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THE MINING FOREMAN AND HIS DUTIES.

BY WILLIAM HIBBS.

This subject is a familiar one. It may not, and does not to many, seem important. The reason of this, is, the mining foreman and his work is obscured from public gaze. It is:

Down in a coal mine,
Underneath the ground;
Where no rays of sunshine
Ever can be found.

The newspaper reporters seem not to think that there is such a vocation for any one to fill, and consequently the pit bosses get very few puffs. The wealthy individual warms his nasty toes by his fire in his finely mantled grate, with seldom a thought of the poorly paid miners who do the harder work and the foreman who directs it. But to the men deeply interested in mining enterprises the meaning is equal to difference between success and failure. General managers are employed to guide enterprises; superintendents to keep the books, purchase supplies and keep things in motion; fire bosses, stable bosses and boss drivers to do their peculiar duties; but though all these may be employed or dispensed with, the mining foreman is always there to attend to the business and of the business of coal mining.

Friends, about this individual as a character concerned in the practical prosecution of coal mining the writer wishes to say, that though there be many who when weighed in the balance will be found wanting, the mining foreman should be a man in every respect, physically, mentally and morally.

His work is such that none but a rugged constitution can withstand. He should not have been born tired. A jack of all trades, his task is often both mental and physical combined, which of all human labor is the most fatiguing. His tramp through the workings of the mine, often from morning till night, giving encouragement here, directions there and a firm command at another, with the weight of the entire responsibility resting upon him, is one of his daily duties.

Mentally he should have the power of mind to know the entire inside workings of the mine. He should recollect the condition and general appearance of every working place, the men who work in them, and what little bargains he may enter into with his men. He should remember their faces so well that when he meets one he may recall his name, his working place and its condition.

There is no one mental qualification so beneficial to a foreman as what is termed "cool headedness". Accidents will happen, things may go wrong and most persons get terribly frightened and excited; but the man who is most useful is the one who in spite of all trouble is perfectly composed and ready to do the right thing at the right place and time.

He should have the mental power to retain a good sound education. It matters not how he may get this; but his training and learning can not be too thorough nor extensive. The mistaken notion that such a mine official needs little learning is fast losing support and the so-called purely practical man is almost always taking a back seat. There is hardly any branch of learning of which he at some time in his life is not called upon to use, though the sciences form the basis of his successful operations. A knowledge of theory combined with practice work will bring for him the best results, though either used separately may avail him nothing.

In beginning a mining enterprise the beautiful and sublime science of geology is fast called into use in determining the location and very existence of the mineral. By noticing the strata—their strike and dip and many other characteristics, he will be able to intelligently locate his shaft or drift. If this is rightly done, a long step is made in the direction of success; if wrongly placed the operation will meet with reverses if not entire failure. He should know all that is possible to know before beginning operations.

In the ventilation of his mine he should use all of the theory that is useful. His thinking cap should be on and made the utmost use of, for no mine is ever too well ventilated. This part of mining science is too much neglected both by foremen and by operators. To ventilate well makes mining cheaper; the miners healthier and more contented as well as it brings more satisfaction to the management. In the writer's experience it has occurred that ten per cent. more could be earned in first air than in the last of an air split. This percentage, though not much to each miner alone, but when several hundred men are considered will amount to no small sum and doubtless reach a long way in defraying expenses. By noting the differences of

earnings between labor in the first air and that of the last air of a split one has a key to the amount or numbers of splits to be made if it is desired to stay within the bounds of economy. His question should be, how much shall I split the air and yet be economical? He should be a good observer and have a habit or aptness for making previous calculations on his work. He should lead himself by his own convictions and not follow the very common practice of laying out his mine according to the dictates of his book-keeper, which, in so many cases, is for convenience in hauling alone, nor for any singular pet purpose of a man possessed of one idea.

When the underground plans have been decided upon, then will be tried severely the foreman's ingenuity and knowledge of mechanics. The tibble must be erected. The screening must be arranged. Power of engines must be calculated, besides a plan must be drawn for the entire arrangement. This will call for the best of theory and experience. The man in charge should be certain of the correctness of every step from the beginning until the whole arrangement works like perfection.

The mine foreman should know how to do any and all kinds of engineering, whether he does it or not. His knowledge and experience in this line should enable him to invent a plan for any emergency and be ready at any moment to apply it. He should do his own surveying unless some other thoroughly competent person can be found ready to do it.

The very common practice of calling in a surveyor to give directions, etc., for the future work of mining, is a very bad one, for many simple reasons. In the first place, just when the work is needed the most, the party called upon may be busy at another job, or something so often detains him and thus delays the working or, as is often done it is carried on by guess. Good results can seldom be reached in this way.

