

M I N E S.

R E P O R T S

OF

THE INSPECTORS OF MINES,

TO

HER MAJESTY'S SECRETARY OF STATE,

For the Year 1873.

MR. WILLIS, South Durham, Westmoreland, and Cleveland District.
MR. DICKINSON, North and East Lancashire, and Ireland.
MR. T. EVANS, Midland District.
MR. WYNNE, North Staffordshire, Cheshire, and Shropshire.
MR. BROUGH, South-western District.
MR. BAKER, South Staffordshire and Worcestershire.
MR. WALES, South Wales.
MR. MOORE, Scotland, East.
MR. ALEXANDER, Scotland, West.
MR. SOUTHERN, Northumberland, North Durham, and Cumberland.
MR. WARDELL, Yorkshire and Lincolnshire.
MR. BELL, West Lancashire and North Wales.
DR. C. LE NEVE FOSTER, Cornwall, Devonshire, and part of Somersetshire.
MR. T. F. EVANS, Anglesey, Brecon, Cardigan, etc.

Presented to both Houses of Parliament by Command of Her Majesty.



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years of recording a lesser figure. Whether the changes brought about by the late Act and special rules with the view of checking this description of accident have had an improving effect I am not yet in position to say. Unquestionably the great prevention to falls of roof is timely support by the introduction of props of wood judiciously placed, and I have reason to believe that a much greater quantity is now used than formerly. This is owing to the changed system of supplying it. Previous to 1873 the wood was generally left at the pithead, where the miners went to make their selection and cut it to the lengths required. It was afterwards sent down in hutches, and thus conveyed by them to their working places. The oversman is now "Bound to see that a plentiful supply of timber for props and other purposes required by the workmen to carry on their operations with safety to themselves is always ready;" and the roadsmen are bound to observe, "That an adequate supply of timber for props and other necessary purposes is always ready at the place where the miners are at work for the use of the miners in supporting the roofs and sides of their working places, and to report to the manager or overman if they should observe any want of such timber." For the purpose of carrying out this rule, roadsmen are empowered to call upon drawers, putters, and drivers, whether employed by the owner or miner, to convey such necessary timber from the pitbottom or other place of general delivery to the working places in connection with which they are employed. In this way a proper supply of wood can always be easily obtained, and the miner when in immediate want of a special length has no longer any inducement to delay procuring it, as was sometimes the case when he had to leave his work and proceed to the surface for the purpose of obtaining a supply to enable him to complete his day's work. Several cases of apparent neglect arose out of this arrangement, and those less careful and more indifferent to results, particularly when near the close of a shift, to save themselves the trouble of procuring wood, exposed themselves unnecessarily and suffered. Apart from these changes, however, the system of working is of consequence, and undoubtedly fewer accidents happen from falls of roof, &c. in mines worked by longwall than by any other method. This judicious mode of working is gradually extending, and though better adapted from an economical point of view for some seams than others it is applicable to all, and I am not aware of any seam of coal throughout the mineral field which at one place or other has not been more or less worked by it.

The accidents in shafts are above the average, notwithstanding the additional restrictions which have been in force during the past year. They are, however, of a more miscellaneous character than usual, and it is satisfactory to observe that "mid-workings," the hitherto fruitful source of shafts accidents, have only contributed one to the list of fatalities for 1873. In a sinking pit one man fell from a kettle while being raised; two were killed by the sudden breakage of the gearing wheels of the winding machinery; one was dashed to the bottom, by the crane upon which he was being lowered getting out of gear; two fell from a cage while being lowered to their work, in consequence of the rope having been improperly wound upon the drum; one was drawn over the pithead pulley, instead of being lowered to the bottom; another fell from a scaffold while making repairs upon the shaft; one while gazing in to the pit at the surface was struck by the cage as it passed from a higher level; a pitheadman while loading the cage with wood fell down the shaft; and an underground workman, by incautiously passing through the shaft, was struck by the descending cage. There is a great amount of irregular work in and connected with shafts, to which general and special rules are barely applicable; a few of these unfortunate occurrences were clearly occasioned by thoughtlessness or incaution on the part of the sufferers, while in other cases they were innocent victims. Out of these ten accidents, two cases were taken into court and the persons responsible convicted.

