tight, the mine was cleared from foul air in a short time. And what rather surprised me, the heavy carbonic acid gas, which extinguished the lights even at the mouth of the level, was drawn through the workings by the machine with such velocity, that it cleared about 400 yards in half an hour. As a proof of the efficacy of the blower, I found that even with a smaller one I could easily cause an exhaustion equal to nine pounds per square foot. I am, therefore, of opinion that this kind of machine, if made of sufficient dimensions, will be effective in "drawing" the foul air from any mine, however extensive. I have likewise found that by attaching a painted canvas tube (with hoops inside, to prevent its collapse by the exhausting power of the machine), to the centre hole of a small portable blower, the foul air may readily be extracted from unfrequented and ill ventilated parts of a mine; it would also be particularly efficacious in clearing foul air from wells, sewers, &c., by lowering the end of the tube into them, and working the machine.

I am, Sir, Your Obedient Servant

Neath, March 1

John Player, Jun.

The Mining Journal

Saturday 11th March 1837

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Letter: Estimated Quantity of Coal in the Derbyshire and Yorkshire Coal Field.

Sir, - It has often been asked, How long the mineral resources of Great Britain are likely to prove available? And when we consider that not only our public welfare, but political existence, as a nation, is involved in the result, the great importance of this question must be acknowledged.

By geological investigation, we fortunately find that the time is very far distant, when any scarcity of coal is likely to exist. It is with a view of ascertaining our mineral wealth, that I take the liberty of requesting the insertion of this paper in your Journal, the object of which is to estimate the quantity of coal contained in a certain extent of country, and, by inviting similar communications, to arrive at an approximate result for the whole kingdom.

The district that I shall select for elucidation, is that part of the Great Eastern and Midland Counties Coalfield, which lies between a line drawn from Nottingham to Derby, on the south; and another parallel line from Huddersfield to the eastward, on the north; this will comprise a district of country fifty miles in length; the breadth will obviously depend upon the depth to which the various seams of coal may be worked. The development of science, and its application to mining, will no doubt, afford a facility for working mines much deeper than we can at present calculate upon: if, therefore, 500 yards is assumed as an average, it cannot be objected to even as a maximum, that depth having been considerably exceeded at the present time.

The inclination or dip of the strata is the next consideration, as several considerable counter basins occur along the district; if 5000 yards is taken for the breadth which each coal may be got, without exceeding the specified depth, it will be under the average. By inserting sections taken in different parts of the field, it would illustrate the subject, by showing the various beds of coal, their thickness, and where they are now worked, but this would make the present paper too long-winded; I have, therefore, taken the average of several sections, and find that the total thickness of good workable coal exceeds forty-six feet. We have, then, 50 miles X 5000 yards = 90,900 acres, which, at 800 tons per foot in thickness per acre, will give in round numbers 3,490,000,000 tons, or 116 years supply for the whole kingdom, at the rate of thirty million tons per annum. The average yield I have taken is less than it ought to be, if the best method of working was adopted, but in some parts of the district, particularly in Yorkshire, there is such a deep-rooted prejudice against the long-work system, that many years will probably elapse before the present slovenly mode of working is abandoned and a more economical one adopted.

I am aware that there is much difficulty in ascertaining the extent of several coal-fields, owing to the overlapping of the magnesian limestone and young red sandstone; indeed, the field above-described may prove to be a basin, the eastern outcrop of the coal strata being covered by the subsequent unconformable formations. In many of the deepest mines the coal approaches more nearly to an horizontal position. As the district above described only forms a part of this coal-field, it will be found to be the most extensive and important deposit in the kingdom, particularly as much of the coal is surpassed by none in quality. This coal-field, being land-locked, has hitherto had no other outlet than by a tedious and expensive canal navigation, which, instead of running in the direction of the levels, has been carried transversely across the field, thus