Again calls are made upon men who have honestly made reputations as land surveyors. They are given credit for being correct and reliable, but they never gave the art of mining any thought, consequently they do not understand fully what is wanted in their work, especially when the works are to be mapped. When inside the mine they are outside their usual course. Old Sol does not smile upon their work down there. A fear, that the big rocks might fall and hurt them, does not give them courage. The glimmer of the miners lamps only makes them feel more dismal and some way or other they do not feel just easy, besides there is seldom any chance or object to which they can mechanically tie up. Iron tracks, iron ropes and cars disturb the needle and they are kept constantly making corrections for local

attraction. Errors creep into their work and the light is so dim they can scarcely see when they make them. As a consequence gigantic and costly blunders are made.

In reality the mine foreman should be an expert mining engineer. He should use none but the best and most improved transit. By doing his own engineering he will always have access to his notes and from them can make calculations for future work a thing too often omitted and blundering is the result. Besides this he should have upon his map, every feature of his mine and also of the entire surface. No one should know what the foreman wants better than himself.

Just now electricity is making a new demand upon the knowledge of the mine foreman and of course he must be able for the task or "his trolley will be off." Many are mastering the science as well as possible and more are paying it little attention. It is the coming mode of transmission of power. It is only a question of time when the steam locomotive, mule and rope haulage will be things of the past. The mine foreman should be wide awake and learn all that is possible in this direction; because it matters not how many superiors he may have, the direct care of the trolley and its work will ultimately fall upon him.

For many years the United States has been the objective point of the oppressed of foreign nations. Our liberal laws have been a grand opportunity for these people. They embraced it, until our country is filled to overflowing. Once they came and became good citizens; but now, comparatively few do so. They come because of our high wages, to enrich themselves, then to go home and live at comparative ease. Those of all nationalities who could do nothing else have gone into the mines and as a consequence the once high moral and scientific standard of our miners has been lowered. Native born as well as foreign born miners of the better class are leaving the mines to find employment in other channels and as a consequence our mines are filled by people from almost every civilized country on the globe. These the mine foreman has now to deal with. In order to understand and converse with them he would indeed have to be a linguist of supernatural powers. His power of mind would be simply tremendous. English, German, French, Dutch, Spanish, Welsh, Italian and Chinese, together with all their dialects are too many for one mind to master for any practical purpose. All the foreman cared do is to talk as much as possible, motion some and guess at the rest. It may be interesting to some to hear all these modes of communication but it is not at all pleasant to the mine foreman, especially when he undertakes to explain to one of these fellows a thing he does not want to understand. His

knowledge of humanity however can not be too great. He must select his men. The right man must be chosen for each and every duty and in doing this a knowledge of physiognomy and phrenology is no small help.

Morally the mine foreman should be first, last, and always a christian, which is the highest possible moral training. He will, as such, be able to command the highest respect—will be cheerful and his opportunities for doing good will be excellent.

Just now the miners are confronted by the most gloomy circumstances. Everbody having money invested in mining enterprises, tries to pull himself out of the trouble by pushing the miners down. They need blessings instead of curses. The foreman should set a good example and insist upon its being followed.

The difficulties in the mine foreman's work are indeed numerous. In the first place every person expects him to be out in the early morning—the first man to be seen about the works and most always the last one to be off duty. He must leave everything in order and in readiness for the next days run. Doors must be locked, engines must be left in a safe condition. Some accounts must be kept and perhaps some writing in a diary finishes the day. Yet he may have occasion to work way into the night, perhaps as he lays in bed. He must think upon plans for the morrow. A piece of work must be done. It should be finished at a certain hour. Enough and the right kind of men must be engaged to do it. It must be gotten at in a certain way. A certain amount of supplies will be needed. All this may go through his mind robbing him of sleep in order that he may be ready for the task with a well matured plan for the work when working hours come.

A dozen or two of men standing waiting upon the foreman to think, is a scene of ignorant extravagance and one that will soon earn a bad reputation for the boss and weigh heavily upon the operators' bank account.

Again he goes his "rounds". Maybe he will commence in the morning and by the time he will have visited a few working chambers, some one sends for his attention and thither he must go, maybe a quarter or a half mile away. Soon after he resumes his routine of duty, he is called again to some other place. Thus it often happens that his feet are never still the whole day through and when night comes he is indeed a weary man.

He must employ his men. In doing this miners must be scarce and he must give work to good and bad—to everybody that comes along. If not so scarce as to require the employment of all, he can often make a selection; but here comes a trouble—

thugs, bums and to base squirts and whiskey soaked human beings, will in spite of all he can do to the contrary find a job among his men and before he knows it his mine will have a reputation for disorder and rioting. And more, unskilled miners will be there too and perhaps the first notice he may have of their awkwardness, may be some damage to the mine or an accident to himself or some one else.