The accidents under the head miscellaneous are unusually large, and require explanation. The first is of a sad and painful nature; it was occasioned by an inundation of water, and created a great deal of excitement at the time of its occurrence. The scene of this disaster, Kenmure No. 2 pit, situated near Glasgow, is 75 fathoms deep, and the workings in "Main" and Ell Coal," about 7 fathoms apart, were separated by a barrier of coal from an abandoned mine, No. 1, situated to the "rise," lying full of water. The situation of the "waste" was well known, and upwards of a year before the accident it was tapped in the Ell Coal seam at A on plan. The water was not run off, but preparations were in course for the purpose of withdrawing it to an adjoining shaft at a lower level, No. 4 pit Bogleshole, where suitable arrangements were made for pumping it. The deceased, Archd. McBeth, and his companion, James

Moodie, were engaged forming a continuous course for the water from the main coal to the splint, and this was to be accomplished by means of two large bore holes near to each other, one of which was completed at S. The deceased were about 110 fathoms distant from the shaft, and the first indication of danger was discovered at the completed bore hole, by the parties on the opposite side, who were working at or near the lower end of it. They felt an unusual rush of air through the bore hole, and called M'Beth's attention to it, who, with Moodie, apparently lost no time in rushing to the pit bottom; but the water had unquestionably reached that point before them, and as there was little or no "standage" there, it would rise rapidly. The engineman heard *four* distinct signals given a little after the time the accident must have happened, and after making the return signal twice, without receiving the usual ascent signal *one*, he lifted the cage, which was empty. Though some account for the signals being made by the water and stones falling from the "Ell Coal" upon the handle of the signal hammer, I think there can be no doubt that the deceased reached the pit bottom, and that the signal *four* was made by them in desperation, and no doubt meant first *three*, and then *one* to raise the cage. The water which of course came from the "Ell Coal" would rush down the shaft with tremendous force, and the slight delay in raising the cage appears to have cut off their last chance of escape. It is true the cross-cut mine from the Main to the Ell Coal, M. M., would have led them to the outlet, but I think it is very likely they would remain as long as possible at the pit bottom trusting to being raised, and before they thought of the cross-cut, the water would be so high as to prevent their escape by it, and, if so, they had no chance after the water rose in the pit bottom but to retreat to the "rise" in the Main Coal as the water rose in the workings. There is evidence that they advanced to the "rise" part of the works to which the water did not reach, and afterwards returned as the water subsided, and from the place the bodies were found, at F, a point to which the water could not have abated in less than 14 days after the accident, there is undoubted proof that they lived for 14 days or more. They were found lying together, with one of their jackets partly covering both of them, and my belief is, that after enduring for at least 14 days the pangs of hunger, and the bitter anguish of despairing hope, they at last succumbed to the vitiated air of the mine. A melancholy interest is attached to one of the flasks found beside the bodies, such as underground workmen use for carrying tea. I did not see it, but I understand that the following, supposed to have been written in darkness with a nail or pin, was intelligible, and must have been written by M'Beth, his companion being unmarried: "My dear wife, long after you and all other people thought we were dead I had great hopes of seeing you. I bid you farewell, hoping God will comfort and take care of you and them." (Meaning the children.) In this case the management was misled by the plan of the No. 1 pit, which did not truly represent the extent of the workings.

Though the restrictions as to the use of gunpowder have been in force for the past year, singular to relate the accidents during that time have been greater than in any other year. With your approval three cases were taken into Court; the charges were for violation of the eighth general rule, and convictions were obtained in each case. Five persons were run over by hutches; of these, three were pony drivers who had in some way fallen off the train they were in charge of while in motion; one was suffocated while attending to a small pumping engine, awkwardly placed in an isolated part of the mine; and on the surface three were fatally injured by being run over by railway waggons.

Of the fatal accidents in ironstone mines, five were occasioned by falls of roof, five in shafts, and four from miscellaneous causes.

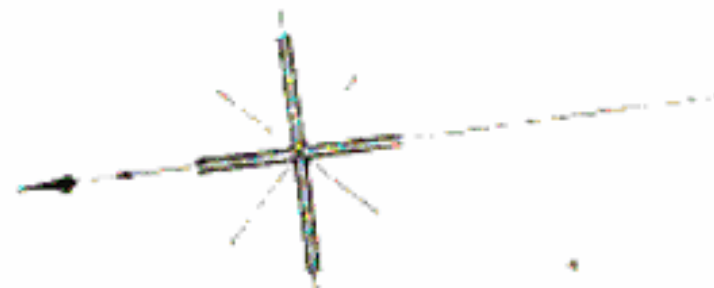
The accidents of a non-fatal kind, and reported from every description of mine, amounted to 238. Under the usual classification—

38	were injured by explosions of fire-damp;
108	" falls of coal, ironstone, and roof;
14	" in shafts; and,
78	" by miscellaneous causes.

The following table shows the dates on which the non-fatal explosions of fire-damp and the non-fatal falls of coal and roof occurred during 1873 :—

[illegible]

Ell Coal Workings are shaded Blue.
Main " " " Red.
A *the point where the water had been tapped*
for more than a year before the accident.
B *where the water burst in.*
F *where the bodies were found.*
MM *the crosscut mine leading from the Main*
to the Ell Coal.
The line ——— shows the course to the
Outlet shaft.



PLAN
of part of the
ELL AND MAIN COAL WORKINGS
of
N^{os} 1 AND 2 PITS KENMUIR.

No 4 Pit Bogleshole
William Alexander
Messrs. J. Smith