rendering their utility limited to a small locality; but this desideratum is now likely to be remedied by the projected railroads, which, to this district, will be of immense importance. The North Midland Railroad is well laid out with reference to the northern part of this coal-field, running nearly down the centre of it, but, south of Chesterfield, it appears to me (taking a geological view of it, and I maintain that is the most important), that an unpardonable blunder has been made by leaving the valley of the Rother for that of the Amber; the natural line could not have been much more clearly defined, and it must have required a great effort of genius to distort the road by torturing it through the Clay Cross tunnel, where it immediately comes upon the extreme outcrop of the coal measures; then runs over the Millstone Grit formation to Derby. There is no population on this part of the line, except at Belper and the neighbourhood, nor will there ever be, for this obvious reason, that in the parallel valley an inexhaustible supply of minerals is found with a strata much more congenial to vegetation. The projected extension of the Midland Counties Line proposes to remedy this defect. I am not aware to whom it is due, but it reflects great credit upon the projector; any acute and impartial observer must see the decided advantage it possesses over the other line; instead of turning into the valley of Amber by a long and expensive tunnel, it is carried from the head of the Rother to the valley of the Erewash, by keeping which it will run down the centre of this coal-field to its southern extremity, through an already populous district. Had the North Midland and the Midland Counties Railway Companies gone cordially to work to ascertain the best lines, instead of going to loggerheads, they would have best consulted their own interests and that of the public.

I am, Sir, your most obedient servant.

Alpha.

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Saturday 11th March 1837

Page 83 Col. 2

Letter: Computation of Contents of Steam-Engine Stacks.

Sir, The computation of the content of masonry in the stack or chimney of a steam engine house, often occasions dissatisfaction and disputes in this country. It is no unusual case for engineers, agents, and builders, to have all a different method of their own for ascertaining the content, and it seldom happens that any of them agree in the result. Now, as the form of all our stacks is the frustum of a cone, and the mathematical computation of that figure by no means tedious or difficult, it is probable that you will do us a favour by allowing the following rules and computations to appear at length in your next Journal.

I am, Sir, your very obedient servant,

Callington

John Budge

Rule

To the square of the two diameters add the sum of the square of these diameters. Multiply the sum by the decimal, 0.7854, and that product by the height. Then one-third of the last product will give the solidity.

Example

The dimensions of Holmbush stack is as follows

Height 60ft Bottom Diameter 11ft Top Diameter 4½ft

The solidity is required

Operation

	11		4.5
	11		4.5
	----		----
	121	Square of Bottom Diameter	225
			180

	4.5		20.25 Square of top diameter
	11		

	49.5	square of Diameters	
			121
			20.25
			49.5

			190.75 Sum of Squares
			0.7854 Multiplier

			76300
			95375
			152600
			133525

			149.815050
			60 Height

	1/3)		8988.903000

	Cubic Feet in a perch	36)	2996.301 (83
			288

			116
			108

			8 Answer. 83 Perches and 8 feet

The result will be exactly the same if the following rule be adopted, viz.:

Divide the difference of the cubes of the diameters of the two ends by the difference of the diameters. This quotient, multiplied by 0.7854, and again by one-third of the height, will give the solidity.

The foregoing computation gives the true content, considering the stack as solid masonry, which is the general custom. If, however, the flue is to be deducted, the calculation must first be made as in the preceding rules, and then a second operation to find the space occupied by the flue, which is usually of a cylindrical shape, having the top and bottom diameters equal; consequently the rule for finding the solidity of a cylinder must be adopted, which is by multiplying the area of one end by the length.

Example

Suppose the diameter of the flue to be two feet, and length or height sixty feet.

Operation

		2		0.7854	
		2		4	
		-----		-----	
		4		3.1416 Area of End	
				60 Length	

Cubic feet in a perch	36)			188.4960	(5 Perches and 8 feet
				180	

				8	
From Stack, considered as solid work				83 Perches	8 Feet
Deduct content of Flue				5 Perches	8 Feet

Real Quantity of Masonry in the stack				78 Perches	0 Feet

The Mining Journal

Saturday 25th March 1837

Page 112 Col. 1-2

Letter: Estimated Quantities of Coal in the Derbyshire and Yorkshire Coal-Field.