Loose rocks and dangerous places must be guarded and made safe as possible: but slippery treacherous stones deceive the best and the foreman is conscious that if any one is hurt, not every one will forget to blame him for it. The mine inspector comes around and often has more to say than the President of the United States—telling how this or that should be to come up to the requirements of the law, when the foreman is just thinking that there was no more chance for improvement. He then writes down all the improvements, etc., often telling what a genius the superintendent is and generally winds up by the simple statement that Mike so and so is bank boss.

The mining foreman is often imposed upon by the selfish ambition of his superiors—in this wise; the superintendent conceives a pet idea. He asks his more experienced foreman how this is or that thing works. The foreman, not caring or thinking of any meanness frankly answers his questions. From day to day, question after question is asked and answered. Finally an order is dictated by the man who gets the big salary. He must have a certain work done and orders his pit boss to do it according to his directions. In those directions can be found the ideas expressed in the questions and answers. Then when the president of the company calls around he is told by the commandant of all the improvements he is having made.

Workman always expect their foreman to be steadfast, honest and true and if he is found to be otherwise, hardly anything too mean can be said about him and his work; but on the other hand, men ask him for work, and promise to be on hand at a very particular time, but often never put in appearance. He must watch all while at work for he knows very well, if he knows anything that things will go wrong if he does not. Day men are often inclined to act dishonestly in filling in all the hours of a days work. The boss must have at least one eye on them, and, they don't fail to secretly let fall their adverse blessings upon the meddlesome boss who promptly reminds them of their immediate duty. Troubles arise among miners as well as among other people and frequently their foreman is called upon to settle the dispute, which is done according to his ability but not always to the entire satisfaction of the parties concerned.

Many a foreman is expected to do a good days labor at laying track, dumping dirt, cleaning ditches, in fact anything that is to be done, besides the foreman's duty. This, they say, is to cut down expenses and to be economical. Foremen as a class are not lazy, in fact most are willing to put their shoulders to the wheel; but it is not a good practice since no one can be at all interested in work and see at the same time to all the maneuvers of a mine especially when any considerable number of men are employed. Somewhere, by somebody something will be neglected and the extra cost thus occasioned will often overbalance the little work the foreman may perform. The foreman's thoughts should be free from everything but that which is embodied in the work of management. One man properly assisted if properly qualified is sufficient to perform this management.

The Ohio Institute of Mining Engineers has done good to many; but the mining foremen do not attend its meetings as enthusiastically as they should. The reason of this can not be told in a few words but one thing is certain, the trend of the work of the institute has to a great extent been above and outside their immediate work. It is very inconvenient for many to attend while others have not yet learned to appreciate its value.

MR. LOVE: I liked Mr. Hibb's paper very much. What he said about foreign labor is very true. But then there are sometimes circumstances which change things. I was foreman of a mine in Jefferson County about two years ago (and my successor is present here to-day), where there were 300 men employed, and out of that 300, there were 170 that could not speak the English language. Now, that I consider a matter of necessity there. It was not a matter of choice on my part. That mine was equipped for a certain output of coal and I had solicited English speaking miners all over the district that I formerly held as inspector, but when they would come there, they would work a few days and leave, and I was compelled to hire that class of labor. I found some of them were splendid miners, I cannot say all of them, and they obey the orders of the mine foreman much better than a great many English speaking miners. He spoke of misunderstanding them there. That is true, it makes it very difficult for the mine foreman, because I remember that I discharged one fellow for a very serious violation, and I hired him over the next week and didn't know it. That is likely to

bring a little trouble. Then they have holidays every few days. I remember an expression one made. They had had two holidays that week. I had got tired of it. I met one fellow whose name was John—all their names are John—but I met this John and it hadn't been long since they had Good Friday. I said, "look here, John why ain't you at work to-day?" "Why", he says, "me no have a holiday since Christ was killed." That was all the answer he made me.

MR. EDE: I believe there is a point in this that we should take up here and take action upon it, and that is the matter that was introduced by Mr. Roy some time ago as to having certificates for mine foremen. I never realized so fully that we are behind the age in this matter as I did the other day. I am situated in Chicago and I was asking for a mine foreman. I had been all over the Illinois field and I had been in contact with these men and I found they were in intelligence, well at least not more than on a par with our men in Ohio. They said they wanted a man, and I said "yes, I can get you a man". But it turned out, that owing to the fact that they were compelled to have certificated men, I could not get the man I wanted. Now we are confined within the limits of our own place here. Of course we have certificates of confidence here, but there is no man of experience here who cannot get that certificate, but at the same time, in failing to push this matter up, he lets himself lag behind and he is unable to compete with those men around him and I think we should not, during this meeting, allow this matter to drop, but bring it up and push it forward. I think that is one of the most practical points in the paper. I differ with him on some points, but I won't discuss that at all now.