Sir, - In your interesting Journal of the 11th inst., I find a letter from a correspondent, signed "Alpha," on the subject of the quantity of coals found in the Derbyshire and Yorkshire coalfield; and I pretty much agree with him as to his estimates of the length and breadth of this coal-field; but I do not at present quite fall in with his estimate of "the total thickness of good workable coal," which, he says, "exceeds forty-six feet." South of Chesterfield there certainly are not more than six, or at most, seven workable seams, varying in thickness from two to six feet each, the average may be about four, or at most four and a half feet, this gives the total thickness but little above thirty feet at the most; and I do not find that your correspondent has made any allowance for coal already got from this field. I am aware that in Yorkshire there are a greater number of coal seams, and some of them of greater thickness than those in Derbyshire, but still I am inclined to think that he has considerably over-rated their thickness. But what your correspondent and me differ most upon, is where he says that "an unpardonable blunder" has been made in the line of the North Midland Railroad, south of Chesterfield, by "torturing it through the tunnel at Clay Cross," and proceeding down the vale of the River Amber, on the very outskirts of the coal-field, instead of going down the parallel valley of the Erewash, which is through its very centre. But surely, Sir, there may be other considerations in laying out a railroad, beside passing through a coal-field. In the case before us, it would have required two tunnels to get from the vale of the Rother to that of the Erewash, and only one is necessary to get to the Amber; the summit level by the Erewash would also be seventy-four feet higher than that by the Amber; the vale of the Erewash is already supplied with several good canals, viz.: - the Erewash, the Nottingham, the Cromford, and the Pinxton canals, and a railroad from Pinxton to Mansfield, and I do not see the necessity of a railroad being carried along the very banks of these canals. On the other hand, the vale of the Amber has, at present, neither canal, railroad, or turnpike road running along it. But your correspondent seems to think the population along the Erewash line is much greater than along the Amber. I am well acquainted with both valleys, and I assure you, Sir, that there is not a market-town nor even a village through the whole length of the Erewash, from its junction with the Trent at Long Eaton, to its source at Pinxton; it is, however, thickly studded with cottages, which are almost exclusively occupied by working colliers and boatmen; there are also two iron foundries in this valley. The line adopted along the Amber Valley embraces the towns of Derby, Duffield, and Belper, including the very extensive cotton factories belonging to the Messrs. Strutts; on the east of this line is plenty of good coal and ironstone, and on the west most excellent quarries of limestone and gritstone, which hitherto have been almost shut out from a market.

It has been urged that the distance between Sheffield, and places north thereof, and London, is greater by the Amber than it is by the Erewash valley. This, no doubt, is correct, the difference in favour of the Erewash line is, I believe, about five and a half miles, but this, I am of opinion, will not be found to occasion any loss of time, on account of the superiority of the gradients along the Amber line; and, as regards a communication from the north, to Birmingham, Gloucester, and the west of England, there admits of no comparison between the two lines.

March 19

I am, Sir, yours, &c.

Omega

[We thank "Omega," as we do at all times correspondents who either correct representations put forward, or give their opinions. We do not presume to give ours upon

subjects with which those located must be considered as being best informed. It we mistake not, our correspondent, in the present instance, can afford us much interesting matter connected with the coal-fields, and, we trust, he will throw aside that cloak which so veils the operations of the mine-agents of the "Derbyshire and Yorkshire coal-field." - Ed. M.J.]

The Mining Journal

Saturday 25th March 1837

Page 112 Col. 2-3

Letter: Kerrow and Carn Grey Tin Mining Company.

Sir: As your last paper has been unavoidably the medium, in publishing the reports of the public meetings of these companies, of circulating the grossest calumnies on my character, you will, I have no doubt, readily admit the following statements into your next columns in reply: -

In April 1835, I received an offer, while in town, of the set of Kerrow. Mr. Dalton stated that he could form a company to work it, to whom I gave over the whole of the correspondence on the subject, with the understanding, that if he succumbed, the company was to have it at what it cost, and, in fact, to be the purchasers. A prospectus was issued, dated 7th May, which, however, after a considerable expenditure of my money, even without my knowledge, proved to be an entire failure. I then purchased the set, and continued the workings on my own risk. In October following there was a prospect of a company being completed, and having expended nearly £500, I offered it for £500, and a certain part of the expenditure on the mine, to about £40, which left me a balance of about £60 only, for the risk of my expenditure and trouble, and which no one could possibly object to; yet this is what Mr. Dalton calls "appropriating £200 to myself." Will he as clearly show his "appropriations?" If so, I shall be very glad to acknowledge an honourable declaration of the same. Mr. Garland may have forgotten, but I beg to remind him, in reply to his assertion, "that he was not a director at the time," that, as a director, he signed the scripts in October; that this sum was not paid to me until the 29th of December, and that he received his twenty paid shares for assisting me as a director to form the company, the like number being offered to me, which I refused to accept.

The prospectus (as above) of which Mr. Simpson complains, was drawn up from the best information that could then be obtained; it did state that there was "a sufficient stream of water at all seasons to prove the mine," but never that there was any machinery thereon; and even this error was corrected as soon as it was discovered, and, as far as I know, the present company was not formed on this prospectus; and I objected having even the same copper-plate using for printing the present scripts on this very ground. Mr. S. has seen me, both at a public meeting of shareholders and at the office, and might have had an explanation long since if he required it.

If the other directors had any charge as to a want of economy in the management, or were dissatisfied with any accounts, ought they not to have informed me of the same, and have fully investigated before they made such assertions public? On the first intimation of the kind I requested an investigation. I offered to leave everything to the decision of others. I asked them to point out a single case at which they were dissatisfied, but none was ever given, except an exclamation of Mr. Dubois: "In all your accounts I see, driving, driving, so much, so much." I attended in London for nearly three weeks, in December last, for the purpose of eliciting inquiry, and giving every explanation, but could never get more than one director to meet me at a time. They, however, stated, that they had no charge to make, and appeared satisfied; in proof of which, they paid me monies on account of both companies, and gave me instructions as to the future. I have not pocketed the money of the companies in which I am engaged, but have been a large shareholder in all, and have neither had the opportunity or inclination to job or change as others have, and which has been chiefly the means of bringing these mines into disrepute. As to relinquishing the management, I have repeatedly stated, that I will gladly do so the moment all liabilities are paid, but I have some twenty petitions served upon me from the Vice-Warden's Court by the creditors, and an injunction on each mine on the materials, by which alone I can

hope to be secured. I have also as plainly stated to the boards, that I will not give up possession until I am released from all liabilities; and, I may ask, who but a madman or a fool would? While I confess there does not appear to me much reason or justice in such a request.

To conclude, if the parties connected with all the script companies at 46, Lime Street, will only consent to balance accounts with me, I will leave every point, either as to economy or matters of account that may be disputed, by reference, and if any two of the shareholders request me, I will attend any meeting, and give every explanation in my power.

I am, Sir, your obedient servant.

W. Browne

St. Austell, March 21.

[We insert Mr. Browne's letter, as an act of justice to that gentleman, while it is hardly necessary for us to disclaim all partnership or prejudice. That there is something wrong is clear, from the numerous meetings held at the same establishment, having for their object the abandonment of the several undertakings in which they have embarked; whether the fault lies with the provincial agents, or the London directors, we cannot decide; but we may tell both, by such expositions and absurd questions being raised about a few hundreds, when many thousands have been expended, they not only injured themselves, but give a stab to mining interests generally.]