MR. HAUGHEE: Just a word. I have been traveling through Illinois for about two years, and have been in a great many mines and come in contact with a great many mine managers, and for this reason I will have to differ with my friend, Mr. Ede, from Illinois. I just wish this institute could look to day at the difference in the mine management of Illinois and Ohio. It would be a matter of great interest to you if you could see it.

With all respect to Illinois and to their managers, yet I think they are way behind Ohio, far behind Ohio. For that reason I have less faith now in certificated mine managers than ever I had before. I have been at Springfield just recently, where the principal managers are in session and spent a week with them right there, and one says to me, "I expect I will lose my position." I says "why?" "Well", he says, "when I came down here they had an old farmer managing the mine." This is at Athens, Ill. He says "the result was a great big squeeze on the mines, and they had to take him out, but ever since that he has been studying to pass the examination and he will pass this winter. He is not a practical man, but he has been in the mines so many years off and on and he is eligible for examination and will probably pass and become a certificated mine boss." Well now you can just take it from Peoria, Ill., to St. Louis, Mo., and I have visited numerous of them, and I would be glad at any time to compare Illinois and Ohio miners and see the difference.

A MEMBER: I am afraid to continue this discussion further, because we want to hear these papers read. I have been through Illinois, Indiana and Kentucky, and I have been through several mines there and I attended a meeting of the institute of Illinois, Mining Institute, last April, and while the institute was a nice thing, nevertheless I must say this, that the Ohio mines are a credit. I was called one day to a mine where the manager had a certificate of competency to run a mine. They had a squeeze and I came to the conclusion that he was without practical experience. While he held a certificate from Illinois, yet he was without practical experience. There is no comparison at all between the mines of Illinois, Indiana and Kentucky when compared with the State of Ohio, no comparison whatever.

MR. EDE: Mr. Chairman, I think the two gentlemen who have spoken have misunderstood what I had to say. I was making no comparison between the intelligence of the men. I said that owing to the fact that we are left alone, we are taking our position as Ohio engineers against the whole world. When I wanted a man to act as manager of a mine over there, I couldn't get him

because he was a certificated man. Now I know that they are equal to the others, but they are disqualified, that is what I said.

MR. HAUGHEE: That is the reason, Mr. President, that I object to a certificated mine manager. There is a written examination to go through in that matter before they can be certificated and we have mine managers here in Ohio that are as competent as any on the face of the earth, who are not able to stand a written examination.

THE CHAIR: The subject that the discussion has drifted into is a pretty large one and I suggest that instead of putting it in the discussion of this paper, because it is the discussion of a specific thing, I would suggest that it be made a special subject for some time.

PROF. SPEAR: I just wanted to say that it seems to me there is a great deal of nonsense about these examinations and it is for this reason. They are given specific questions to answer. Now they well know about line of questions they will be asked and in a short time they can cram up on these questions or that line of questions and they can answer them, but that does not make a man competent and the trouble is with these examinations that they are not what they should be. Now there is not a man here who will not admit that study on the line of his work will make him a better man. Now if these examinations can be made of such a character as to make a man better fitted for these places, it will help everybody. but they are not that way. Now that might be a difficulty that we would get into in this state, if we had such a thing as examinations, and this matter of examinations is being agitated all the time and I throw this suggestion out now, that if such a thing does come about, that every man in this institute work to the best of his ability to avoid anything of that kind in Ohio—to prevent anything of that kind from creeping into our examinations. I believe the mine foreman of the future will be an educated man, a practical man. A boy goes into the mine at twelve years of age and at twenty-two he will be a better educated man than the man who goes into school and stays there until he is twenty-two. But, as

suggested, after a while the practical man has to take a back seat, under that system of examinations for the man who is in school. I believe in getting the education and the experience together. That has always been my idea—to educate every man for the occupation for which he is brought up and which he is to follow. Educate a lawyer's son to be a lawyer; a miner's son to be a miner, etc.

MR. HIBBS: I wish to say a word and I will sit down. My friend, Mr. Love, made a remark that conveyed the idea that I was from West Virginia. If I had been born there I would no doubt have been proud of it, but I was born in Ohio and been there for thirty-five years and I am proud of it.

On motion the convention took a recess until 1:30 P. M.

AFTERNOON SESSION.

The institute was called to order by the chair, who introduced Secretary Haseltine, who read Mr. Middleton's paper on the subject of "The Working and Ventilation of the Monongah Coal Mines, Marion Co., W. Va."